

# Stereo Review

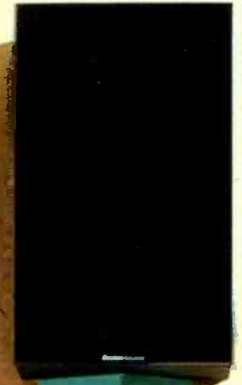
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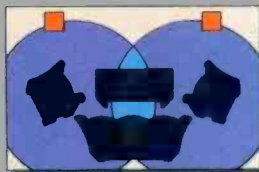
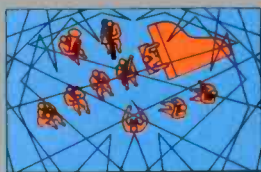
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and Direct/Reflecting® speaker design are more than innovative audio technologies. *They add up to a difference you can hear.* Visit your authorized Bose dealer and experience, in full stereo, all the spaciousness, realism and impact that the Bose 901 system is capable of delivering (see diagrams). Once you listen, you'll know why so many people consider this "the speaker to which all others must be compared." For more information, write Bose Corp., Dept. SR, 10 Speen St., Framingham, MA 01701.



Live music is a combination of direct and reflected sounds (left), but conventional speakers (middle) reproduce mainly direct sounds—and offer full stereo in a small area only. The Bose 901 Direct/Reflecting® speakers (right) accurately reproduce live music's balance of direct and reflected sound, providing greater realism in full stereo (blue area) throughout the listening room.

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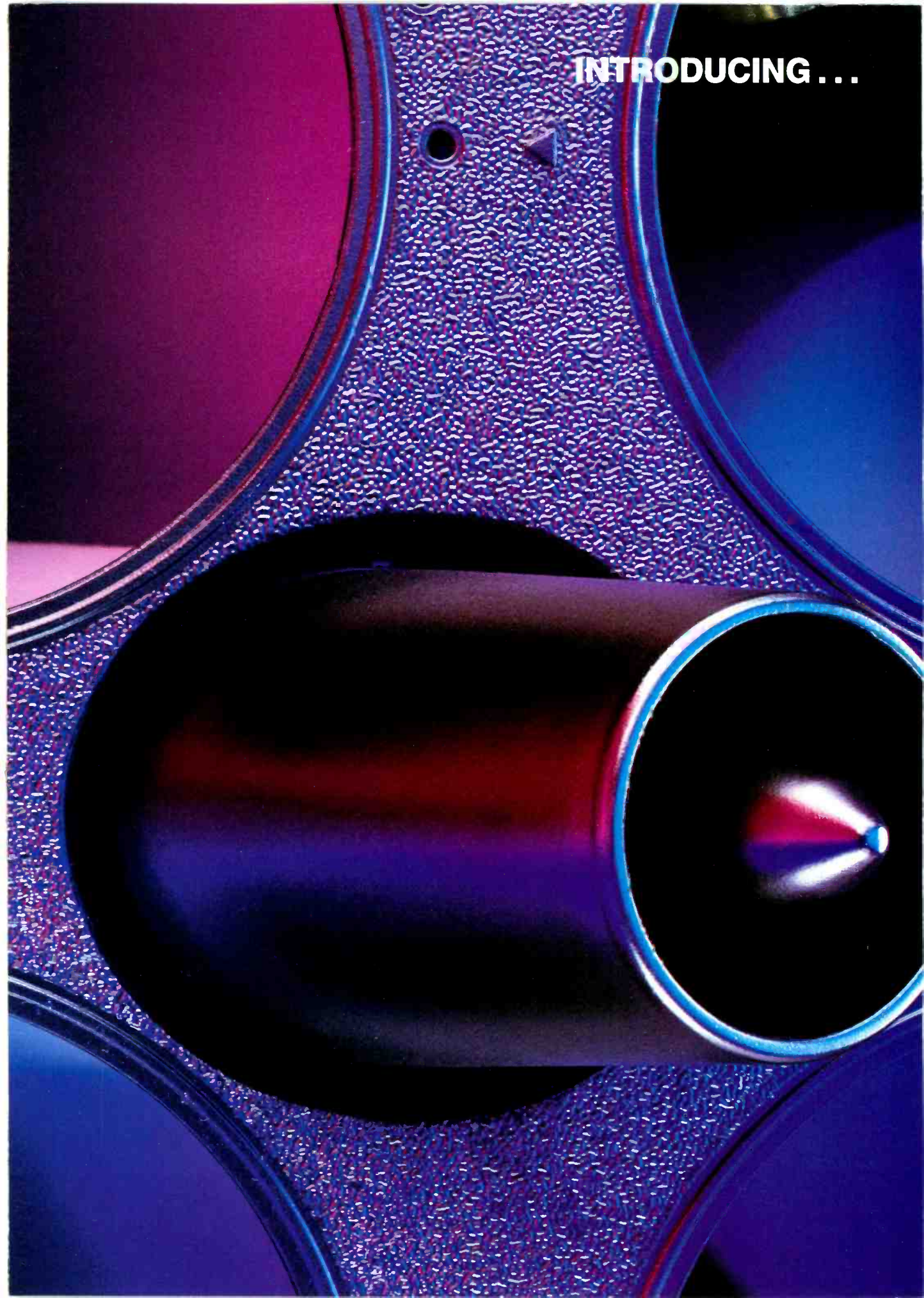


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**INTRODUCING...**





## BULLETIN

by Christie Barter and  
William Burton

### DAT DEVELOPMENTS

Harman Kardon's digital audio tape deck, the Citation Twenty-Six, will probably incorporate Solo copy-prevention circuits developed by Philips. Philips is not releasing details of the Solo system, but it seems intended to allow consumers to make a single DAT copy of CD's, LP's, broadcasts, etc., but not to make additional dubs from that copy. Like any DAT deck, of course, a Solo-equipped recorder cannot dub a CD from a player's digital output because of sampling-rate incompatibility. . . . Delta Music has released forty-five prerecorded digital audio tapes culled from the Capriccio, Delta, and Jazzline catalogs. The tapes retail for around \$28. . . . Maxell is offering a free pamphlet explaining DAT (and another one about Super VHS). Send requests to Maxell, 60 Oxford Drive, Moonachie, NJ 07074.

### GRP DISTRIBUTES JVC

GRP Records, the contemporary jazz label, has entered into an agreement with the record division of JVC, Ltd., to distribute the Japanese company's World Class Music recordings in the U.S. The initial release consists of six albums offering music ranging from mainstream jazz by Boston's Berklee All-Stars, led by Gary Burton, to "Brazilian Scandals" by guitarist Oscar Castro-Neves and a New Age collection by New York-based composer Yoshio "Chin" Suzuki. The JVC recordings will be available on compact discs and cassettes, though not on LP's or DAT's.

### MUSIC NOTES

U2 was the top-grossing touring act last year, generating over \$36 million in seventy-nine concerts, according to the information service Pollstar. Just behind the Irish rockers in gross receipts were Bon Jovi and Pink Floyd. . . . Veteran British rocker Robert Palmer, making his first label change in thirteen years as a solo performer, has signed an

exclusive long-term contract with EMI-Manhattan. Also new to the label is Thomas Dolby, whose album "Aliens Ate My Buick" has just been released. . . . A videotape of Handel's *Messiah* performed by the Atlanta Symphony and Chamber Chorus under Robert Shaw is being released by Video Artists International (VAI) in time for Easter.

### TECH NOTES

Look for a CD changer from Pioneer later this year designed to play 3-inch CD's. . . . Fisher has demonstrated an unusual Twin Drive speaker that features a 12<sup>3</sup>/<sub>4</sub>-inch woofer with twin voice coils mounted on either side of an oscillator plate. . . . BASF is joining Fuji, Maxell, Sony, and TDK in raising prices on blank tape. . . . Blaupunkt's Blue Dot warranty provides for free replacement of any of its car audio products sold and installed by an authorized dealer if they prove defective within one year. . . . Magnat's Sigma 1000 speaker system, the top of the company's MSP line, is now shipping at a price of \$2,190 a pair. . . . Two new pull-out car stereo head units from Technics are 20 percent smaller and lighter than conventional pullouts.

### MORE THREE-INCH CD'S

Rhino Records is launching a series of 3-inch compact discs featuring "oldies hits" by such artists as the Beach Boys, Fats Domino, the Everly Brothers, and Little Richard. The suggested retail price per disc is \$5.98. . . . A new 3-inch CD by They Might Be Giants on the ESD label offers three tracks not included on the band's "long-playing" debut CD as well as a fourth digitally remixed track from that album. According to ESD, this is "the first commercial 3-inch CD released in the U.S. to contain material that is not available on another CD."

### NEWS FROM WASHINGTON

Congress has passed a resolution drafted by Representative John Conyers of Michigan designating jazz as "a

rare and valuable national American treasure." . . . The National Symphony Orchestra has been signed by Erato to a new contract calling for seven recordings over the next three years, all to be conducted by music director Mstislav Rostropovich. Rostropovich is also serving as president of the First World Cello Congress this June and will conduct the concluding concert on June 11 at Constitution Hall. As many as 200 cellists are expected to perform.

### "BAD" MAN SELLS OUT

Michael Jackson has set a record at London's Wembley Stadium by (already) selling out the five concerts he's giving there in July as part of his upcoming tour of Europe. He thus breaks the record set by Genesis last year at Wembley with four completely presold dates. Other single dates on the Jackson tour this summer were also sold out some six months in advance.

Jackson's "Bad" has reached No. 1 on album charts in twenty-three countries and at press time had sold more than eleven million copies worldwide. Jackson's autobiography, *Moonwalk*, is due to be published this month by Doubleday. His editor on the book is Jacqueline Kennedy Onassis.







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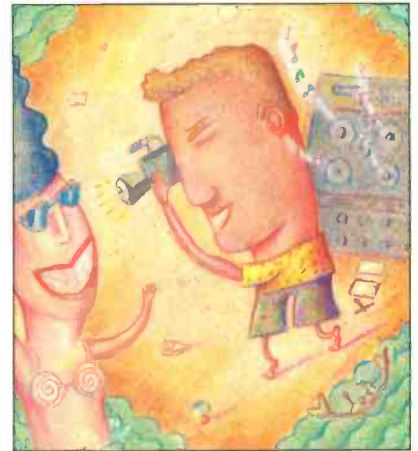
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Cover: *The Boston Acoustics A40V Series II speakers (page 65), a Sony Trinitron monitor, JVC's top hi-fi VCR (page 72), and the Lexicon CP-1 processor (page 59). Design by Sue Llewellyn, photo by Halley Ganges.*

STEREO REVIEW BUYER POLL, SEE PAGE 89  
Please fill in if you bought equipment in the past thirty days.  
READER SERVICE INFORMATION CARD, FACING PAGE 89  
Circle the items you want to know about.



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## SPEAKING MY PIECE

by Louise Boundas



### It's Time

**A**T this year's Winter Consumer Electronics Show in Las Vegas, there was more digital audio tape in evidence than ever before. By one count, sixteen manufacturers were demonstrating DAT equipment, tape companies displayed blank DAT cassettes, and some of the smaller record companies announced the release of prerecorded digital tapes. But the CES is a trade show, not open to the public. The people who were attending all those DAT demonstrations were manufacturers, dealers, and members of the press. In this country, DAT is not open to the public either. It's time it was.

Digital audio tape was first demonstrated at CES over two years ago, but it did not get a unanimously enthusiastic reception. Many equipment and record manufacturers were apprehensive about introducing DAT before the still new compact disc had established itself in the marketplace. And the recording industry, especially, objected to the new format on the grounds of its very excellence: A DAT recorder was capable of making such good tapes, industry spokesmen said, that it would encourage more and more home copying, to which most record companies are, of course, fundamentally opposed.

The performance advantages of

DAT over conventional analog cassette decks are undeniable: full dynamic range, flat frequency response, unmeasurable wow and flutter, negligible harmonic distortion—and much greater programming flexibility. Moreover, a DAT cassette has a two-hour playing time, even though it is only about half the size of an ordinary cassette.

Last spring, DAT recorders went on sale in Japan, and a few months later they arrived in European stores. Back in the U.S., however, Congressional committees are still considering legislation to prohibit the importation of any DAT recorder that does not contain a copy-prevention circuit, and the National Bureau of Standards is preparing a study of the CBS "copycode" system. The results of the study are expected shortly. Pending the outcome, record companies have refrained from using the copycode frequency notch. Equipment manufacturers are awaiting developments. Consumers are just waiting.

In December 1987, there was a breakthrough of sorts. Ford Motor Company announced its intention of making a DAT player an option on a small number of 1988 Lincoln Continentals. The option will be available by June, Ford said, provided that there are prerecorded DAT's to play on the systems. General Motors announced in January that it would offer DAT players in some Cadillacs with Delco stereo systems. And the aftermarket auto-sound people—notably Clarion and Kenwood—have begun shipping DAT players to their dealers. The car machines are players only, not recorders, so they avoid the copying controversy. They are expensive, too. But their availability does indicate some progress.

The irony is that, without wide distribution of the machines, record companies have little motivation to provide prerecorded tapes, but without the recordings the market for the players will remain very small. Unless DAT recorders become available and people can make their own tapes. Then prices will come down, more people will buy DAT decks, creating more demand for DAT recordings . . .

Let's get on with it. □

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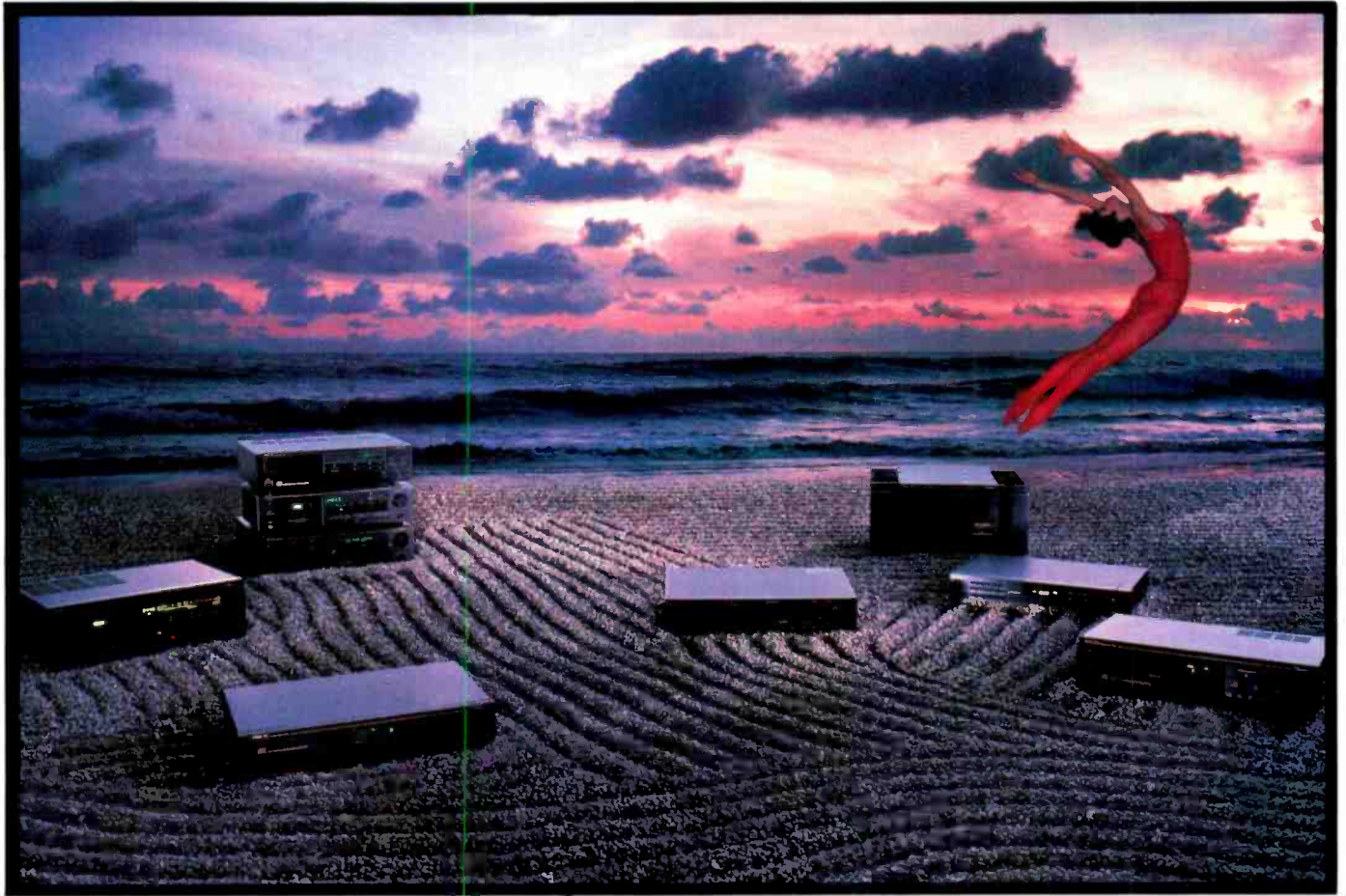


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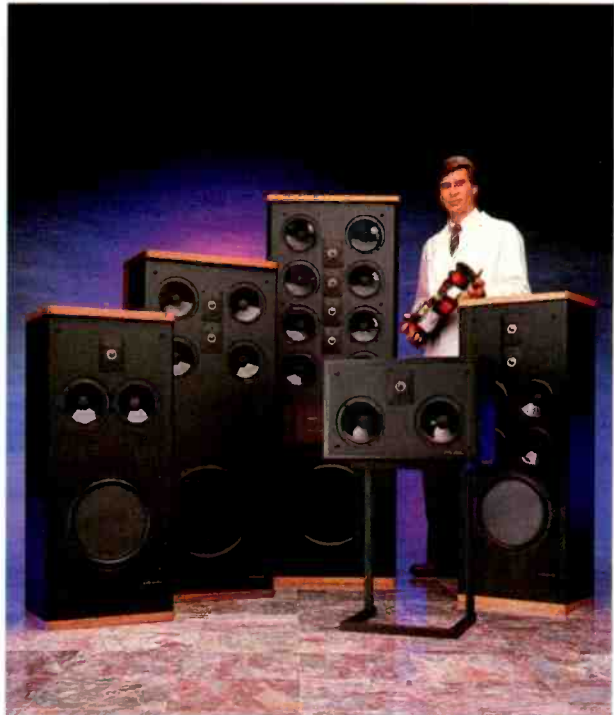
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Where to buy Polk Speakers? For your nearest dealer, see page 110.



## LETTERS

### Irving Berlin

I was delighted to read Gary Giddins's article about Irving Berlin in February as well as Louise Boundas's editorial comments about him. But I feel compelled to note that Mr. Berlin's recordings actually predate the first electric phonograph by quite a few



years. Among the fifty-odd Edison cylinder records I own are two by Irving Berlin: *Everybody's Doin' It* and *When the Midnight Choo-Choo Leaves for Alabama*. These two-minute wax cylinders are of an early variety that was made only through 1908.

ROGER A. BAFFER  
Woolwich, ME

The Irving Berlin tribute in February was a pleasure, but I find it hard to believe that the picture of Berlin, Jerome Kern, Richard Rodgers, and Gene Autry on page 80 is from 1931, as the caption states. I figure it must be at least from 1941.

DAVID CHRISOULIS  
Elmwood, CT

*The 1931 date was an error. The picture appears to date from 1939, when Gene Autry was admitted to ASCAP.*

### Pipedreams

Help! Where can I find the Pipedreams equipment rack by Band Inc. used in "Systems" in February?

DANIEL SFERLAZZO  
Massapequa, NY

*Write or call Jeff Letfeld. Band Inc., 22 Arrowhead Rd., Convent Station, NJ 07961; (201) 538-2417.*

### Keep It Clean

Accompanying Gerald Seligman's "Accessories" in January was a photo of the Discwasher D4+ record-cleaning system. The caption states: "includes cleaning fluid and record and stylus brushes." This is wrong. The small red brush shown in the photo is intended for cleaning off the large record-clean-

ing brush. Discwasher also sells an altogether different system that contains a stylus brush and special stylus-cleaning solution.

FLOYD BARRATT  
Browns Valley, MN

I agree with Gerald Seligman that "grain alcohol" (ethanol) is a very good cleaning solution for tape heads, but to use pure, 200-proof (100-percent) alcohol, as Mr. Seligman recommends, would be needlessly expensive. It would be just as good to use a 190-proof ethanol (95 percent alcohol and 5 percent water) such as Everclear. Besides, it's one of the few cleaning fluids you can sip on after cleaning your deck.

HARVARD R. FONG  
Sacramento, CA

### Hit List

The article "Hit List" in January should have been entitled, "How to List Your Record Collection the Hard Way." The best computer software for a project like this is a file manager. Don't even think of using a word processor! It takes much more time, and you have almost no reporting capabilities.

My data-base software eliminates all the problems mentioned in the article. The file structure can be changed easily, you can enter the information in any order, entering the data is easier and quicker than with a word processor, data can be sorted on any item, and reports can be generated in a minute or two. For example, I can ask my music data base for a list of all Stan Kenton 45's and LP's with June Christy as vocalist made prior to 1962 and receive it in less than two minutes.

ROBERT J. MORRISSETTE  
San Jose, CA

### DAT and Copy Prevention

I have been reading with great interest the articles and letters in your pages on the controversy over digital audio tape (DAT) and copycode. For those of us not affluent enough to rush out and purchase this latest wave of indispensable equipment, I offer this solution: Buy a hi-fi VCR and record your CD's on videotape. True, editing videotape for this purpose is a royal pain. True, the results won't match digital specs. But I defy anyone to *hear a significant difference* in sound quality. And with a little skill and patience, you can get your favorite songs in the sequence you want by programming your CD player.

WENZELL COURTER  
Baltimore, MD

I am not a pirate, but I welcome DAT technology. Why do I want non-copy-

coded CD's and digital audio tapes? Because I foresee DAT portables and car stereo units, and I value near-perfect sound reproduction.

PAUL BOWERS  
Rivière-des-Prairies, Quebec

I am an eighteen-year-old who spends about 85 percent of my income on rock music, mostly compact discs. The record companies are always complaining that kids steal their profits by making illegal home copies, but they fail to realize some important facts. If DAT machines are going to cost around \$2,000, who is going to be able to afford one? Kids won't be making the copies, but we will be punished just the same. And if blank DAT cassettes are going to cost around \$20 each, wouldn't it make more sense just to buy the \$14 CD?

BRADLEY PATTON  
Luzerne, PA

### Yesterdays

Regarding the rhetorical question in January's "Record Makers" about why so many Seventies rock-and-roll groups have Top-40 albums today, I'll answer with another rhetorical question: Isn't the obvious reason that mid-Eighties rock is by and large so forgettable?

LARRY MILES  
Independence, MO

### Short Weighting

While CD's are expensive, they usually offer little to the consumer to justify their high cost. Rarely are there the liner notes, photos, lyrics, etc. that usually accompany LP's. And deletions from the original recording (such as I have noticed on the CD reissue of Jethro Tull's "Aqualung") are not mentioned on the packaging.

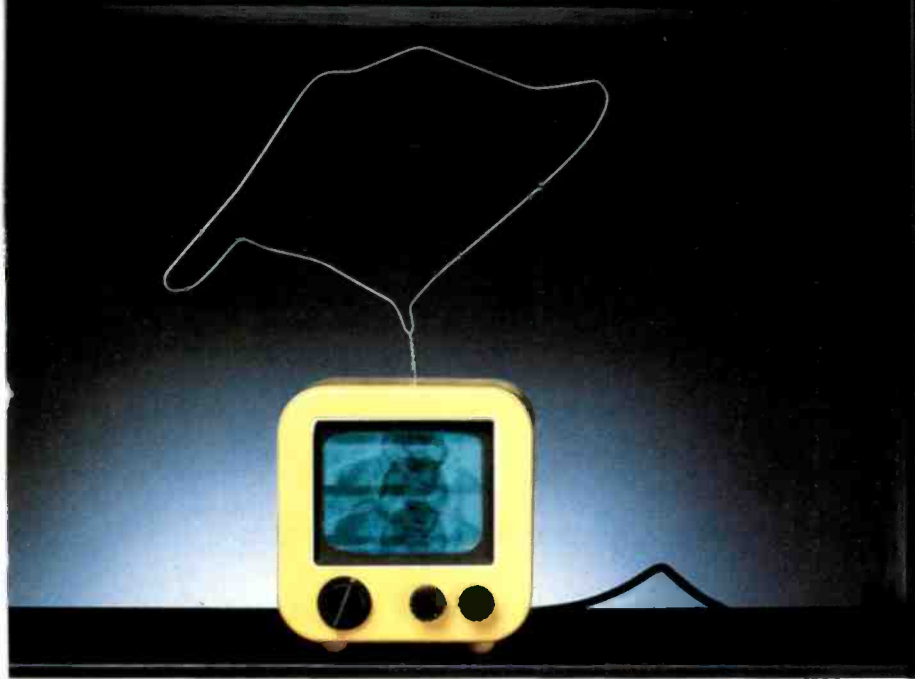
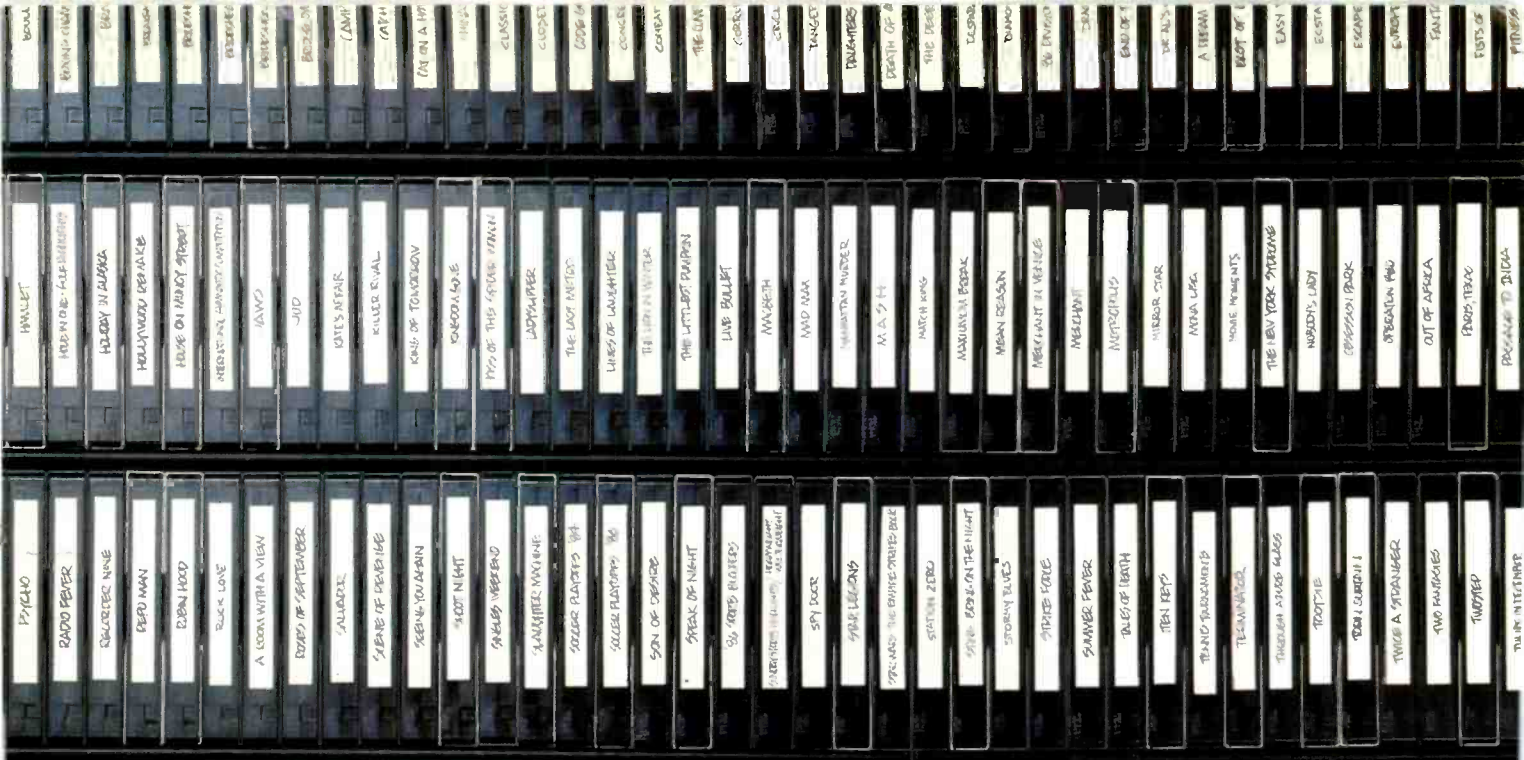
NYLE A. MCVEIGH  
Frankfort, KY

In reference to Marc Richman's letter about "Short-Weight LP's" in February, I strongly disagree that he has been cheated out of the extra songs found on CD's. I spend approximately \$12 to \$17 per CD, whereas LP's and cassettes usually cost about \$6 to \$9. I feel CD buyers deserve the extra cuts because we are willing to pay more for the higher clarity and durability offered by CD's.

ROBERT L. GAY  
Spokane, WA

### Correction

The prices given on page 34 of the March issue for the dbx CX1 preamplifier and BX1 power amplifier were inadvertently transposed. The CX1's list price is \$2,500, the BX1's \$3,700.



# COMPROMISING WITH YOUR VIDEOTAPE IS LIKE COMPROMISING WITH ANY OTHER COMPONENT IN YOUR SYSTEM.

Even the most advanced system is only as good as the tape you put into it. That's why Maxell has created XL HiFi.

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The Tape That Delivers Higher Performance.



# A Sound Argument For Receivers That Cost Less Than They Did Nearly 30 Years Ago.



*Suggested retail price (1963) \$374.50.  
S-7700 II AM/FM Receiver. 36 watts RMS per channel. Analog  
flywheel tuning. 21 tubes, 16 diodes.*



*Suggested retail price (1988) \$199.95.  
S-2730 CP AM/FM Receiver. 35 watts RMS per channel. Computer-  
controlled MOS-FET tuner with 16 memories and digital readout.  
Inputs for video sound and compact disc.*

In the early 1960s, Sherwood introduced stereo receivers that cost almost one-third as much as some new cars did.

But thousands of people were willing to pay the price, because Sherwood added a touch of realism to sound that had never been heard before.

By today's standards, however, that original Sherwood, good as it was, is almost as antiquated as the Edison Gramophone.

In today's Sherwood receiver you get computerized tuning that automatically adjusts itself for drift-free accuracy. You get a MOS-FET front end for higher sensitivity with less noise.

You get balanced mixers, so weak stations sound clear and strong ones don't overload. You get a heavy-duty, high A/B class amplifier and symmetrical multiplex filters to deliver sound as clean and clear as a live performance.

You even get video sound inputs, so you can turn your living or family room into a complete home audio/video theater with four-speaker surround sound.

Yet, a Sherwood receiver today costs less than it did 30 years ago. We don't build 'em like we used to, for which your ears and your bank account will be eternally grateful.

 **Sherwood**<sup>®</sup>  
LIVE PERFORMANCE SOUND™

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CIRCLE NO. 18 ON READER SERVICE CARD

## NEW PRODUCTS



### Nakamichi

The two-piece AM/FM stereo clock radio from Nakamichi has a main unit (left) with the tuner and amplifier circuitry and an optional "Stereo Companion" (right). Besides providing a second speaker, the companion unit has its own clock/alarm display and can control some functions of the main unit from as much as 18 feet away (the length of the connecting cable).

The clock radio features a quartz-PLL digital tuner, eight station presets, a capacitive-coupled FM antenna built into the AC cord as well as connections for an external antenna, two independent alarms, tone controls, and automatic loudness compensation. Both units are available in black or white. Prices: main unit, \$139; companion, \$89. Nakamichi, Dept. SR, 19701 Vermont Ave., Torrance, CA 90502.

**Circle 120 on reader service card**



### Linn

The two-way Linn Nexus speaker has an integral stand to position its 3/4-inch soft-dome tweeter and 8-inch cone woofer at the optimal distances from the floor. Speaker cables can be concealed in the foam-damped shaft of the stand, which is attached to the cabinet by two steel tie-rods. The cabinet is made of medium-density fiberboard with a front baffle of expanded structural foam polymer. A port is molded into the baffle, and the removable black grille cloth fits directly onto the baffle to avoid diffraction effects.

The woofer is made of carbon-loaded polypropylene for light weight and high rigidity. Frequency response is rated as 50 to 20,000 Hz  $\pm$  2.5 dB, sensitivity as 88 dB sound-pressure level at 1 meter with an input of 1 watt. Dimensions are 10 x 21 1/4 x 11 1/2 inches, weight 26 pounds. Price: \$1,095 a pair. Audiophile Systems, Dept. SR, 8708 Castle Park Dr., Indianapolis, IN 46256.

**Circle 121 on reader service card**



### Koss

The latest Sound Cell microspeaker from Koss is the amplified KSC/8000. Designed for use with personal portable cassette or CD players, the ultra-light-weight KSC/8000 is a single-driver speaker rated for a frequency response of 350 to 15,000 Hz. It measures only 2 3/8 inches high and 3 3/8 inches wide. Price: \$25 each. Koss Corporation, Dept. SR, 4129 N. Port Washington Ave., Milwaukee, WI 53212.

**Circle 122 on reader service card**

### Technics

The SL-P990 remote-controlled compact disc player from Technics features a two-speed search dial that cues discs forward or backward in 0.04-second increments. A digital peak-level meter gives a real-time indication of the player's signal output. The display can be switched to show a bar-graph representation of the laser's position in relation to the total playing time of the disc (in 4-minute increments).

The SL-P990 uses an 18-bit, quadru-

ple-oversampling digital filter, said to provide more accurate reproduction of overtones than is possible with analog filters and four digital-to-analog converters to prevent digital crossover distortion. It can be programmed to play up to thirty-two tracks in any order. Frequency response is rated as 2 to 20,000 Hz  $\pm$  0.2 dB, dynamic range as 100 dB, and signal-to-noise ratio as 113 dB. Price: \$825. Technics, Dept. SR, One Panasonic Way, Secaucus, NJ 07094.

**Circle 123 on reader service card**





## NEW PRODUCTS



### Parsec

The Parsec LS-4 is a powered FM antenna that uses gallium-arsenide field-effect transistors, which are said to provide higher overall gain and lower noise than the conventional silicon transistors used in previous antennas of similar design. The LS-4's circuits were designed by Larry Schotz, and it is claimed to boost the strength of received FM signals by an average of 36 dB. It has omnidirectional pickup characteristics when it is installed vertically but is highly directional when placed on its side. Height is 17¼ inches. Price: \$59.95. Parsec, Dept. SR, W. 9th St., Wilmington, DE 19801.

**Circle 124 on reader service card**



### Marantz

The CD-94 compact disc player, part of Marantz's new high-end line, has a heavy die-cast aluminum transport mounted on a floating subchassis as well as a magnetic clamping system to hold the disc firmly. There are separate 16-bit, quadruple-oversampling digital-to-analog (D/A) converters for each channel and both electrical and optical digital outputs for use with an external D/A converter.

A Favorite Track Selection feature

enables the player to store programs for about 150 discs (with an average program of five tracks per disc). In addition, selected tracks can be programmed to start play at any point, not necessarily at their beginnings. The player is available as shown in rose-gold finish with rosewood side panels or in a satin-black anodized finish with oak panels. Dimensions are 18½ x 4½ x 13½ inches, weight 28 pounds. Price: \$1,800. Marantz, Dept. SR, 20525 Nordhoff St., Chatsworth, CA 91311.

**Circle 125 on reader service card**

### Audio Accessory Connection

The Disc-Pak from Audio Accessory Connection is a carrying case designed to accommodate a portable CD player with its battery pack, AC adaptor, earphones, and up to eight discs. Cutouts in the case allow access to the volume control, headphone jack, power switch, and line-out jack. A clear front panel enables the user to monitor the player's current status and program it without removing it from the case. The Disc-Pak is designed for players in which the battery pack mounts underneath rather than on the back edge. The case is made of black cordura. Price: \$69.95. Audio Accessory Connection, Dept. SR, P.O. Box 113, Orangeburg, NY 10962.

**Circle 126 on reader service card**



### Rockford Fosgate

The RF2000 power amplifier is the first in a series of high-performance home audio components from auto-sound manufacturer Rockford Fosgate. This hand-assembled amplifier has four output modes: normal stereo, stereo plus bridged mono, bridged mono, and dual mono. It is rated to deliver 200 watts per stereo channel of continuous output into 8-ohm loads; peak instantaneous current is rated as 50 amperes. The 1,000-volt-ampere toroidal line transformer can supply a continuous output of 1,000 watts. Price: \$1,198. Rockford Fosgate, Dept. SR, 613 S. Rockford Dr., Tempe, AZ 85282.

**Circle 127 on reader service card**

## NEW PRODUCTS



### *Electro Magnetic Corporation*

Reproductions of works by Picasso, Mondrian, and other artists are among the grille options for planar speakers from Electro Magnetic Corporation. The 2½-inch-deep wall-mount speakers are designed for use with a complementary EMC subwoofer.

The Model 5500, shown here with works by Tom Wesselman, is a side-vented speaker with a ribbon tweeter and an 8½-inch-long upper midrange mounted between two electromagnetic lower-midrange panels measuring 9 x 17 inches each. The panels are hinged together for dispersion rated at 180 degrees. With a subwoofer, frequency response is rated as 25 to 20,000 Hz ± 6 dB. Recommended amplifier power is between 50 and 200 watts.

Prices vary according to panel size (larger models are available) and artwork. The speakers shown, with overall framed dimensions of 20 x 23 inches, are \$2,640. Subwoofers range from \$380 to \$540. Electro Magnetic Corp., Dept. SR, 7028 Texas Rd, Ft. Smith, AR 72903.

**Circle 128 on reader service card**

### *Martin-Logan*

The Martin-Logan Sequel speaker system combines a 4-foot curvilinear electrostatic panel and a 10-inch cone woofer built into the base. The crossover is at 125 Hz, with a slope of 6 dB for the first octave and 12 dB per octave thereafter. The woofer is a high-excursion, super-light, high-rigidity cone with a double-stacked magnet. Its electrically tapered voice coil is contoured to offset magnetic nonlinearities. The Sequel's frequency response is rated as 28 to 24,000 Hz ± 2 dB, sensitivity as 88 dB sound-pressure level at 1 meter with an input of 1 watt. Horizontal dispersion is 30 degrees. Recommended amplifier power is 80 to 160 watts per channel. The speaker stands 71½ inches high, and the base measures 14 x 13 inches; weight is 110 pounds. Price: \$2,250 a pair. Martin-Logan, Dept. SR, P.O. Box 741, 2001 Delaware, Lawrence, KS 66044.



### *Sanyo*

Sanyo's VHR8700 Super VHS videocassette recorder is rated for a horizontal resolution of about 400 lines, compared with the 240 lines of conventional VHS. Also, its ferricobalt video heads are said to have narrower head gaps than those of conventional VHS VCR's, increasing by as much as 80 percent the amount of information the heads can transmit or retrieve. The VHR8700

provides audible sound with such special effects as still frame, quick play, and high-speed search in forward and reverse. Other features include VHS Hi-Fi recording and playback, an MTS decoder, a two-week/four-event timer, a 140-channel cable-compatible tuner, on-screen programming, and a unified remote control. Price: \$999.99. Sanyo, Dept. SR, 1200 W. Artesia Blvd., Compton, CA 90220.

**Circle 129 on reader service card**



## NEW PRODUCTS



### Harman Kardon

Harman Kardon's new line of receivers incorporates features introduced in the company's Citation series of separate components. The top model, the hk990 Vxi, includes a High Voltage/High Current amplifier section, which enables it to deliver the same rated power into both normal and low-impedance speaker loads, and Active Tracking tuner circuitry, which is said to provide high selectivity without compromising sound quality.

The hk990 Vxi is rated for 90 watts per channel from 20 to 20,000 Hz, into either 8 or 4 ohms, with no more than 0.08 percent total harmonic distortion. Features include twelve FM and six AM presets, a signal-strength meter, a built-in pre-preamplifier for a moving-coil cartridge, switching for two videocassette recorders and two audio tape decks, a subsonic filter, and a remote control. Price: \$949. Harman Kardon, Dept. SR, 240 Crossways Dr. W., Woodbury, NY 11797.

**Circle 130 on reader service card**



### Orpheus

To maintain phase coherence, the crossover slopes in the hand-built Orpheus 808 three-way speaker are only 6 dB per octave, and time alignment is achieved by angling the speakers back 10 degrees on the supplied bases. The Model 808 has a 1 1/10-inch soft-dome ferrofluid-cooled tweeter, 8-inch polypropylene midrange and woofer, and 12-inch passive radiator in an internally braced, nonresonant enclosure. Crossover points are 2,000, 100, and 45 Hz.

Frequency response is rated as 28 to 22,000 Hz  $\pm$  3 dB and sensitivity as 86 dB sound-pressure level at 1 meter with an input of 1 watt. The speaker is recommended for use with amplifiers rated between 25 and 200 watts per channel. Nominal impedance is 8 ohms. Each speaker measures 15 1/2 x 44 1/2 x 8 1/2 inches and weighs 63 pounds. The cabinet has an oiled walnut or oak top with a black grille. Price: \$1,400 a pair. Orpheus, Dept. SR, 87 South Sixth St., Locust Valley, NY 11560.

**Circle 133 on reader service card**

### Advent

The Baby II is an improved version of Advent's smallest speaker. Its 6 1/2-inch, high-excursion woofer, with an aluminum voice coil and a high-compliance cone, crosses over at 4,500 Hz to a 1/2-inch ferrofluid-filled, polycarbonate-dome tweeter. Frequency response of the bookshelf system is rated as 60 to 21,000 Hz  $\pm$  3 dB, and harmonic distortion is said to be less than 1.25 percent above 100 Hz with a 1-watt input. Sensitivity is 89 dB sound-pressure level at 1 meter with 1 watt. The top and base are oiled wood, and the rest of the dense fiberboard cabinet is covered in black textured vinyl. Dimensions are 16 1/2 inches high, 11 inches wide, and 6 1/4 inches deep. Price: \$250 a pair. Advent, Dept. SR, 4138 N. United Parkway, Schiller Park, IL 60176.

**Circle 131 on reader service card**



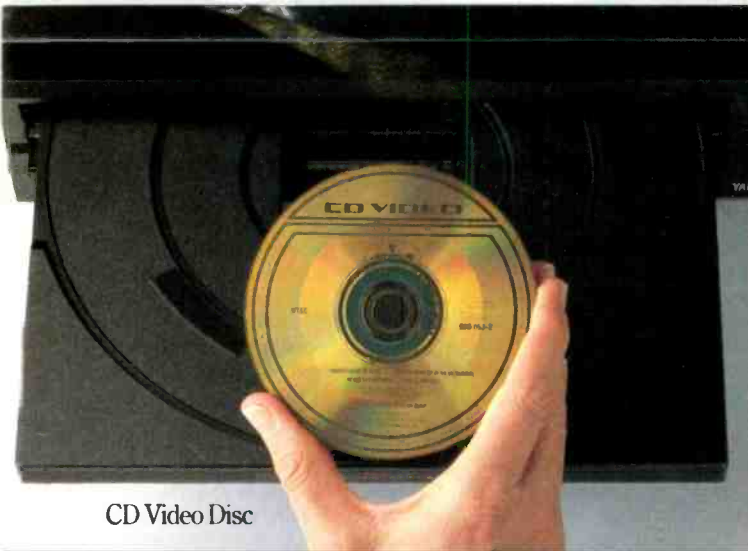
### Sonrise

Sonrise Cabinet Systems is featuring a new door style, with solid-oak three-quarter frames cut from the same tree for consistent grain flow and color. The doors can be opened with a simple push, leaving no fingerprints on the glass. The new option can be substituted for full-framed doors on any model cabinet. Here it is shown on the Magnolia, Model SH-4. Price: \$505. Sonrise Cabinet Systems, Dept. SR, 13622 N.E. 20th, Suite F, Bellevue, WA 98005.

**Circle 132 on reader service card**



*All the information in the "New Products" section was provided by the manufacturers and does not represent the results of tests by STEREO REVIEW. Prices given are suggested retail ("list") prices as of press time. For more information, write to the manufacturers or circle the corresponding numbers on the reader service card facing page 89.*



CD Video Disc



5" Compact Disc



8" Laser Disc



12" Laser Disc

# Yamaha introduces four wheel drive.

The new Yamaha CDV-1000 breaks new ground in home audio-video entertainment.

It starts with those four discs up there. Together, they represent the highest quality source material on the market today.

And the CDV-1000 plays each and every one of them flawlessly. So now you can watch rock concerts and movies on 8" and 12" laser discs. Listen to a symphony on a regular compact disc. Or watch your favorite music videos on the new 5" CD Video discs.

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Of course, we wanted to keep the CDV-1000 simple

and easy to use. That's why we gave it fast access. And a super-tracking tilt servo laser head for accurate tracking.

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CIRCLE NO. 14 ON READER SERVICE CARD



by Ian G. Masters



## Rumbling Records

**Q** When I play records at high volume, there is a terrible rumble unless I turn the bass control way down. This doesn't happen with cassettes, even at high levels. What's the problem?

ALAN SHUBERT  
Albany, NY

**A** Feedback—a textbook case of acoustic feedback between your turntable and your speakers. A phono cartridge is an extremely sensitive vibration-sensing device, and it doesn't care whether the vibrations are the intentional undulations of a record's groove or the movement of the whole surface of a disc; it will detect both of them with equal facility.

Speakers that sit directly on the floor, or are mounted on a wall, can sometimes transmit vibrations through the room's structure to the turntable base. If the vibrations are not absorbed by the turntable's suspension, they can pass to the platter and the disc itself, and then to your phono cartridge.

Airborne vibrations are more difficult to block because the turntable's suspension has no effect on them. Under the right circumstances, a vinyl disc makes a pretty good microphone. Unless it is somehow damped or shielded, it will vibrate in sympathy with the sounds in a listening room.

If this is causing your problem, you can easily demonstrate it. Put a record on the stationary turntable and place the stylus on its surface. Making sure

your speakers are off, set up your cassette deck to record from the disc, but turn its record-level control all the way up. Then speak close to the record surface. When you play back the tape, you should hear your words clearly. You may have to speak loudly, or shout, because the disc is not particularly sensitive to frequencies in the vocal range, but because of its size, it can respond very easily to bass tones. In the same way, above a certain level, the lowest notes from your speakers will be picked up by the record/stylus combination and then amplified, reproduced by the speakers, picked up again by the record, reamplified, and so on. The result will be an increasing low-frequency howl that is not only unpleasant to listen to but can also damage your equipment if left unchecked.

Fortunately, there are several things you can do to get rid of feedback. One is to make sure that the sound from the speakers doesn't reach the record's surface. Structure-borne sounds can be reduced by placing your turntable base either on an absorptive pad or on a surface that's physically attached to something very solid, such as a load-bearing wall.

Airborne sounds can sometimes be muted sufficiently simply by keeping the turntable's dust cover closed. If that's not enough, moving the turntable to a new location can help; most acoustic feedback occurs only at a few frequencies, determined by the distance between the speakers and the turntable. Changing that distance even slightly may cure the problem.

Finally, the record itself can be damped so that even if sounds do reach it, it will not vibrate. There are a number of clamping devices and weights designed to provide just this sort of stability, although not all turntables will accommodate them. A simpler solution that is often effective is to replace your turntable mat; the ideal configuration supports the whole playing area—the part of the disc most likely to vibrate—but leaves the thicker edge and label area free.

## Dubbing Dolby Surround

**Q** If I copy a Dolby Surround-encoded soundtrack from one hi-fi VCR to another, will the copy contain the surround information, or is some further processing required?

JOSÉ LUIZ CARÍSIO  
Araguari, Brazil

**A** The surround information is contained in the phase relationships between different parts of the audio signal and will be present in any copy without further effort on your part. As

with other forms of Dolby processing, however, the noise-reduction part of Dolby Surround encoding/decoding is level dependent, and mistracking can occur unless you take considerable care in matching the record level of the copy with that of the original.

## Remote Speakers

**Q** I have stereo systems in two rooms and want to be able to feed the output from either of them to a single pair of speakers in a third location (not at the same time, of course). Would it be possible to use the remote speakers as the "B" set for both systems, or would this cause damage?

JEFF DIMOCK  
Winston-Salem, NC

**A** It is possible, but only if the speakers are never connected to both amplifiers at the same time. Feeding the output of one amp into the output circuitry of another, as could happen with the arrangement you suggest, will almost certainly cause damage to both. Inserting a selector switch at the remote location that allows you to choose one source or the other, but not both, would avert this danger. A simple double-pole, double-throw (DPDT) switch, with a rating high enough to handle the power of the larger amplifier, should do the trick. Before you do anything, however, make sure that your amplifiers will be happy driving two sets of speakers. Running speakers in parallel lowers the total impedance presented to an amplifier's output circuitry, and this may cause problems.

## Basic Information

**Q** I am trying to find a publication that can help the layman understand hi-fi terminology. Can you recommend a book or magazine that contains such definitions and explanations?

KEN MOOSMAN  
Bountiful, UT

**A** A visit to your local library or a good bookstore should give you a wide choice of literature on the subject. Even though there has been a lot of technological change in audio in the past few years, the fundamentals remain, and these have been covered by numerous authors. The most recent developments, such as digital sound, are explained in relatively few earlier works, however. Ken Pohlman's *Principles of Digital Audio* (Howard W. Sams & Co., 1985) is a good start. One of the best recent books on the overall subject is *The New Sound of Stereo* by Ivan Berger and Hans Fantel (New American Library, 1986).

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363648. The Manhattan Transfer—Brasil. (Atlantic)

362541. Pretenders—The Singles. (Sire)

362640. Linda Ronstadt—Canciones De Mi Padre. (Asylum)

364885. Neville Marriner, cond.—The Sound of the Academy. (Angel)

362459. Bryan Ferry—Bete Noire. (Reprise)

362343. Stevie Wonder—Characters. (Motown)

362277. Neil Diamond—Hot August Night II. (Columbia)

341073. A Decade Of Steely Dan. (MCA)

362293. Andres Segovia—The Segovia Collection (Vol. 1) Bach. (Digitally Remastered—MCA Classics)

361402. Tiffany. (MCA)

362129. Robbie Robertson. (Geffen)

362129. Belindo Corlisle—Heaven On Earth. (MCA)

361972. Billy Joel—Kohuept (In Concert). (Columbia)

362236. Tony Bennett—Bennett/Berlin. (Columbia)

347955. Huey Lewis & The News—Fore! (Chrysalis)

361147. Rodgers and Hammerstein's Carousel. Barbara Cook; Samuel Ramey. (Digitally—MCA Classics)

361139. R.E.M.—Document. (I.R.S.)

361048. Diane Schuur and the Count Basie Orchestra. (Digital—GRP)

360974. Squeeze—Babylon And On. (A&M)

360107. Billy Idol—Vital Idol. (Chrysalis)

324822. Ravel: Bolero; La Valse; Rhapsodie Espagnole—Maazel, cond. (Digital—CBS Masterworks)

355362. Whitesnake. (Geffen)

360016. Spyro Gyra—Stories Without Words. (Digital—MCA)

359612. Elton John's Greatest Hits, Vol. III 1979-1987. (Geffen)

342097. Barbra Streisand—The Broadway Album. (Columbia)

359075. Aerosmith—Permanent Vacation. (Geffen)

359018. Pat Metheny Group—Still Life (Talking). (Geffen)

358127. Kronos Quartet—White Man Sleeps. Volans; Ives; Bartok; etc. (Digital—Nonesuch)

339044. Mozart: Symphonies 40 & 41 (Jupiter)—Kubelick, Bavarian Radio Or. (Digital—CBS Masterworks)

321570. Beethoven: Symphony No. 5, Schubert: Symphony No. 8 (Unfinished)—Maazel, Vienna Phil. (Digital—CBS Masterworks)

357939. Original Soundtrack—“La Bamba.” (Slash/Warner Bros.)

354902. Fleetwood Mac—Tango In The Night. (Warner Bros.)

357640. Wynton Marsalis—Standard Time. (Columbia)

357350. Duke Ellington Orchestra—Digital Duke. (Digital—GRP)

357087. Grateful Dead—In The Dark. (Arista)

356667. Heart—Bad Animals. (Capitol)

356501. Benson/Klugh—Collaboration. (Warner Bros.)

356287. Suzanne Vega—Solitude Standing. (A&M)

355578. Hanson: Symphony No. 2 (“Romantic”), Barber: Violin Concerto. Oliveira; Slatkin, St. Louis Sym. (Digital—Angel)

355164. Vladimir Horowitz Plays Favorite Encores. (CBS Masterworks)

355115-395111. Prince—Sign ‘O’ The Times. (Paisley Park)

308049. Creedence Clearwater Revival Featuring John Fogerty—Chronicle. 20 greatest hits. (Fantasy)

354449.U2—The Joshua Tree. (Island)

354951. Mozart: Flute Quartets—Rampal, Stern, Accardo, Rostropovich. (Digital—CBS Masterworks)

357616-397612. The Best Of The Doors. (Digitally Remastered—Elektra)

353771. Bolling/Rompal: Suite #2 for Flute & Jazz Piano Trio. (Digital—CBMA)

349985. Johnny Mathis/Henry Mancini—The Hollywood Musicals. (Columbia)

348987-398982. Linda Ronstadt—Round Midnight. (Asylum)

339226. Gershwin: Rhapsody In Blue; more. Thomas, Los Angeles Phil. (Digital—CBS Masterworks)

319996-399998. Motown's 25 # 1 Hits From 25 Years. (Motown)

219477. Simon & Garfunkel's Greatest Hits. (Columbia)

352948. Wynton Marsalis—Carnaval. Hunsberger, Eastman Wind Ensemble. (Digital—CBS Masterworks)

361170. Yes—Big Generator. (Arista)

348649. Andrew Davis, Cond.—The Pachelbel Canon & Other Digital Delights—The Toronto Chamber Orchestra. (Fantasy)

348318. The Police—Every Breath You Take—The Singles. (A&M)

348110. Buddy Holly—From Orig. Master Tapes. (Digitally Remastered—MCA)

346544. Kenny G—Duotones. (Arista)

346445. Beach Boys—Made In U.S.A. (Capitol)

345777. Peter Gabriel—So. (Geffen)

346622. Anita Baker—Rapture. (Elektra)

344184. Billy The Kid/Rodeo Ballets—Slatkin, St. Louis Sym. (Digital—Angel)

360040. Jethro Tull—Crest Of A Knave. (Chrysalis)

343251. Bach: Goldberg Variations. Glenn Gould. (Digital—CBS Masterworks)

287003. Eagles Greatest Hits 1971-1975. (Asylum)

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## Copying Eight-Tracks

**Q** You have answered questions about copying old records onto cassettes. Now what about old eight-tracks? I have many classic tape cartridges that I would like to copy—and to clean up a bit in the process. How do you recommend I go about it?

JIMMY WIGGINS  
Bremen, GA

**A** For the most part, dubbing an eight-track cartridge is straightforward, although some aspects of the process can be time-consuming. For example, you will need to set accurate levels, as you would with any sort of recording. With a vinyl record, this can be done simply by placing the stylus on the "busiest" part of the surface, which represents the highest level, and setting the recorder's level accordingly. Other formats, such as cassettes and compact discs, take a bit more listening to find the loudest passages, but it is easy to skip forward until a high-level passage is found. With a tape cartridge, however, you may have to let it play until an appropriate passage is reached; your cartridge machine may have a fast-forward function, but it will be much slower than with the other formats. And once your levels are established, the cartridge will have to be wound, or played, to the end of that program before you can start to record. All of this can be fairly frustrating, but it may be worthwhile if it means you never have to go through it again.

Once you have set recording levels, the simplest thing to do is just to start both the eight-track player and the cassette deck and copy the material straight through. You may, however, want to alter the order of the songs or to delete one or two (particularly if the whole cartridge will not fit on one side of a cassette), or if your player makes an audible click when it switches tracks, you may want to get rid of that. These edits can be done "on the fly" by judicious use of the recording machine's pause and level controls, but if you make a mistake, you might have to start again from scratch. It may be preferable to make an interim copy without edits and then use the more flexible cassette system to make a further copy incorporating the changes you want.

As for cleaning up the material on your cartridges, there's not a lot you can do. The main faults of the cartridge format are speed instability (wow-and-flutter) and noise. The first is largely a product of the playback machine, so the better the cartridge player you use, the less wow-and-flutter. As for noise, you'll probably never get rid of it all, but using a graphic equalizer to roll off the high

end might help, if you're willing to lose some musical information. Alternatively, you might be able to locate an after-the-fact noise-reduction system (such as the old Phase Linear Autocorrelator) that will remove some of the hiss. But don't expect miracles.

## SPARS Codes

**Q** I'm not clear about the meaning of the codes DDD, AAD, and ADD that appear on compact discs. Which of them means the best recording?

BRIAN VANLERBERGHE  
Neenah, WI

**A** These codes indicate the technical history of a recording. The first letter shows whether the original, first-generation tape was analog or digital (A or D); the middle letter indicates whether any further processing, such as mixing down from many channels to a stereo pair, was analog or digital; the final letter refers to the final product—it's always D with a compact disc. The coding system, which is unfortunately far from universal on CD's, is called the SPARS code after its originator, the Society of Professional Audio Recording Studios.

Technically, a DDD recording should be best, but there are a great many fine recordings that started out analog, and there are some very poor all-digital products. An ADD recording preserves the quality of the original master tape, and it takes a very acute ear to distinguish between that recording and a totally digital one.

## Input Shortage

**Q** When I purchased my receiver some years ago, I never thought I would exhaust its supply of input jacks. But with the recent addition of a stereo VCR and an equalizer, I have used up all the inputs except phono 2. Is there a way I could use that for the CD player I intend to purchase shortly? If not, where could I connect it?

RICHARD FIAKOFF  
New Brunswick, NJ

**A** A compact disc player must be connected to a "line-level" input, which could be an unused tape, tuner, or auxiliary jack—anything, in fact, except a phono input. The signal from a phono cartridge requires both boosting and a particular sort of equalization, and this is provided by an extra preamplification stage connected to the phono input. To feed a CD signal through this circuit would result in both massive overload and a seriously degraded frequency response.

In your case, you might try using the

tape-monitor function on your equalizer. Most provide such a facility to replace the monitor circuit occupied by the equalizer itself. If it is already in use, you may be able to double up on an input you are already using. It's unlikely, for instance, that you would have occasion to use both the CD player and the stereo VCR at the same time, so a single input might be used for both. To save yourself the trouble of patching and unpatching every time you change sources, a simple outboard switch could be installed. It would be inadvisable to connect the two components together permanently with Y-connectors, however, as degraded performance or damage to one or both components could result.

## Equipment Placement

**Q** The manufacturers of electronic equipment always advise against placing their components near magnetic media, such as TV sets, or near heat sources. As a practical matter, it is often impossible to avoid such placement when trying to accommodate all the pieces of an audio/video system. What can I do to assemble all my audio and video components in one location without damaging them?

JAMES H. SPALDING  
Nashville, TN

**A** Observing some elementary precautions is all that is really required. Excessive heat can both degrade the internal components of your equipment and create dust problems, so it makes sense not to place your system next to a radiator or above a heat duct. Within the system itself, only power amplifiers and television sets generate enough heat to worry about, and providing adequate ventilation to allow the heat to dissipate is generally all you'll need to do. Remember also that heat rises, so placing heat-producing equipment at the top of a stack of components is a good idea. If this is not practical, small exhaust fans are available that can direct the heat away from sensitive components.

As for magnetism, it's a serious problem only when it comes too close to your precious tapes, either audio or video. Storing your tapes and placing your cassette deck and VCR a reasonable distance away from speakers or a TV monitor—2 feet should be enough—will protect your recordings. The other magnetically sensitive part of an audio/video system is a television set, whose picture can be disrupted by the magnetic field produced by speakers. Unless you wish to buy shielded speakers, the only remedy is to keep them as far from your TV set as possible. □

# Magnificent Reception.

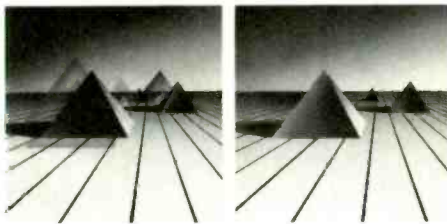
## THE TX-11a COMBINES CARVER'S REVOLUTIONARY ASYMMETRICAL CHARGE COUPLED FM DETECTION CIRCUITS WITH AN AM STEREO SECTION CAPABLE OF FM-QUALITY RECEPTION.

The Carver TX-11a Stereo AM-FM Tuner is the most complete high fidelity broadcast reception component ever offered. It is a technical tour-de-force which further distances Bob Carver's unique products from traditional electronic components. First, by eliminating forms of FM distortion and interference that even the most expensive tuners available can't correct. And second, with a unique additional tuning section capable of making AM stereo sound as good as FM!

**THE SILENT TREATMENT.** While AM stereo may not yet be available in your area, you can receive FM stereo. Including stations so fraught with interference and distortion that you may be tempted to return to mono AM. That's why the TX-11a includes the first circuitry to remove hiss, "picket fencing" and the myriad other unpredictable noises which often disturb FM listening. Without reducing stereo imaging, frequency response or dynamic range.

Part of the FM signal, the left minus right portion, is extremely prone to "ghosting," or multipath interference caused by hills, buildings and other obstructions. Bob Carver's Asymmetrical Charge Coupled circuitry cancels distortion-causing "dirty mirror" images before they can reach your ears. It filters out noise and restores the part of the signal

needed by our ears and brain to construct stereo imaging. Reintroduced into the mono (L+R) signal matrix, a net reduction of 93% – or better than 20dB of noise reduction – is achieved. All ambient and localizing information is recovered. Only hiss and



distortion are left behind. Or, as *High Fidelity* magazine put it, "... clean, noise-free sound out of weak or multipath-ridden signals that would have you lunging for the mono switch on any other tuner."

*Ovation* magazine observed that the circuit, "... may well mean the difference between marginal reception of the station signals you've been yearning to hear and truly noise-free reception of those same signals."

*Audio* magazine called it, "An FM tuner breakthrough."

**THE FIRST AUDIOPHILE AM STEREO CIRCUITRY.** Contrary to popular belief, most AM stereo stations have frequency response (20-15kHz), separation (35dB) and signal-to-noise ratios (70dB) audibly indistinguishable from FM stations of equal strength. But only Carver offers the technology to appreciate this hidden performance.

At a press conference in front of America's top stereo writers, Bob Carver unveiled a low powered C-QUAM format AM stereo broadcast transmitter with a Carver Compact Disc Player as a source. The CD source and the TX-11a were also routed directly to a preamplifier and speakers for comparison.

When Bob switched back and forth, most listeners had difficulty distinguishing between the straightwire CD player and the TX-11a's over-the-air AM stereo reception! Many could tell no difference at all!

**HUMAN ENGINEERED FEATURES AND CONVENIENCE.** The TX-11a is designed to make enjoying FM and AM easy, not dazzle you with flashing light and complex programming. Thirteen presets, wide/narrow band selection, automatic/manual scanning as well as Multipath and Noise Reduction buttons are inset into the burnished anthracite metal face. Full instrumentation including digital display, 6-step signal strength LEDs and other monitor functions are tastefully recessed, visible but not garish. The result is performance without theatricality, access without complication.

**CLEAR THE AIR** by visiting your nearest Carver dealer. Ask to hear the most expensive tuner they sell. (It probably won't be the Carver TX-11a). Tune a multipath-ravaged, hiss-filled FM station on it; then the same station on the TX-11a Stereo AM-FM Tuner. Now press the Carver Multipath and Noise Reduction buttons. You'll hear why *High Fidelity* Magazine called it, "By far the best tuner we have tested..."



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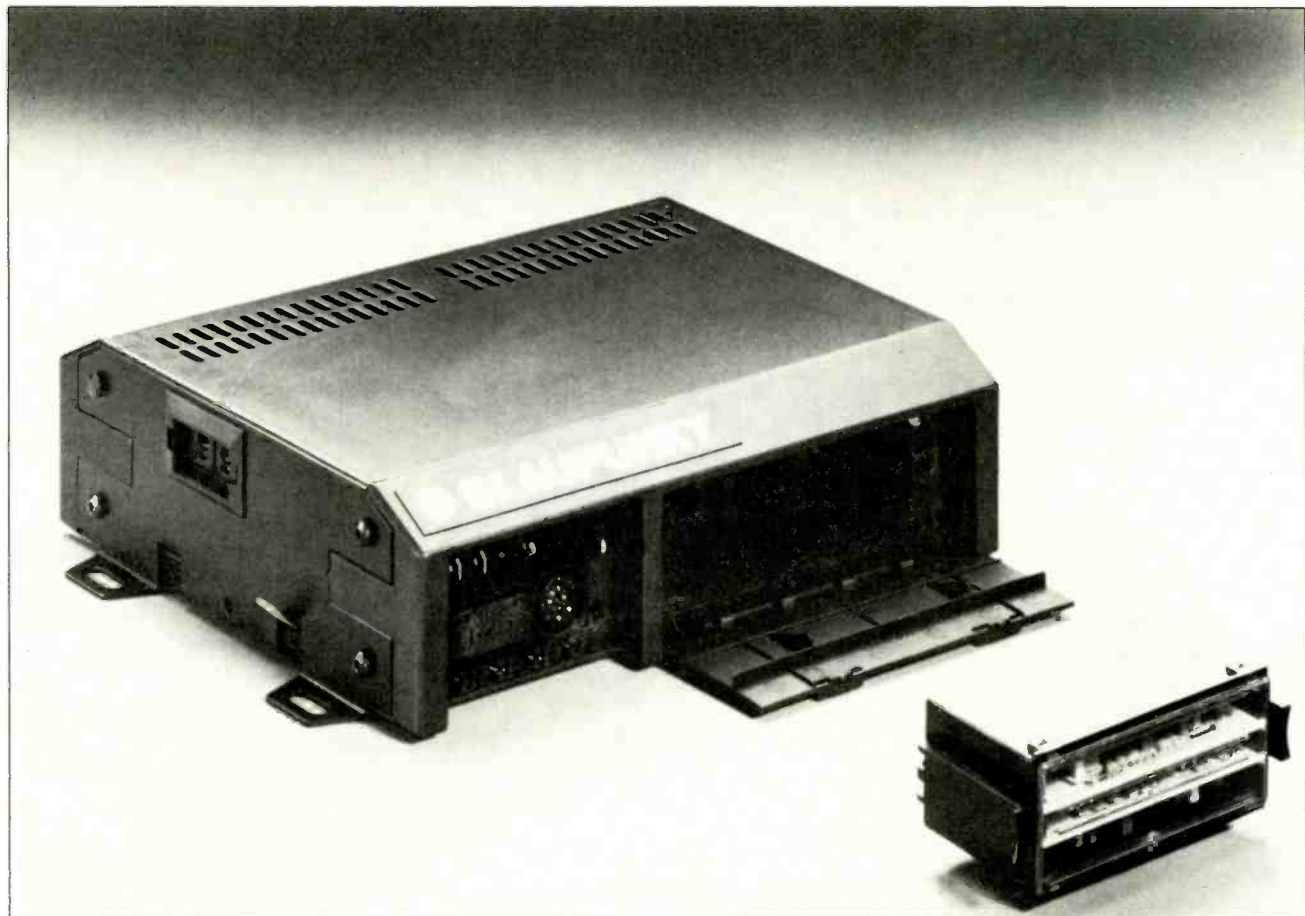
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*On The Road With The*

# BLAUPUNKT PSA-108 EQUALIZER AMPLIFIER



*by Frank Vizard*

**E**QUALIZERS are of more fundamental use in car audio systems than they are in the home. The main reason is that while most room configurations are similar, generally a square or a rectangle, car interiors vary tremendously from one model to the next. Their different acoustic environments cause certain frequencies to be enhanced, others to disappear altogether; which frequencies are affected depends on the individual car, and that usually makes the equalization process extremely difficult. Now Blaupunkt has come to the rescue with its PSA-108 Parametric Sound Amplifier.

The common solution to aberrant frequency response in a car system

is to install a graphic equalizer, a type of component available from countless autosound manufacturers. Graphic equalizers with a minimum of seven control bands—anything less will be largely ineffective—can be used to boost or attenuate certain frequency ranges in order to smooth out the response in a car or to adjust the system's tonal character according to personal taste.

The problem with graphic equalizers is that they are hard to use correctly and, especially in a car, miserably imprecise. The process of listening to and adjusting each frequency band on the equalizer by ear can be extremely tedious—and downright frustrating when you

must re-equalize each time you change source material. More unfortunate, however, is the possibility that the offending frequencies will literally fall in the gaps between adjacent control ranges, so that every boost or cut affects other frequencies in the same range that may *not* require adjustment.

One solution is to buy a car with a factory-installed audio system, made by a dedicated audio manufacturer, that has been acoustically matched to that specific model. Bose, for example, is the principal architect of the sound systems offered by General Motors and Acura (Honda). Similar relationships exist between Chrysler and Infinity, Ford and JBL, Toyota and Fujitsu, and a

few others. Such customized sound systems, however, are usually available only in premium-model cars, and they are generally very expensive—often costing more than a good aftermarket system.

### *The Parametric Solution*

The best solution to the car stereo equalization problem is to install a parametric equalizer. A parametric equalizer differs from a graphic one in its ability to pinpoint precisely a center frequency for adjustment. The center frequency of each control band can be set to correspond exactly with the frequencies of the main response peaks and dips encountered in the car.

Automotive parametric equalizers are rare, and they tend to be expensive. The only fully user-adjustable model now available is the HiFonics Ceres (\$400), which is not car specific. Others are on the way from a/d/s/ and Zapco. And parametrics like these can be even harder to use than a graphic equalizer, especially for the novice. Blaupunkt's PSA-108, however, is a modular parametric-equalizer/amplifier system that is relatively inexpensive, does not require a degree in audio engineering to use, and can work in many different cars.

*Blaupunkt's PSA-108 is a relatively inexpensive system that does not require an engineering degree to use.*

The most interesting feature of the Blaupunkt PSA-108 is found under a cover plate along its side panel. Opening the panel reveals a small plug-in module—the heart of the system. Each module, roughly the size of a pack of cigarettes, contains four parametric equalization circuits, one pair for the front speakers and another pair for the rear speakers. Each circuit compensates for three possible extreme frequency deviations in a specific model of car, as determined by measurements taken by Blaupunkt's engineers using "Fritz"—a special dummy head with Neumann microphones for ears. Signals picked up by Fritz's microphone ears were fed to a preamplifier and then to a Tascam eight-track open-reel recorder.

Totally separate measurements

were made in the front and the rear of each car so that the optimum response could be achieved for both front and rear passengers. Two tracks were used for source monitoring. Two other tracks were used for recording the system's output with Fritz sitting up front and only the front speakers playing, two more tracks were used with Fritz still sitting up front but the rear speakers playing, and the last two tracks were recorded with Fritz in the rear of the car and the rear speakers playing.

The measurements, using 3 minutes of continuous white noise as a program source, were integrated to form an accurate picture of each automobile's characteristic acoustic response. Fritz's findings were augmented by the opinions of experienced human listeners who also participated in the project. Unlike Fritz, they heard a variety of classical and popular music selections.

### *Plug-In EQ*

Blaupunkt has so far developed plug-in equalization modules for eighty-three different car models. The amplifier in the PSA-108 provides four channels of amplification at 20 watts each, with a rated frequency response of 10 to 50,000 Hz without equalization. The equalizer amplifier retails for \$169.95, and individual circuit modules are \$39.95.

Automobile manufacturers such as General Motors have unwittingly furthered Blaupunkt's efforts by offering a variety of models that utilize the same basic body design. For example, I tested the PSA-108 in a Buick LeSabre, but the module used to equalize the LeSabre's sound system could also be used for a Pontiac Bonneville. The similarity in body design of so many "different" cars is a significant reason the PSA-108 is such a useful product.

With the appropriate module plugged into the PSA-108, the unit can be installed in any of the common locations for a car amplifier—in the trunk, under a seat, or behind the dash (if there's room). It can really be placed anywhere that's convenient, because no further adjustments are necessary once the module is installed. In the LeSabre, the PSA-108 was installed in a space behind the glove box, a location that makes wiring a very simple task.

The rest of the system in the LeSabre was also made by Blaupunkt and included the Lexington FM/AM cassette receiver, a pair of CL6900 6-inch coaxial speakers in the rear deck, and a pair of CL4656 coaxials mounted in the dashboard. The system's total cost, not including installation, is about \$900, approximately what you'd pay for one of the customized factory systems offered by the auto manufacturers, but it is usable in a much wider variety of cars.

*Switching in the PSA-108 in the Buick LeSabre was like letting a genie out of a bottle.*

Blaupunkt suggests, of course, that you only use its equipment with the PSA-108. While that is not necessary, it is important that you adhere to the recommended locations for installing the speakers, since these locations form the basis for the equalization curves stored in each module.

For the test, a toggle switch was installed for quick A/B comparisons of the sound with and without the PSA-108. When it was switched out, the sound in the LeSabre would have been entirely unsatisfactory to any music lover—the musicians sounded as if they were playing inside a barrel. Most disturbing was a recording by flutist James Galway. Normally soothing, his flute sounded particularly grating, as if it were inside a huge drum.

Switching in the PSA-108 was like letting a genie out of a bottle. At first the sound seemed compressed. Within moments, however, the sound filled the various nooks and crannies of the car's interior, and once again Galway sounded the way he should. Duke Ellington, Coleman Hawkins, Sam and Dave, and others seemed to regain their mastery. In truth, they had never lost it: Their "terrible performances" were an illusion caused by the poor acoustics of the LeSabre's interior.

Soon I was not able to switch out the PSA-108—the sound without it was far too disappointing. Listening to a bad car stereo system is hard work; listening to a good one is sublime. Put me on line for sublime—with a PSA-108 in my dash. □



# Old Records, New Life

I wanted a better cassette deck. So one Saturday I dropped by a hi-fi store. The salesman took me into one of the sound rooms for a demonstration. Racks of equipment were everywhere. He started to make a recording and I immediately fell in love with the music. It was so clean, so rich, so dynamic.

"What CD is that?" I asked.

He didn't hear me over the music but it didn't matter because I quickly saw that I wasn't listening to a CD at all. It was a record.

I made quick mental notes of the system I was hearing. I walked over to the wall of speakers and discovered that KLIPSCH® kg4s® were playing. That was the first time I had truly heard *wide* dynamic range.

I didn't buy a cassette deck that day. I spent less money and bought a new pair of kg4s. They've put new life in my old record collection. My CDs sound simply awesome. I never heard music so clearly.

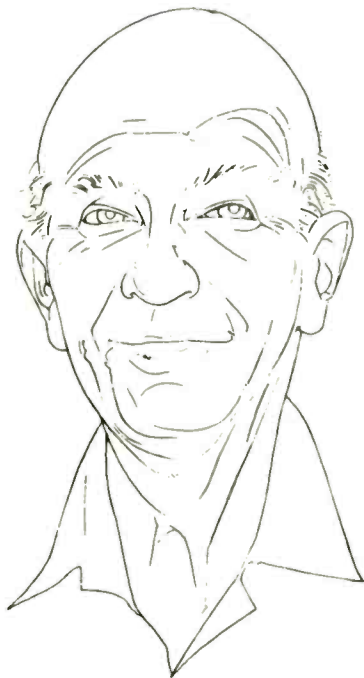
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by Julian Hirsch



## Surrounded by Sound

**N**EARLY two decades ago, beginning around 1970, the high-fidelity world became embroiled in controversy over a "new" form of sound reproduction variously referred to as "quadraphonic" or "quadriphonic." To people of the purist persuasion, the very idea was unthinkable, but "quad," as it was soon called, managed to capture the public's attention, and an entire new genre of audio components made their appearance.

There was some theoretical basis for the quad concept, although practice soon deviated sharply from any reasonably valid realization of the ideal. Simply put, in most situations the sounds we hear do not necessarily come from the direction of their source. In any enclosed space, sounds arrive from many directions because the original sound is reflected by room boundaries and furniture. Reflected sounds are somewhat altered in frequency response and arrive later than the direct sound, which is primarily responsible for our ability to localize the

source. The reflected sound provides the ambience, or characteristic sound of the room.

For various reasons, most quadraphonic systems did not make a serious attempt to restore concert-hall ambience to home music reproduction. A notable exception was the simplest and least expensive of them all—David Hafler's Dynaquad system, which required only one or two additional speakers and an inexpensive passive adaptor. Most others were based on four more or less distinct audio channels in a sort of double-stereo, with the two normal stereo speakers up front and another pair at or near the rear corners of the room.

Four discrete channels were not available in most recordings of the time and, indeed, were initially possible only on tape. A number of open-reel tape decks with four-channel capability soon appeared on the market, and attendees at audio shows were treated to some impressive (and dizzying) demonstrations. The fact that nothing in the real world of music sounded like quad seemed to be overlooked in the rush to create a market for new equipment and recordings.

Only disc recordings of quad programs could achieve widespread acceptance, and several competing systems came along—and swiftly disappeared. For the most part they employed "matrixing" techniques to combine the four channels, with specific amplitude and phase relationships, into two channels that could be recorded (and played) as a normal stereo program. This com-

patibility with existing stereo equipment was vital; without it, quad could never hope to be more than a curiosity for audiophiles.

When the output of a normal stereo cartridge playing one of those matrixed records was processed by an inverse matrix, it was possible to extract a four-channel program that could be played through the front and rear speakers. Depending on how the recording was made and decoded, the results could be startlingly different from ordinary stereo—or merely grotesque.

One difficulty was that once four discrete programs were matrixed into two channels, they could never be fully separated in playback. The separation between the four corners of the sound stage, which could be considerable in the original four-track tape, was diluted to at most a few decibels. Each of the major rival matrix systems, SQ from CBS and QS from Sansui, had its own strengths and weaknesses, but the flaw was fundamental.

Another disc-based system, JVC's CD-4 (adopted by RCA), was capable of producing four distinct channels from an encoded record, yet it could also produce a normal stereo program through a conventional two-channel stereo system. It *could* work, but it required a playback frequency response up to about 45,000 Hz to do so. Considering that the phono cartridges of the time were rarely able to go beyond 20,000 Hz, for a while this presented severe problems. As it happened, the improvement in phono cartridges was nothing less than amazing, and soon many cartridges had an excellent response to 45,000 Hz and higher. Alas, the required CD-4 decoders were finicky. Although you could sometimes obtain mind-blowing performance from CD-4 (with the right record, cartridge, and decoder), sooner or later this sonic nirvana would be rudely shattered by bursts of noise and distortion.

But the downfall of quad was caused by more than technological flaws. My feeling is that people gradually realized that real music just does not sound like even the most perfectly reproduced four-channel recording. Rarely did a record producer attempt to preserve or

### Tested This Month

JVC XL-V550 CD Player  
 Magnat Magnasphere  
 Nova Speaker  
 SAE DI02 CD Player  
 Nakamichi CA-5A II  
 Preamplifier  
 Recoton Wireless 100  
 Powered Speaker  
 Audio Dynamics T-200  
 AM/FM Tuner



## TECHNICAL TALK

restore the original hall ambience by quadraphonic techniques. Instead, the instrumental locations were scattered around the listening space, often surrounding the listeners. This type of "surround sound" was a travesty, but it apparently sold records at first, and the concept of re-creating a believable hall ambience was abandoned. In any case, quadraphonic sound disappeared almost as abruptly as it had arrived. By 1978, quad was effectively extinct.

In the following years, several companies manufactured ambience-enhancing accessories using time-delay techniques. At their best, these were (and still are) very good, but they were quite expensive and never achieved widespread acceptance.

More recently, the marriage of audio and video in professional as well as home entertainment applications has revived the surround-sound concept—but with a major difference. The current incarnation of surround sound had its origins in the motion-picture industry. Dolby Stereo is the term applied to movie soundtracks produced with Dolby Stereo encoders and reproduced in theaters using Dolby Stereo cinema equipment, which was first introduced in theaters in 1975. Its aim is not to create an unnatural or artificial distribution of musical sounds, but rather (in Dolby Labs' words) "to enhance the movie-going experience by using stereophonic sound to give directional cues which correlate with on-screen action." Currently almost 10,000 theaters are equipped to present films in Dolby Stereo.

A growing number of home video releases now have Dolby Surround soundtracks (Dolby uses "Surround" instead of "Stereo" to distinguish the consumer versions of both recordings and equipment from its professional products). Several companies manufacture Dolby Surround decoders for home use, and some integrated amplifiers, preamplifiers, and receivers also contain the Dolby Surround circuits. They are intended to re-create a theater's Dolby Stereo ambience and sonic effects in the home video version.

Although some of the techniques employed in the various Dolby Surround systems are closely related to those used in the long-gone days of quadraphony, the two have little else in common. Professional Dolby Stereo installations do have four primary sound channels—left, center, right, and surround. These are matrixed into two channels on a standard 35-mm film soundtrack to make playback possible in theaters without Dolby Stereo equipment. The center channel is the sum of the left and right channels, and their difference is the surround channel.

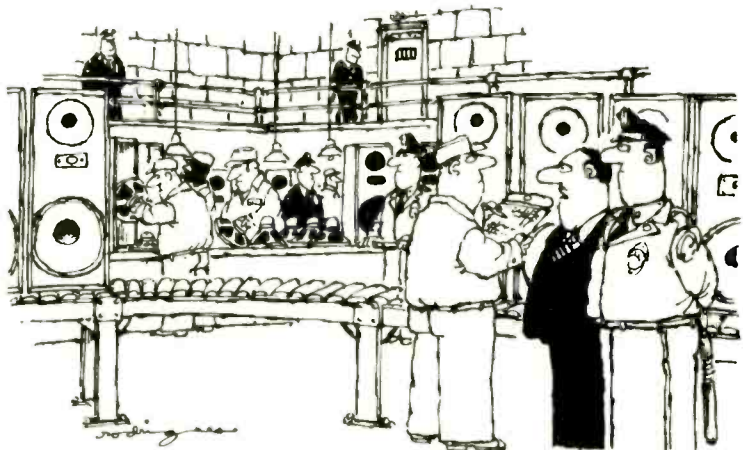
After the surround channel's bandwidth is limited (to the range between 100 and 7,000 Hz), it undergoes a modified form of Dolby B noise-reduction processing before being recorded on the film. When the signal is decoded in playback, the complementary Dolby noise-reduction process is applied, primarily to keep unwanted sounds such as voice sibilants from appearing in the surround speakers, which are usually located along the sides or at the rear of the theater. The surround signal also undergoes a time delay to prevent it from displacing the front signals as the apparent source of the sound.

The Dolby Surround system is a simplified form of the Dolby Stereo system. In its most basic form it passively processes matrixed stereo soundtracks to derive an L - R (difference) signal. This signal, filtered to limit its bandwidth, is delayed (usually by 20 milliseconds)

and used to drive one or more rear ambience speakers. The two main channels of the soundtrack are played through speakers at the front of the room, on either side of the viewing screen.

A slightly more advanced version uses active circuits as well to supply a center signal (L + R) to a third front speaker in order to keep on-screen dialogue in the approximate center of the picture. In addition, it has active "steering" logic circuits (corresponding to those used in the earlier quadraphonic matrix decoders) to provide better directional cues for sounds originating off-screen. Another version, Pro Logic, a consumer equivalent of a theater's Dolby Stereo decoder, supplies even more pronounced directional cues to the viewer/listener.

Most Dolby Surround decoders allow a user to control some of the system's parameters, such as the time delay, and some of them provide different matrices that can be used to synthesize an ambience channel from a standard stereo program. Much of this is reminiscent of quad, but with a major difference. No one today is trying to place instrumental sources at various unlikely places in the listening room. The aim is ambience enhancement, and most of the systems we have heard can do a pretty good job of that. And with the right movie in your VCR, a true Dolby Surround installation can provide much of the impact you would experience in a properly equipped theater. □



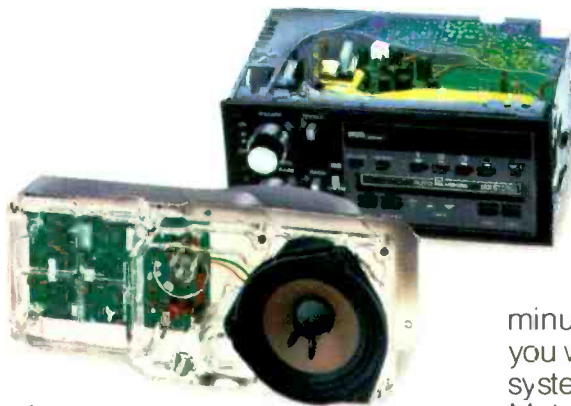
*"... License plates and brooms were okay, but I don't know about this..."*



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# LETTER PERFECT

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JOON LEUNG

### JVC XL-V550 COMPACT DISC PLAYER

*Julian Hirsch, Hirsch-Houck Laboratories*

**T**HE JVC XL-V550 CD player has all of the usual control features, such as two-speed fast search and track skipping in both directions, as well as special facilities for making tapes of selected programs on a compatible JVC cassette deck. A front-panel numerical keypad provides direct access to any track and can be used to program the player to play up to thirty-two tracks in any order. The XL-V550 also has keys for direct access to any indexed portion of a selected track, though it is not possible to program indexed sections.

Among the other features is a repeat mode for a single track, an entire disc, or any selected portion of a disc. At the press of a button, all the tracks on a disc can be played back in a random order. And the INTRO feature enables you to hear the first 15 seconds of each track before the player proceeds to the next one; touching the INTRO button again during that 15 seconds continues normal playback from that point.

The XL-V550 operates with JVC's Compu-Link control system, which enables a JVC receiver or

amplifier to switch the selected signal-source component, such as a CD player or cassette deck, on and off. This feature also allows the XL-V550 itself to control a compatible JVC cassette deck, starting and stopping the tape recording at the beginning and end of its programmed sequence. As a further aid to taping, the player's EDIT button can automatically select a sequence of tracks whose total time falls within the recording time available on the tape.

In addition to the normal fixed-level output jacks on its rear apron, the XL-V550 has a pair of variable-level jacks controlled by the same front-panel knob that adjusts the level at the adjacent headphone jack. The furnished wireless remote control duplicates all the front-panel controls except the power button, and it also contains three buttons



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not found on the player's panel. Two buttons operate the player's motorized volume control, and the FADE button reduces the volume by about one-third with each touch for temporary quieting or a smooth fade during recording.

The information display of the JVC XL-V550 is exceptionally comprehensive. It shows the status of each of its operating features and even the presence of high-frequency emphasis on the disc. It also shows the current track and index numbers and can be switched between four time displays (elapsed or remaining time for the current track or for the entire disc). Track numbers up to twenty are displayed, and an OVER indication appears when that number is exceeded. A red bar identifies the number of the current track.

The JVC XL-V550 measures 17¼ inches wide, 11½ inches deep, and 4 inches high, and it weighs about 12¼ pounds. Price: \$450. JVC,

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

### Lab Tests

The JVC XL-V550's output levels for the two channels matched within 0.04 dB. Although the fixed output level, from a 0-dB test signal, was 1.95 volts (close to the nominal CD standard of 2 volts), the maximum obtainable from the variable jacks was only 1.78 volts. The headphone volume, with medium-impedance phones, was good. The frequency response had slight ripples at high frequencies but was flat within +0, -0.3 dB from 20 to 20,000 Hz.

The square-wave output from a test disc showed that the XL-V550 uses digital filtering, and the maximum phase shift of 39 degrees at 20,000 Hz was consistent with the use of double oversampling (at 88.2 kHz) and a single digital-to-analog (D/A) converter multiplexed between the two channels. The low-

level linearity of the converter was poor, with amplitude errors of +6 and +10 dB at -90- and -100-dB levels, respectively.

The channel separation was not as high as we have measured from many other CD players, ranging from 85 dB at low and middle frequencies to 64 dB at 20,000 Hz. In practical terms, however, this degree of separation is far better than is needed for high-quality sound.

The player was fairly sensitive to finger tapping on its top cover, especially over the disc mechanism. In most installations that should not present any problems during normal operation.

### Comments

The JVC XL-V550, which superficially resembles many other CD players in appearance and basic features, is actually one of the more versatile players we have seen. Its full versatility, however, is realized only when it is used with complementary JVC components.

Very careful study of the multilingual manual, which is rather poorly organized, and some hands-on practice with the player allowed us to use most of its special features. The greatest challenge was presented by the EDIT feature, the operation of which is explained in considerable detail in at least two places without any statement of its purpose! Our explanation is actually an assumption based on experiments.

Aside from these criticisms of the documentation, we liked the XL-V550, whose basic operations are as simple as they can be. A nice touch is that keying in the number of a track automatically starts the machine playing that track; you don't have to touch the play button (except in the pause mode). The remote control is also among the most versatile units of its type.

Overall, the JVC XL-V550 is a good CD player that should be given serious consideration by anyone who does a lot of transferring of CD's to tapes. While it may take some time to become adept at using the controls, the special taping features are a boon, especially for those who like to make their own "greatest hits" compilations.

**Circle 140 on reader service card**

### FEATURES

- Double-oversampling digital filtering, multiplexed between channels
- Fixed- and variable-level outputs
- Front-panel volume control for variable-level line and headphone outputs
- Direct track access with front-panel keypad
- Track skipping in both directions
- Fast search in both directions with audible sound
- Index cueing
- Programmable for up to thirty-two selections in any order
- INTRO mode to sample first 15 seconds of each track
- EDIT function for automatic selection of program with playing time less than maximum available recording time
- Random-play mode
- Compatible with Compu-Link feature of some JVC receivers and amplifiers for total system control; can control record function of compatible JVC cassette deck
- Repeat track, disc, programmed sequence, or any selected segment
- Display of track and index numbers, status of all operating functions, elapsed or remaining time for track or disc
- Graphic display of all tracks on disc up to twenty with indication of current track
- Wireless remote control for all functions except power switching; also fades level down in three steps

### LABORATORY MEASUREMENTS

**Maximum output level:** 1.95 volts fixed, 1.78 volts variable

**Total harmonic distortion at 1,000 Hz:** 0.005% referred to 0 dB, 0.004% referred to -10 dB, 0.009% referred to -20 dB

**Signal-to-noise ratio (A-weighted):** 100.5 dB

**Dynamic range:** 96 dB

**Channel separation:** 85 dB at 1,000 Hz, 64 dB at 20,000 Hz

**Frequency response:** +0, -0.3 dB from 20 to 20,000 Hz

**Maximum phase shift (from 100 to 20,000 Hz):** 39 degrees at 20,000 Hz

**Cueing time:** 3.5 seconds typical

**Cueing accuracy:** A

**Impact resistance:** top, C; sides, B

**Defect tracking:** tracked maximum-level defects on Philips TS5A test disc

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## MAGNAT MAGNASPHERE NOVA SPEAKER SYSTEM

*Julian Hirsch, Hirsch-Houck Laboratories*

**M**AGNAT, a prominent West German loud-speaker manufacturer, is introducing a novel four-way, three-piece speaker system that is claimed to be the first speaker to achieve true omnidirectional sound dispersion. The system supplied to us for test was a preproduction model, as the speaker is not scheduled for release until later this year.

The Magnasphere Nova consists of two satellite speakers and a powered subwoofer module. The sub-

woofer, like similar products in its external appearance, is approximately cubical and has a glossy black piano finish. Its output emerges from slots about 2 inches high and 20 inches long near floor level on the front and rear of the enclosure.

The satellites, however, are unique in appearance and design. Each consists of three black, perforated-metal spheres stacked vertically on a slender black-steel column. Each sphere contains a pair of magnetic drivers mounted back-to-

back and radiating in opposite directions. Since each driver pair operates in phase, the radiation pattern is approximately the same in all directions except in the plane of the sphere's vertical "equator," where the drivers are joined.

The bottom sphere of each satellite, the "woofer," contains two 4-inch polypropylene-dome radiators that operate between 100 and 1,400 Hz. Each dome, constructed of two different thicknesses of polypropylene and mounted in a cutout in a plastic sphere slightly less than 8 inches in diameter, is driven at its 2¼-inch diameter by an inner "cone" that has a smaller voice coil at its apex.

The middle sphere, which radiates from 1,400 to 3,400 Hz, is essentially a smaller version of the woofer sphere. It contains two 2-inch soft-metal-dome radiators mounted back-to-back within a 4-inch spherical case, which in turn is surrounded by the perforated-metal cage. Immediately above it is the tweeter, with a pair of 1-inch drivers in a 2½-inch cage (all these dimensions are approximate).

Passive crossover networks for the satellite drivers are located within their spherical enclosures, which are joined by eight-pin DIN connectors. A separate control box contains an active electronic crossover circuit, with a slope of 24 dB per octave, that excludes the low-bass frequencies from the satellites, supplying them to the subwoofer module through a cable and DIN plugs. The controller has front-panel adjustments for setting the subwoofer's output level and the low-bass crossover frequency (either 80, 100, or 120 Hz).

An unusual feature of the Magnat system is its time-delay correction. Any three-piece system such as the Magnasphere Nova is very likely to have large time differences between the outputs of its subwoofer and satellites. In part, this results from the placement of these components in the listening room, where they are often many feet apart, and in part from the inherently greater delay in the output of a subwoofer compared with that of a midrange or high-frequency driver. The audible significance, if any, of these time differ-

## TEST REPORTS

ences has not been established, but the Magnasphere Nova provides a way for the user to compensate for them, if only approximately.

The signals supplied to the satellites are routed through a high-pass Bessel filter whose delay can be adjusted for 0, 32, or 64 milliseconds (ms) by a switch on the control unit. Since typical delay differences in a three-piece system like the Nova will fall in that range, presumably a user could reduce the differences substantially by delaying the satellite speakers' output by 32 or 64 ms.

The Magnasphere Nova subwoofer contains four long-throw drivers, each with a cone diameter of 7 $\frac{1}{2}$  inches. They are mounted in opposing pairs on a board that divides the inside of the cabinet horizontally. Each pair is driven by the signal from one stereo channel, although the acoustic outputs of all four drivers are effectively combined at the cabinet's ports. Magnat describes the subwoofer as having a "compound principle" of operation. Apparently each opposing pair of drivers operates in "push-pull" mode, with their cones moving in the same direction, instead of in opposition as in the satellites. The subwoofer's amplifier, built into the enclosure, is rated to deliver 180 watts per channel continuously, or 500 watts peak output, with less than 0.05 percent distortion.

The top of the tweeter sphere is about 47 inches from the floor, the bottom of the woofer sphere about 30 inches. The stands, about 1 $\frac{3}{8}$  inches in diameter, have black cast-iron bases. Each complete satellite weighs about 28 pounds. The subwoofer module is about 21 inches wide and high, and 18 inches deep. Although its weight was not specified, we can testify that it is *very* heavy!

The control unit is a black-finished metal cabinet that measures 16 $\frac{3}{4}$  inches wide, 11 inches deep, and 3 $\frac{3}{8}$  inches high. Its front panel contains a power switch and a small button that causes a motor to open and close the lower half of the panel, which covers the other controls. The panel also has a pair of overload lights to warn of excessive signal levels. Price: \$5,500 (estimated)

for the system. Magnat America, Dept. SR, 70 Atlantic Ave., Marblehead, MA 01945-3038.

### Lab Tests

Some details of the Magnasphere Nova system, especially the control unit and its specific adjustment ranges, might be changed in the final production models. Since the radiators used in the satellites have been in the Magnat product line for some time, however, they can be expected to remain as described.

We placed the satellites about 8 feet apart and 4 feet from the wall behind them. The subwoofer was located approximately on the same line as the satellites and midway between them. We set the subwoofer output level by ear for the best possible bass response without excessive boominess on vocal sounds, and the 80-Hz crossover setting was used for most listening and measurements. We tried the other settings as well, but the lowest of the three frequencies generally produced the best results.

Our frequency-response measurements were made in the usual way, plotting room-response curves for both satellites on the same chart and averaging them to smooth out room standing-wave effects. We

measured the subwoofer's response with each of the crossover settings, placing the microphone at one of the output slots. Bass distortion was measured at the same point, using the 80-Hz crossover setting.

We measured the impedance of a satellite unit, which is the only part of the Magnasphere Nova that is actually driven by the user's regular system power amplifier, over the full audio frequency range. The system's sensitivity was measured at a 1-meter distance, with only one satellite operating, using 2.83 volts of pink-noise input. Since there is no fixed relationship between the signal input level and the subwoofer's acoustic output (their relative levels are set by ear), we measured the drive signal needed to produce a 90-dB sound-pressure level (SPL) at a 1-meter distance from the subwoofer slot at 50 Hz (on the flat portion of the subwoofer's frequency response) and then maintained that same input level from 100 Hz downward when measuring bass distortion.

Our quasi-anechoic FFT response measurements with the IQS signal-analysis system were made 1 meter from a satellite. With the microphone close to each of the spheres, we also measured their individual frequency response on the forward



*"I think it's you, Lionel. When we lived in that trailer, you complained about the acoustics. When we lived in that houseboat, you complained about the acoustics. ..."*



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## TEST REPORTS

axis and at 45 and 90 degrees off-axis (the latter angle is close to the solid band that unites each pair of hemispheres). Plotting the axial and off-axis response curves on the same printout enabled us to assess the actual directivity of each section of the satellite speaker. In addition to our usual group-delay measurements, applied to a complete satellite array, we made a group-delay measurement on the output of the subwoofer alone.

The satellites' combined room response was very uniform,  $\pm 3$  dB from 200 to 20,000 Hz, indicating a relatively flat acoustic power-output characteristic. Below 200 or 300 Hz the response became irregular because of room reflections. The close-miked subwoofer response was flat within  $\pm 2$  dB from 25 to 80 Hz using the 80-Hz crossover setting; the upper limit extended to 110 and 140 Hz with the 100- and 120-Hz settings, respectively. From 30 to 72 Hz, the subwoofer's output varied only  $\pm 1$  dB.

Splicing the Nova system's bass and room-response curves was not as easy as it is for most conventional single-cabinet speaker systems. The reference level of the bass curve could be placed almost anywhere relative to the room-response level, and the room's standing-wave effects eliminated the usual clues to the relationship between the two. We finally joined the curves with the flat region of the subwoofer response at the same level as the smoothed satellite room response, which left the region from 100 to 200 Hz undefined. Since this frequency range is strongly affected by speaker placement and room dimensions, our choice was not unreasonable. The other parts of the curve give a fair indication of what the Magnasphere Nova system itself is capable of.

The composite response, which had only a few minor irregularities, varied  $\pm 3$  dB from 23 to 20,000 Hz. The bass distortion was between 2 and 3 percent from 25 to 100 Hz, climbing to 8.5 percent at 20 Hz. The distortion consisted entirely of second and third harmonics.

The impedance of a satellite, using the 100-Hz crossover, varied between 3.7 and 7 ohms over the

range from 200 to 20,000 Hz (the nominal system rating is 4 ohms). The impedance rose smoothly below 200 Hz, to about 60 ohms at 20 Hz, reflecting the isolation provided by the system's crossover network.

The system's sensitivity appeared to be rather low, with each satellite producing only 80 dB SPL at 1 meter with a drive signal of 2.83 volts of pink noise. This figure does not include, however, the considerable contribution of the subwoofer at frequencies below 100 Hz. In actual use, the system did not require an unusual amount of drive power even at very high levels.

The FFT measurements were consistent with our other results. Since they extended beyond our usual 20,000-Hz measurement limit, they confirmed that the satellites' high-frequency response was virtually flat up to about 27,000 Hz. One of the more interesting FFT measurements was the group-delay response to the subwoofer, which averaged about 30 milliseconds from 35 to 95 Hz and increased to 70 ms at 20 Hz. This suggests that the optional delay compensation in the Nova's system controller could, in theory, correct for much of the difference between the subwoofer's delay and the typical delay of less than 0.5 ms across the rest of the audio range that we measured from the satellite output.

The FFT measurements also proved that the spherical radiators are *not* really omnidirectional, although their effective dispersion is wide enough to give them many of the subjective qualities of an omnidirectional radiator. A close-miked measurement of the tweeter sphere at angles of 0 and 45 degrees off its forward axis showed that the two response curves differed by 3 to 6 dB over most of the tweeter's operating range. Although this is good dispersion, the response at 90 degrees off the forward axis was down more than 20 dB over most of the range. As would be expected, the midrange radiator was better, with less than 3 dB separating the axial and 45-degree curves over its full operating range. Still, the midrange output at 90 degrees off-axis was typically 18 to 20 dB below the axial level. The woofer sphere showed virtually no response change over the first 45

degrees, but at 90 degrees it was a uniform 12 dB down over most of that driver's operating range.

### Comments

The Magnasphere Nova system was a very "listenable" speaker. The sound from the satellites seemed to float in the air, with no clues to its origin as long as we were a few feet away from the speakers. It not only filled the space between them but extended behind and above them as well.

We were unable to hear any difference in the sound as a result of switching the delay compensation between 0 and 64 milliseconds, but there is little evidence to show that bass delays in that range are audible. While this feature looks promising in principle, it may be of little practical value.

The subwoofer, of course, cannot be located by ear, although it is certainly obvious to the eye. Too much subwoofer output can make some programs bottom-heavy, and we chose what seemed to be a reasonable level for our listening tests, setting the bass control at less than half of its maximum rotation. Even this middling level produced a solid, almost tactile deep-bass output with suitable program material.

We soon found that listening to the Magnasphere Nova tends to distract one from trying to dissect and analyze its sound output. That is a characteristic of most very good speakers, and the Nova is unequivocally one of the better-sounding ones we have heard.

Our only clear disagreement with the claims made for the Magnasphere Nova concerns its supposed "omnidirectionality." The satellites are really sets of three dipole radiators, with virtually no radiation to the sides and equal outputs front and rear. They have the audible qualities of a good dipole and are much more compact than most. Whether you find them attractive as home furnishings is a matter of personal taste. And they are certainly expensive. But in the final analysis, it is the sound of a speaker that justifies its cost, and Magnat's Magnasphere Nova system passes that test beautifully.

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Although recognized as a true breakthrough, most critics agree that CD technology has not fully translated into increased musical performance. Two aspects of conventional CD player design are responsible for this: integrated circuits (IC's) in the analog section and excessively steep analog filters. While desirable from a pure cost consideration, analog IC's have very narrow bandwidth and require huge amounts of negative feedback which creates, among other things, the TIM (Transient InterModulation) distortion responsible for the harsh, metallic sound that is a common complaint of the CD format.

The other widely recognized criticism of the CD format is a lack of spatial perspective ("depth") in the sound field. This is the result of the very steep filters (typically 60dB/octave or more) required in conventional CD circuit design.

Harman Kardon both addresses and solves these problems in the HD200, HD400 and HD800. Our analog section is constructed entirely of precision discrete components (no IC's) and has Ultrawide-bandwidth of 0-250kHz and no negative feedback

at all. This all discrete circuit is completely free of the harshness of TIM and does not require the steep filters which destroy spatial perspective. The result is the clear, clean, stunning musical realism lacking in other CD players.

Taking the ultimate format even further, Harman Kardon's HD800 introduces the Charge Coupled Interface (CCI, patent pending). This circuit is placed between the D/A converters and the analog section so that they are electrically completely isolated, preventing noise from being passed out of the digital circuitry. Increased dynamic range, maximum phase coherency and greatly improved small signal resolution are also enhanced by dual 16-bit linear D/A converters operating at 176.4kHz (four times oversampling).

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## SAE D102 COMPACT DISC PLAYER

*Julian Hirsch, Hirsch-Houck Laboratories*

**T**HE D102 is part of SAE's Computer Direct-Line series of audio components. Its control and signal circuits are electrically and physically isolated from each other, and all control operations are performed through computer circuitry, with front-panel pushbuttons or from the remote control. Power is not completely removed from the D102 when it is not in use. Instead of the usual on/off power switch, it has a **STANDBY** switch that shuts off its audio circuits while maintaining power to the control and memory circuits.

The D102, which uses a single-spot Philips laser system, has separate 14-bit, quadruple-oversampling digital-to-analog (D/A) converters

and digital filters for each channel. Except for a small headphone level knob, all of its controls are center-pivoted rocker switches, usually sharing complementary functions such as pause/play and reverse/forward. There are two sets of audio outputs on the rear apron, one fixed-level and one variable-level. Another pair of jacks, marked **STANDBY IN** and **STANDBY OUT**, allows the D102 to be switched on and off from an SAE preamplifier.

With the exception of an elongated volume control, which smoothly increases or decreases the variable line-output level, all of the controls on the D102 have the same size and shape, and they are grouped in two closely spaced six-button arrays. They are all clearly

marked as to function, however.

The operating status of the controls is shown by red LED's next to the control buttons or on the display at the top of the panel. Unlike many CD players, whose display windows sometimes tell the user more than he or she really wants or needs to know, the SAE D102 reduces displayed information to a practical minimum. For example, the normal display shows only the track and index number of the current selection. When a disc is first loaded, the **TIME/TRACK** button toggles the display between the total number of tracks and the total playing time.

Most of the other controls are conventional: fast search in either direction with audible sound, track skipping in either direction, pause/play, stop/standby, and open/close. One side of the **PROG/REVIEW** button is used to program the player to play up to twenty tracks in any sequence and to review the stored program sequence on the display. Its other side is used to repeat the entire disc or selected tracks.

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The D102 is furnished with a wireless remote control that duplicates all of its programming and disc-play functions except for entering the standby mode and opening or closing the disc drawer. The motorized volume control can also be operated from the remote unit.

The SAE D102 has a heavy-duty 19-inch front panel that is slotted for rack mounting. It also comes with walnut-veneer wood side plates for home installations. The top and front panel are finished in black with clear, legible white markings. The player measures 13 inches deep and 3½ inches high, and it weighs 16¾ pounds. Price: \$549. SAE, Dept. SR, 1502 Gage Rd., Montebello, CA 90640.

### Lab Tests

The output voltage from a 0-dB test signal was 1.97 volts at both sets of outputs, and the channel imbalance was 0.22 dB. The total harmonic distortion was a low 0.0016 percent at 0 dB, increasing to 0.0056 at -10 dB and 0.026 percent at -20 dB. The latter two readings consisted of at least seven harmonics within the audio range, whereas at 0 dB there was only a single detectable harmonic.

The D102 had excellent measurements for most other performance parameters. The interchannel phase shift was virtually zero, because of the separate D/A converters (we measured about 1 degree of shift at 20,000 Hz). The low-level conversion linearity was very good, with less than a 1.5-dB error at any level down to -100 dB. Channel separation was very strong at low and middle frequencies (110 dB at 100 Hz) but narrowed to 71 dB at 20,000 Hz. The frequency response had some ripple fluctuations above 2,000 Hz, but its overall variation was a very small +0.1, -0.2 dB from 20 to 20,000 Hz.

The slew time of the laser transport was about average (3.5 seconds) for the actual track change, but the computer control system introduced a lag of a couple of seconds between the operation of a track-skip button and the beginning of the move. The subjective impression was of a rather leisurely response time. This lag did not occur in a

normal advance from one track to the next.

The most surprising—and most unexpected—characteristic of the D102 was its sensitivity to physical impact. Even moderate jarring, such as might occur if the player were moved a few inches on a table, frequently caused it to shut down. Fairly light finger tapping on the top of the cabinet usually caused skipping and sometimes a shut-down. Such sensitivity is not unheard of among CD players, but it is somewhat rare in the price class of the D102. No problems should be encountered in any normal use of the player, however. Our tests, after all, are designed to disclose even minor weaknesses in a product, as well as to confirm its specifications.

### Comments

The SAE D102 does a first-rate job of playing CD's, extracting the full potential of each recording. Although unorthodox in some of its features and controls, it operated smoothly and quietly. The control system took some getting used to, but it soon became as natural to operate the D102 as most other CD players.

The remote control worked well,

and the ability to adjust the signal level from the CD player is a genuine convenience if your amplifier lacks a remote control. Those users who believe that interchannel phase shift (resulting from the delay of 11.3 microseconds or less between channels when a D/A converter is switched between them) causes undesirable sonic qualities will find this machine quite free of those qualities. Similarly, a person who feels cheated when program signals below -80 dB are not reproduced at their correct levels can be assured that the D102 delivers them at least as accurately as any we know of.

While I found the unusual computer-control system of the D102 to be an obstacle at first, a few hours of use convinced me that the system makes at least as much sense as any other, and probably more than most. Indeed, my only substantive criticism of the player's human engineering concerns its inability to display both track and time information simultaneously. Even some of the least expensive CD players can do so, and I find it a great convenience. In every other important respect, the SAE D102 is an excellent machine.

Circle 145 on reader service card

### FEATURES

- Quadruple-oversampling D/A converters and digital filters for each channel
- Fixed- and variable-level outputs
- Headphone jack with level control
- All switches computer controlled
- Electronic volume control of variable line outputs
- Track skipping in both directions
- Fast search in both directions with audible sound
- Programmable for up to twenty selections in any order
- Power switchable from SAE P102 preamplifier
- Repeat entire disc or programmed sequence
- Display switchable between track/index number and elapsed time
- Wireless remote control operates all functions except drawer open/close and standby

### LABORATORY MEASUREMENTS

**Maximum output level:** 1.97 volts  
**Total harmonic distortion at 1,000 Hz:** 0.0016% referred to 0 dB, 0.0056% referred to -10 dB, 0.065% referred to -20 dB  
**Signal-to-noise ratio (A-weighted):** 107 dB  
**Channel separation:** 98 dB at 1,000 Hz, 71 dB at 20,000 Hz  
**Frequency response:** +0.1, -0.2 dB from 20 to 20,000 Hz

**Dynamic range:** 95 dB  
**Maximum phase shift:** 4.3 degrees at 100 Hz, 1 degree at 20,000 Hz  
**Cueing time:** 3.5 seconds (see text)  
**Cueing accuracy:** A  
**Impact resistance:** top, C-; sides, C  
**Defect tracking:** tracked maximum-level defects on Philips TS5A test disc



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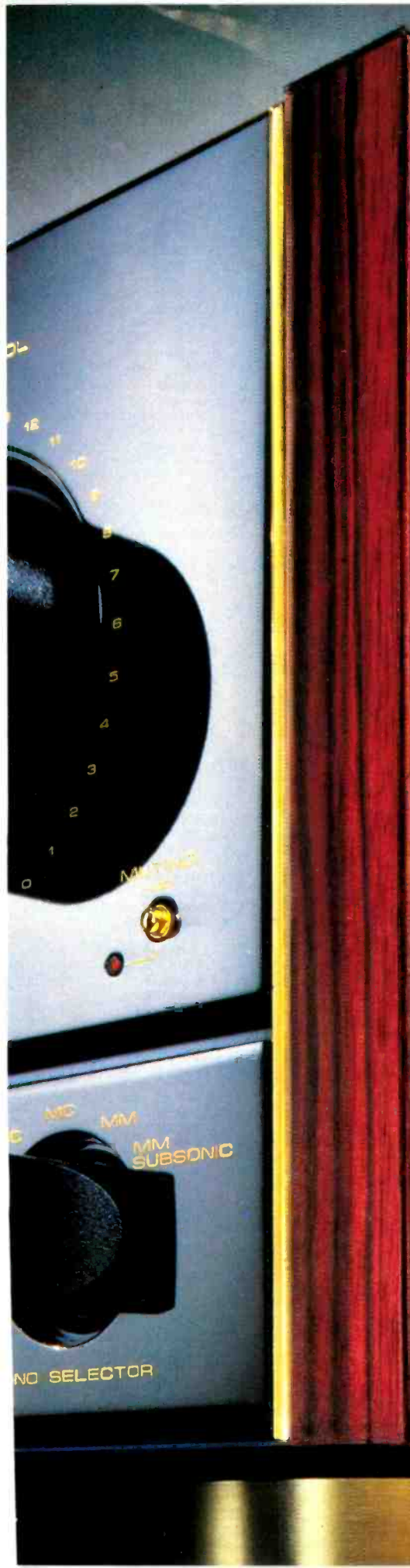
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The A-91D is not only ready for digital, it's ready for the future. With six digital inputs (2 optical), and three digital outputs (1 optical).

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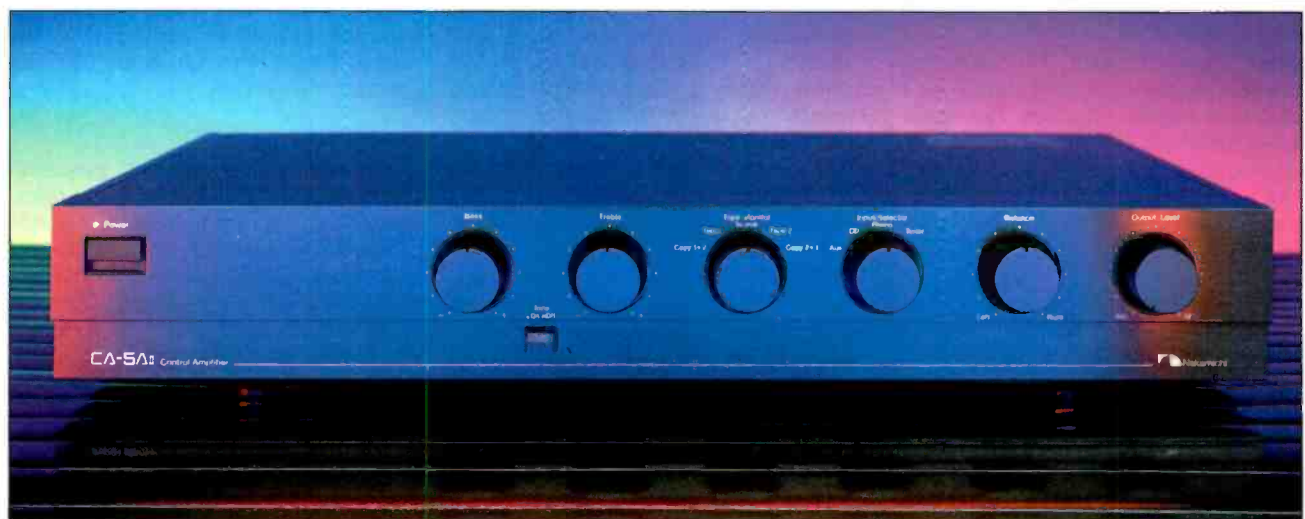
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JOCK LEUNG

## NAKAMICHI CA-5A II PREAMPLIFIER

*Julian Hirsch, Hirsch-Houck Laboratories*

**T**HE Nakamichi CA-5A II is an improved version of the earlier CA-5 Control Amplifier (preamplifier). The changes include both additional control features and circuit modifications. The Series II circuit design closely resembles that of Nakamichi's top Control Amplifier, the CA-7A. The principal changes from the "minimalist" control design of the CA-5 are the addition of defeatable tone controls, two-way tape-dubbing facilities, and three selectable gain settings for the moving-coil (MC) phono input.

Despite its external simplicity, the CA-5A II is a highly flexible preamplifier. It has five high-level inputs, and the single phono input is switchable between MC and MM modes by a small toggle on the rear apron. Another toggle switch selects capacitances of 100, 200, or 300 picofarads (in parallel with a nominal 50,000-ohm resistance) as an input termination for MM cartridges or gains of 24, 30, or 36 dB for MC cartridges. The MC-cartridge termination, normally 100 ohms, can be changed to another value (from 3 to 50 ohms) by dealer installation of additional resistors supplied with the preamplifier.

The high-level inputs are tuner, CD player, auxiliary, and two tape decks. A single knob selects one of the high-level inputs or the phono input. A separate tape-monitor knob (set to source when a tape input is not used) has positions for playback from either tape deck and for copying a tape from either machine to the other.

The other front-panel controls are entirely conventional. Normally, the tone controls are completely removed from the signal path; a separate button activates them.

Like the CA-7A, the CA-5A II uses a multi-regulated, isolated-ground power supply for maximum isolation of all circuits. Following its master regulator, the power supply has separate regulators for the left and right channels of the MC phono preamplifier, the MM phono preamplifier, the RIAA phono equalizer, the line-level amplifiers, and the tone-control amplifiers. Still another regulator powers the relays used for signal switching. According to Nakamichi, this isolated-ground system provides the same performance that would result from entirely separate power supplies for each stage.

Since the amplifying circuits of

the CA-5A II were designed for negligible distortion without overall feedback, only a moderate amount of feedback is required to meet its exceptional performance specifications. Unlike most preamplifiers, in which input-signal selection is done by semiconductor switches or conventional rotary switches, the inputs and tape-monitoring connections of the CA-5A II are selected by hermetically sealed relays, which are located on the circuit board to minimize path length and noise pickup. The relay contacts are gold-plated silver-palladium alloy, and not only are the coils energized by their own regulated power source, but to prevent possible noise or interference from common ground paths, neither side of the power supply is grounded. A low-leakage toroidal power transformer is used to prevent induced hum from an external field.

The Nakamichi CA-5A II, which is finished in black, measures 17 $\frac{1}{8}$  inches wide, 11 $\frac{5}{16}$  inches deep, and 2 $\frac{1}{2}$  inches high. It weighs 11 $\frac{1}{4}$  pounds. Price: \$995. Nakamichi, Dept. SR, 19701 S. Vermont Ave., Torrance, CA 90502.

### *Lab Tests*

Driving an EIA standard load of 10,000 ohms in parallel with a 1,000-picofarad (pF) capacitor, the 1,000-Hz output of the Nakamichi CA-5A II clipped at 7 volts. Because the overload was slightly asymmetrical and gradual, a 2-percent distortion level did not occur until the



## TEST REPORTS

preamplifier's output reached 8 volts.

At maximum gain, a 0.5-volt reference output required a signal of 41 millivolts (mV) through the high-level inputs, 2.2 mV through the MM phono input, and 0.107 mV through the MC phono input (using its 24-dB gain setting). The A-weighted noise levels for these inputs, referred to a 0.5-volt level, were respectively -84.6, -76.5, and -77.5 dB. The crosstalk between high-level inputs was -73 dB at 1,000 Hz, but from a high-level input to MM phono it was unmeasurable (below -90 dB).

The 1,000-Hz harmonic distortion was less than 0.003 percent at output levels from 0.1 to 3 volts, reaching 0.0045 percent at 7 volts. The MM phono-input termination was 40,000 ohms in parallel with capaci-

tances of 115, 200, or 270 pF, depending on the setting of the switch in the rear of the unit. The phono preamplifiers overloaded at inputs between 268 and 278 mV (MM) and between 16.5 to 17.3 mV (MC) over the audio range from 20 to 20,000 Hz.

The tone-control characteristics were excellent, with less than a 1-dB effect on the midrange level between 400 and 3,000 Hz. The treble curves were hinged at about 7,000 Hz, and the turnover frequency of the bass curves shifted between 100 and 170 Hz as the control was varied. With the controls in their center positions (or bypassed), the frequency response varied less than 0.1 dB overall from 20 to 20,000 Hz. The RIAA phono equalization was so accurate that we had to use the

most expanded scale on our response plotter to measure it; the total variation was about 0.05 dB from 20 to 20,000 Hz.

### Comments

The extensive use of precision components (typically with tolerances of 1 percent or better) in the CA-5A II was clearly responsible for its extraordinary response flatness and equalization accuracy. The design simplicity that has long been a hallmark of Nakamichi electronic products is again exemplified by this fine preamplifier. If you don't want to risk the (debatable) degrading effects of tone-control circuits on the sound, or even the slightest change in response flatness, you need only touch a button to remove them from the signal path. In fact, merely placing the tone controls in their detented positions (though they are still in the circuit) will provide a frequency response flatter than that of almost any CD player. And, if you *do* want to use tone controls, those on the CA-5A II are among the best of their kind.

Within the limits of our measurements, the CA-5A II met or surpassed its ratings. Realistically, ultra-low distortion readings or super-flat frequency response have no necessary correlation with sound quality, although they certainly do no harm! More important, we think, are the operational qualities of the product—how effectively it performs its assigned task and whether there are any undesired side effects. In these respects, no one could fault the CA-5A II. We can no more comment on its "sound" than we can on that of signal cables. As far as we are concerned, it has no sound of its own at all but is a virtually perfect system control amplifier. That is what the Nakamichi engineers intended it to be, and they have succeeded admirably.

The Nakamichi CA-5A II is fairly costly, but there are many higher-priced preamplifiers on the market (and, of course, plenty of *less* expensive ones). The choice is the buyer's, but our experience leaves us with no doubt that this preamplifier does all that is claimed for it, and then some. Who could ask for more?

**Circle 142 on reader service card**

### FEATURES

- Inputs for five high-level sources and MM or MC phono cartridge
- Defeatable bass and treble tone controls
- Two tape loops with dubbing in either direction
- Multi-regulated, isolated-ground power supply for all signal stages
- Low-noise FET's in balanced input stages
- Parallel-connected, ultra-low-noise FET's in MC phono preamplifier
- Switch-selectable MC preamplifier gain (24, 30, or 36 dB); MC cartridge load 100 ohms, adjustable down to 3 ohms by dealer modification
- Selectable MM cartridge input capacitance (100, 200, or 300 pF)
- Low-distortion circuits with minimum overall negative feedback
- Signal switching by sealed relays with gold-plated, silver-palladium-alloy contacts
- Separate regulated, isolated-ground power supply for relay coils
- Precision resistors with oxygen-free-copper leads in signal circuits
- Precision low-inductance, polypropylene-film capacitors in RIAA phono-equalization network
- Low-leakage toroidal power transformer
- Connector for optional SPC-1 system remote control
- Gold-plated jacks

### LABORATORY MEASUREMENTS

**Frequency response** through high-level input (EIA standard load):  $\pm 0.1$  dB from 20 to 20,000 Hz

**Voltage output at clipping:** 7 volts at 1,000 Hz

**Harmonic distortion** (THD + noise at 1,000 Hz): less than 0.003% at 0.1 volt, 0.002% at 1 volt, 0.0045% at 7 volts

**Sensitivity** (for a 0.5-volt output): high-level (auxiliary, tuner, CD), 41 mV; MM phono, 2.2 mV; MC phono, 0.107 mV at 24-dB gain setting

**A-weighted noise** (referred to a 0.5-volt output): high-level, -84.6 dB; MM phono, -76.5 dB; MC phono (24-dB gain), -77.5 dB

**Phono-input-overload level:** MM, 260 to 278 mV from 20 to 20,000 Hz; MC (24-dB gain), 16.5 to 17.3 mV from 20 to 20,000 Hz

**Phono-input impedance:** 40,000 ohms and 115 to 270 pF (adjustable)

**RIAA phono-equalization error:**  $\pm 0.05$  dB from 20 to 20,000 Hz

**Tone-control range:** 100 Hz, +5, -6 dB; 10,000 Hz, +4.5, -5 dB

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*Automobile Magazine*

*"...more expensive than concert tickets and probably better."*

*Playboy*

*"...the Ford JBL system gives the best value of the three." (in a comparison with the Delco/Bose and Chrysler/Infinity systems)*

*Popular Mechanics*

Also earning recognition was the Ford Premium Sound System in the Ford Taurus and Mercury Sable:

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*Automobile Magazine*

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**AUDIO SYSTEMS**





### RECOTON WIRELESS 100 POWERED SPEAKER SYSTEM

*Julian Hirsch, Hirsch-Houck Laboratories*

**O**NE major obstacle to installing speakers some distance from the signal source is getting the connecting wires out of the way. Even in the same room with the source, it is not always easy to conceal the wires; in other parts of the house, it may be impossible or at least very difficult. Another potential problem is the loss of signal (voltage) strength that occurs when very long runs of speaker wire are used.

The Recoton Wireless 100 (W100) stereo speaker system offers an inexpensive and convenient solution to this dilemma. It can be

used in any part of the house, at any distance from the program source, yet it requires no wires connecting it to the signal source. The signals are transmitted through the AC power wiring on FM carriers. The transmitter unit, a small black box measuring only 8 inches wide, 4½ inches deep, and 1¾ inches high, has input jacks for line-level signals from a preamplifier, tuner, or CD player. Adaptor cables are furnished for bridging the W100 across an existing signal line or plugging it into a headphone jack. Except for a power switch, the only control on the transmitter is a level adjustment on

its rear apron. A red overload light on the front panel flashes when the inputs are close to the overload point.

The speakers, supplied in pairs, are identical except that one has a matching FM receiver and stereo power amplifier (with a nominal 10-watt rating) inside its enclosure. Spring-loaded terminals on its rear carry the signal for the other stereo channel to the opposite speaker, which has no active circuits. The powered speaker must be plugged into an AC line, which should be served by the same distribution transformer (house circuit) as the one powering the transmitter, although the speakers can be at any distance from the source. Any number of speaker pairs can be driven from a single transmitter, since each pair has its own on/off power switch and volume control.

Although there have been other wireless powered speakers using power-line signal transmission, none have provided true high-fidelity quality. Typically, they have been characterized by limited signal bandwidth, high distortion, and frequently audible electrical interference. The novelty of the Recoton Wireless 100 lies in its FM transmission/reception system, designed by Larry Schotz, a recognized authority on the design of low-noise FM tuners. According to Recoton, the receiver contains a special noise-canceling circuit that effectively eliminates interference from household appliances, which frequently propagate electrical interference through the power lines.

The electrical specifications of the Schotz transmission system are generally compatible with hi-fi standards, although they are not published as part of the W100 system's specifications. They include a frequency response of 30 to 15,000 Hz within ±1.5 dB, a signal-to-noise ratio of 80 dB, distortion of less than 0.5 percent, and channel separation of 60 dB at 1,000 Hz and 50 dB at 20,000 Hz.

The W100 is a "mini"-size speaker, measuring 9 inches high, 6 inches wide, and 5½ inches deep. Its enclosure is made of a rigid black molded plastic with two small ports on the front panel. The single 4½-

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## TEST REPORTS

inch driver is protected by a nonremovable metal grille. The front of the powered speaker contains a power switch, a pilot light, and a volume knob that controls both speakers simultaneously (any balance adjustment must be done at the source). The powered unit weighs 8½ pounds, the unpowered speaker 5½ pounds. They can be mounted on a wall with optional brackets available from Recoton. A 20-foot length of light cable is furnished for connecting the two speakers. Price: \$269.95. Recoton, Dept. SR, 46-23 Crane St., Long Island City, NY 11101.

### Lab Tests

Since there are two distinct parts of the Recoton W100 system, the Schotz electronic system and the speakers themselves, we measured their individual characteristics as well as those of the complete system. The individual measurements were simplified by a slight modification (provided by Recoton) of the powered speaker unit to bring the demodulated stereo signals out at line level, independent of the internal power amplifier and the speaker itself. The terminals also allowed us to inject signals for testing the amplifier without going through the FM system.

We made limited measurements on the power amplifier by loading the output to the unpowered speaker with a resistor and measuring its output across loads of 8 and 4 ohms. Although the manual does not say so, we found that the powered speaker actually handles the right channel of the signal applied to the transmitter. Frequency-response measurements at the amplifier output included its built-in equalization. The unpowered speaker was also measured alone (driven from a separate amplifier), omitting only the sensitivity, pulse-power, and bass-distortion measurements, none of which would be relevant because of the integrated nature of the Recoton system.

With the transmitter level control set to maximum, a 150-millivolt (mV) signal caused the red overload light to become barely illuminated. With this overload point as a 0-dB reference level, the transmitter/

receiver circuits clipped at +6 dB. The 1,000-Hz distortion at the receiver output was 0.6 percent at 0 and -10 dB, 0.85 percent at -20 dB. Although these levels might seem high in comparison with most amplifiers, they are comparable to the distortion we measure from very good car stereo tuners.

The A-weighted signal-to-noise ratio was 77.7 dB referred to the 0-dB level (again, like a good FM tuner). The channel separation at 1,000 Hz was 56 dB, and at 10,000 Hz it became asymmetrical (71 dB in one direction and 58 dB in the other). Interestingly, at 100 Hz the separation narrowed to 39 dB.

The amplifier output clipped at 6.3 watts into 8 ohms and 10 watts into 4 ohms. Its 1,000-Hz distortion into 8 ohms was 4.7 percent just below the clipping point, and at 10,000 Hz (where the waveform became triangular at this level) the distortion was 6.5 percent. At 100 Hz, however, it was only 0.69 percent. The unequalized amplifier frequency response was  $\pm 2$  dB from 20 to 20,000 Hz, but the speaker equalization boosted the lows to +14 dB (relative to the 1,000-Hz level) in the 20- to 60-Hz range and the highs to +12.5 dB at 9,000 Hz.

The room response of the unpowered (and unequalized) speaker was within  $\pm 4$  dB from 100 to 17,000 Hz, a creditable performance from a single 4½-inch driver. Its bass output rolled off below about 300 Hz at 6 dB per octave. The system's impedance should be rated at 4 ohms, which was its value at 85 Hz and between 500 and 1,000 Hz. The impedance maximum was 21 ohms at 170 Hz.

### Comments

The Recoton W100 worked exactly as claimed, and the sound was remarkable for a pair of 4½-inch drivers in mini-cabinets. Obviously, the W100 is not intended for a typical home music system, although it might be ideally suited for a budget-priced installation. For example, combining it with a portable CD player with an AM/FM tuner would make a music system of surprisingly good quality that would cost less than \$500 and present absolutely no installation difficulties. In a small

apartment or a den, the W100 could be a satisfying and practical solution to the system-installation problem. Once you get used to the idea of doing without a system amplifier and wires to the speakers, the true convenience of this ingenious product becomes obvious.

The speakers' amplifier equalization gives these tiny drivers a sense of bass far beyond what anyone would expect. The price you pay for this is a certain increase in bass distortion and a limit on maximum playback volume. You won't be tempted to rattle the windows with the system's output (nor will you be able to!), but it is very pleasant to listen to. For a multiroom installation served by a common program source, it would be hard to beat the ease of installation and value of this system.

Another ideal application is for ambience-enhancement or surround-sound systems. Four- and six-channel amplifiers are rare and expensive, but one or two W100 systems connected to the rear/side outputs of a digital sound processor, time-delay accessory, or similar component should do the job nicely. And the speakers have output and frequency-response capabilities compatible with most enhancement systems.

I found only one annoying characteristic of the Recoton W100. Switching the powered speaker off produces a loud pop from both speakers, and shutting off the transmitter before shutting off the speakers causes an even louder one. Since our test units were very early production models, it is likely that this quirk will be corrected shortly.

Although I have no positive knowledge of Recoton's plans for the Schotz wireless system, I would like to see it offered as a product in its own right, for use with any other type of speaker. Connecting wires are no more attractive with full-size speakers than with minispeakers, and it appears that the Schotz system, with little or no modification, should be compatible with most hi-fi installations. Certainly its frequency response, signal-to-noise ratio, and noise rejection are already at hi-fi levels.

**Circle 143 on reader service card**

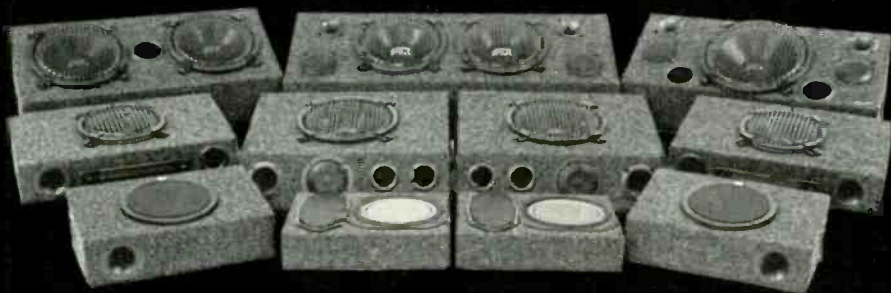
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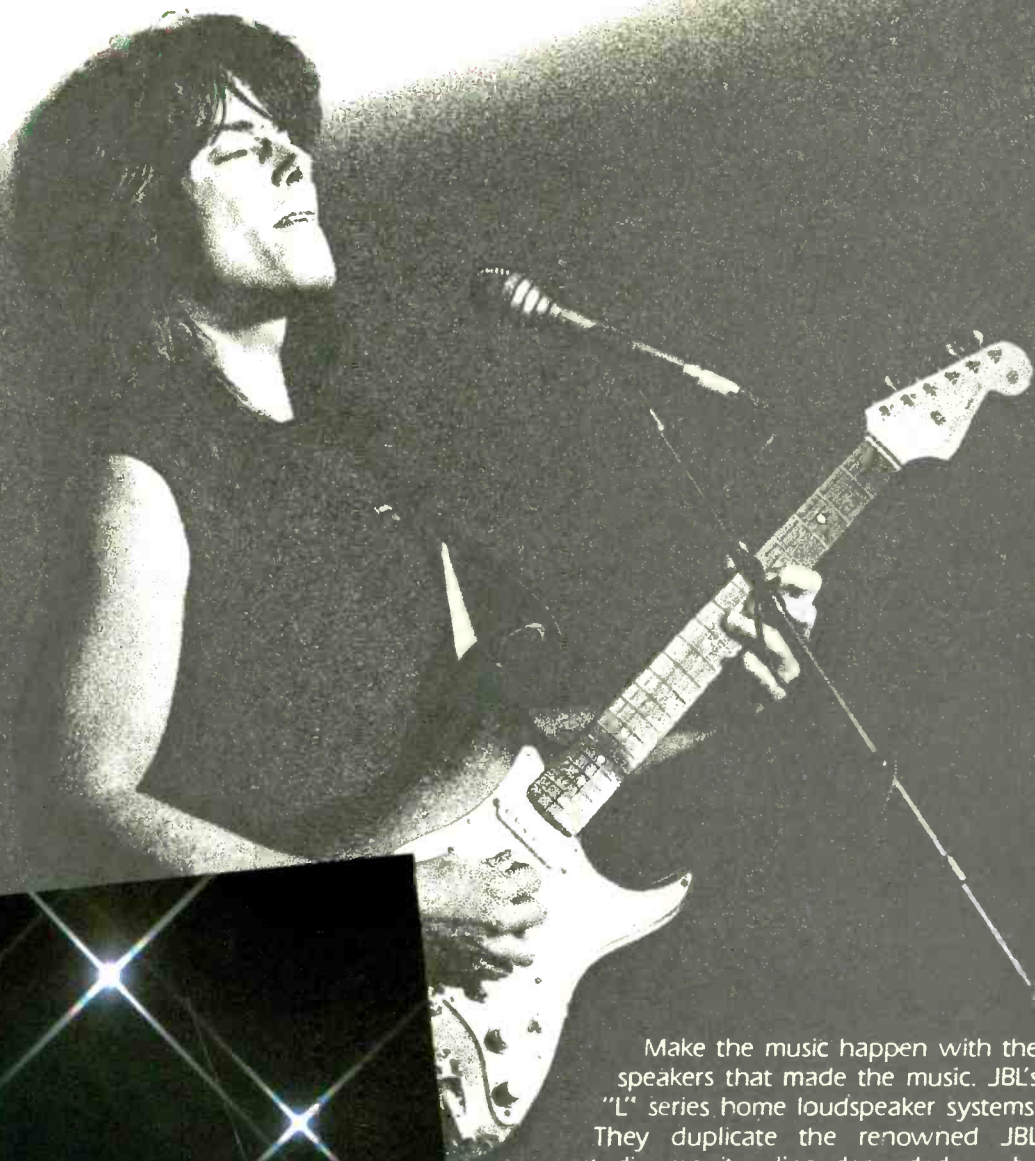
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## TEST REPORTS



JOOK LEUNG

### AUDIO DYNAMICS T-200 AM/FM TUNER

*Julian Hirsch, Hirsch-Houck Laboratories*

**T**HE Audio Dynamics T-200, a moderately priced, high-quality digital-synthesis AM/FM tuner, departs in several respects from most of its contemporaries. The most obvious difference is the tuning knob at the right end of its front panel. This once-universal tuner feature has all but disappeared.

Audiophiles who would rather push than twist need not feel neglected, though, for the T-200 also has a pair of small buttons marked SEEK, which cause the tuner to scan up or down until a suitable signal is acquired. The free-wheeling knob is used to tune to a specific frequency, especially one that does not contain a clear signal.

Other small buttons turn off the interstation muting, switch the tuner to mono, and activate the automatic IF bandwidth and Schotz noise-reduction circuits. Two larger, square buttons select AM or FM reception. A row of small station-preset buttons at the left of the panel

can recall the stored frequencies of eight FM and eight AM stations. The status of the several pushbutton functions is shown by red LED's.

The display window occupies the upper half of the panel over most of its width. Station frequency is shown in large red numerals. To the right of the frequency readout is a five-segment signal-level indicator and a tuning indicator, which consists of red left and right arrows with a green FM EXACT light between them. The arrows show the direction of knob rotation required for correct tuning of a nearby station, and the green light comes on only when the synthesizer and broadcast frequencies are matched.

At the right of the window are the STEREO and IF bandwidth indicators. When the AUTO IF BAND button is engaged, the tuner's bandwidth is determined by the signal strength and the degree of adjacent-channel interference. For reasonably strong signals, free from interference, the wide band is used; if the

control circuits sense interference or the signal strength is insufficient, the tuner switches to a narrow band for greater selectivity. When the AUTO IF circuit is disengaged, the tuner operates only in its narrow mode (although the manual seems to imply the opposite).

The Schotz noise-reduction circuit, licensed from its inventor, Larry Schotz, is designed to reduce background noise on weak stereo signals with minimal loss of channel separation. It monitors the signal strength (an inverse indicator of the noise added by the tuner circuits during reception of a stereo signal) and the frequency content of the program. The noise reduction is achieved by dynamically blending the left and right channels at high frequencies, which reduces channel separation as well as noise. When there is little high-frequency program content, the audible loss of separation is slight and a worthwhile improvement in the subjective signal-to-noise ratio can be obtained with little quality degradation. When the signal strength is adequate for quiet reception, the circuit automatically cuts out.

On the rear apron of the T-200 tuner are two pairs of line outputs, for fixed and variable levels; a small adjustment shaft is near the variable



## TEST REPORTS

jacks. A coaxial F-type connector is provided for the 75-ohm FM antenna connection, and a 300- to 75-ohm transformer is furnished for use with 300-ohm antennas. There are screw terminals for an AM wire antenna and ground as well as a hinged ferrite-rod AM antenna.

The Audio Dynamics T-200 has a metal case finished in black with woodgrain side plates. It measures 18¾ inches wide, 12½ inches deep, and 3 inches high and weighs 11¼ pounds. Price: \$399. Audio Dynamics, Dept. SR, 71 Chapel St., Newton, MA 02195.

### Lab Tests

We measured the tuner's performance in both of its IF bandwidth modes. Although the tuner's distortion was higher with the narrow band, and the usable sensitivity was also somewhat better in that mode, the more important 50-dB quieting sensitivity and signal-to-noise ratio (S/N) were unaffected by the bandwidth.

Surprisingly, channel separation

was actually greater with a narrow IF band, though it was very good in both modes. Neither the capture ratio nor the selectivity could be measured with a wide IF band, since the tuner circuits persisted in selecting the narrow band under the test conditions. The narrow bandwidth, however, produced a superb adjacent-channel selectivity reading of 26 dB, though it also, as would be expected, resulted in an undistinguished capture-ratio measurement of 4 dB.

Another measurement, which had nothing to do with the AUTO IF BAND circuit, gave results that were difficult to believe. The image rejection of the FM tuner turned out to be greater than 132 dB, the approximate limit of our measurement capability! Granted, the tuner's image rejection is rated as 100 dB, a very impressive figure in itself, but a measurement of 132 dB is really extraordinary. The AM tuner's frequency response was considerably better than average, varying +3.5, -6 dB from 20 to 4,800 Hz.

The dynamic nature of the Schotz noise-reduction circuit made it impracticable to measure its effects. Nonetheless, by using an unmodulated signal (equivalent to one with no high-frequency program content), we established that the circuit had no effect on noise at signal levels of 55 dbf or greater and that it gave an A-weighted noise reduction of 7 to 8 dB at 45 dbf or less. While these results are roughly indicative of the capability of the system, they tell us little about its subjective effects. Unfortunately, in our area most stations are either fully quieting or too weak for stereo reception, preventing a complete evaluation of the Schotz circuit under actual use conditions.

### Comments

The Audio Dynamics T-200 is attractive and easy to tune, and it has some unusual capabilities. We enjoyed the effortless band-scanning made possible by its free-wheeling tuning knob. One spin can cover about half of its tuning range, a clear advantage over most of the push-button tuning systems we have seen. The AM quality was noticeably better than what we have heard from most other tuners in recent years, as well as being less sensitive to electrical interference.

While the AUTO IF BAND circuit is a desirable feature, and one which we have found to work well in some other tuners, we feel that the default setting (with the circuit switched off) should be the wide rather than the narrow band. The automatic switching operates "transparently," however, in the sense that one is never aware of a change except by seeing the WIDE or NARROW legend in the display window. That brings us to another small criticism—the bandwidth legends are lit so dimly (dark green against a black background) as to be nearly invisible in a normally lit room. The tuner's other display indications are bright and easily visible; why not these?

All things considered, though, the T-200 offers good value in a tuner. It works well, has a lot of versatility without external complexity, and sounds good, within the limits imposed by the broadcast signal.

**Circle 144 on reader service card**

### FEATURES

- Digital-synthesis tuning in increments of 0.1 MHz for FM and 10 kHz for AM
- Automatic signal-seek pushbutton tuning and manual tuning knob
- Center-tuning indicators for FM band
- Five-segment LED signal-strength indicator
- Automatic IF bandwidth
- Eight preset buttons for one AM and one FM station each
- Schotz noise reduction for weak stereo signals
- Muting and mono/stereo mode buttons
- Separate fixed- and variable-level line outputs (variable-level adjustment on rear apron)

### LABORATORY MEASUREMENTS

*All microvolt ( $\mu\text{V}$ ) figures based on 75-ohm antenna input; all measurements for FM only except frequency response.*

**Usable sensitivity** (mono): wide IF band, 12.3 dbf (1.1  $\mu\text{V}$ ); narrow, 15 dbf (1.5  $\mu\text{V}$ )

**50-dB quieting sensitivity:** mono, 15 dbf (1.5  $\mu\text{V}$ ); stereo, 36.5 dbf (18.4  $\mu\text{V}$ )

**Signal-to-noise ratio** at 65 dbf: mono, 83 dB; stereo, 76.5 dB

**Harmonic distortion** (THD + noise) at 65 dbf: wide, 0.12% mono, 0.06% stereo; narrow, 0.23% mono, 0.28% stereo

**Capture ratio** at 65 dbf: narrow, 4 dB; wide, not measurable (see text)

**AM rejection at 65 dbf:** wide, 54 dB; narrow, 67 dB

**Selectivity:** wide, not measurable; narrow, alternate-channel not measurable, adjacent-channel 26 dB

**Stereo threshold:** wide, 21 to 23 dbf (3.1 to 3.9  $\mu\text{V}$ ); narrow, 23 to 25 dbf (3.9 to 4.9  $\mu\text{V}$ )

**19-kHz pilot-carrier leakage:** -61 dB

**Hum:** -83 dB

**Stereo channel separation** at 100, 1,000, and 10,000 Hz: wide, 39, 41.5, and 37 dB; narrow, 47, 50.5, and 38 dB

**Frequency response:** FM, 30 to 15,000 Hz  $\pm 0.6$ , -0 dB; AM, 20 to 4,800 Hz  $\pm 3.5$ , -6 dB





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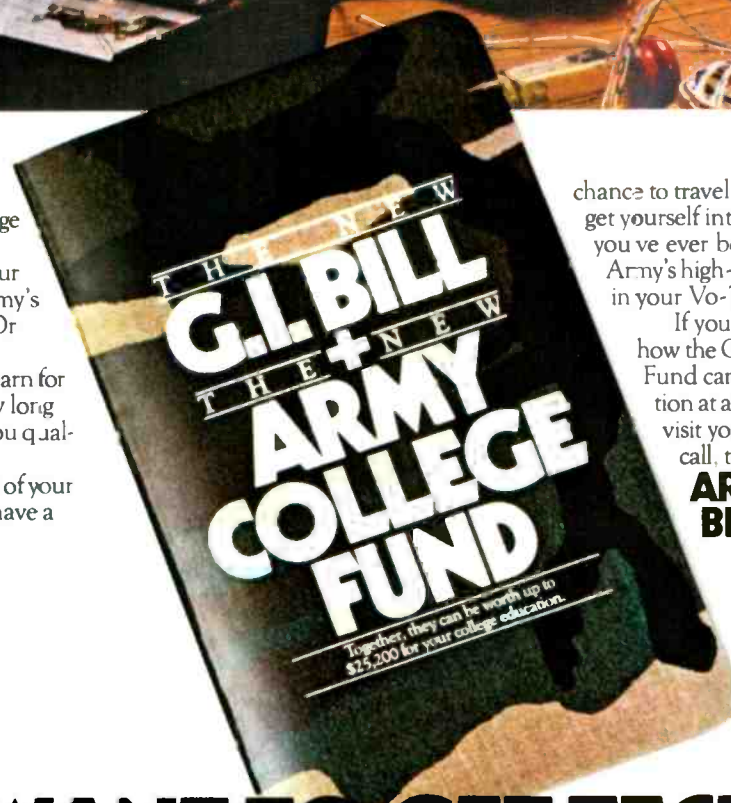
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# CES

## SHOW STOPPERS

**T**HE 1988 Winter Consumer Electronics Show once again filled the Las Vegas Convention Center with hundreds of manufacturers exhibiting their latest audio and video products to thousands of retailers, distributors, and journalists. The brightest stars at the show were CD-3, DAT, CDV, and S-VHS. New products in these and other categories should be starring at your local audio store in the coming months.

Cute, cheap, and compatible, the 3-inch CD format—now called CD-3 instead of the earlier “CD single”—gained support from manufacturers of players and discs. The little discs were first available from Delos, Rykodisc, and Dunhill, but larger labels such as A&M, CBS, and Warner Bros. have now also promised to sell them. Many

of the new CD players handle CD-3's without adaptors.

Digital audio tape (DAT) machines were shown by sixteen manufacturers, and a few small record companies have begun selling prerecorded DAT's. Blank DAT tape was shown by Denon, Fuji, JVC, Maxell, Technics, and TDK. Kenwood announced plans to sell a car DAT player, and Clarion took orders for the DAC2000 (\$1,750).

After all the hoopla at last summer's CES, the CDV (compact disc video) format kept a lower profile in Las Vegas. Pioneer, Magnavox, and Yamaha have been selling CDV players, and new ones from Pioneer and Sony play 3-, 5-, 8-, and 12-inch discs. Pioneer even previewed a six-CDV changer. And, finally, it seems that some CDV recordings are on the horizon:

samplers were promised by A&M, Capitol, Chrysalis, PolyGram, RCA, and others.

The success of the CD format and the approach of DAT has reduced the number of new turntables and cassette decks. There were some notable CES introductions, however, among them a Sota Cosmos turntable that has a synthetic-marble chassis and a rigid-foam subchassis. Price is \$3,500.

We have already tested and reported on some exceptional components introduced at the show: the a/d/s/R4 receiver (December 1987) and the dbx BX1 amplifier and CX1 preamp (March 1988). Look for others in future test reports and in our “New Products” pages.

by  
WILLIAM BURTON

**A**t demonstrations of dbx's latest Soundfield speaker, the Model 2500, listeners walked around with amazed looks on their faces because the sound stage remained rock solid from any point in the room. The Model 2500 has a 6½-inch woofer, a 2½-inch midrange, and two ½-inch tweeters. Price: \$500 a pair.



MING



## C E S



Pioneer's CLD-1030 plays all sizes of laser-read discs, from CD-3's and full-length CD's with audio only to 5-inch CD videos and 8- and 12-inch videodiscs. The remote-controlled combi-player's suggested retail price is \$900.



Sony's tiny D-15 portable CD player measures only 4.9 x 0.8 x 5.3 inches and weighs less than a pound. Like the Pioneer combi-player above, the D-15 plays CD-3's without adaptors. Price is \$349.95.



Proton's sleek AI-3000 audio system combines a receiver, a cassette deck, and a CD player in one classy chassis for \$1,249, which includes the speakers and remote control.



Even at a suggested list price of \$12,000 a pair, the five-way Atec Lansing Model 550 is a lot of speaker for the money. Each speaker has five amplifiers for its six drivers, and a remote control boosts or cuts each band by up to 6 dB. The midsection, containing the 1-inch tweeter, 2-inch midrange, and 6½- and 8-inch woofers, swivels 15 degrees to either side. The midranges and tweeters are coated with diamond particles. The lowest frequencies are produced by the 10-inch drivers at the top and bottom of the enclosure.

## C E S

*The audio features of Onkyo's TX-SV7 A/V receiver enhance the enjoyment of video: Dolby Surround circuits decode the four channels in many movie soundtracks, and MTS circuits decode stereo TV broadcasts. Priced under \$1,000, the TX-SV7 is rated to deliver 150 watts to the front channels and 50 watts to the rear ones. Onkyo's programmable universal remote control is included.*



*It cost Pioneer a mere \$250,000 to have Uwe Gemballa customize this Porsche Cabriolet with a top-of-the-line audio and video system. The car is touring the country to show off Pioneer's KEX-M700 cassette tuner with CD controls, CDX-M100 CD changer (mounted between the seats), seven amplifiers with a total of 500 watts of power, EQ-3000 nine-band equalizer, and fourteen speakers ranging from 3/4-inch supertweeters to 12-inch subwoofers. An infrared remote control is built into the steering wheel, and a VCR in the trunk connects to a handy TV set installed in the glove compartment.*



*Harman Kardon's Citation Twenty-Six digital audio tape (DAT) deck has unmeasurable wow-and-flutter. Rated frequency response is from 5 to 22,000 Hz  $\pm$  1 dB—even better than compact disc players because the DAT sampling rate (48,000 Hz) is higher than the CD rate (44,100 Hz). The 16-bit resolution, the same as for compact discs, enables it to achieve a signal-to-noise ratio of 97 dB. Price: \$1,999, including the remote control.*





## C E S



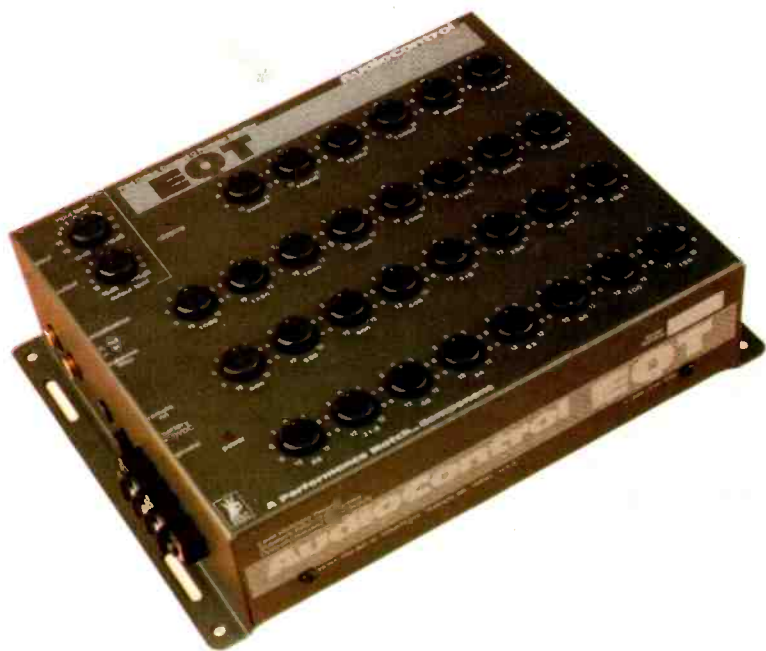
Set for test marketing in the U.S. this spring at a price of \$1,099, Casio's DA-1 portable DAT recorder has impressive specifications, including a weight of only 1.6 pounds and dimensions of 4.7 x 1.7 x 5.7 inches. A unique programming feature allows the user to enter up to twenty-eight characters for each track so that the name of the piece appears on the display while it is playing.



Kenwood's KDT-99R car DAT player and AM/FM tuner, priced at \$2,000, features typically superb digital sound quality and such features as a wireless remote control, scan, search, and repeat.



It's easy to reduce the video noise and sharpen the picture from a bad tape, but digital noise reduction in NEC's AVX-910 audio/video switcher can even improve the picture from a videodisc player or Super VHS videocassette recorder. It also has digital memory for special video effects. Price: \$699.



Audio Control's impressive EQT equalizer—the first one-third-octave equalizer for the car—divides the audio frequency range from 20 to 20,000 Hz into octaves, then divides each octave into three parts. Separate knobs boost or cut the relative level of the resulting thirty bands by up to 12 dB. Unlike ordinary equalizers, the EQT keeps the range of frequencies affected by an adjustment (the bandwidth, or Q) constant no matter whether it is a boost or a cut. Price: \$289.

## C E S

**F**or use with a stereo pair or as many as six speakers, the CP-1 Digital Audio Environment Processor from Lexicon has twelve programs for reverberation, ambience, panorama, and Dolby Surround. The CP-1 simulates the acoustics of a wide variety of spaces by re-creating the sonic reflections produced by those spaces. Dolby Pro Logic Surround circuits correct any balance and azimuth errors found in the source material to keep dialogue centered. Price: \$1,200.



JOOK LEUNG

**C**arver's two-chassis-per-channel Silver Seven power amplifier uses Gold Aero KT88 vacuum tubes, Ultra Linear output transformers wound with oxygen-free copper and pure silver, pure silver internal wiring, and Van den Hul silver interconnects. Sitting on marble bases, the amplifier sections are finished with five coats of hand-rubbed black lacquer. The Silver Seven is rated to deliver 475 watts per channel into 8 or 4 ohms and 510 watts into 1 ohm. Peak current on the 1-ohm tap is over 35 amperes, power bandwidth is 18 to 40,000 Hz, noise is -130 dB, and distortion is 0.5 percent or less. Price: \$17,500 for a stereo pair.

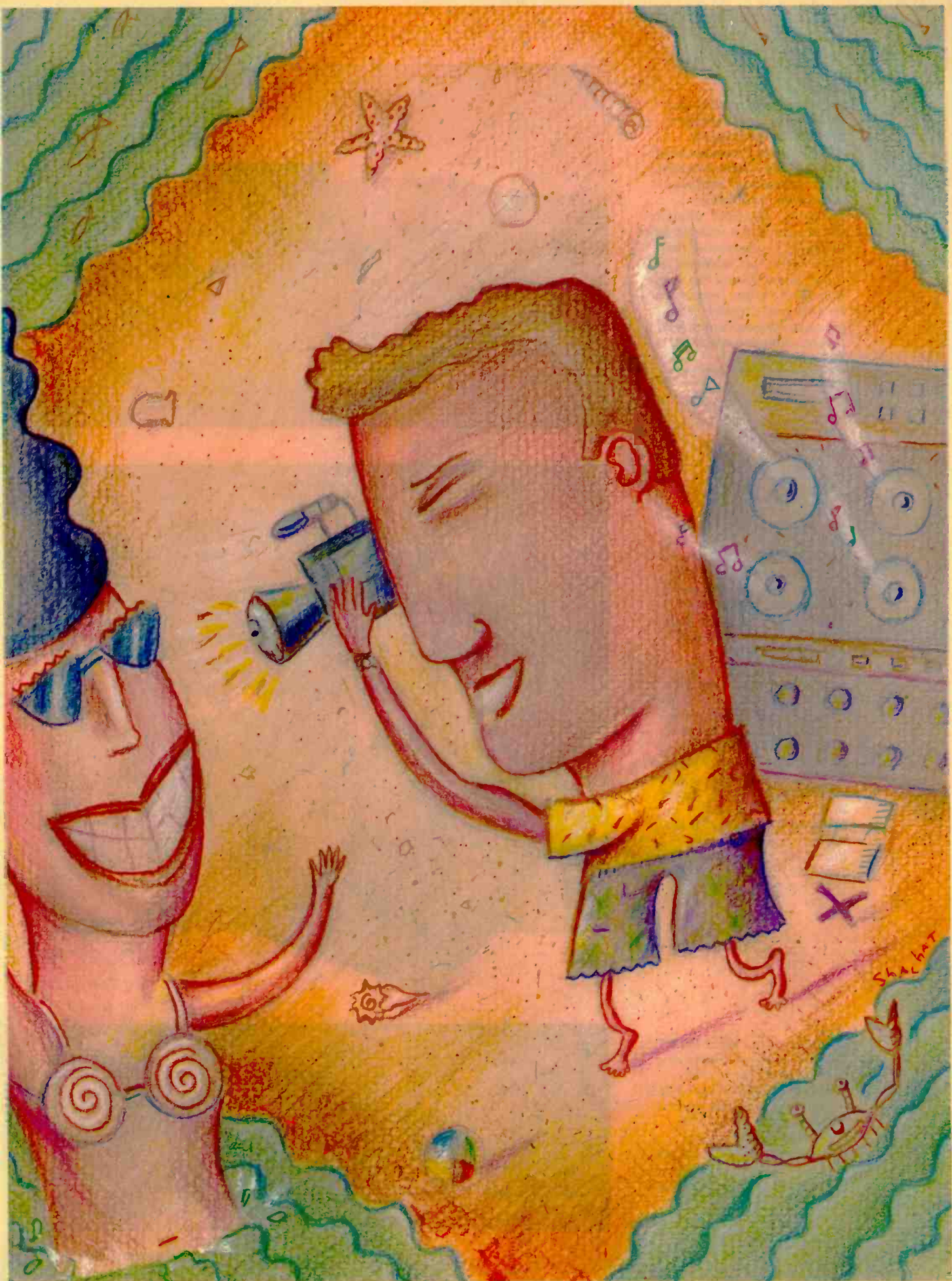


CROSIEK PHOTOGRAPHY, SEATTLE

**U**nlike most VCR's, RCA's TPT695 looks as simple as a cassette deck, but it's no pushover. It offers Super VHS circuits for improved video resolution, VHS Hi-Fi for impressive sound, digital storage for special effects, and MTS decoding for stereo TV broadcasts. Price: \$1,300.









# ROLL 'EM

EVEN ROUGH HOMEMADE VIDEOS CAN SEEM PROFESSIONAL WHEN YOU USE YOUR AUDIO SYSTEM TO ADD NEW SOUND.



A WORD often applied to the use of consumer electronics products is "passive." In audio, most of us are content to sit back and listen to material packaged by the recording and broadcasting industries, and few VCR owners venture beyond watching commercially recorded programs or time-shifting ordinary broadcasts. There is some irony in this, as the originators of the home VCR—or of the VHS system, at any rate—always saw it as an *active* device that would allow consumers to manipulate their own material.

In some senses, home video is active: The camcorder, for instance, does allow the creation of original material. But, as anyone who has dabbled in audio production knows, getting the original images on tape is only the first step. For a finished product, some editing of material is usually necessary. Unfortunately, home video equipment makes this difficult; the VCR is designed for simple operation by the greatest number of users, so many of the functions that would be taken for granted in an audio tape recorder are performed automatically by the

video equipment, with no option of manual control.

Still, it is probably worthwhile to make an attempt to overcome such limitations rather than subject your friends and family to a random (and probably overlong) collection of vacation images. With a little resourcefulness, it is possible to coax your home video equipment into making a reasonably professional-looking production from raw material taped on your camcorder. The trick is to do a very basic edit of the video and enhance it with a sophisticated, well-produced audio track. The lack of special effects in the picture material will be less obvious if there is variety in the audio.

Two VCR's are necessary for this (the camcorder itself can be one of them), along with whatever audio equipment you can muster. You will need at least one audio tape recorder—preferably two; if one of these is open-reel your job will be simpler, but it can be done with a cassette deck as well. A turntable or CD player will also be required for background music, and if you wish to add commentary you will have to have some way to patch a microphone into your system. You may

ILLUSTRATION BY ANDREW SHACHAT

BY IAN G. MASTERS



find that the simplest method is to use the microphone built into the camcorder, which has the advantage of providing a line-level output that can be patched directly into your audio deck. A small mike mixer used to mix the microphone's signal with music or background sound will add a little extra polish.

Your final video product will be a second-generation recording, which will involve some visible degradation. You can minimize this by using the fastest tape speed, and the slightly inferior signal should be more than offset by the added production values. By the same token, the audio will have to go through several stages, so the highest-quality sources available should be employed here as well. Ultimately the audio track will be recorded on the final tape *after* the video, which rules out the use of the VCR's hi-fi

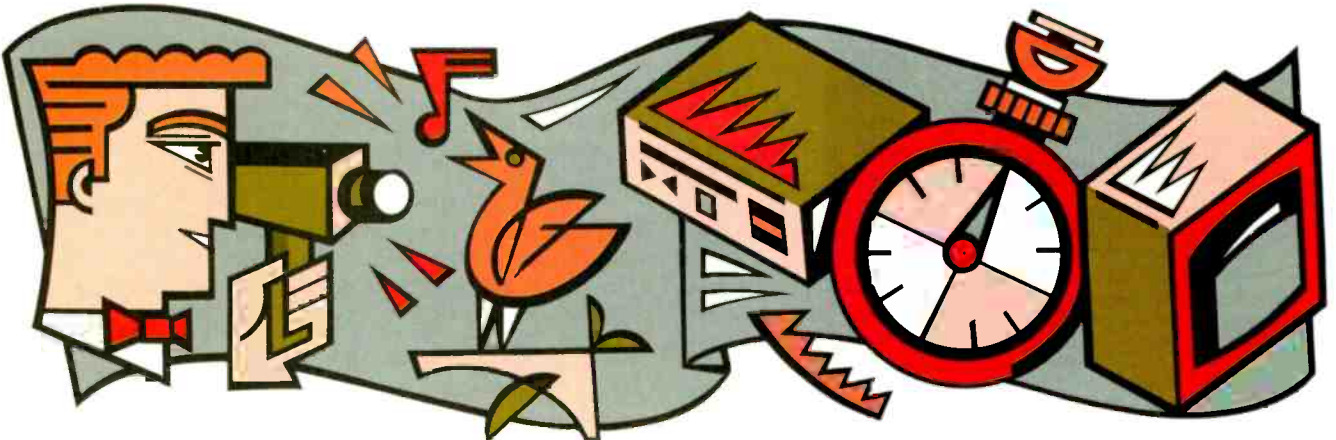
assume a lot of importance in the finished product. Always monitor what you are recording with headphones so you can judge whether the desired sounds are getting onto the tape clearly. Phones will also alert you to any extraneous noises, like wind blowing into the microphone, before it's too late.

When shooting, be sure not to talk while the camera is running—you are the closest thing to the built-in microphone, and your voice will be overwhelming. Also, if you are shooting in an area with high background noise levels, or if your subject matter is relatively far away, you should consider using an out-board microphone placed close to the sound you are trying to capture. Even inexpensive microphones will work well for this, and they can usually be plugged directly into the camcorder.

some equipment decisions. You could just patch the camcorder into a tabletop VCR and proceed. But if you wish to use two tabletop VCR's, some experimentation may be needed before you decide which machine will be used to play back the original and which to assemble the final product.

In the first place, slight incompatibilities do exist from one VCR to another, particularly if one of them is an older model. The tape made in the field may produce better results on one machine than the other, and the better one should normally be used for playback. On the other hand, VCR's vary quite widely in their ability to cut smoothly from an already recorded bit of footage to a new one, so you may choose to sacrifice picture quality to achieve cleaner cuts.

Once you have determined the



audio capabilities at that stage because a hi-fi soundtrack can't be added to an existing video program the way a conventional audio track can. Hi-fi sound can be used in the intermediate stages, however. If you don't have a hi-fi VCR, use Dolby stereo if your VCR has it.

### *On Location*

Your editing job will be much simpler if you take a few precautions when recording in the field. For example, be sure you have enough footage for each segment. It is far better to overshoot than undershoot; you can always cut out what you don't need in the final edit. Also, extremely tight edits are difficult with equipment that is not designed for the purpose, so leaving a little extra material at both ends of a segment will allow some leeway.

Take great care with the audio in the original recording because it will

Finally, you should try to record some "general" footage at as many locations as you can. A supply of ambient sound will be useful for background during segments when you choose not to use the "live" audio; similarly, some extra pictorial footage may allow smoother transitions between segments, and it might also provide visual material for the opening or closing of the final tape.

At some point while you have the camera set up, you should record a "billboard" to help you synchronize the audio and video later. This need be no more than having someone stand before the camera and count down from five both verbally and on the fingers of one hand, clapping his hands at zero.

### *Planning the Production*

Once your original material is complete, you will need to make

playback VCR, the next step is to catalog your material so that you will be able to find it quickly when you are actually editing. Play through all the recordings you made in the field, making an initial selection of what portions you might want to use. Note the counter readings at the beginning of each clip (remember to reset the counter to zero at the beginning of the tape, of course), and *time each one*. When you have done this for all your material, add up the times; you will probably find that the total is much too long, so don't hesitate to scrap certain segments or to use shorter bits of them.

When you have whittled the material down to a reasonable length, you should decide on the order in which the segments will be presented. If you intend to provide some voice-over commentary, write a script for it, practice reading it,

and time each part as well—you may need to use some of your general visual material between “active” sections in order to fit in all the commentary.

The next step is to copy the selected bits of your original recording, in order, onto what will be the final videotape. Before you begin the program proper, however, transfer the “billboard” onto the tape and leave a bit of space after it. This can be erased later, or simply wound past, but it will be vital in completing your production.

This assembly process constitutes the final video edit, so smooth visual transitions are the prime concern. But the audio track laid down at the same time will be the origin for all that follows, so due care should be taken to record it as cleanly as possible. If yours is a hi-fi machine, use that capability, even

chine is rolling. A bit of “cushion” at the beginning and end of each segment is very useful in such cases, both because it makes timing slightly less critical and because it will give you more flexibility in re-editing to cover an original faulty edit.

### *Extracting the Audio*

So far, the audio has been recorded along with the video, so the two have remained synchronized. To work on the audio, however, it must be extracted, modified, and then put back exactly where it came from. The first step is to copy the sound, including the billboard, onto a conventional audio tape.

If you are using a single cassette recorder, the easiest way to build an audio track is simply to replace each of the original audio segments, in order, with new material—music, a combination of music and com-

mentary, or appropriate ambient sounds. Make sure in recording each section that it doesn't erase the beginning of the next; the original material on the tape will be your only indication as to the pacing of the video.

ments on the videotape, synchronization and all. While this will prevent embellishment of those particular segments, it avoids having to “sync up” the audio and video after the fact.

have a definite beginning and can be faded in at will).

As you build up your audio tape, it is a good idea to check it against the video occasionally to make sure the timing is correct. Wind the tape back to the beginning and play the billboard, putting the deck in pause at the zero point (the hand clap). Then play the video from the start; at the zero point of *its* billboard, start the audio deck. This exercise will not only show you whether the two recordings are in step but will also give you a sense of the impression the final product will make—you may well wish to redo some of the audio.

There may be some segments of the video in which you wish to keep the original audio, without modification. The simplest way—and probably the most satisfactory—is just to leave the audio in these seg-



though the final version will not be in this mode.

Most VCR's will yield a smooth video edit if you activate the pause control at the end of each segment, wind through your source tape to find the next piece of material, let that run for a few seconds before the desired starting point, and then start recording again. Sometimes, however, you will have to stop the recording deck, which can make things more complicated because VCR's vary in how cleanly they resume recording after the tape has stopped. Some will permit you to play to the end of a segment, put the unit in pause, switch to the recording mode without stopping, and then start up again with a clean cut. Most, however, will only go into the recording mode with the transport fully stopped, in which case you will have to time the run-up speed and anticipate it once the playback ma-

mentary, or appropriate ambient sounds. Make sure in recording each section that it doesn't erase the beginning of the next; the original material on the tape will be your only indication as to the pacing of the video.

With one recorder, you will be limited in the number of production techniques you can use—fading from one section to the next is impossible, for instance. Each segment will have to be recorded “live,” which will probably restrict you to music and commentary *or* ambient sound and commentary, but not all three. And achieving a tight musical cue at the beginning of a segment will take some practice. Often the easiest solution is to start a segment with voice and let the music fade in under it rather than trusting to the slow run-up time of a typical hi-fi turntable (ambient sounds are easier, as they rarely

ments on the videotape, synchronization and all. While this will prevent embellishment of those particular segments, it avoids having to “sync up” the audio and video after the fact.

In such a case, your new audio track will have to be done in pieces: from the tape's beginning to the first point where you wish to revert to the original sound, from the end of that segment to the beginning of the next unaltered segment, and so forth. The timings of the individual sections can be somewhat looser than for a completely redone audio track, but you will have to be careful when you record the new soundtracks onto the videotape to make sure you don't erase any original sound you want to keep.

Another advantage of leaving some original material on the tape is that any slight speed variations between the audio and video recorders



become less important. If such differences do exist, the two programs can gradually creep out of sync over a period of time, however carefully you have lined them up in the beginning. If you produce your audio tape in chunks, however, and start fresh after each synchronized section left on the videotape, such problems will be less noticeable. Therefore, it's not a bad idea to make sure that such original segments are distributed fairly evenly, so that the new audio sections are relatively short.

On the other hand, if you feel that the original sound does need work, it is possible to deal with it externally, but for that you will require two cassette recorders. Using more than one deck will also allow you greater flexibility, which should make for a more polished production.

The best way to go about a two-recorder production is to dub the original audio from the videotape, including the billboard, onto both audio machines. Then you can either replace *every other* original segment on each tape, so that they will overlap smoothly when the two are played back together, or you can record music on one cassette and voice or original sounds on the other. (If you have access to a multi-track open-reel recorder, you can record on alternate tracks; this will make synchronization easier when you come to play back the final product but is otherwise the same in principle.) It will make cueing easier in the final stage if you record a countdown at the beginning of each new audio segment.

After you have finished constructing your audio segments, some of the unwanted original material will probably remain between the new recordings, and this will have to be erased. It may be possible, depending on your particular machines, to note the beginnings and ends of the now-unwanted sounds using the tape counters, but this is usually quite inaccurate; a safer method is to time each one with a stopwatch.

When you have finished this step, you will have either a complete audio track on one cassette or two recordings that, when played simultaneously, constitute the complete soundtrack. Now comes the time to recombine it with the video.

### Putting It Back Together

If you have employed only one audio deck, simply patch its line

output to the video recorder's audio input. If there is an output-level control, set it low enough to prevent overload of the VCR's inputs, but high enough that the automatic level control used in most video recorders is not boosting tape noise to an unreasonable level. You will have to judge this by ear.

If you are dubbing from a pair of cassette decks, the most satisfactory method is to use an audio mixer to combine their outputs. This will let you balance the levels and perform fades and other effects during the dubbing process. If a mixer is not available, the decks' outputs can be connected in parallel using Y-connectors and fed directly to the VCR's audio inputs. You may be able to do some mixing by using the decks' output-level controls, if there are any; otherwise, you will have to make sure during the audio produc-



tion stage that levels match and that any special effects are already on the tapes.

Before you attempt to dub the final product back onto the videotape, it's a good idea to do at least one dry run without actually recording. Start each audio recorder, play its billboard to the zero point, and put it in the pause mode. Then play the videotape from the beginning, activating the audio deck(s) at zero on the video billboard. If everything has worked, the sound and picture should be in sync.

If you have chosen to include some material for which synchronization is critical (the most difficult is close-up, on-camera speech—the farther away the subject is, the less important perfect sync is), note how the sound and picture correspond

throughout the tape. If they are slightly out of whack, but the time lag is constant throughout the program, you may be able to synchronize them by rolling the audio tape a moment earlier or later.

Often, however, corrections will have to be made to the audio tape, which can involve considerable effort. It may be tempting to put up with some faults and let things remain as they are; while this will undoubtedly save time, it may drive you crazy on subsequent viewings. Better to re-edit now while the equipment is handy and the material is fresh in your mind.

When everything goes smoothly in the dry run, the final dub can be made. Use the VCR's "audio dub" function for this, as it allows a new audio track to be applied to the videotape without disturbing the picture information. Some machines permit a "flying start"—even as the tape is rolling in the playback mode it can be switched into the audio-recording mode without stopping. In most cases, however, the VCR will have to be placed in pause before the audio-dub feature can be activated.

Place the audio deck (or both, if you are using two) in pause at the zero point in the billboard. Do the same with the video recorder, and activate the audio dub. Now, simply roll the machines together. Once you start recording, watch your synchronization very carefully—you may have a false start or two that will have to be repeated.

If everything seems fine, just let the tapes roll. When you reach a point where you wish to let some of the original audio remain on the tape—and this should be obvious from the picture—simply stop the VCR. At the end of each such section, put the video recorder in pause and reactivate the audio dub. Then cue up the next audio segment and continue recording. Repeat the process until the whole production is complete.

Finally, while you have the equipment set up, watch the whole program from beginning to end. This will alert you to any rough spots that may have slipped by while you were making the recording. With care, however, there won't be many of these, and you will end up with a professional production you will be proud to display to your friends and family. And a very great sense of accomplishment. □

# SPEAKERS FOR VIDEO



**T**he Boston Acoustics A40V Series II is a magnetically shielded version of the popular A40 Series II speaker. Its frequency response is rated as 68 to 20,000 Hz  $\pm$  3 dB, and it lists for \$180 a pair.

**T**HE growing popularity of hi-fi VCR's, MTS broadcasting, and high-quality Dolby Surround soundtracks has many people scrambling to place speakers on either side of their television sets or video monitors—only to find a mass of wavy lines invading the screen. Loudspeakers, of course, have magnets inside of them, and the magnets can create a magnetic field strong enough to interfere with the normally crystal-clear picture. The solution is a simple one, however. Several highly regarded speaker companies—including Acoustic Research, Bose, Boston Acoustics, and Polk Audio—manufacture magnetically shielded loudspeakers specifically designed to be placed near video screens without interfering with the picture. Shown on these pages are some of the models currently available. Sit back and enjoy the show.

BY MICHAEL SMOLEN





**P**olk Audio makes three video speakers: from left, the VS-25 (\$340 a pair), the VS-19 (\$300 a pair), and the VS-12 (\$200 a pair). All feature a 6½-inch trilaminate woofer and a 1-inch polydome tweeter; the VS-25 also has a passive radiator.



MING

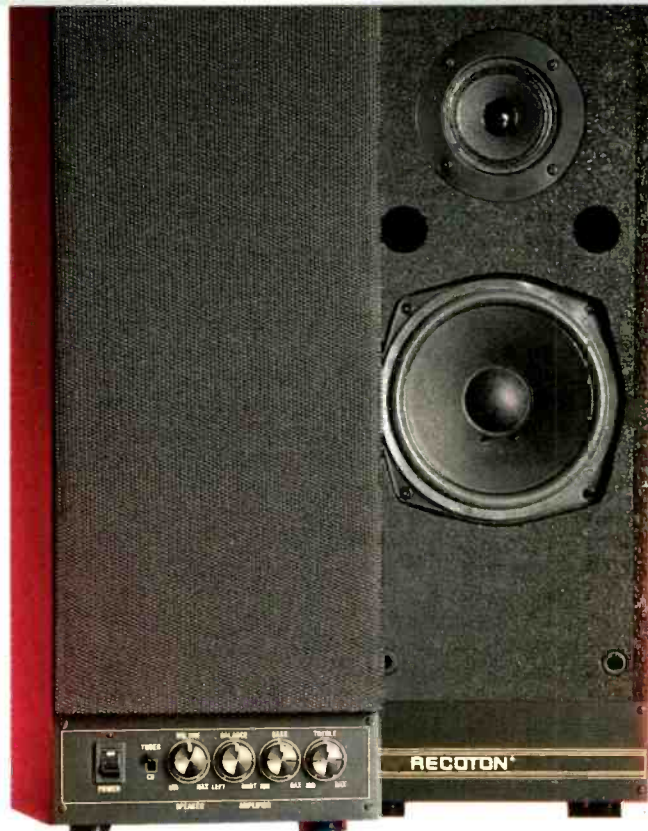


**A**coustic Research's Powered Partners have their own 15-watt amplifiers and on-board volume and tone controls. Optional clamp or pole mounts are available for flexibility in placement. List price is \$380 a pair.



**T**he Koss M-100 Plus is a bass-reflex system with a built-in 20-watt-per-channel amplifier. Frequency response is rated as 50 to 30,000 Hz  $\pm$  3 dB. Price: \$260 a pair.

**D**esign Acoustics sells the PS-6V, an acoustic-suspension speaker with a 6-inch long-throw woofer and a 3/4-inch soft-dome tweeter, in mirror-image pairs for \$280.



**R**ecoton's F.R.E.D. SP-11 is powered by a built-in 12-watt-per-channel amplifier and features a CD input, a line-level input for direct connection of a Recoton V622 stereo decoder, and volume, balance, and tone controls. Price: \$199.95 a pair.



**B**ose's Video Roommates are powered, single-driver speakers with active equalization and noise-canceling circuitry. The finish is charcoal gray with a silver grille. Price: \$279 a pair.





# ART

*"I think you record*

# ART

**A**RT GARFUNKEL was nervous. It had been years since he'd done an interview, and he was anxious about having to bare his artistic and personal souls again. "Think of yourself as a dentist," he told me with a bashful, wary smile, "and think of me as a patient who hasn't been in the chair for a long time."

Talking with Garfunkel in the kitchen of his spacious, cheery apartment on Manhattan's Upper East Side, I couldn't help but be reminded of his past artistic incarnations. For one thing, there's his face—even with a few more laugh lines around the eyes, it's still the beacon of boyish charm we saw in the films *Catch-22* and *Carnal Knowledge*. Then there's his voice—the one we heard soar through the aural stratosphere in the music of Simon and Garfunkel. And then there's the tiny bandage stuck high on the right side of his forehead—it echoes the tiny bandage on his neck on the cover of "Scissors Cut," his last solo album, which was released way back in 1981.

And what signs were there of Art Garfunkel's artistic future? Well, on a chair underneath the coat rack was a prototype cover for his new solo album, "Lefty." It shows an adolescent Garfunkel in a batting pose—focused and ready for action. So, too, is the adult Garfunkel, poised for re-entry into the pop-music milieu. He's ready to do what needs to be done to promote the new record, which he likes very much, and he's looking forward to an American concert tour this summer after a few trial performances in Europe, including a command per-

by Ron Givens

# GARFUNKEL

when you want to and when you feel you've got something to say."

formance before Prince Charles and Diana. All in all, Garfunkel seemed pleased by all of this, and it made me wonder why it had been so long since his last solo recording.

"Why?" he echoed. "Well, why not? I always feel there is no rate at which you should be obliged to record. There is commerce, record companies wishing to make a profit now rather than later. This pushes an artist a fair amount. But I always think you record when you want to and when you feel you've got something to say."

Garfunkel has, in fact, made quite a bit of music over the past seven years—some extensive tours with Paul Simon and numerous live performances of Jimmy Webb's *The Animals' Christmas*, which he also recorded. And now, with "Lefty," he has found a lot to say about romance. Half of the ten songs have the word "love" in the title, and all of them deal with matters of the heart. This, of course, is business as usual for Art Garfunkel—or, as he puts it, "Yeah, done it again."

For long-time fans, "Lefty" will be quite satisfying. As always, Garfunkel proves to be a master balladeer—with Leah Kunkel in the duet *I Have a Love*, from *West Side Story*, and by himself in a sumptuous remake of the Percy Sledge hit *When a Man Loves a Woman*. Elsewhere in the album, there's the kind of musical variety we've come to expect: straight-on pop with *This Is the Moment*, breezy philosophizing with *I Wonder Why*, and unreconstructed doo-wop with the old Tymes hit *So Much in Love*. But "Lefty" goes one step further than Garfunkel's earlier solo efforts with

a couple of tunes that rock—a little bit. The rhythm section in *Love Is the Only Chain* manages to glide and snap in the irresistible manner of Fleetwood Mac. And *If Love Takes You Away* rocks and rolls in a way that would make Bruce Hornsby smile. Holding this mélange together is Art Garfunkel's delicate yet powerful voice.

All but two songs in "Lefty" were recorded about a year ago in London, produced by Garfunkel and Geoff Emerick, who engineered a number of Beatles albums, including "Sgt. Pepper." Then, Garfunkel said, "The record company wanted me to record a few more things.

"In the old days, Paul and I made a couple of the tunes on an album single-ish. You know, they would have a little more of a hook-like chorus, and maybe a fade, and they'd be three minutes and twenty-five seconds long, and so on." CBS thought the new album didn't have any "single-ish" songs, so a few months ago two additional ones, *This Is the Moment* and *So Much in Love*, were produced by Grammy winner Jay Graydon in Los Angeles. Garfunkel said it was somewhat difficult to adjust to Graydon's more synthesized arrangements, but now he's happy with the results: "I learned something. It's very often good to bet against yourself. It's called the surprise factor."

For Garfunkel, an album represents "my attempt to do songs that have moved me as beautifully and interestingly as I can." With each successive album, he said, "I just hope to turn up the incandescence of it as high as I can."

Between albums, he's always on

the lookout for new material. "I collect new songs in the back of my address book. Then there are other pages for songs I realize that I've always loved, and it's time to consider recording them. Then there are the songs I always sing to myself when I'm going through a turnstile mindlessly, and I realize this is the third decade I've had this bone to chew on, and I know how to do this song backwards and forwards."

To a certain extent, the "Lefty" collection took longer because Garfunkel has developed a new creative outlet—poetry. "Not songs but verse," he explained, "unrhymed bits of verse. 'Bits' is what they are. It's a lot of fun, extremely pleasurable. The muse bites me, and I'm off for seven hours engaged in shaping my lines and following the flow of syllables. The world can go and do what it wants around me. I'm in the zone." Garfunkel hasn't tried to publish his poetry and, in fact, has shown it to very few people. "That's been my secret," he said.

"Lefty" fulfilled Garfunkel's long-term record contract with CBS Records, and for a while he wondered whether he should sign a new one. "I'm very interested in how this album will be received," he admitted. "A lot of my enthusiasm to carry on and the kind of heat I can bring to recording really has to do with whether they're listening." But, in the end, he extended his contract with CBS, and now he's almost giddy with anticipation.

"I'm very excited about this tour and very uncynical and nervous. I'm like a kid." Maybe a kid with a bat, ready to hang one long and hard, right out of the ball park. □

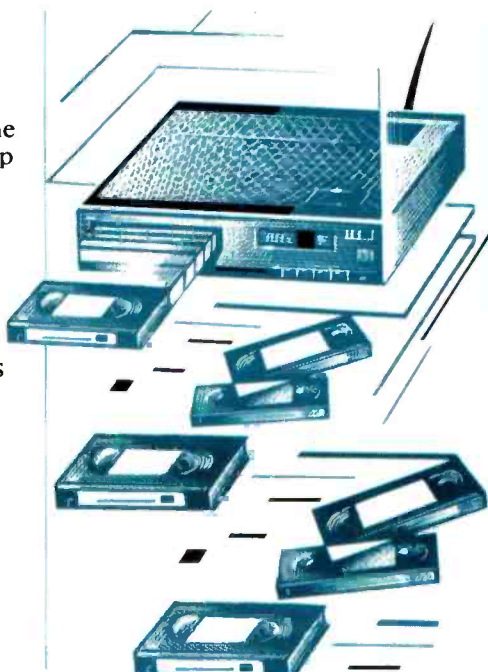


# HI-FI VCR'S

## BUYING GUIDE

If you were a Wall Street investor, you wouldn't be planning to sink a lot of money into the VCR market. A number of factors—chief among them the volatile yen-to-dollar relationship and the high percentage of American households that have already bought VCR's—have signaled the end of the Great American VCR Boom. The Great Format War is over, too, now that Sony has announced it will soon offer VHS machines. Still, the industry is valiantly producing VCR's to satisfy both feature-craving videophiles and budget-minded movie renters.

The audio sections of this year's crop of VCR's have not changed much, however. Hi-fi circuitry is still a must for even half-serious audio/videophiles: The impact of the hi-fi video



experience can be enormous. Audio dubbing circuitry is also of interest, as it allows home tapers to personalize their tapes by using an audio source to feed a new soundtrack onto a previously recorded video. Of most surprise to those familiar with the industry is that no other manufacturer has followed Toshiba's lead in selling a VHS VCR with built-in PCM (pulse-code modulation) audio circuitry—PCM audio rivals CD's and DAT's in quality, and videotapes can hold a lot more music.

As always, the information in this guide was provided by the manufacturers and does not represent the results of tests by STEREO REVIEW. The prices given are the suggested retail (list) prices at press time. A directory of manufacturers is on page 76.

### AKAI

#### VS-M930U-B Quick-Start VHS VCR

Quick-Start transport keeps tape fully loaded for fast access (switches from stop to play in 1/2 seconds). Features HQ; digital video noise reduction; random-access digital coding system stores nine index points; previews 8 seconds of each indexed selection; VHS Hi-Fi; 126-channel cable-compatible tuner; MTS/SAP stereo decoder; 6-event/1-year on-screen programming; real-time counter; digital special effects include variable slow motion, freeze frame, frame advance, frame retrieval; universal programmable remote control that stores programming data (also learns commands for other remote-controlled components); 4 video heads ..... \$899

**VS-M910U-B.** As above but lacks digital special effects and universal remote control ..... \$799

#### VS-565U VHS VCR

VHS Hi-Fi VCR with built-in 10 W/ch amplifier with electronic volume control. Features HQ; MTS/SAP stereo decoder; 4 video heads; 6-event/14-day on-screen programming; 107-channel cable compatible tuner; 32 station presets; wireless remote control with direct access; variable slow motion; programmable from remote; channel lock; comb filter for high-definition picture; 4 video heads; auto power-on, rewind, and editing ..... \$699

### AUDIO DYNAMICS

#### V4D Digital VHS VCR

Digital VHS Hi-Fi VCR. Features 4 video heads; 140-channel cable-compatible tuner; MTS/SAP stereo decoder; 8-event/21-day on-screen programming; HQ; jet search; quick view; digital special effects include search, still, slow motion, freeze frame, and strobe. Hi-fi specs: dynamic range >90 dB; frequency response 20-20,000 Hz. 17 x 4 x 14 3/4 in. .... \$999

**V2D.** As above with 2 video heads ..... \$899

### CANON

#### VR-HF800 Digital VHS VCR

VHS Hi-Fi VCR with digital special effects. Features MTS/SAP stereo decoder; 8-event/1-month on-screen bar-code programming with scanning pen; remote control with flip-up panels; divides screen into nine segments to show stills from different programs on each tape; strobe effect with sequential images varying from 1/30 to 1 second; can show stills from nine different channels simultaneously; picture-in-picture; index search for direct access to up to 99 programs at 75 times normal speed in SLP or 25 times normal speed in SP; double-speed picture playback with sound at normal speed; HQ; 4 video heads; luminance-signal vertical proces-

sor; luminance/chrominance separation comb filter; linear time counter; automatic power-off and rewind. Hi-fi audio dynamic range 90 dB. 17 x 4 1/4 x 13 3/4 in. .... \$1,199

#### VR-HF720 VHS VCR

VHS Hi-Fi VCR with MTS/SAP stereo decoder. Features 8-event/1-month remote-controlled on-screen programming; 99-channel cable-compatible tuner; freeze frame and slow motion; 4 video heads; 2 audio heads; index search; auto turn on, play, and power-off/eject; edit switch; double-speed silent play; manual override of automatic audio recording level; HQ; black finish. Hi-fi audio frequency response 20-20,000 Hz ..... \$1,050

#### VR-HF710 VHS VCR

VHS Hi-Fi VCR. Features MTS/SAP stereo decoder; 107-channel cable-compatible tuner; 8-event/1-month programming; one-touch record; remote control; special effects include high-speed search, frame advance, variable slow motion, and double speed in SP and SLP; index search; audio level controls; audio outputs; FM simulcast recording; edit switch; HQ; 4 video heads. Horizontal resolution >230 lines; video S/N >41 dB. Hi-fi audio specs: frequency response 20-20,000 Hz; dynamic range >90 dB. 17 x 4 x 14 3/4 in.; 18 3/4 lb ..... \$950

ILLUSTRATION BY BILL RUSSELL

### VR-HF730 VHS VCR

VHS Hi-Fi VCR with digital bar-code programming. Features 99-channel cable-compatible tuner; MTS/SAP stereo decoder; HQ; 4 video heads; variable clear slow motion; frame advance; double-speed play; reverse play; auto on-



Canon VR-HF730

play; eject, power-off eject; edit switch; linear time counter with hours, minutes, and seconds; index search; intro scan; memory search. Hi-fi audio dynamic range 90 dB. 17 x 3 3/4 x 13 3/8 in; 13 3/4 lb ..... \$925

### DBX

#### DVR-1 Digital VHS VCR

VHS Hi-Fi VCR with digital picture-enhancement circuitry. Features remote control; 4 video heads; 140-channel cable-compatible tuner; 8-event/21-day on-screen programming. MTS/SAP stereo decoder; digital special effects include ultra-fast search and double-speed play, freeze frame; HQ; plays and records in SP, LP, SLP; remote volume control; digital video noise reduction; record-level meters; left and right input-level controls; linear Dolby stereo sound ..... \$1,100

### FISHER

#### FVH-S650 S-VHS VCR

Super VHS Hi-Fi VCR. Features 33-function wireless remote control; horizontal resolution of more than 400 lines; Digital Memory Sound System (DMSS); 4 double-azimuth video heads plus 2 audio heads; CCD picture enhancement circuitry; 140-channel cable-compatible tuner with MTS/SAP stereo decoder; 6 playback



Fisher FVH-S650

modes; 4-event/14-day remote-controlled on-screen programming; remote-controlled quick timer recording; luminance/chrominance separation comb filter; full auto-function operation; HQ; Automatic Programming Search (APS); tape time remaining display ..... \$1,100

#### FVH-D5600 Digital VHS VCR

Digital VHS Hi-Fi VCR with special effects. Features 40-function wireless remote control;

digital special effects include picture-in-picture, multi-still, multi-strobe, mosaic, and solarization; CCD picture-enhancement circuitry; built-in automatic self-demonstration; MTS/SAP stereo decoder; 111-channel cable compatible tuner; 4-video heads; 4-event/14-day remote-controlled on-screen programming; remote-controlled quick timer recording; HQ ..... \$850

#### FVH-550 VHS VCR

VHS Hi-Fi VCR with 4 video and 2 audio heads. Features 27-function wireless remote control; CCD picture-enhancement circuitry; 122-channel cable-compatible tuner with 10-key random channel access; MTS/SAP stereo decoder; 6-event/1-year remote-controlled on-screen programming; remote-controlled quick timer recording; auto load, play, rewind, and eject; HQ ..... \$600

### GE

#### 9-7885 Digital VHS VCR

VHS Hi-Fi VCR with digital stop action, frame-advance, and variable-slow-motion special effects. 4 video heads; MTS/SAP stereo decoder; 155-channel cable-compatible tuner; on-screen programming; 48-function wireless remote control ..... \$899



GE 9-7885



#### 9-7785 VHS VCR

VHS Hi-Fi VCR with 4 video heads. Features MTS/SAP stereo decoder; stop action, frame-advance, variable slow motion, and picture-in-picture; 155-channel cable-compatible tuner; 8-event/21-day on-screen programming; 42-function wireless remote control ..... \$599

### GOLDSTAR

#### GHV-8200M VHS VCR

VHS Hi-Fi VCR with MTS/SAP stereo decoder. Features SP, LP, and SLP play and record speeds; 8-event/14-day programming; remote control; frame advance; remote pause; 110-channel cable-compatible tuner with 80 presets; still frame; auto rewind; auto fine tuning; one-touch record with standby; HQ; battery program backup; simulcast jack. Horizontal resolution 240 lines; video S/N 46 dB; audio



GoldStar GHV-8200M

frequency response 20-20,000 Hz  $\pm$  3 dB in hi-fi mode, 80-8,000 Hz  $\pm$  3 dB normal mode. 17 x 4 x 14 in; 18 lb ..... \$700

### HARMAN KARDON VCD-4000 VHS VCR

VHS Hi-Fi VCR with HQ. Features MTS/SAP stereo decoder; digital servo-controlled transport; SP, LP, and SLP, play and record speeds; 8-event/21-day on-screen programming; Dolby NR; wireless remote control; frame advance; noiseless special effects; cable-compatible tuner; still frame; auto-fine tuning; audio dubbing; video dubbing; one-touch record; time-remaining display; variable slow motion; automatic power on; two-speed search; detail control; slow-motion tracking controls; program search; memory rewind; 30-second skip/search; headphone jack with volume control. Audio frequency response 20-20,000 Hz  $\pm$  3 dB in hi-fi mode; 100-10,000 Hz  $\pm$  3 dB in normal mode; audio distortion 0.2% in hi-fi mode; audio signal-to-noise ratio 80 dB in hi-fi mode, 48 dB in normal mode. 17 3/8 x 4 3/8 x 15 3/8 in ..... \$1,199

### HITACHI

#### VT-2700A Digital S-VHS VCR

Super VHS Hi-Fi VCR with digital special effects. Features MTS/SAP stereo decoder; digital special effects include still picture, mosaic/painting, picture-in-picture, multi-channel scan, 12-picture multi-strobe; receives VHF/UHF and 85 cable channels; 8-event/1-year programming; auto play/rewind; one-touch record; VHS video-index search system; 30-second (commercial) skip ..... \$1,300



Hitachi VT-2700A

#### VT-2600A Digital VHS VCR

VHS Hi-Fi VCR with digital circuitry. Features MTS/SAP; strobe display; freeze and store; still; variable-speed slow motion; frame advance; visual search; mosaic and art (paint) effects; preset LCD-display remote control; provisions for video printer; auto play/repeat; 120-channel cable-compatible tuner. 17 1/8 x 3 3/4 x 13 3/4 in ..... \$850

#### VT-2500A VHS VCR

VHS Hi-Fi VCR with 4 video heads and MTS/SAP stereo decoder. Features LCD programmable wireless remote control; auto play and repeat; 30-second program skip; auto rewind/shutoff; 120-channel cable-compatible tuner; on-screen display; HQ. 17 1/8 x 3 3/8 x 14 3/4 in ..... \$750

### INSTANT REPLAY

#### Image Translator VCR's

The following VCR's translate international video formats. They play all PAL video tapes in color including PAL B (Western Europe, India, Africa, Far East, Australia, Scandinavia), PAL N (Argentina, Peru, Paraguay), PAL 1 (UK, South Africa, Ireland), PAL M (Brazil). They also play SECAM B, G, V (Eastern Europe), SECAM D



# HI-FI VIDEOCASSETTE RECORDERS

(Russia), SECAM II (Middle East), SECAM L (France) in monochrome. They play and record in NTSC. Compatible with most regular television sets and monitors. Features 107-channel cable-compatible tuner; 4-event/14-day programming; video-peaking sharpness control; 4 video heads; VHS Hi-Fi; fast-scan forward and reverse; still frame; pushbutton electronic tuning; full track/audio track erase; multi-function remote control; one-touch record; automatic stop; built-in switchable RF modulator for channels 3 and 4; multi-function display.



Instant Replay 77IT5S

## 77IT5S S-VHS Multistandard VCR

Super VHS Hi-Fi VCR. Features 420-line horizontal resolution; digital index and address search; on-screen programming; 183-channel cable-compatible tuner; direct-access remote control; RF, video and "S" outputs; optional RGB output; tape-economy switch for regular VHS tapes in S-VHS recording mode with only a slight increase in S/N ..... \$1,995

## 619IT5 Digital VHS VCR

Digital VHS Hi-Fi VCR. Features 9-screen catalog search; strobe; frame advance; select; channel display; 2-screen viewing; digital art with mosaic; high-resolution slow motion; picture lock; still playback; 8-event/30-day on-screen one-touch or bar-code programming ..... \$1,995

## 618IT3 VHS VCR

VHS Hi-Fi VCR. Features MTS/SAP stereo decoder; on-screen programming; remote control; frame advance; noiseless special effects (SP, SLP); cable-compatible tuner; auto rewind; channel lock; auto fine tuning; one-touch record; time remaining display; plays SECAM in monochrome ..... \$1,795

**618IT3RGB.** As above with RGB for improved playback in PAL; RF, video composite, and RGB outputs ..... \$1,895

## 615IT3 VHS VCR

VHS Hi-Fi VCR. Features HQ; simulcast switch; 2 sets of audio outputs; auto index; 4 video heads; records hi-fi stereo (NTSC) with or without video input. Features audio and video editing; 27-function dual-mode remote control; auto program finder; 107-channel cable-compatible tuner; 8-event/30-day programming; Plays SECAM in monochrome ..... \$1,595

## JVC

### HR-S7000U S-VHS VCR

Super VHS Hi-Fi VCR with switchable S-VHS and VHS recording. Features remote control with number keypad; separate S-Video Y/C inputs and outputs; Digital Index Search System; Address Search; Go-To function; counter memory; 4 video heads; 181-channel cable-compatible tuner; 8-event/14-day on-screen programming; MTS/SAP stereo decoder; special effects include Shuttle Search, noiseless slow motion in



JVC HR-S7000U

5 speeds, noiseless freeze frame, frame advance; HQ; plays and records in SP and SLP; auto power on, rewind, play, eject; instant recording; comb filter; peak-hold record-level meters; left and right input-level controls and audio limiter; edit switch; auto backspace editing; switchable power outlet; FM simulcast recording; headphone jack with level control. Horizontal resolution >400 lines; video S/N 45 dB; hi-fi frequency response 20-20,000 Hz; hi-fi dynamic range >90 dB. 17<sup>1</sup>/<sub>16</sub> x 3<sup>3</sup>/<sub>4</sub> x 13<sup>1</sup>/<sub>16</sub> in; 19 lb ..... \$1,200

### HR-D530U VHS VCR

VHS Hi-Fi VCR with index search. Features remote control with number keypad compatible with some JVC TV's; 181-channel cable-compatible tuner; 8-event/14-day remote-controlled on-screen programming; mode, time, and tape access information displayed when switching modes; Go-To function; skip search; double-speed playback; special effects include locking fast search, freeze frame, frame advance, noiseless slow motion in 5 speeds; HQ; switchable automatic frequency control; plays and records in SP and SLP speeds; automatic power on, rewind, play, eject; comb filter; peak-hold audio-level meters; headphone jack with adjustable level. Horizontal resolution 240 lines; video signal-to-noise ratio 45 dB; hi-fi frequency response 20-20,000 Hz; hi-fi dynamic range >90 dB. 17<sup>1</sup>/<sub>16</sub> x 3<sup>3</sup>/<sub>4</sub> x 13<sup>1</sup>/<sub>16</sub> in; 15 lb ..... \$899

**HR-D630U.** As above with auto-titler to record date and time, and digital special effects including full- and multi-screen freeze and strobe, digital zoom, solarization, mosaic, multi-screen intro scan and channel scan ..... \$899

## KENWOOD

### KV-D937HF Digital VHS VCR

Digital VHS Hi-Fi VCR with digital special effects. Features remote control; 4 video heads; 181-channel cable-compatible tuner; 8-event/14-day on-screen programming; MTS/SAP stereo decoder; digital special effects include picture-in-picture, strobe, solarization,



Kenwood KV-D937HF

fast search, slow motion at 1/4 and 1/8 normal speed, freeze frame, frame advance; one-touch record; HQ; plays and records in SP and SLP; auto power on, rewind, play, stop, eject; comb filter. Horizontal resolution 240 lines; hi-fi frequency response 20-20,000 Hz ..... \$1,200

### KV-936HF VHS VCR

VHS Hi-Fi VCR with backspace control and commercial delete function. Features remote

control; 4 video heads; 181-channel cable-compatible tuner; 8-event/14-day programming; MTS/SAP stereo decoder; freeze frame, frame advance; one-touch record; HQ; plays and records in SP and SLP speeds; automatic rewind, play, stop, eject; record-level meters. Horizontal resolution 240 lines; hi-fi frequency response 20-20,000 Hz ±3 dB; hi-fi signal-to-noise ratio >40 dB ..... \$950

## MAGNAVOX

### VR9670AT Digital VHS VCR

Digital VHS Hi-Fi VCR. Features 54-function infrared remote control; 155-channel cable-compatible tuner; 8-event/21-day on-screen



Magnavox VR9680AT

programming; MTS/SAP stereo decoder; digital special effects include picture-in-picture, strobe, multi-strobe, fast search, slow motion, freeze frame, TV still; HQ; audio dubbing; auto scanning with channel memory; auto index search; latching search ..... \$1,249

### VR9680AT VHS VCR

VHS Hi-Fi VCR with built-in power amplifier. Features 44-function infrared remote control; 155-channel cable-compatible tuner; 8-event/21-day remote-controlled on-screen programming; MTS/SAP stereo decoder; HQ; audio dubbing; automatic scan and index search; tape remainder indicator; memory backup system; double fine slow motion ..... \$1,099

### VR9664AT VHS VCR

VHS Hi-Fi VCR with special effects. Features 44-function infrared remote control; 4 video, 2 audio head system; 155-channel cable-compatible tuner; 8-event/21-day remote controlled on-screen programming; MTS/SAP stereo decoder; fast search at 17 times normal speed, double fine slow motion; HQ; auto scan tuning; memory backup system ..... \$799

## MINOLTA

### MV-140S Digital VHS VCR

VHS Hi-Fi VCR with digital playback special effects. Features 42-function wireless remote control; 4 double-azimuth video heads; 120-channel cable-compatible tuner; 8-event/1-year LCD remote-controlled programming; MTS/SAP stereo decoder; digital special effects include stroboscopic playback, noiseless still and slow motion, still video playback with continued audio, mosaic, and posterization, fast search at 5, 9, and 15 times normal speed; HQ; plays and records in SP, LP, and SLP; automatic power on/off; auto rewind. Horizontal resolution 240 lines; hi-fi S/N >43 dB. 17<sup>1</sup>/<sub>16</sub> x 3<sup>3</sup>/<sub>4</sub> x 14<sup>3</sup>/<sub>16</sub> in; 16<sup>1</sup>/<sub>2</sub> lb ..... \$1,000

## MITSUBISHI

### HS-423UR S-VHS VCR

VHS Hi-Fi VCR with digital auto tracking. Features remote control; 4 video heads; 107-channel

# HI-FI VIDEOCASSETTE RECORDERS



*Mitsubishi HS-423UR*

nel cable-compatible tuner; 8-event/14-day on-screen programming; MTS/SAP stereo decoder; fast search; HQ; comb filter; v-scan; 99-position address search; 19-position index search; transient recovery system; switching noise reduction; one-touch record ..... \$1,199

## HS-413UR VHS VCR

VHS Hi-Fi VCR with on-screen programming. Features remote control; 4 video heads; 107-channel cable-compatible tuner; 8-event/31-day programming; MTS/SAP stereo decoder; HQ; comb filter; v-scan; digital auto-tracking; 100-position tuner; 99-position address search; 19-position index search; one-touch record; reverse play; time search; transient recovery system; switching noise reduction ..... \$629

## NEC

### DX-5000U Digital VHS VCR

Digital VHS Hi-Fi VCR. Features remote control with LCD; 4 video head ExacTrac system; 140-channel cable-compatible tuner; MTS/SAP stereo decoder; index search; 8-event/21-day remote-controlled on-screen programming; HQ; digital special effects include noise reduction, strobe, freeze frame, slow motion, picture memory, and multi-speed search; auto power on/play, power off/eject, and rewind ..... \$1,349

### DX-3500U Digital VHS VCR

Digital VHS Hi-Fi VCR. Features remote control with LCD; 4 video head ExacTrac system; 140-channel cable-compatible tuner; MTS/SAP stereo decoder; index search; 8-event/21-day remote-controlled on-screen programming; HQ; digital special effects include noise reduction, picture memory, strobe, slow motion, picture search; auto power on/play, power off/eject ..... \$1,149

*NEC DX-3500U*



### DX-2500U Digital VHS VCR

Digital VHS Hi-Fi VCR. Features remote control; 2 video heads; 140-channel cable-compatible tuner; MTS/SAP stereo decoder; 8-event/21-day remote-controlled on-screen programming; HQ; digital special effects include noise reduction, picture memory, strobe, slow motion, and picture search; auto power on/play, power off/eject ..... \$999

### N966U VHS VCR

VHS Hi-Fi VCR with linear stereo capabilities. Features remote control; 4 video head ExacTrac

system; 140-channel cable-compatible tuner; MTS/SAP stereo decoder; 8-event/21-day on-screen programming; special effects include freeze frame and slow motion; HQ; auto functions ..... \$899

## PANASONIC

### PV-S4764 S-VHS VCR

Super VHS Hi-Fi VCR with bar-code programming. Features remote control; 4 video heads; 155-channel cable-compatible tuner; 8-event/30-day on-screen programming; MTS/SAP stereo decoder; fast search at 7 and 21 times normal speed in 2 modes, slow motion in 2 modes, freeze frame, frame advance; one-touch record; HQ; plays and records in SP, SLP; auto power on, rewind, play, stop, eject; comb filter; headphone jack with adjustable level; hi-fi frequency response 20-20,000 Hz  $\pm$  3 dB; 17 x 3 3/4 x 13 1/8 in; 12 1/4 lb ..... \$1,300

### PV-4780 Digital VHS VCR

VHS Hi-Fi VCR with digital special effects. Features remote control; 4 video heads; 155-channel cable-compatible tuner; 8-event/21-day on-screen programming; MTS/SAP stereo decoder; digital special effects include picture-in-picture, channel search, strobe, multi-strobe, digital still, field advance, double fine slow, TV still, fast search at 25 and 75 times normal speed in SP and SLP modes, slow motion in 2 modes, freeze frame, frame advance; one-touch record; HQ; plays and records in SP and SLP; auto power on, rewind, play, stop, eject; comb filter; audio dubbing; headphone jack with adjustable level. Hi-fi frequency response 20-20,000 Hz  $\pm$  3 dB. 17 x 4 x 13 1/8 in; 16 1/2 lb ..... \$1,150

### PV-4761 VHS VCR

VHS Hi-Fi VCR with remote control. Features 4 video heads; 155-channel cable-compatible tuner; 8-event/31-day on-screen programming; MTS/SAP stereo decoder; fast search at 7 and



*Panasonic PV-4761*

21 times normal speed in 2 modes, slow motion in 2 modes, freeze frame, frame advance; one-touch record; HQ; plays and records in SP and SLP; auto power on, rewind, play, stop, eject; comb filter; headphone jack with adjustable level; hi-fi frequency response 20-20,000 Hz  $\pm$  3 dB. 17 x 3 3/4 x 13 1/8 in; 12 lb ..... \$850

### PV-4760 VHS VCR

VHS Hi-Fi VCR with remote control. Features 4 video heads; 155-channel cable-compatible tuner; 8-event/21-day on-screen programming; fast search at 5 and 17 times normal speed in 2 modes, slow motion in 2 modes, freeze frame, frame advance; one-touch record; HQ; plays and records in SP and SLP; auto power on, rewind, play, stop, eject; comb filter. Hi-fi frequency response 20-20,000 Hz  $\pm$  3 dB. 17 x 4 x 12 in; 12 1/2 lb ..... \$700

## PHILIPS

### VPH733TS S-VHS VCR

Super VHS Hi-Fi VCR with bar-code programming. Features 42-function infrared remote control; 4 video heads; 155-channel cable-compatible tuner; 8-event/30-day on-screen programming; MTS/SAP stereo decoder; digital



*Philips VPH733TS*

special effects include still, frame advance, variable slow, double-speed play, double fine slow, fast search at 21 times normal speed in SLP mode; one-touch record; HQ; plays and records in SP and SLP; auto eject; auto power off, play, stop, eject; headphone jack with adjustable level ..... \$1,099

### VPH735TD Digital VHS VCR

Digital VHS Hi-Fi VCR with special effects. Features remote control; 4 video, 2 audio head system; digital 155-channel cable-compatible tuner; 8-event/21-day remote-controlled on-screen programming; MTS/SAP stereo decoder; digital special effects include picture-in-picture, strobe, multi-strobe, channel search, double fine slow motion, VCR still and TV still; fast search at 17 times normal speed in SLP mode; one-touch record with standby; HQ; auto power off, eject and index search; audio dubbing ..... \$1,099

### VPH731TH VHS VCR

VHS Hi-Fi VCR with 4 video, 2 audio head system. Features remote control; 155-channel cable-compatible tuner; 8-event/21-day remote-controlled on-screen programming; MTS/SAP stereo decoder; fast search at 17 times normal speed in SLP mode, double fine slow motion; HQ; plays and records in SP and SLP; auto eject/power off; digital tracking system; latching search; auto scan tuning ..... \$629

## PIONEER

### VH-910D Digital VHS VCR

Digital VHS Hi-Fi VCR with 4 double-azimuth video heads. Features 46-function remote control; MTS/SAP stereo decoder; 2 audio heads; HQ; 8-event/21-day remote-controlled on-screen programming; compatible with all Pioneer SR remote controls; 140-channel cable-



*Pioneer VH-910D*

compatible tuner; Jet Search at 5, 9, and 21 times normal speed; fluorescent display; digitally-controlled servo tape drive system; digital special effects include 2-picture display, shift, reverse, monitoring. Hi-fi frequency response 20-20,000 Hz; dynamic range >80 dB. 17 1/8 x 3 3/4 x 13 1/2 in ..... \$1,000

## QUASAR

### VH5677 S-VHS VCR

Super VHS Hi-Fi VCR with bar-code program-



# HI-FI VIDEOCASSETTE RECORDERS

ming. Features 4 video heads; HQ; built-in MTS/SAP stereo decoder; 155-channel cable-compatible tuner; auto set; one-touch record; 8-event/30-day on-screen programming; VHS index/address search; 53-function universal remote control; field still/advance; variable double fine slow motion; forward/reverse search at 17 and 21 times normal speed; double speed playback; auto power on/off; auto rewind; auto eject; auto dimmer. 17 x 3 1/4 x 13 3/4 in; 12 3/4 lb ..... \$1,200

## VH5975 Digital VHS VCR

Digital VHS Hi-Fi VCR with special effects. Features 4 video heads; HQ; picture-in-picture; TV still; TV channel search; strobe/multistrobe; slow/still; built-in MTS/SAP stereo decoder; 155-channel cable-compatible tuner; auto set; one-touch record; 8-event/21-day on-screen programming; 60-function universal remote control; field still/advance; variable double fine slow; forward/reverse search at 5 and 17 times normal speed; double speed playback; auto power on/off; auto rewind; auto eject; auto dimmer. 16 1/16 x 4 x 13 1/16 in ..... \$1,060

## VH5675 VHS VCR

VHS Hi-Fi VCR with on-screen programming. Features 4 video heads; HQ; MTS/SAP stereo decoder; 155-channel cable-compatible tuner; auto set; one-touch record; 8-event/21-day on-screen programming; 54-function universal remote control; field still/advance; variable double fine slow motion; forward/reverse search at 5 and 17 times normal speed; double speed playback; auto power on/off; rewind, eject, dimmer. 17 x 4 x 11 1/8 in; 12 1/2 lb ..... \$650

## RCA

### VPT695HF Digital S-VHS VCR

Super VHS Hi-Fi VCR with digital special effects. Compatible with Dimensia A/V system. Features remote control; 3 video heads; 167-channel cable-compatible tuner; 8-event/1-year remote-controlled on-screen programming; MTS/SAP stereo decoder; on-screen graphics display; digital special effects include picture-in-picture, variable mosaic and posterization, multi-pix (samples 12 active channels, or 12 consecutive frames from TV or tape), 2-speed visible picture search, variable slow motion, freeze frame, frame advance; delayed-start one-

touch record; 3 video heads; 120-channel cable-compatible tuner; 6-event/1-year remote-controlled on-screen programming; MTS/SAP stereo decoder; on-screen graphics display; 2-speed visible picture search; slow motion; freeze frame; frame advance; delayed start one-touch record; HQ; plays and records at SP, LP, and SLP speeds; auto power on, rewind/power off, play, stop; record-level meters; left and right input-level controls; headphone jack. Horizontal resolution 400 lines; hi-fi frequency response 20-20,000 Hz  $\pm$  3 dB; hi-fi dynamic range >80 dB. 14 3/8 x 3 3/8 x 14 in ..... \$999

## VPT630HF VHS VCR

VHS Hi-Fi VCR compatible with Dimensia A/V system. Features remote control; 3 video heads; 120-channel cable-compatible tuner; 6-event/1-year remote-controlled on-screen programming; MTS/SAP stereo decoder; on-screen graphics display; 2-speed visible picture search; slow motion; freeze frame; frame advance; delayed-start one-touch record; HQ; plays and records in SP, LP, SLP; auto power on, rewind/power off, play, stop; record-level meters; left and right input-level controls; headphone jack. Hi-fi frequency response 20-20,000 Hz  $\pm$  3 dB; hi-fi dynamic range >80 dB. 14 3/8 x 4 x 14 in; 14 1/2 lb ..... \$799

## REALISTIC Model 43 VHS VCR

VHS Hi-Fi VCR. Features 33-function remote control; 111-channel cable-compatible tuner; 5-

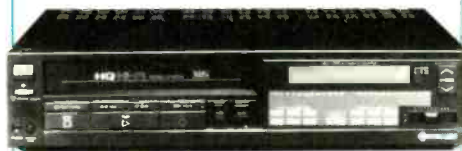


Realistic Model 43

event/14-day on-screen programming; MTS/SAP stereo decoder; fast search; slow motion; freeze frame; one-touch record; HQ; plays and records in SP, LP, and SLP speeds; automatic power on, rewind, play stop, eject; 5-step audio level meter; electronic 4-digit tape counter. 3 7/8 x 17 1/4 x 15 1/2 in ..... \$600

## SAMSUNG VR600F VHS VCR

VHS Hi-Fi VCR with remote control. Features 2 video heads; 110-channel cable-compatible tuner; 6-event/14-day programming; MTS/SAP stereo decoder; one-touch record; HQ; plays and



Samsung VR600F

records in SP, LP, SLP; auto power on, rewind, play; record-level meter; left and right input-level controls. Horizontal resolution 240 lines; hi-fi frequency response 20-20,000 Hz  $\pm$  3 dB; hi-fi dynamic range 80 dB. 16 3/8 x 3 3/8 x 13 1/2 in; 16 1/2 lb ..... \$650

## SANSUI SV-R9500HF VHS VCR

VHS Hi-Fi VCR with 4 video heads. Features HQ; still frame; one-touch record; counter memory/remaining time indicator; MTS/SAP



Sansui SV-R9500HF

stereo decoder; auto rewind; auto fine tuning; audio and video dubbing; remote control; 108-channel cable-compatible tuner; auto fine tuning. 17 x 4 x 13 in; 17 lb ..... \$900

## SANYO

### VHR8700 S-VHS VCR

Super VHS Hi-Fi VCR with Digital Memory Sound System (DMSS). Features 33-function unified remote control; 4 video heads; 140-channel cable-compatible tuner; 4-event/14-day on-screen programming; MTS/SAP stereo decoder; CCD noise reduction system; HQ; auto power on, play, rewind, eject, power off; effects include still and frame advance. S/N >90 dB; hi-fi dynamic range 90 dB. 17 1/16 x 3 3/4 x 15 1/2 in; 19 1/4 lb ..... \$1,000

### VHR3950 Digital VHS VCR

VHS Hi-Fi VCR with digital special effects. Features remote control; 4 video heads; 111-channel cable-compatible tuner; 4-event/14-day on-screen programming; MTS/SAP stereo decoder; digital special effects include picture-in-picture, mosaic, solarization, multi-still, strobe, slow motion, freeze frame, and frame advance; one-touch record; HQ; plays and records in SP, LP, SLP; auto power on, rewind, play, stop, eject; channel lock; record-level meters; left and right input-level controls. Video S/N >45 dB; hi-fi dynamic range 90 dB. 17 1/16 x 3 3/4 x 15 1/2 in; 19 1/4 lb ..... \$750

### VHR8310 VHS VCR

VHS Hi-Fi VCR with special effects. Features 27-function remote control; 4 video heads; 122-



Sanyo VHR8310

channel cable-compatible tuner; 6-event/1-year on-screen programming; MTS/SAP stereo decoder; effects include still, frame advance, and slow motion playback; quick-touch record; HQ; plays back and records in SP and SLP; auto power on, play, rewind, eject/power off. Video S/N 48 dB. 17 1/2 x 3 3/2 x 13 1/2 in; 14 1/2 lb ..... \$500

## SCOTT

### SVR510D Digital VHS VCR

VHS Hi-Fi VCR with 4 video heads. Features remote control; 124-channel cable-compatible tuner; 4-event/14-day on-screen programming; MTS/SAP stereo decoder; digital special effects include freeze frame, slow motion, frame ad-



RCA VPT695HF



touch record; VHS indexing system; HQ; plays and records in SP, LP, SLP; auto power on, rewind/power off, play, stop; video and audio dubbing; record-level meters; left and right input-level controls; headphone jack. Horizontal resolution 400 lines; hi-fi frequency response 20-20,000 Hz  $\pm$  3 dB; hi-fi dynamic range >80 dB. 14 3/8 x 4 x 14 1/4 in; 15 lb ..... \$1,299

### VPT640HF S-VHS VCR

Super VHS Hi-Fi VCR compatible with Di-

# HI-FI VIDEOCASSETTE RECORDERS

vance, picture search, double speed play, off-air still picture, cue and review; one-touch record; HQ Plus; auto power on, rewind, play, eject; comb filter. 17 1/4 x 4 x 13 1/4 in. \$850

## SHARP VC-H65U VHS VCR

VHS Hi-Fi VCR with double comb filter. Features hi-fi depth multiplex recording; HQ; MTS/SAP stereo decoder; 6-event/14-day on-screen programming; 110-channel cable-compatible tuner; 23-function wireless remote control; auto power on, playback, repeat; one-touch record; 15 times normal speed fast search; automatic program search system; still frame in SLP; fluorescent dual-time display; electronic 4-digit tape counter; 8-hour recording and playback; microcomputer-controlled power-assist drive; tuner/simulcast/auxiliary input selector; auto TV/VCR output selector; headphone jack with adjustable level; built-in RF converter; program memory backup system. \$820

## SONY

### SL-HF1000 SuperBeta VCR

SuperBeta Hi-Fi VCR with special editing controls. Features Super Hi-Band Beta I recording and play; MTS/SAP stereo decoder; character generator; eight-part programmable assemble editing; freeze frame; 126-channel cable-compatible tuner; frame counter for hours, minutes, seconds, frames; auto title insertion; picture search at 15 times normal speed; slow motion; auto A/V insert editing; dual flying-erase heads; frame recording; pre-roll editing with linear time and frame counter; jog/shuttle variable-speed search dial on deck and remote; wireless remote control for VCR and Sony TV's; 8-event/21-day on-screen programming; comes with antenna adaptor, coaxial cable, audio cable. Hi-fi audio specs: dynamic range >80 dB; frequency response 20-20,000 Hz; W&F <0.005%. \$1,700

### SL-HF860D SuperBeta VCR

SuperBeta Hi-Fi VCR with digital special effects for jitterless stop motion, slow motion, Flash Motion with sound (still image freeze on screen for adjustable periods of time), Multi-Strobe (for nine or sixteen images on screen at once), zoom, mosaic, Picture Art (solarization), Recall (to view last stored image), scan, and movable picture-in-picture. Features remote control; cable-compatible tuner; 6-event/7-day programming; MTS/SAP stereo decoder; headphone jack with adjustable level; edit switch; S terminal output; front-panel A/V inputs; counter displays hours, minutes, and seconds. \$1,100

**SL-HF840D.** As above except lacks some digital effects. \$750



Sony EV-S1

### SL-HF360 SuperBeta VCR

SuperBeta Hi-Fi VCR with linear time counter. Features remote control; 7-day/1-event programming; Beta-scan; Beta skip/scan; cable-

compatible tuning; 3-position color-enhancement switch; headphone jack with adjustable level control. \$600

### SL-HF350 SuperBeta VCR

SuperBeta Hi-Fi VCR. Features remote control of tuning, power, record, play, search, fast forward and rewind; cable-compatible tuner; 6-event/7-day programming; fast search at 15 times normal speed; counter displays time in hours, minutes, and seconds. \$550

### EV-S1 8mm VCR with PCM Audio

Lightweight 8mm VCR with PCM digital stereo sound and Theater Sound for surround-sound effect. Features 10-key wireless remote control; 2 video heads plus special-effect head and flying-erase head; 152-channel cable-compatible tuner with 99 presets; 3-event 2-week programming; MTS/SAP stereo decoder; special effects include fast search at 2 times normal speed (with sound), visible picture in fast forward and rewind, clear slow motion at 1/2 and 1/10 normal speed, clear freeze frame, frame advance; detachable handle; Control S connector; records and plays in SP and EP; edit switch; PCM audio dubbing for adding soundtracks in digital; standard AFM audio recording; case and car-battery cord optional. Audio specs: dynamic range 88 dB; sampling frequency 31.5 kHz; 10-bit linear sampling companded to 8 bits nonlinear; W&F <0.005%. 11 x 2 3/4 x 8 1/4 in; 5 1/4 lb. \$900



Sylvania VC8972AT

## SYLVANIA

### VC8972AT VHS VCR

VHS Hi-Fi VCR with on-screen programming. Features 44-function remote control; 4 video, 2 audio heads; 155-channel cable-compatible tuner; 8-event/21-day programming; MTS/SAP stereo decoder; fast search at 17 times normal speed; double line slow motion; HQ; auto scan tuning, eject/power off, rewind, pause/still release; channel lock; 8 hour maximum recording time. 17 x 4 x 11 1/2 in. \$799

## TEAC

### MV-900 Digital VHS VCR

VHS Hi-Fi VCR with digital-memory function and special effects including still frame, Interval Play, and solarization. Features DA-4 head; SP, LP, SLP play and record speeds; remote control with frame advance; cable-compatible tuner. 17 1/2 x 3 3/4 x 13 1/4 in; 22 1/4 lb. \$999

## TOSHIBA

### DX-900 Digital VHS VCR with PCM Audio

VHS Hi-Fi VCR with PCM digital audio record and playback capability. Features PCM processor to convert analog audio signal to digital signal configured as video signal; digital video special effects include clear freeze frame in SLP and SP, freezing 4 still frames (from broadcast or tape) and viewing them simultaneously, clear slow motion; double-speed play; MTS/SAP stereo decoder; 4-event/14-day on-screen programming by touching fiber-optic lightpen to screen; remote control; 139-channel cable-compatible tuner; HQ Pro; audio level display; mic jacks;

headphone jack; 4 video heads. Horizontal resolution 240 lines. 17 x 4 1/2 x 14 3/4 in. \$1,300

### DX-800 VHS VCR

VHS Hi-Fi VCR with PCM digital audio record and playback capability. Features 4 video heads; 36-function unified remote control that also controls Toshiba TV's; MTS/SAP stereo decoder; 122-channel cable-compatible tuner; 4-event/14-day on-screen programming; HQ Pro; digital special effects including clear freeze frame in SLP and SP and strobe; audio level display; headphone jack. \$1,000

**M-7900.** As above without digital effects; 33-function remote control; one-touch timer recording; auto play. \$750

## VECTOR RESEARCH

### V-6040 Digital VHS VCR

VHS Hi-Fi VCR with digital special effects. Features remote control; 4 double-azimuth video heads; 124-channel cable-compatible tuner; color on-screen programming; MTS/SAP stereo decoder; digital special effects include fast search, slow motion, freeze frame, frame advance; HQx (4-circuit HQ with additional wide band filter circuit); plays and records in SP, LP, and SLP. Horizontal resolution >240 lines; video S/N >47 dB; hi-fi frequency response 20-20,000 Hz ± 2 dB. \$1,099

### V-5040 VHS VCR

VHS Hi-Fi VCR with 3-event/28-day on-screen programming. Features SP, LP, and SLP play and record speeds; Dolby NR; frame advance; noiseless special effects; remote pause; still frame; auto rewind; channel lock; auto fine tuning; one-touch record; time-remaining display; 4 double-azimuth video heads; HQ; 21 times normal speed picture search; MTS/SAP stereo decoder; 140-channel cable-compatible tuner; audio level controls with level meter; tracking meter; program search. Horizontal resolution 230 lines; video S/N 47 dB; audio frequency re-



Vector Research V-5040

sponse 20-20,000 Hz ± 3 dB in hi-fi mode; audio distortion 0.5% in hi-fi mode; audio S/N 90 dB in hi-fi mode. 17 x 4 x 15 in; 18 lb. \$850

## YAMAHA

### YV-1100 Digital VHS VCR

Digital VHS Hi-Fi VCR with 4 digital video heads. Features wireless remote control; MTS/SAP stereo decoder; 140-channel cable-compatible tuner; HQ; 8-event/21-day on-screen programming; digital special effects include picture memory, strobe action, picture search, Jet Search, still picture, and slow motion; editing control; sharpness control; real time counter with counter memory; index scan; auto power on, power off/eject, playback; left and right audio output level control. \$999

### YV-900 VHS VCR

VHS Hi-Fi VCR with picture-in-picture special effects including 2 picture display, reverse, and



# HI-FI VIDEOCASSETTE RECORDERS

shift. Features 4 double-azimuth video heads; wireless remote control transmitter which allows use with all current and past Yamaha color monitors. HQ; MTS/SAP stereo decoder; 3-speed slow motion in SP and SLP; 140-channel cable-compatible tuner; 8-event/21-day on-screen programming; Segment and Delayed Segment features; picture search at 5 and 9 times normal speed in SP and SLP modes; Jet Search to 9 and 21 times normal speed. Horizontal resolution >230 lines; audio frequency response 20-20,000 Hz; dynamic range >90 dB. 17 x 4 x 14 3/4 in; 17 1/4 lb ..... \$829  
**VV-800.** As above without special effects \$729

## ZENITH

### VRD700 S-VHS VCR

Super VHS Hi-Fi VCR with 4 video heads. Features remote control; 178-channel cable-compatible tuner; 8-event/14-day on-screen programming; MTS/SAP stereo decoder; VHS Index Search System; 5-speed slow motion in SP/SLP modes; freeze frame, frame advance; one-touch record; HQ; PRP comb filter; plays in SP, LP, SLP; records in SP and SLP; auto power



Zenith VRD700

on, rewind, eject; record-level meters; left and right input-level controls; headphone jack with adjustable level. Horizontal resolution 400 lines S-VHS. 240 normal; video S/N >43 dB; hi-fi frequency response 20-20,000 Hz ±3 dB; hi-fi dynamic range 80 dB VHS. 90 dB S-VHS. 17 1/4 x 3 3/4 x 13 in ..... \$1,299

### VRD600 Digital VHS VCR

Digital VHS Hi-Fi VCR with automatic tape titler that can record date, time, and channel number before every recording. Features remote control; 4 video heads; 178-channel cable-compatible tuner; 8-event/14-day on-screen programming; MTS/SAP stereo decoder; digital special effects include picture-in-picture, digital strobe (freezes 4, 9, or 16 channels programmed into the VCR and freezes them on-screen simultaneously). VHS Index Search system; one-touch record; HQ; plays in SP, LP, SLP; records in SP and SLP; auto power on, rewind, eject; record-level meters; left and right input-level controls; headphone jack with adjustable level ..... \$1,099

### VRD530 VHS VCR

Compact vertically-designed VHS Hi-Fi VCR with high-speed VHS Index Search system. Features remote control; 4 video heads; 178-channel cable-compatible tuner; 4-event/14-day on-screen programming; MTS/SAP stereo decoder; fast search at 7 times normal speed, slow motion at 1/5 normal speed, freeze frame, frame advance; one-touch record; HQ; PRP comb filter; plays in SP, LP, SLP; records in SP, SLP; auto power on, rewind, play, stop, eject; next-function memory; record-level meters; left and right input-level controls; headphone jack. Horizontal resolution 240 lines; video S/N >43 dB; hi-fi



Zenith VRD530

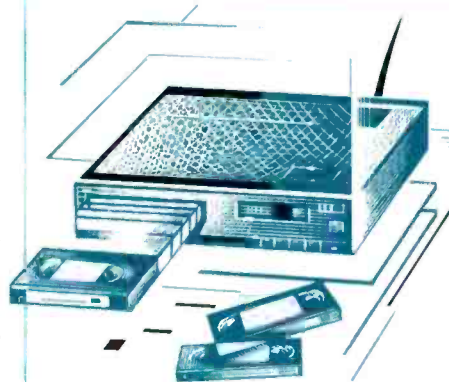
frequency response 20-20,000 Hz ±3 dB; hi-fi dynamic range 80 dB. 5 3/8 x 12 x 11 1/2 in; 17 lb ..... \$899

### VR2300 VHS VCR

Compact VHS Hi-Fi VCR with music-scan and Go-To tape search. Features remote control; 4 video heads; 178-channel cable-compatible tuner; 4-event/14-day on-screen programming; MTS/SAP stereo decoder; fast search at 7 times normal speed, freeze frame, frame advance; one-touch record; HQ; PRP comb filter; plays in SP, LP, and SLP; records in SP and SLP; auto power on, rewind, play, stop, eject; next-function memory; record-level meters; left and right input-level controls. Horizontal resolution 240 lines; video S/N >43 dB; hi-fi frequency response 20-20,000 Hz ±3 dB; hi-fi dynamic range 80 dB. 13 1/2 x 4 3/4 x 14 3/4 in; 17 lb ..... \$899

# DIRECTORY OF MANUFACTURERS

**Akai**, 225 Old New Brunswick Rd., Piscataway, NJ 08854. (201) 807-1400.  
**Audio Dynamics**, 71 Chapel St., Newton, MA 02195. (617) 964-3210.  
**Canon**, One Canon Plaza, Lake Success, NY 11042. (516) 488-6700.  
**dbx**, 71 Chapel St., Newton, MA 02195. (617) 964-3210.  
**Fisher**, 21314 Lassen St., Chatsworth, CA 91311. (818) 998-7322.  
**GE**, 600 N. Sherman Dr., Indianapolis, IN 46206. (317) 267-5000.  
**GoldStar**, 1050 Wall St. West, Lyndhurst, NJ 07071. (201) 460-8870.  
**Harman Kardon**, 240 Crossways Park West, Woodbury, NY 11797. (516) 496-3400.  
**Hitachi**, P.O. Box 92232, Los Angeles, CA 90009. (213) 537-8383.  
**Instant Replay**, 2951 S. Bayshore Dr., Coconut Grove, FL 33133. (305) 448-7088.  
**JVC**, 41 Slater Dr., Elmwood Park, NJ 07407. (201) 794-3900.  
**Kenwood**, 2201 E. Dominguez, Long Beach, CA 90810. (213) 639-9000.  
**Magnavox**, I-40 & Straw Plains Pike, Knoxville, TN 37914-1810. (615) 521-4316.  
**Minolta**, 101 Williams Dr., Ramsey, NJ 07446. (201) 825-4000.



**Mitsubishi**, 5757 Plaza Dr., P.O. Box 6007, Cypress, CA 90630-0007. (714) 220-2500.  
**NEC**, 1255 Michael Dr., Wood Dale, IL 60191-1094. (312) 860-5384.  
**Panasonic**, One Panasonic Way, Secaucus, NJ 07094. (201) 348-7000.  
**Philips**, I-40 & Straw Plains Pike, Knoxville, TN 37914-1810. (615) 521-4316.  
**Pioneer**, 2265 E. 20th St., P.O. Box 1720, Long Beach, CA 90801-1720. (213) 835-6177.  
**Quasar**, 1325 Pratt Blvd., Elk Grove Village, IL 60007. (312) 228-6366.

**RCA**, 600 N. Sherman Dr., P.O. Box 1976, Indianapolis, IN 46201. (317) 267-5000.  
**Realistic**, One Tandy Center, Fort Worth, TX 76102. (817) 390-3885.  
**Samsung**, 310 Mayhill St., Saddle Brook, NJ 07662. (201) 587-9600.  
**Sansui**, 1250 Valley Brook Ave., Lyndhurst, NJ 07071. (201) 460-9710.  
**Sanyo**, 1200 W. Artesia Blvd., P.O. Box 5177, Compton, CA 90224-5177. (213) 537-5830.  
**Scott**, 5601 Westside Ave., North Bergen, NJ 07047. (201) 662-2000.  
**Sharp**, Sharp Plaza, Mahwah, NJ 07430. (201) 529-8686.  
**Sony**, Sony Dr., Park Ridge, NJ 07656. (201) 930-1000.  
**Sylvania**, I-40 & Straw Plains Pike, Knoxville, TN 37914. (615) 521-4316.  
**Teac**, 7733 Telegraph Rd., Montebello, CA 90640. (213) 726-0303.  
**Toshiba**, 82 Totowa Rd., Wayne, NJ 07470. (201) 628-8000.  
**Vector Research**, 1230 Calle Suerte, Camarillo, CA 93010. (805) 987-1312.  
**Yamaha**, 6660 Orangethorpe Ave., Buena Park, CA 90620. (714) 522-9105.  
**Zenith**, 1000 Milwaukee Ave., Glenview, IL 60025-2493. (312) 391-8181.

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CALLING ALL



KIDS

CHILDREN'S RECORDS ARE GROWING UP!

BY WILLIAM LIVINGSTONE

In recent years books and records for children have entered new realms of beauty, humor, educational value, and entertainment. Producers in media for the young seem to be using more of the techniques that have resulted in work of high quality for adults.

Furthermore, those producers have decided to get real. Gone are the primers about Dick and Jane, their sanitary pets Spot and Puff, Mother who never smacked them, and Father who never drank or swore and never even took his tie and jacket off. Gone with them are the technically poor song-and-story recordings made by prissy, trilling sopranos.

A good example of what's new in children's recordings is the engaging singer/songwriter Joe Scruggs from Texas. He records songs about kids with holes in their sneakers and scabs on their knees—not Dick and Jane, but real kids. They live in homes where things get tense between the parents if Dad forgets his and Mom's anniversary, where a loving mother displays drawings from school on the refrigerator door, and where there's a pacifier stuck in the VCR. (I love that homey image!)

The Caedmon Records catalog of distinguished literary and musical recordings for children even includes an album called "Stories to Help Children of Divorce" (1362, cassette only) performed by Julie Harris and Joseph Wiseman. A recent Caedmon release is "Rock-a-New-Baby Rock" (TBC 4980), a book-and-cassette package to help children aged three to seven adjust to a new baby in the family.

Caedmon is the world's largest and most prestigious spoken-word label. Its founders began by recording such great authors as Dylan Thomas and Eudora Welty reading their own work. Because of the literary quality of their catalog, they were able to attract leading actors and actresses to record for them, and when the company was ready to make children's records, they had a roster of famous dramatic artists to call upon. Caedmon has built up a library of treasurable children's records by such stars of stage and screen as Boris Karloff, Judith Anderson, Claire Bloom, Ralph Richardson, Ben Vereen, Carol Channing, Vincent Price, Ruby Dee, and many others.

Glenn Close has joined the Caed-

ILLUSTRATION: GARETH BRANWYN / COURTESY AMERICAN MELODY RECORDS



mon roster, and her recording of "Sarah, Plain and Tall" (1973) has won an award from *Parents' Choice*, a review of children's media. In addition to the American Library Association, the other organizations from which Caedmon has won awards are too numerous to list.

Sampling the vast treasures of the Caedmon catalog, I was particularly impressed by "Where the Wild Things Are" (1531), a collection of stories by Maurice Sendak performed with gusto by Tammy Grimes with judicious use of music by Mozart.

In the series of children singing folk music from other countries I especially liked "Songs of Israel" (1672) and "Songs of Mexico" (1645), both of which are award winners. I was knocked out by the amusing instructional tape "Dinosaur Rock" (1739). Written and performed by Michele Valerie and Michael Stein, its songs are scientifically accurate. In addition to the title song, they include *Leapin' Lizards* and *Stella Stegosaurus*.

Stein and Fred Newman perform "Ride Through the Solar System" (1804), a collection of eleven clever songs filled with information about the planets. They have such titles as *Venus* ("I'm sizzling hot"), *Comet Tale Rock*, and *I'm Halley's*.

For obvious reasons, the cassette is the preferred format for children. Some Caedmon releases are also available on LP, and most list for \$8.98 either way. The company is now a division of the publishing company Harper & Row. To get a free children's catalog (or to order Caedmon recordings), call 1-800-C-HARPER.

**A**LTHOUGH Caedmon dominates this market, there is room for small labels that produce excellent children's recordings. On the West Coast, for example, Lancaster Productions markets beautifully performed and beautifully recorded tapes by Francine Lancaster. Her latest release is "Mother Goose and Other Nursery Songs" (LH 8704), a musical cassette with a handsome songbook produced in collaboration with the Boston Museum of Fine Arts.

Lancaster has an attractive classically trained voice, and her musical accompaniment is subtle and imaginative. Some children perform with her on the new tape, and there is amusing use of live-animal sound

effects. I can't think of a better way to introduce children up to age seven to this part of our cultural heritage. The list price is \$14.50 for the cassette and book. For ordering information call (415) 549-7110.

*Parents' Choice* has given an award to "Turkey in the Straw," an album of bluegrass songs for children performed by Phil Rosenthal on the new American Melody label (AM 101). An ingratiating performer, Rosenthal has put together a collection of his own tunes and traditional songs such as *Ain't Gonna Rain No More*, *Little Liza Jane*, and *Twinkle, Twinkle, Little Star*. His new release is "The Paw Paw Patch" (AM 104), which includes *Mary Had a Little Lamb*, *Skip to My Lou*, and *I'm a Little Teapot*.

My favorite American Melody album is Jonathan Edwards's witty "Little Hands" (AM 102) on which Edwards sings and plays guitar, bass, and harmonica. It's a collection of songs for and about children including *Winkin, Blinkin and Nod* and *Flies in the Buttermilk*. Edwards is joined here by Rosenthal and his wife, Beth Sommers.

To test your children's reaction to bluegrass (or test your own!) you might start with "Grandma's Patchwork Quilt" (AM 103), a sampler by Edwards, Rosenthal, Sommers, and others. For a free catalog and ordering information on this company's LP's and cassettes write American Melody Records, P.O. Box 270, Guilford, CT 06437, or call (203) 457-2881.

Windham Hill, best known for New Age music, has started a line of children's records, and they are fabulous. The producers have followed a format like the one Caedmon used in "Where the Wild Things Are," but they have commissioned original music for all the recordings, which are widely available in stores on LP, cassette, and compact disc.

Last fall's impressive new releases include "The Ugly Duckling" (WH-0705), narrated touchingly by Cher with a lovely soundtrack of music for cello and Celtic harp arranged and directed by Patrick Ball. The versatile Glenn Close uses a variety of voices in reading "The Emperor and the Nightingale" (WH 0706), with a suitably exotic soundtrack by Mark Isham. Jack Nicholson was an inspired choice to narrate "How the Rhinoceros Got His Skin & How the Camel Got His Hump" (WH 0704), and Bobby McFerrin was an

equally inspired choice to compose and perform the accompaniment.

Married to a kindergarten teacher, Joe Scroggs sounds like a warm, tender fellow who really understands children. My red-blooded American nephews Michael and Billy, aged five and eight, responded with great enthusiasm to his "Traffic Jams" (LLS 604). It's a collection of songs for the car that includes Scroggs's greatest hit, *Goo Goo Ga Ga*. I know that sounds silly, but it really cracks kids up.

I like all four of the Scroggs tapes I've heard. The songs are written to delight children without driving Mom and Dad out of the house or car when the kids listen. I especially recommend "Abracadabra" (KJS 621), which includes *Bubble Gum*, a cautionary song about the dire consequences of spitting your gum out in the parking lot. The kids win out in such songs as *I'm Too Full for Broccoli* (*But I've Still Got Room for Some Pie*).

Cassettes by Scroggs cost \$9.95 plus \$1.25 for shipping from Educational Graphics Press Inc., P.O. Box 180476, Austin, TX 78718; (512) 251-9620. (Texas residents add 7.25 percent sales tax.)

**L**IKE most middle-aged adults, I spend a few hours each week worrying about the younger generation. Current books tell us that universities have closed the American mind, that we are a nation of cultural illiterates, that our seventeen-year-olds are know-nothings, and that our children are obese couch potatoes addicted to television and junk food.

I can't swear that a diet of high-quality children's recordings will correct that desperate situation, but it's worth a try. Besides humor and musicality, there are large amounts of insight and love in the work of such artists as Lancaster, Scroggs, Edwards, and the Rosenthals, all of whom are parents.

The operatic soprano Renata Scott, the mother of two, once told me you can only bring young people to the classics with the best productions and the most talented performers. That seems to be the philosophy behind children's recordings by Caedmon and Windham Hill. Cher and Glenn Close have got me rethinking Hans Christian Andersen in between humming such new hit tunes as *Stella Stegosaurus* and *Goo Goo Ga Ga*. □



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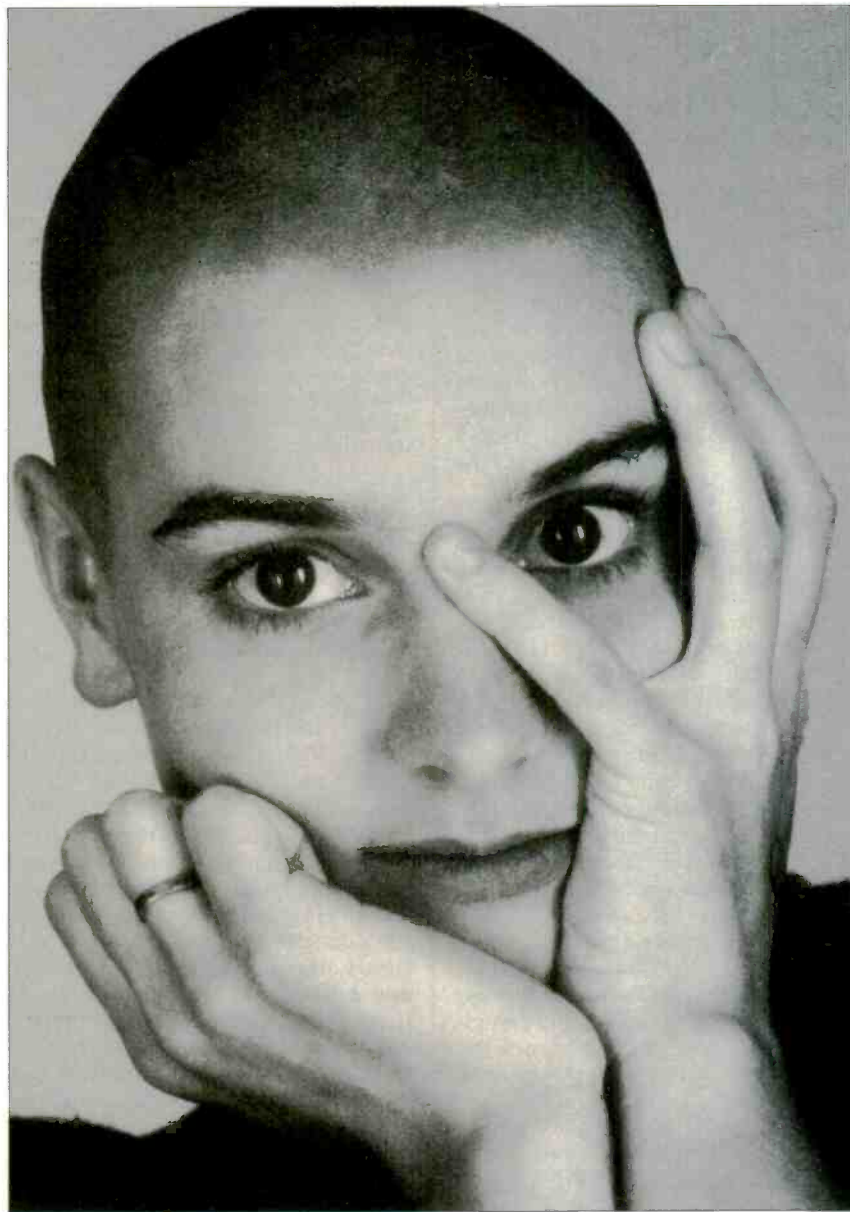
*Stereo Review's critics choose the outstanding current releases*

### SINÉAD O'CONNOR: FIRE AND ICE

**S**IZING up Sinéad O'Connor from the cover photo of her album, you might expect her to be a punk. After all, her head is shaved, and she's scrawled some sort of symbol onto her hand. Then again, she might be a mystic. Or a revolutionary. She is, in fact, all of these, and a folk musician, a daring songwriter, a fiery guitarist, an accomplished producer, and an extraordinarily gifted vocalist, too. Her debut album, "The Lion and the Cobra," is a captivating record, one of those unexpected treasures so different and affecting that everything else at hand—even the best rock—seems bland and uninteresting in comparison.

The music in "The Lion and the Cobra" is a synthesis of Irish and English folk tunes, slashing guitar and synth rock, and a dollop of funk. O'Connor writes melodic songs, and, more important, she understands dynamics and pacing—she holds back a song's energy and parcels it out in order to build anticipation and surprise. These songs have tremendous momentum, and since they deal with physical passion, their structure often mimics their subject. Sometimes the lyrics are mystical (the narrator of *Jackie*, for instance, is a ghost who wanders the shore in search of her lover, a sailor lost at sea). More often, though, they're just plain steamy. When O'Connor sings, "Put 'em on me" in *I Want Your (Hands on Me)*, she could be talking about hands or handcuffs, and in *Just Like U Said It Would B* she sings, "At the end of the day, nothing would please me better than to find that you're there" with such rocking momentum that your cartridge is apt to go careening out of the groove.

But it's Sinéad O'Connor's voice that's most remarkable. Like Kate



Bush, she takes bold chances, pushing her voice to the limits of its formidable range in acrobatic, almost reckless leaps. One minute it's soft and girlish, the next it's a womanly, seductive growl, the next a defiant howl. It's clear and unaffected, equally capable of fire and ice. And O'Connor is a pretty decent guitarist into the bargain.

"The Lion and the Cobra" is a work of surpassing range and sophistication, an amazing accomplishment from someone who's barely twenty years old. That any-

one so young would take the kind of chances that Sinéad O'Connor takes in this album isn't all that unusual, but that she succeeds with virtually everything she does certainly is.

*Mark Peel*

**SINÉAD O'CONNOR:** *The Lion and the Cobra*. Sinéad O'Connor (vocals, guitar); instrumental accompaniment. *Jackie; Mandinka; Jerusalem; Just Like U Said It Would B; Never Get Old; Troy; I Want Your (Hands on Me); Drink Before the War; Just Call Me Joe*. CHRYSALIS BFV 41612, © BVT 41612, © VK 41612 (42 min).



## BEST RECORDINGS OF THE MONTH

### HAITINK'S VAUGHAN WILLIAMS

**B**ERNARD HAITINK'S new recording with the London Philharmonic of Ralph Vaughan Williams's Symphony No. 2, *A London Symphony*, is every bit as successful as his recording of the *Sinfonia Antartica* that was released a couple of years ago. Moreover, it is the state-of-the-art realization of the work that I have been waiting for since the advent of the compact disc.

Haitink's interpretation is quite different from those we are used to from British conductors, chiefly with respect to the somewhat slower tempos he adopts for the opening movement and the march segment of the finale, which here becomes a solemn and deeply poignant elegy. I don't expect ever to hear a more moving performance of the slow movement, the tone of which is set by the solo-cornet episode near the opening. And the third-movement scherzo-nocturne is pure magic, now joyful, now menacing. The outer movements, evocative of London in its more heartless aspects, come across with telling impact. Careful and devoted orchestral playing, combined with simply superb engineering, allows us to experience the pianissimo introduction and epilogue as never before on record.

*Bernard Haitink: pure magic*



PETER VERNON/ANGEL

The symphony is coupled with a similarly devoted performance of the composer's *Fantasia on a Theme by Thomas Tallis*. The recording, made in EMI's Abbey Road studios, captures remarkably well the work's three-tiered forces: string quartet, small string body, and full string orchestra. In sum, Haitink has done it again for Vaughan Williams. *David Hall*

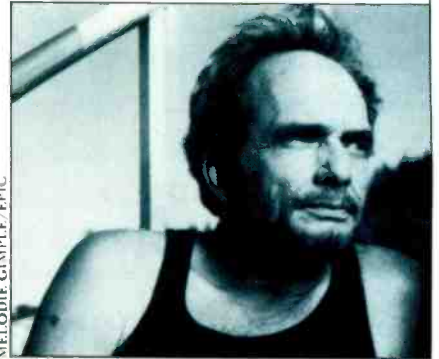
**VAUGHAN WILLIAMS:** *Symphony No. 2 ("A London Symphony"); Fantasia on a Theme by Thomas Tallis*. London Philharmonic Orchestra, Bernard Haitink cond. ANGEL © CDC-49394 (66 min).

### MERLE HAGGARD AS THE LONELY ROMANTIC

**T**HE finest American singer-songwriter of the post-Hank Williams era, as one journalist has dubbed him, Merle Haggard is also perhaps the most charismatic of the country-music luminaries. Moody, uncompromising, and unpredictable off-stage, Haggard wears the scars of life's battles as badges of survival. In his classic songs of drink, defeat, and heartbreak, he reveals a tough masculinity along with a tender inner core—paradoxically aching for both the loneliness of the road and an emotionally fulfilling relationship with a woman.

While Haggard has recorded a staggering body of work through the years, his last few solo recordings have suggested a personal and artistic stagnation. His writing, once prolific and filled with vivid imagery, slowed to a trickle, and the few songs of his own that he recorded showed him to be acutely aware of his problems, although curiously unwilling to do much about them.

But now, with "Chill Factor," Haggard has finally rallied from his torpor. The songs here, mostly his own, may be uneven—occasionally the lyrics are too vague and dispirited to be moving—but at its best the album captures the artist tapping into his old powers, offering a



MELODIE GAVILE/EPIC

*Merle Haggard: triumph*

fascinating portrait of a man wrestling with middle age.

The strongest of these songs portray Haggard as the lonely romantic, desperate to reconnect with the past. *Chill Factor*, the title tune, finds the singer facing bleak November weather and reminiscing about "the good love we had," and *Twinkle, Twinkle Lucky Star* has him calling on the heavens for help. By the third song, *Man from Another Time*, Haggard has found someone to replace the woman he lost, but "our lives are so different" (there's a thirty-year gap in their ages), and there's "no way to bring us in line."

There are circumstances worse than this, Haggard admits, and love comes in all shapes and varieties. In Hank Cochran's *We Never Touch at All*, the singer details the hell of a couple "caught in a trap/Like prisoners in a cage/Growing old from hate/And not from age." Haggard delivers it tongue in cheek, then moves along to Whitey Shafer's *You Babe*, a song that insists a woman's affection is rewarding even when it falls short of the passion that propels a man through life. By album's end, though, Haggard admits, "I'm tired of pretending/And tired of defending/An option to smile or to frown/ . . . I don't have any love around."

The wonderful thing about all this is that while Haggard sings of depression, disconnection, and disillusionment, the listener also hears hope in his melodies and the promise of recovery in his lyrics. There is an inherent attitude here that things will get better and life will go on. For that reason, it is an album of tri-

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## BEST RECORDINGS OF THE MONTH

umph. And if it does not showcase the artist at the peak of his form, it still has considerable beauty, wit, and power. All in all, "Chill Factor" is a keeper—and, for long-time Haggard fans especially, it is also a reason to rejoice. *Alanna Nash*

**MERLE HAGGARD.** *Chill Factor.* Merle Haggard (vocals, guitar); the Strangers (instrumentals); Bonnie Owens (background vocals); other musicians. *Chill Factor; Twinkle, Twinkle Lucky Star; Man from Another Time; We Never Touch at All; You Babe; Thanking the Good Lord; After Dark; 1929; Thirty Again; I Don't Have Any Love Around; More Than This Old Heart Can Take.* EPIC FE 40986, © FET 40986, © EK 40986 (33 min).

### AN OPULENT, CONVINCING NEW "LOHENGRIN"

**O**F the many operatic recordings made by Sir Georg Solti, none seems to have enjoyed more caring attention in its preparation than his moving new *Lohengrin*. Without the driving intensity that sometimes distorted the balance of Solti's earlier recordings, the performance is infused with the flowing lyricism that characterizes his more recent ones. Musical climaxes are given their full sweep, and moments of introspection or tenderness are unfolded with sensitive attention. The recording itself is well balanced, clear, and sonically opulent.

If any Wagnerian role is suited to Plácido Domingo, perhaps our most versatile Italian opera tenor, it is *Lohengrin*, whose music encompasses both stentorian utterances (like those of *Otello*) and long lyric passages (similar, except in melodic construction, to those of *Don Carlo*). Rightly known for his musicality, Domingo captures Wagner's idiom and adds to it a real warmth.

As Elsa, Jessye Norman pares down her voice for the Dream aria and other quiet or introspective passages, saving the full impact of her organ-toned soprano for splendid moments of high drama or powerful musical climaxes. Not since Kirsten

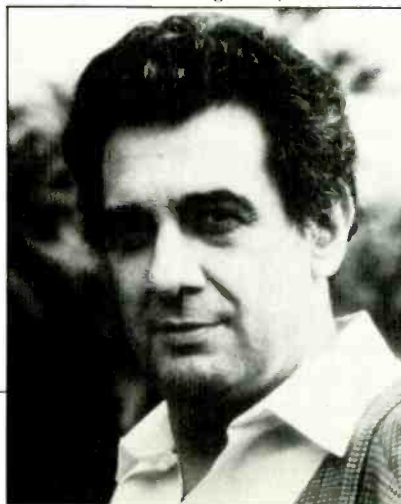
Flagstad have I heard an Elsa of such tonal opulence, not since Lotte Lehmann such an appealing musical characterization.

But every member of the cast is musically and dramatically convincing. You *feel* the evil in Eva Randová's Ortrud; her colloquies with Telramund and Elsa provide some of the strongest moments in the recording. If the sound of her voice is not invariably beautiful, her performance is always dramatically right. Siegmund Nimsgern's sharp attention to the text and rich baritone voice make for an effective Telramund, and Hans Sotin's noble King Henry is also commendable. The Herald of Dietrich Fischer-Dieskau, who brings meaning and depth to whatever he sings, completes a fine roster of soloists.

The Vienna State Opera Chorus sings with accuracy, verve, and tonal richness, and the Vienna Philharmonic performs as only this orchestra can in music that by tradition and long acquaintance it has made its own. But more than that: Solti, I am convinced, has approached this project with special dedication that has resulted in an unusually stirring performance. Enthusiastically recommended. *Robert Ackart*

**WAGNER: *Lohengrin.*** Plácido Domingo (tenor), *Lohengrin*; Jessye Norman (soprano), Elsa; Eva Randová (soprano), Ortrud; Siegmund Nimsgern (baritone), Telramund; Hans Sotin (bass), King Henry; Dietrich Fischer-Dieskau (baritone), Herald; others. Vienna State Opera Chorus; Vienna Philharmonic Orchestra, Georg Solti cond. LONDON 421 053-1 four LP's, © 421 053-4 four cassettes, © 421 053-2 four CD's (223 min).

*Plácido Domingo: versatile*



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#### POPULAR

- **JAMES BROWN:** *Soul Classics, Vol. 1.* POLYDOR 825 714-2. *Vol. 2.* 831 700-2. "Hot stuff" (January 1973).
- **FOOTSTOMPIN' OLDIES.** GARLAND GRZ 011 (mid-price). Sixteen tracks ranging from Chuck Berry's *Roll Over Beethoven* (1956) to Etta James's *Tell Mama* (1967).
- **ERROLL GARNER:** *Easy to Love.* EMARCY/VERVE 832 994-2. Eleven previously unreleased tracks recorded between 1961 and 1965.
- **JUDY HOLLIDAY & GERRY MULLIGAN:** *Holliday with Mulligan.* DRG CDSL-5191. Previously unreleased recordings, and their only ones together (1961).
- **BETTE MIDLER:** *The Divine Miss M.* ATLANTIC 7238-2 (mid-price). Her first (1972).
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#### CLASSICAL

- **BARTÓK:** *Concerto for Orchestra.* Boulez. CBS MYK 37259 (mid-price). "White-hot" (August 1973).
- **BEETHOVEN:** *Piano Concerto No. 5 ("Emperor").* Serkin, Bernstein. CBS MYK 37223 (mid-price). "Stirringly dramatic" (August 1966).
- **BRAHMS:** *Piano Concerto No. 2.* Serkin, Szell. CBS MYK 37258 (mid-price). "Surpassing clarity and sinewy strength" (December 1967).
- **DEBUSSY:** *La Mer; Prélude à l'après-midi d'un faune; Nuages; Fêtes; Printemps.* Munch. RCA 6719-2-RG (mid-price). Treasured recordings dating from 1956 and 1962.
- **POULENC:** *Dialogues of the Carmelites.* Duval, Gorr, Crespin; Dervaux. ANGEL CDCB-49332 (two CD's). The one and only commercial recording of this lovely work, made in 1958 shortly after its first performance in Paris.
- **STRAUSS:** *Four Last Songs. Die Frau ohne Schatten; Empress's Awakening Scene.* L. Price, Leinsdorf. *Thus Spake Zarathustra.* Reiner. RCA 6722-2-RG (mid-price). Songs: "Enhanced by warmth, passion, and even earthiness" (Best of Month, March 1975). *Zarathustra:* "A classic" (November 1981).

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*Discs and tapes reviewed by  
Chris Albertson, Phyl Garland,  
Alanna Nash, Mark Peel,  
Steve Simels*

**ALABAMA:** *Just Us.* Alabama (vocals, instrumentals); vocal and instrumental accompaniment. *Tar Top; I Can't Stop; I Saw the Time; You're My Explanation for Living; (I Wish It Could Always Be '55;* and four others. RCA 6495-1, © 6495-4, © 6495-2 (35 min).

Performance: *Coming of age*  
Recording: *Very good*

Judged on their own, without consideration for the hype or the obvious commercial success the band has enjoyed for the past eight years, the albums by the group Alabama have been a fairly pathetic lot. After its initial success, achieved in spite of amateurish performances and dismally lame lyric writing ("My Home's in Alabama"), the band began to look to outside writers, who provided a smoother, more sophisticated sound for singles like *Old Flame* and eventually the blue-collar themes for two best-selling albums ("40 Hour Week," "Roll On") as well as the more recent hit single *She and I*. As the albums took on a more professional polish, however, they also became unabashedly formulaic, with less of anything resembling a sense of direction or integral drive.

When it came time to record "Just Us," Alabama's latest release, the group apparently realized that it was time to prove its creative worth and return to the autobiographical themes and reflective moods that in part accounted for its rambunctious rise. The result is a surprisingly mature collection of songs, all of which were either written or co-written by members of the band. Guitarist Jeff Cook and bass player Teddy Gentry both continue to improve in the manipulation of mood and song structure, but as usual lead singer Randy Owen proves himself the major talent, contributing several passionate and evocative love songs (*Face to Face* and the jazzy *You're My Explanation for Living*). He also sets the tone of the album with the introspective *Tar Top*, which examines his personal evolution from uncertain college graduate to struggling musician to "one of the chosen few." While Owen is still not beyond writing the occasional

awkward passage (especially on *I Saw the Time*, a homespun plea for world unity and peace), he has grown enormously as both a lyricist and a crafter of melody and ambience.

As for how the group is faring in its instrumental growth, it's hard to say, since the jacket lists no musicians whatsoever, not even the mysterious female voice in *Face to Face*. In the years since word got out that bassist Gentry and drummer Mark Herndon rarely play on the band's studio recordings (when they are replaced by veteran session players), the group has taken great pains to beef up its stage performance. But no matter who's doing the actual instrumental work here, "Just Us" is a record Alabama can be proud of. It is also, from a non-fan's point of view, the band's most satisfying album to date. *A.N.*

**CHER.** Cher (vocals); vocal and instrumental accompaniment. *I Found Someone; We All Sleep Alone; Bang-Bang; Perfection; Dangerous Times; Working Girl;* and four others. GEFEN GHS 24164, © MSG 24164, © 24164-2 (39 min).

Performance: *Skin-deep*  
Recording: *Very good*

The premise was intriguing. Now that Cher has become a movie actress, dem-

onstrating considerable skill in the handling of expressive nuance and subtle emotion, would she perform better as a singer? Would she bring a more discerning, more tasteful ear to the selection of songs? Would she underplay her angst now that she understands that less is often more? Judging from "Cher," her first album in five years, the answer is a resounding, disappointing no. In fact, the record represents a regression to the days before *Gypsies, Tramps, and Thieves*, which was both a memorable song and an expressive, potent performance—a seesaw ride between itchy eroticism and threepenny opera. Here, though, Cher emotes past the point of embarrassment all the way up to disaster level, her vibrato having swollen to a caterwaul after intensive "retraining" with a vocal coach. There are some catchy tunes—*Perfection, Dangerous Times, Skin Deep, and Working Girl*—but they aren't real songs, only superficial fragments. With the right material, Cher probably *could* transpose some of the humanity and genuineness of her film performances onto a record. As it is, this one does nothing to alter her reputation as an exotic relic from another age, a professional personality created for the talk-show couch. And the fact that she dedicated the record to Sony doesn't help. *A.N.*



*Earth, Wind & Fire: bristling, assertive energy*

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JEFF KATZ/COLUMBIA RECORDS

**EARTH, WIND & FIRE:** *Touch the World*. Earth, Wind & Fire (vocals and instrumentals); other musicians. *System of Survival*; *Evil Roy*; *Thinking of You*; *You and I*; *Every Now and Then*; *Touch the World*; and four others. COLUMBIA FC 40596, © FCT 40596, © CK 40596 (43 min).

Performance: *Successful comeback*  
Recording: *Excellent*

Earth, Wind & Fire has bounced back with an album that pulsates with the sort of bristling, assertive energy that made its members the godfathers of progressive soul music more than a decade ago. The group's survival seemed threatened for a while, with Philip Bailey launching a solo career and leader Maurice White making a far from sensational solo album. But now Bailey is back in the fold, and White has apparently realized that he's better off composing, arranging, producing, and performing with his long-time colleagues.

In "Touch the World" Earth, Wind & Fire seems to have abandoned its mysticism of a few years back and has taken a more earthbound tack, focusing mostly on love of one sort or another. There's a bit of political commentary in the opener, *System of Survival*, which includes snatches of actual news broadcasts about the Iran-contra affair. I also like *Evil Roy* and *Victim of the Modern Heart*. And for that one unforgettably great song that graces every EW&F album, the candidate this time is *Thinking of You*, with its strutting rhythms, sassy horns, and spirited vocal interplay. In all, definitely a move in the right direction. *P.G.*

**FOREIGNER:** *Inside Information*. Foreigner (vocals and instrumentals). *Heart Turns to Stone*; *Can't Wait*; *Say You Will*; *I Don't Want to Live Without You*; *Counting Every Minute*; and five others. ATLANTIC 81808-1, © 81808-4, © 81808-2 (45 min).

Performance: *Good, but . . .*  
Recording: *Okay*

Good Foreigner albums and bad Foreigner albums have one thing in common: They both sound like auditions for soundtrack work. "Inside Information," a bad Foreigner album, is no exception. It's got the slick digital sound and bar-coded, shrink-wrapped, cable-ready arrangements that would add just the right poignancy to opening credits or to the afterglow that follows the machine-gunning of thirty extras from central casting. What makes a good Foreigner album is one straight-ahead, hot-blooded rock number. Unfortunately, "Inside Information" doesn't have one. I have no argument with the performance—it's a sizzling session—but it's



## K.-RATIONS

**T**ONIO K., each of whose preceding four albums I have, with some justification, referred to as "the greatest record ever made," is the kind of singer/songwriter I'd describe as corrosively sane. A moralist in a land of mewling neurotics, he looked at the world in such earlier songs as *H.A.T.R.E.D.* and found it wanting, with recorded results that suggested Jonathan Swift with a big beat.

In Tonio's latest and greatest waxing, "Notes from the Lost Civilization," the old anger and humor are intact, but they are tempered this time with a becoming vulnerability, and even optimism, leading me to suspect that the man has fallen in love, perhaps with the "girl who can laugh at the fact that nothing's funny" he described in an earlier song. In any case, the tone of some of the songs seems cautiously hopeful. *Stay*, for example (whose marimba-drenched arrangement might be an ironic comment on the Rolling Stones' misogynist classic *Under My Thumb*), finds Tonio singing, "This is not the golden age of kindness," but still making a convincing case for love over solipsism. And in the achingly beautiful *You Were There*, a ballad every bit as moving as Richard Thompson's generically similar *Dimming of the Day*, he even allows himself to dream of people "becoming what we were meant to be."

Elsewhere in the album, of course, there are more familiar K.-rations. *City Life* is a hilarious urban catalog of hor-

rors with a great metallic guitar riff and a neat reference to the B-movie classic *Attack of the 50-Foot Woman*. *What Women Want*, which might be derived, obliquely, from a riff in David Bowie's *Fame*, views the battle of the sexes in amusingly deadpan terms. And there are musical japes as well, like the cheesy Farfisa organ in the James Brownish *I Can't Stop* or the surf-guitar solo in *The Executioner's Song*, which Tonio himself describes as "retarded."

Still, it's the Tonio K. as Guarded Optimist stuff that hits the hardest. While in my heart of hearts I prefer the guy when he's righteously ticked off, howling in the wilderness, it's really nice to hear him happy for a change. I'm reminded of Swift again, on whose tombstone is the following inscription: "He has gone where fierce indignation can no longer lacerate his heart." Judging by "Notes from the Lost Civilization," Tonio's made it to a place in the same neighborhood—and he didn't have to die to get there. *Steve Simels*

**TONIO K.:** *Notes from the Lost Civilization*. Tonio K. (vocals, guitar); T-Bone Burnett (guitar); Jim Keltner (drums); Peter Case, Charlie Sexton, Billy Vera (backing vocals); other musicians. *Without Love*; *Children's Crusade*; *Stay*; *City Life*; *You Were There*; *The Executioner's Song*; *I Can't Stand It*; *What Women Want*; *I Can't Stop*; *Where Is That Place?* WHAT?/A&M SP-763, © CS-763, © CD-763 (44 min).





Billy Joel: the times they are a-changin'

wasted on what is, in effect, one mediocre love song played at ten different speeds. *M.P.*

**MERLE HAGGARD:** *Chill Factor* (see Best of the Month, page 82)

**MICHAEL JACKSON:** *The Original Soul of Michael Jackson*. Michael Jackson (vocals); the Jackson 5 (vocals and instrumentals); instrumental accompaniment. *Twenty-Five Miles; Dancing Machine; It's Too Late to Change the Time; Melodie; Ain't No Sunshine; Got to Be There*; and five others. MOTOWN 6250ML, © 6250MC.

Performance: *Precocious*  
Recording: *Satisfactory*

One of the most remarkable aspects of Michael Jackson's career is that as an adult he has managed to exceed the prodigious accomplishments of his childhood. I saw him perform with the Jackson 5 when he was practically a tot, and his precociousness was truly awesome. Not only did he anchor a singularly talented group, he filled every inch of a packed Madison Square Garden with his presence.

"The Original Soul of Michael Jackson" provides an interesting glimpse of those early years. Jackson recorded all these selections, both the solo ones and those with his brothers, before he had reached his teens; some date back to the

year of his recording debut at age nine. The album blurb, however, which states that it "includes music never before released," is a little misleading. This is at least the second time around for all but one item, the romping, pulsating opener, *Twenty-Five Miles*. Most of the other songs were hits at the time, including such super-sellers as *Rockin' Robin* and *Got to Be There*, but my favorite is Jackson's version of Jackie Wilson's *Doggin' Around*, a rhythm-and-blues classic. If Jackson could sing this lover's lament so convincingly at such a young age, you'd think he could do just about anything. And, of course, he has. *P.G.*

**THE JETS.** *Magic*. The Jets (vocals and instrumentals). *I Do You; The Only Dance; Believe It or Not. It's Magic; Make It Real; Sendin' All My Love*; and four others. MCA MCA-42085, © MCAC-42085, © MCAD-42085 (40 min).

Performance: *Appealing*  
Recording: *Very good*

The sound of the Jets is standard urban contemporary, but the group itself must rank as one of the most unusual around today. The seven members, aged fourteen to twenty-two, all belong to a family named Wolfgramm that emigrated from the Polynesian kingdom of Tonga to Salt Lake City in 1965. But there is

nothing of the South Seas in the Jets' repertoire. They've absorbed the sounds that captivate a large portion of American youth, and it is along these lines that they have fashioned their style. Though the music is derivative, the Jets bring a youthful vitality to it in this likable album, and the arrangements are quite sophisticated. Overall, a classy production. *P.G.*

**BILLY JOEL:** *In Concert*. Billy Joel (vocals, keyboards); other musicians: *Odoya; Angry Young Man; Honesty; Goodnight Saigon; Stiletto; Big Man on Mulberry Street; Baby Grand; Allentown*; and seven others. COLUMBIA ● CX2 40996 two LP's, © CTX 40996 one cassette, © CGK 40996 one CD (74 min).

Performance: *Just average*  
Recording: *Ditto*

This recording is, of course, the aural documentary of Billy Joel's much-publicized Russian tour, and in this post-summer, *glasnost* kind of era, one certainly wants to say positive things about it. Unfortunately, as concert albums (even all-digital concert albums) go, it's fairly tepid stuff. For whatever reason—restrained audience reaction, frustration with Soviet bureaucracy, the difficulty of finding a good burger in Moscow—Joel and his usually estimable band sound as if they're only going through the motions, reducing even a magnificent song like *Allentown* to a sort of faded Xerox of its original studio glory.

Things pep up a bit at the finale, with enthusiastic covers of the Beatles' *Back in the USSR* (a nice, if obvious, choice) and Dylan's *The Times They Are a-Changin'* (nice, and less obvious), but by then I was dozing off. The sound, too, is similarly unimpressive, not all that much better than an average off-the-board bootleg. Someday there may be a great live rock-and-roll album recorded behind the Iron Curtain, but this isn't it. *S.S.*

**LESS THAN ZERO.** Original-soundtrack recording. Aerosmith: *Rocking Pneumonia and the Boogie Woogie Flu*. Roy Orbison: *Life Fades Away*. Poison: *Rock and Roll All Nite*. L.L. Cool J: *Going Back to Cali*. Glen Danzig and the Power Fury Orchestra: *You & Me (Less Than Zero)*. And six others. DEF JAM/COLUMBIA SC 44042, © SCT 44042, © CK 44042 (41 min).

Performance: *Occasionally terrific*  
Recording: *Very good*

Brett Easton Ellis's novel *Less Than Zero* is a formulaic contemporary tour de sleaze, worthless as literature—although if it's accurate as sociology, if its decadent L.A. rich kids really do represent some kind of genuine teenage subculture, then it's scarier than anything Stephen King ever concocted. The film version jettisons the novel's leer-

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# Stereo Review





HENRIK RITTS/SIRE

Madonna: a real, live Disco Helen of Troy

ingly ambivalent attitude toward the characters' nonstop, joyless sex and drugs and rock-and-roll, opting instead for a cautionary Just Say No! anti-drug stance, which merely replaces one formula with another, but in the process offers Robert Downey, Jr., a chance to turn in a brilliant performance as a self-destructive teen hustler.

If you must see the movie, see it for Downey—or for the soundtrack, which is pretty good. Standout tracks: Aerosmith's surprisingly credible, Stones-ish version of the venerable New Orleans oldie *Rocking Pneumonia*; Slayer making heavy-metal hash of *In-a-Gadda-Da-Vida*, one of the most genuinely stupid artifacts of the so-called Classic Rock era; and the Bangles' firebreathing take on *A Hazy Shade of Winter*, an undeservedly obscure Simon and Garfunkel folk-rocker rendered with gorgeous harmonies and more raw power than anything the world's greatest all-girl rock band has heretofore unleashed. A fun album that's far better than the over-hyped fiction that made it necessary. S.S.

**MADONNA: *You Can Dance*.** Madonna (vocals); instrumental accompaniment. *Spotlight; Holiday; Everybody; Physical Attraction*; and three others. SIRE 25535-1, © 25535-4, © 25535-2 (53 min).

Performance: *Terpsichorean*  
Recording: *Excellent*

"You Can Dance" is a clever marketing idea that happens to work as a musical idea, too. The concept: Commission a

team of top club D.J.'s to produce new, extended remixes of Madonna's biggest dance hits. It's great marketing because it plays to Madonna's real strength—dance music, where her only real rival is Michael Jackson. Even better, Madonna doesn't even have to show up for work; the masters are in the vaults, ready to download.

Efficiency aside, "Dance" works as an album because the remixes are labors of love for the D.J.'s. They've tested every one of these songs on the dance floor, some for years. They know what works and what doesn't, where the hooks are and where the slow spots show up. In their enhanced incarnations, the beat is everything. A couple of tracks here—notably *Over and Over*, originally produced by Nile Rogers and remixed by Steven Thompson to include an electrifying new keyboard break by Jack Waldman—are huge improvements. Others, like *Into the Groove*, are just different—longer and loaded up with more gimmicks, more fully realized but not necessarily better. And some, like *Where's the Party* and *Holiday*, the latter remixed by its original producer, Jellybean Benitez, are better because they sound the way you remember these songs sounding, though, in fact, the rhythmic hooks and sound effects weren't as obvious in the originals.

Paradoxically, the dance theme of this release makes Madonna seem less like an inflatable MTV sex package and more like a real, live Disco Helen of Troy, one whose inspiring recording sessions have launched a thousand graphic equalizers. M.P.

**KATHY MATTEA: *Untasted Honey*.** Kathy Mattea (vocals); vocal and instrumental accompaniment. *Untold Stories; Eighteen Wheels and a Dozen Roses; Late in the Day; Goin' Gone; Like a Hurricane; As Long as I Have a Heart; Life as We Knew It; The Battle Hymn of Love*; and two others. MERCURY 832 793-1, © 832 793-4, © 832 793-2 (34 min).

Performance: *Solid*  
Recording: *Okay*

Kathy Mattea, a dark horse in Nashville's country-music race for some time now, has lately been proving herself a contender for the winner's circle. Her last record, "Walk the Way the Wind Blows," was a smart and thoroughly entertaining blend of contemporary and traditional themes and instrumentation, a direction this new one also pursues. Mattea and her producer, Allen Reynolds, the man who propelled Crystal Gayle to stardom, are particularly skilled at integrating the folk and bluegrass elements with which Mattea grew up in West Virginia, and they do it with integrity rather than grafting on a dobro here and there: In *The Battle Hymn of Love*, for example, the singer is joined by Tim O'Brien, of the bluegrass band Hot Rize, on harmony vocals. In the past, Mattea has demonstrated a knack for finding high-quality, offbeat songs—such as Nanci Griffith's *Love at the Five and Dime*—and sneaking them onto the commercial charts. Alas, there aren't any killer songs here, but Mattea's robust voice is especially fetching this time out, and she seems more focused

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## ZORN'S "SPILLANE"

**J**OHAN ZORN may be the first composer inspired by the remote control. His twenty-five minute composition *Spillane*, the centerpiece of his exhilarating and exasperating new record, jumps from idea to idea and sound effect to sound effect like a bored housewife with 120 cable channels. Zorn calls these ideas "events" (they can be as short as one or two seconds and are seldom longer than a minute), and he stores them on index cards, then organizes them in sequence before going into the studio.

*Spillane* begins with a piercing scream, then courses through a jazz arrangement of the theme from *Route 66*, a hard-bop vamp, barking dogs, Varèse-like lunar synth landscapes, breaking glass, wailing saxophone, pinched, nervous strings that sound as if they've been squeezed through some high-pressure polymer extruder, windshield wipers, the crowd at a boxing match, a loose-stringed Mojave guitar... and about a hundred other bits and pieces of music and sound. Over this dizzying succession of noise fragments, John Lurie (Lounge Lizards, *Stranger Than Paradise*) is the voice of Mickey Spillane's detective Mike Hammer, delivering lines (written by Arto Lindsay) like, "You kill ten guys, one of them is bound to come back. He doesn't know how dead he is."

Zorn's rather lengthy liner notes describe his compositional technique in some detail, but perhaps the most interesting aspect of his method is that he uses no tape edits. Instead, he rehearses his musicians for the section they're playing, runs through it, then goes on to the next twenty-second section. He thus

produces a seamless sequence of discrete sounds, but it's all still a little disorienting (perhaps the music's greatest charm). The closest thing to *Spillane* in my experience is Frank Zappa's "Weasels Ripped My Flesh" (high praise—"Weasels" is probably Zappa's most underrated album).

*Forbidden Fruit*, the ten-minute concluding work in the album, like *Spillane*, is incredibly fast-paced and fidgety. But while *Spillane* is scored for a small jazz combo, *Forbidden Fruit* is performed by the Kronos String Quartet accompanied by Christian Marclay, who sends turntable pickups skidding back and forth across recordings of string music. The result is what subatomic particles must sound like—crashing, furious shock waves of sound, plinking and sawing and grinding and, occasionally, exploding. Separating these two eccentric pieces is the more conventional *Two-Lane Highway*, an episodic blues jam.

All three pieces are largely improvised, all feature outstanding performers and performances, all are distinctive and fascinating, and none allow you to hold on to a single idea long enough to think about it. Highly recommended.

Mark Peel

**JOHN ZORN: *Spillane*.** John Zorn (saxophone, clarinet); Anthony Coleman, Wayne Horvitz (keyboards); Bobby Previte, Ronald Shannon Jackson (drums, percussion); Kronos Quartet; Bill Frisell, Albert Collins, Robert Quine (guitar); other musicians. *Spillane*; *Two-Lane Highway*; *Forbidden Fruit*. NONESUCH ● 79172-1 © 79172-4, © 79172-2 (54 min).

in general. If she keeps this up, Kathy Mattea will eventually be one of the Big Ones. A.N.

**DEIDRE MCCALLA: *With a Little Luck*.** Deidre McCalla (vocals); vocal and instrumental accompaniment. *All Day Always*; *The Cat Song*; *Mama's Little Baby Girl*; *With a Little Luck*; *Would You Like to Dance*; and four others. OLIVIA LF 953. © LC 953.

Performance: *Pleasing*  
Recording: *Good*

In "With a Little Luck," her second release, Deidre McCalla again demonstrates that so-called "women's music" can contain as many expressions of love and life as mainstream pop music. Unlike Holly Near, who fuses politics and intense driving lyrics with distinctive vocal styles, or labelmate Cris Williamson, who is as concerned with the environment and ecology as she is with the condition of being female, McCalla finds inspiration in everyday occurrences, the relationships between mothers and daughters, and, in the album's most memorable song, her ongoing battle with her lover's cat.

Although McCalla is black, she doesn't once approach the subject of the struggle of a black feminist, nor does she hint at any traditional black influences in her music; her style ranges from folk to boogie to contemporary ballad, with jazzy overtones. But producer Teresa Trull hasn't yet tapped McCalla's full range of talent, nor has she succeeded in getting McCalla really to let go in either her vocal performance or her writing. With tasteful, restrained backing and production, this record rolls along smoothly and without much risk of offense. But it also lacks the spark and tension that make women's music so powerful and which are both indispensable to alternative music in general. A.N.

**THE NEW ORLEANS RADIATORS: *Law of the Fish*.** The New Orleans Radiators (vocals and instrumentals). *This Wagon's Gonna Roll*; *Like Dreamers Do*; *Doctor Doctor*; *Oh Beautiful Loser*; *Suck the Head*; *Mood to Move*; *Sparkplug*; and five others. EPIC BFE 40888, © BET 40888, © EK 40888 (46 min).

Performance: *Flat*  
Recording: *Okay*

"Law of the Fish" is a frustrating record. The New Orleans Radiators not only had a tough time focusing their loose, Allman Brothers-go-Cajun sound in the studio, they also had a difficult time getting enough good songs. It's easy to slip in a *pro forma* ballad like *Beautiful Loser* or a ho-hum truck-drivin' tune like *This Wagon's Gonna Roll* before a beer break, but on an album these songs just lie down and die. To the band's credit, the doubled drums and blistering guitar in a track like *Mood to*

*Move* will jump-start your ticker, but the Radiators coast on what should have been the hottest tune, the incredibly raunchy *Suck the Head*. With a title like that, you've got to gun all eight cylinders. Instead, vocalist David Malone sounds almost embarrassed. *M.P.*

**SINÉAD O'CONNOR:** *The Lion and the Cobra* (see Best of the Month, page 81)

**RAY PARKER, JR.:** *After Dark*. Ray Parker, Jr. (vocals and instrumentals); vocal and instrumental accompaniment. *I Don't Think That Man Should Sleep Alone; Over You; Lovin' You; You Shoulda Kept a Spare; The Past*; and five others. GEFGEN GHS 24124, © M5G 24124, © 24124-2 (43 min).

Performance: *Refreshing*  
Recording: *Very good*

Although Ray Parker, Jr., has enjoyed tremendous popular success for several years, much of his recent output has been too glibly predictable and slickly commercial to be fully satisfactory. The good news is that in "After Dark" he has turned away from clichés to tap the deeper levels of his talent. He has also been given able assistance by such notables as Natalie Cole, who joins him for an affecting duet, *Over You*, written and produced by Burt Bacharach and Carole Bayer Sager. While Parker is an accomplished singer, his gifts as an instrumentalist are commonly overlooked, but they are dramatically demonstrated here in *After Midnight*, which is cast in so sweet and mellow a groove that it could well be the envy of George Benson or Earl Klugh. Now that Parker has shown us what he really has to offer, his future albums will be eagerly awaited. *P.G.*

**DOLLY PARTON:** *Rainbow*. Dolly Parton (vocals); vocal and instrumental accompaniment. *The River Unbroken; I Know You by Heart; Everyday Hero; Red Hot Screaming Love; Dump the Dude; Savin' It for You*; and four others. COLUMBIA FC 40968, © FCT 40968, © CK 40968 (36 min).

Performance: *Overwrought*  
Recording: *Same*

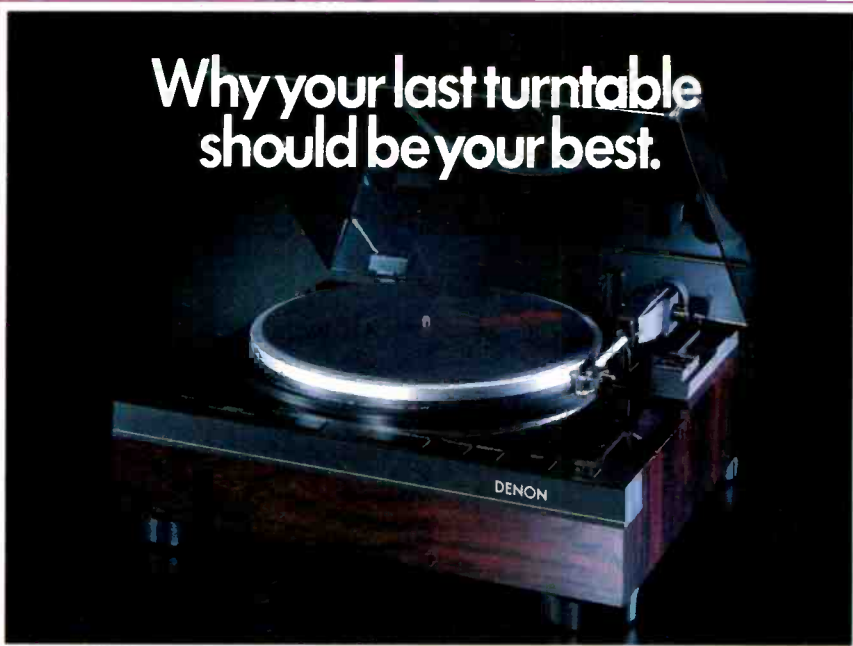
Have you seen Dolly's glitzy new TV show? Good, then you've heard this album. *A.N.*

**LINDA RONSTADT:** *Canciones de mi padre*. Linda Ronstadt (vocals); vocal and instrumental accompaniment. *Por un amor; Los laureles; Hay unos ojos; La cigarra; La charreada; Dos arbolitos; El sol que tú eres*; and six others. ASYLUM 60765-1, © 60765-4, © 60765-2 (40 min).

Performance: *Un poco loco*  
Recording: *Muy bueno*

When Linda Ronstadt and Danny Valdez appeared on the *Tonight Show* to plug this record, they stood on stage

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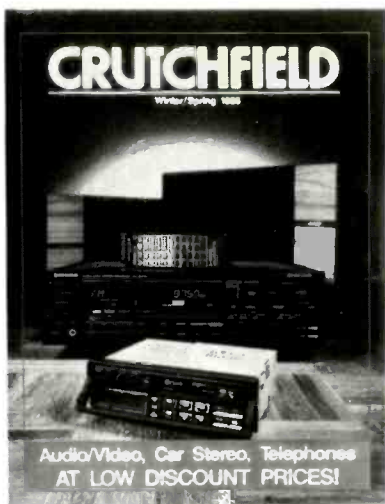
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# CRUTCHFIELD

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with a lone guitar and sang *El sol que tú eres* in a performance of almost unbearable beauty. Now comes the record itself, but I'm afraid it sounds more like the soundtrack to *Three Amigos* than that tantalizing sample would have led you to expect.

In making "*Canciones de mi padre*," Ronstadt hoped to pay tribute to her Mexican heritage and to spark interest in underappreciated mariachi. To that end, she sings *corridos* (story songs), *rancheras* (folk dances), and ballads as if there were no *mañana*, and she sings them in Spanish, supplying English translations on the sleeve. Now, Ronstadt has proved in the past that she can cross over genre lines, but even with Mexican genes to back her up it's a big jump from Nelson Riddle to bandleader Ruben Fuentes, who stuffs trumpets into mariachi bands like pimientos into olives. For the most part this album, with its dancing strings and cast of happy thousands, sounds like a goof, a joke of a party record containing some of the most cornball music in this repertoire. Some of the numbers are affecting—standards like *Los laureles* and *La cigarra*—but any way you look at it, this is a personal piece of work with limited appeal. *A.N.*

**CARLOS SANTANA:** *Blues for Salvador*. Carlos Santana (electric guitar); other musicians. *Bailando/Aquatic Park; Bella; I'm Gone; Trane; Deeper, Dig Deeper; Mingus*; and three others. COLUMBIA FC 40875, © FCT 40875, © CK 40875 (45 min).

Performance: *Masterly*  
Recording: *Excellent*

The multitude of sources from which Carlos Santana draws his inspiration are splendidly displayed in this album, with its masterly fusion of Spanish rhythms, rock textures, jazz improvisations, pensive Indian moods, and searingly intense blues statements. A true cross-cultural artist, Santana uses his lead guitar to pace a group of musicians who respond in a consistently evocative and imaginative fashion, though the credits on the jacket fail to detail their specific contributions.

While Santana's overall conception provides a unifying thread, each selection is a little musical adventure in its own right. Among the many highlights are the pulsating *Bailando/Aquatic Park*, which captures the urgent vitality of urban Hispanic life; *Hannibal*, with its sudden shift from straight-ahead salsa to a walking jazz riff; and the haunting finale, *Blues for Salvador*, where Santana's guitar speaks with real human eloquence. Its power and beauty bring tears to the eyes and a shiver to the heart. *P.G.*

**TIMOTHY B. SCHMIT:** *Timothy B.* Timothy B. Schmit (vocals, bass, cymbals); vocal and instrumental accompaniment. *Boys Night Out; Don't Give*

*Up; Hold Me in Your Heart; Into the Night; A Better Day Is Coming*; and four others. MCA ● MCA-42049, © MCAC-42049, © MCAD-42049 (43 min).

Performance: *Half and half*  
Recording: *Nice*

As part of the Eagles, singer/bassist/songwriter Timothy B. Schmit usually kept a modest profile, staying in the background, anchoring down the beat. When he did step out, writing and singing lead vocals in *I Can't Tell You Why*, he served as a tense but romantic balance to the group's hip, California gloss, proving himself far more than the requisite sideman. In his first MCA solo album, Schmit starts out with the Eagles-esque *Boys Night Out*, and for most of side one he stays in that groove, probing familiar themes—particularly the redemptive power of sex and love set against a frenzied urban backdrop. As he did in *I Can't Tell You Why*, he exposes a lot of ganglia here. *Hold Me in Your Heart*, for example, skirts the cloudy psychological realm of neurotic attachment and romantic sublimation of self.

Side two, with its emphasis on rhythm over mood, is less emotional, less self-involved, and less interesting, pointing up the limitations of Schmit's high, monochromatic vocal quality and the dangers of hanging an entire musical framework on guitars and synthesizers. Overall, when things work, they clamp you to your chair. When they don't, they don't. *A.N.*

**THE SCREAMING BLUE MESSIAHS:** *Bikini Red*. Bill Carter (vocals, guitar); Chris Thompson (bass); Kenny Harris (drums). *Sweet Water Pools; Bikini Red; Too Much Love; I Can Speak American; Big Brother Muscle; I Wanna Be a Flintstone*; and five others. ELEKTRA 60755-1, © 60755-4.

Performance: *Mannered*  
Recording: *Good*

"Bikini Red" is a letdown after the Screaming Blue Messiahs' promising U.S. debut, "Gun Shy." Bill Carter, the domed guitar guru, packs a tremendous wallop with his hybrid thrash/rockabilly style. But energy is no substitute for ideas, and his playing on "Bikini" is rapid but uninspired. Carter also clowns around a lot—this record has more gimmicks than "Radio Bloopers, Volume II," from the sound effects of *Sweet Water Pools* and altered vocals of *Bikini Red* to the bizarre wordplay of *I Wanna Be a Flintstone* and *Jesus Chrysler Drives a Dodge*. There are some searing numbers worth getting onto your next party tape, but by and large, this "Bikini" isn't worth a second look. *M.P.*

**STATLER BROTHERS:** *Maple Street Memories*. Statler Brothers (vocals); vocal and instrumental accompaniment. *Our Street/Tell Me Why; Maple Street*

*Mem'ries; Am I Crazy; The Best I Know How; I Lost My Heart to You;* and four others. MERCURY 832 404-1, © 832 404-4, © 832 404-2 (31 min.).

Performance: *Picture postcard*  
Recording: *Very good*

The Statler Brothers, who see themselves as Thornton Wilders of country music, have really outdone themselves this time. No longer content to *sing* about small-town America, they now feel compelled to act out whole vignettes of their idyllic "childhoods" on record, much in the style of the old radio dramas. Thus, we get one eight-minute reading about a long-ago Halloween, a senior prom gone wrong, the girl who broke my heart *and* my arm, etc., etc. It's enough to make Emily Webb look down on *Our Town* and say, "God, was it all really that drippy?" There are a few other things happening here—the requisite spiritual number, a couple of predictable love songs—but on the whole it's the same old nostalgic, lace-curtained trip. *A.N.*

**ANGELA WINBUSH: *Sharp.*** Angela Winbush (vocals and instrumentals). *Sharp; Sensual Lover; Run to Me; Imagination of the Heart; C'est toi (It's You); Angel;* and three others. MERCURY 832 733-1, © 832 733-4, © 832 733-2 (46 min).

Performance: *Commands attention*  
Recording: *Very good*

It's a good thing that Angela Winbush stepped away from her role as half of René and Angela, for her talents are far greater than her work in that duo ever revealed. She has mounted an impressive solo debut by writing, producing, arranging, singing, and playing *all* of the music in this album. It is, indeed, a formidable accomplishment. Though the album is divided into two parts, the first called "Steamin'" and the second "Quiet Storm," good taste, talent, and expressiveness prevail throughout. Winbush has a vocal presence that commands attention right from the first track, *Sharp*, in which she hits and holds a single note longer than you'd think possible. The standout later is *Hello Beloved*, a duet with Ronald Isley, the only other person involved in the production of this album. All told, this is superb popular music with plenty of soul. *P.G.*

**NEIL YOUNG AND CRAZY HORSE: *Life.*** Neil Young and Crazy Horse (vocals and instrumentals). *Mid-east Vacation; Long Walk Home; Around the World; Inca Queen; Too Lonely; Prisoners of Rock 'n' Roll;* and three others. GEFEN GHS-24154, © M5G-24154, © 24154-2 (40 min).

Performance: *Eccentric*  
Recording: *Very good*

Neil Young, who remains the only rock star ever sued by his own label for mak-

ing deliberately uncommercial records, returns here along with Crazy Horse, his down-home version of the Art of Noise, in an album that seems likely to provoke another lawsuit. At the very least, it demonstrates that Young writes songs the way some people smoke cigarettes—compulsively, one after another. The new wrinkle is a kind of self-conscious overreliance on synthesized gun shots as a percussion device, which is perhaps a comment on the prevalence of violence in our society, perhaps not.

Beyond that, a lot of familiar Neil Young themes are rehashed—including loneliness (nearly every song), pre-Columbian culture (*Inca Queen*), and unhappiness with how he's been treated by the music business (*Prisoners of Rock 'n' Roll*)—while the boys in the band continue to make the usual industrial-strength racket. All in all, it's a parched, unlovable little record. The most positive thing I can say is that you won't mistake it for the work of anybody else. *S.S.*

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Jazzman Art Farmer

## A TRIBUTE TO STRAYHORN

**E**LEGANCE, subtlety, and a haunting beauty are qualities that characterize the music of Billy Strayhorn, a composer and pianist whose works are so closely identified with those of his associate and frequent collaborator, Duke Ellington, that they are commonly referred to as "Ellingtonia." In the twenty years since Strayhorn's death, efforts to separate his works from those of his mentor have been rare, which is why the release of Art Farmer's new album, "Something to Live For—The Music of Billy Strayhorn," is an event in itself. And Farmer, who started out on trumpet and now plays flugelhorn exclusively, offers such peerless interpretations that the album becomes an absolute gem.

It would be difficult to conceive of a better match of composer and artist. Like Strayhorn, Farmer is a superb craftsman who has been understated in his public image for the forty years and more that he's been in the business. In his numerous recordings he has consistently exhibited impeccable taste, making musical statements that are direct but eloquent, lean but expressive—music that swings with the deceptive ease that's the mark of a master. His performances in this album rank with his best, and the other members of the quintet rise to the occasion. Clifford Jordan's tenor saxophone helps propel

the group and lends body to the ensemble sound provided by James Williams on piano, Marvin "Smitty" Smith on drums, and Rufus Reid on bass.

Four of the six numbers in "Something to Live For" have long been identified with Ellington—*Isfahan*, *Johnny Come Lately*, *Upper Manhattan Medical Group*, and *Raincheck*—but here their creator gets overdue credit in performances that equal their quality. There is also an exquisite reading of the title track, with its aura of sophisticated sadness, as well as the poignant *Bloodcount*, which Strayhorn wrote on his deathbed.

The album was produced by Helen Keane, who was a guiding force in the career of the late pianist Bill Evans. Under her aegis all the elements have come together in a recording of surpassing beauty. *Phyl Garland*

**ART FARMER: *Something to Live For—The Music of Billy Strayhorn*.** Art Farmer (flugelhorn); Clifford Jordan (tenor saxophone); James Williams (piano); Rufus Reid (bass); Marvin "Smitty" Smith (drums). *Isfahan; Bloodcount; Johnny Come Lately; Something to Live For; Upper Manhattan Medical Group; Raincheck; Daydream* (on CD only). CONTEMPORARY/FANTASY C-14029, © CC-14029, © CCD-14029-2 (42 min).

**KEVIN EUBANKS: *The Heat of Heat*.** Kevin Eubanks (vocals, guitar, synthesizer); Onaje Allan Gumbs, Patrice Rushen (keyboards); Ron Carter (bass); Don Alias, Gene Jackson (percussion). *First Things First; Nardis; Third Interior; Sojourn*; and four others (five others on CD). GRP ● GR-1041, © GRC-1041, © GRD-9552 (43 min).

Performance: *Good, but...*  
Recording: *Better*

If you want to hear a fine jazz guitarist trapped in a bland, pop-oriented album, listen to Kevin Eubanks's "The Heat of Heat," produced by George Benson, who does not play on it, and Onaje Allan Gumbs, who does. There are moments when Eubanks shows his considerable talent and technical skill, but most of the album has a numbing middle-of-the-road sameness. Bassist Ron Carter's presence here is puzzling; I would have thought this kind of trendy formula fare beneath him. Let's just say that Eubanks has yet to make an album worthy of his talent. *C.A.*

**ANDREW HILL: *Shades*.** Andrew Hill (piano); Clifford Jordan (tenor saxophone); Rufus Reid (bass); Ben Riley (drums). *Chilly Mac; Monk's Glimpse; Ball Square*; and three others. SOUL NOTE/POLYGRAM SPECIAL IMPORTS SN 1113, © SN 1113CD (43 min).

Performance: *Serious romping*  
Recording: *Very good*

Pianist Andrew Hill was born in Haiti and spent his formative years in the blues-rich environment of Chicago, so it is not surprising that he was pointed in the direction of rhythm-and-blues before making a natural transition to the avant-garde scene. "Shades," an album of his originals recorded in Italy in 1986, clearly shows Hill to be in the vanguard of bop-rooted modern jazz.

This is a quartet date with tenor saxophonist Clifford Jordan and one of the closest-knit rhythm teams around, bassist Rufus Reid and drummer Ben Riley. I have never heard Andrew Hill play so well. He has found the right combination of players to work with, and the rapport of the four musicians is stunning. Don't pass this one by. *C.A.*

**HERBIE MANN: *Jazil Brazz*.** Herbie Mann (flutes); other musicians. *Sonhos; Vitoriosa; Little Chick a Dee; Esquinas; Luas de pequim*; and two others. RBI RBIR 401, © RBIT 401, © RBIC 401 (50 min).

Performance: *Fluent*  
Recording: *Very good*

Herbie Mann has long been attracted to the Brazilian combination of exotic rhythms and haunting melodies, and

what jazz flutist wouldn't be? But then, he's always had an affinity for ethnic sounds, whether it was the music of North African Berbers, Jamaican reggae rhythms, or the esoteric expressions of Japanese traditionalists, and he has committed a great deal of it to vinyl over the years. "Jazil Brazz," which takes its name from Mann's current group, is a pleasant album featuring tunes by such popular writers as Djava, Vitor Martins, and Ivan Lins. It derives much of its strength from the guitar work of Romero Lubambo, but it certainly also cashes in on the leader's eclectic style. I hate the contrived name of this group, but I love its music. *C.A.*

**OUT OF THE BLUE:** *Live at Mt. Fuji.* Michael Philip Mossman (trumpets); Ralph Bowen, Kenny Garret (saxophones); Harry Pickens (piano); Kenny Davis (bass); Ralph Peterson (drums). *Blue Pearl; Parisian Thoroughfare; Nathan Jones;* and two others (four others on CD). BLUE NOTE ● BT-85141, © 4BT-85141, © CDP-46784 (51 min).

Performance: *Excellent*  
Recording: *Very good remote*

It is not often that a group of unknown young players gets together and succeeds in playing acoustic jazz of the

quality achieved by Out of the Blue. The Jazz Messengers have been doing it for many years, of course, but OTB has no well-known anchor like Art Blakey to give it credibility. OTB makes it solely on musical merits, and "Live at Mt. Fuji," the group's third Blue Note album, is a wonderful demonstration of those merits.

Recorded at a 1986 jazz festival that was produced and broadcast by Nippon Television, this album was made during OTB's first visit to Japan. Judging by the audience reaction, it won't be their last. Playing with a high degree of musical maturity and youthful vigor, the group pays tribute to Bud Powell on two tracks (four on CD) and devotes the remaining tracks to extended performances of original selections that previously appeared in its two studio albums. If "Live at Mt. Fuji" has an occasional rough edge, it compensates by capturing this fine group of jazz players, which has the potential to become a source of fresh solo talent, in absolutely top form. *C.A.*

**THE DON PULLEN-GEORGE ADAMS QUARTET:** *Song Everlasting.* George Adams (tenor saxophone); Don Pullen (piano); Cameron Brown (bass); Dannie Richmond (drums). *Sun*

*Watchers; Warm Up; Serenade for Sarah;* and two others (three others on CD). BLUE NOTE ● BLJ 46907, © B4J 46907, © CDP 46907 (49 min).

Performance: *High-caliber*  
Recording: *Excellent*

The Don Pullen-George Adams team is a branch of the Charles Mingus tree that blossomed in the Seventies, but it has so firmly planted its own roots since then one tends to forget that early association with one of the true giants. The quartet will celebrate its tenth anniversary next year, but its longevity, sustained energy, and freshness is something that any lover of skillfully executed, imaginative modern jazz should already be celebrating. Its second album for Blue Note, "Song Everlasting," is in itself a celebration of jazz, a glorious rhythmic trek through shifting moods, reflections on the past, and affirmations of the present. Typically, it draws much power from the rapport that has grown between these men over the years, and it is as spirited as anything you have ever heard. The compositions are all by Adams or Pullen, and each performance is full of glorious musical surprises. The CD version contains an extra number appropriately titled *Another Reason to Celebrate*. *C.A.*

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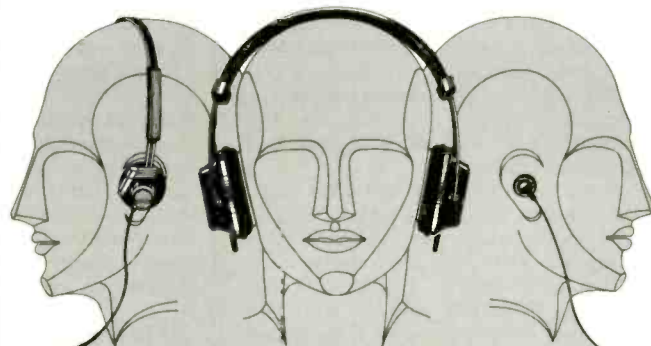
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STEREO REVIEW APRIL 1988 97



*Discs and tapes reviewed by Robert Ackart, Richard Freed, David Hall, Stoddard Lincoln*

**BEETHOVEN: *Symphony No. 9, in D Minor, Op. 125 ("Choral")***. Jessye Norman (soprano); Reinhild Runkel (contralto); Robert Schunk (tenor); Hans Sotin (bass); Chicago Symphony Chorus and Orchestra, Georg Solti cond. LONDON ● 417 800-1, © 417 800-4, 417 800-2 (75 min).

Performance: *Monumental*  
Recording: *Imposing*

The description of Georg Solti's new recording of the Beethoven Ninth Symphony as "monumental" applies primarily to the conductor's approach to the first and third movements, in which the tempos strike me as more appropriate to Bruckner than to Beethoven. The scherzo and finale are fully up to speed, however, and are quite impressive both sonically and interpretively.

The balance between the Chicago Symphony Chorus and the orchestra in the *Ode to Joy* finale is especially satisfying, so that, for instance, you feel surrounded by the full choral-orchestral panoply in the big fugato episode and in the final reprise of "*Freude, schöner Götterfunken*." The spacing between the men's and women's voices in the "*Seid umschlungen*" episode that follows is also very effective.

Solti has a well-matched team of vocal soloists. Notable among them are Hans Sotin, whose bass resounds splendidly and with exemplary clarity in the initial "*O Freunde*," and tenor Robert Schunk, whose solo passages have both a warmly passionate and a ringing quality. Indeed, all the performers do themselves proud, and the recording, made in Chicago's Medinah Temple, is an exceptionally fine one. *D.H.*

**BRAHMS: *Piano Quintet in F Minor, Op. 34***. Barry Douglas (piano); Tokyo String Quartet. ***Ballade in B Major, Op. 10, No. 4; Capriccio in G Minor, Intermezzo in E Major, Capriccio in D Minor, Op. 116, Nos. 3, 4, and 7***. Barry Douglas (piano). RCA ● 6673-1, © 6673-4, © 6673-2 (61 min).

Performance: *Good pianism*  
Recording: *Good*

The F Minor Piano Quintet, the most substantial of Brahms's early chamber

works with piano, contains within its four movements wide-ranging expressive contrasts, from imposing ruggedness to a kind of melting lyricism worthy of Schubert. It requires not only a pianist of top caliber but an ensemble that can deal with the music as one collective mind. Despite occasional elements of Teutonic rigidity, I find that the Rudolf Serkin/Budapest Quartet recording done at the Marlboro Festival in the middle Sixties has just this ensemble quality, whereas RCA's new recording with Tchaikovsky Competition winner Barry Douglas and the Tokyo String Quartet is a near miss.

Douglas's pianistic style, as is eloquently demonstrated in the solo piano works that fill out the recording, is broadly expressive, while the Tokyo Quartet tends toward the taut and refined. The Piano Quintet's lovely slow movement and tempestuous scherzo come off best, with more unanimity of interpretive purpose than in the outer movements. The extended opening movement is particularly unsettling in this regard. The finale, however, following its enigmatic slow introduction, does get a fiery treatment. The recording, made in New York City in RCA's Studio A, is clean and full-bodied throughout.

The four sharply contrasting solo piano works are a fine bonus. In them Douglas displays by turns the strength, expressive tenderness, and nervous tension that make for a fine Brahms interpreter. These performances were recorded at Watford Town Hall in England, and the sound is altogether lovely, just a shade richer in tone than that emanating from New York. *D.H.*

**DELIUS: *Songs of Sunset; Dance Rhapsody No. 2; Fennimore and Gerda, Intermezzo; An Arabesque***. Sarah Walk-

er (mezzo-soprano); Thomas Allen (baritone); Ambrosian Singers; Royal Philharmonic Orchestra, Eric Fenby cond. UNICORN-KANCHANA/HARMONIA MUNDI USA © DKP(CD)9063 (65 min).

Performance: *Beautiful*  
Recording: *Superb*

Three of the works in this splendid new recording are also included in Angel's indispensable two-CD set of all the Delius that was recorded in stereo by the Royal Philharmonic in its glory days under Sir Thomas Beecham. Delians, however, will be drawn to it for the one item *not* in the Angel set, *An Arabesque*, and anyone who hears these performances under Eric Fenby is likely to feel that the Unicorn-Kanchana disc is no less indispensable. Fenby, of course, can claim a special authority in this repertoire, based on a closer and longer involvement with Delius and his music than anyone else, and these latest recordings, made at the end of 1986, some eight months after his eightieth birthday, are quite the finest he has given us in the seven or eight years he has been recording as a conductor.

Fenby's tempos are a little more expansive than Beecham's, but there is no hint of overindulgence, nor is there ever a slackening of momentum. His handling of the Intermezzo from *Fennimore and Gerda* and the marvelous Dance Rhapsody No. 2 may be (dare one say it?) even more caressingly beautiful than Sir Thomas's. The gorgeous recorded sound may have something to do with it, but some sort of magic must have taken place in Fenby's sessions. It is as if every player in the RPO had been somehow made aware of a unique and probably final opportunity to realize the Delian essence through a direct link with the composer. The result, on this disc, is some of the most heart-touchingly beautiful playing we are likely to hear from any orchestra in any repertoire.

It is in the cycle *Songs of Sunset* that one finds the most striking difference between Fenby's approach and Beecham's. Fenby tells us in his note that Delius wanted the opening chorus "taken at a very relaxed tempo, as befits the ending of the day," and in giving it a little more time to breathe (his timing is about four minutes, against Beecham's three) he achieves an altogether more delicate texture while maintaining a fine natural flow. The vocal soloists, Sarah Walker and Thomas Allen, more than hold their own, I think, against Beecham's Maureen Forrester and John Cameron, and Fenby's CD has the further advantage of having separate tracks for quick access to the eight sections of the work. Allen is heard again in *An Arabesque*, and the piece has never been



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so well served, even in Beecham's short-lived monophonic recording of the early Fifties.

Everything about this release is superb—the orchestral playing, the choral singing, the balance of those elements in the sumptuous sonics, and the annotation, in which the respective works are covered alternately by Fenby and the recording's producer, Christopher Palmer. This is the sort of thing that should not only make fervid Delians very happy but also effectively increase their number. *R.F.*

**DURUFLÉ: *Organ Music (complete)*.** Todd Wilson (organ). DELOS © D/CD 3047 (69 min).

Performance: *Stunning*  
Recording: *Superb*

It is rare that an organist is the producer of an organ record, but such is the case here with George Baker. Originally, Baker himself was to play the complete organ works of Maurice Duruflé, but he abandoned the project when he suddenly shifted his career from music to medicine. Fortunately, he had had the opportunity to discuss the "ideal" organ for this music with Duruflé shortly before the composer's death in 1986. Baker chose the Schudi Organ at St. Thomas Aquinas church in Dallas, Texas, for this recording. The performance, by Todd Wilson, also fulfills Baker's ideal, and the recorded sound, which covers a tremendous dynamic range, is superb. *S.L.*

**ELGAR: *Enigma Variations, Op. 36; Pomp and Circumstance Marches Nos. 1-5, Op. 39.*** Royal Philharmonic Orchestra, André Previn cond. PHILIPS ● 416 813-1, © 416 813-4, © 416 813-2 (53 min).

Performance: *Soaring*  
Recording: *Splendid*

Although the first *Pomp and Circumstance* march is justly celebrated for the vigor of its opening section and the patriotic ring of its second theme, the remaining four, written between 1901 and 1930, languish in oblivion. While No. 4 attempts the same breadth as No. 1, it never quite equals its exaltation, and the others are altogether more folk-like in character. Hearing all five together is rewarding in the way it shows Elgar's gung-ho spirit in a fascinating variety of lights.

The *Enigma Variations* are, of course, well known. These delightful portraits of the composer's friends come off superbly in André Previn's new recording of them. Previn is at his best in this sort of music, and he draws an opulent sound from the Royal Philharmonic, bringing out every detail of Elgar's high-flown orchestrations. *S.L.*



## CONCERTOS FOR ISAAC STERN

**I**N 1985 Isaac Stern gave the première, with Lorin Maazel and the Orchestre National de France, of the violin concerto composed for him by Henri Dutilleux. In the following year, with André Previn and the Royal Philharmonic, he introduced the concerto composed for him by Sir Peter Maxwell Davies. CBS recorded both works with the original performers shortly after their respective premières and has now issued them together. Both concertos are intriguing, meaty works suggesting fantasies of one sort or another, as is implicit in the title Dutilleux affixed to his concerto, *L'Arbre des songes* (*The Tree of Dreams*), and more or less explicit in what Maxwell Davies has to say about his. As one would expect from these composers, both works are also as much for the orchestra as for the violin, exploiting the colors and moods of both elements.

The Dutilleux concerto is in four brief movements linked together by interludes in which the violin is either at rest or less prominent than in the movements proper. There are no big, memorable tunes, but the coloring is remarkably rich and inventive. In the slow movement there is a duet for the violin and oboe d'amore, and here and there are little "interventions," as Dutilleux calls them, by the cimbalom. The celesta, vibraphone, antique cymbals, small chimes, and other small percussion instruments also contribute to the coloring, evoking a fantasy world.

While the Dutilleux concerto, for all its seven sections, is very concise (it runs about twenty-four minutes), Maxwell Davies's concerto has the custom-

ary three movements and is conspicuously more expansive in mood. It, too, is played without pause, and Maxwell Davies identifies this feature as one of several connections between his concerto and the famous one in E Minor by Mendelssohn. He notes further that the nature of his concerto was affected not only by thoughts of the violinist for whom he wrote it but by the site of the première—the twelfth-century Cathedral of St. Magnus in the Orkney Islands off Scotland, where his own St. Magnus Festival is held each year. He describes the music as being "pervaded by sounds of sea and sea-birds."

Isaac Stern is at the top of his form in both performances, as are the two orchestras and conductors and the CBS production team. The sound is vivid and transparent enough to focus all the listener's attention just where it ought to be, on the music itself. If the names of Dutilleux and Maxwell Davies have not been exactly "household words" for the American listening public, this provocatively beautiful recording could go a long way toward changing that situation. Everyone who had a part in it deserves congratulations, but especially Stern, of course, for having brought these very substantial and fascinating works into being. *Richard Freed*

**DUTILLEUX: *L'Arbre des songes*.** Isaac Stern (violin); Orchestre National de France, Lorin Maazel cond. **MAXWELL DAVIES: *Violin Concerto*.** Isaac Stern (violin); Royal Philharmonic Orchestra, André Previn cond. CBS ● M 42449, © MT 42449, © MK 42449 (56 min).





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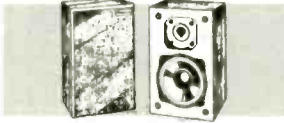
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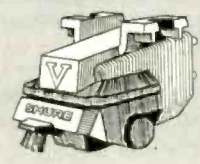


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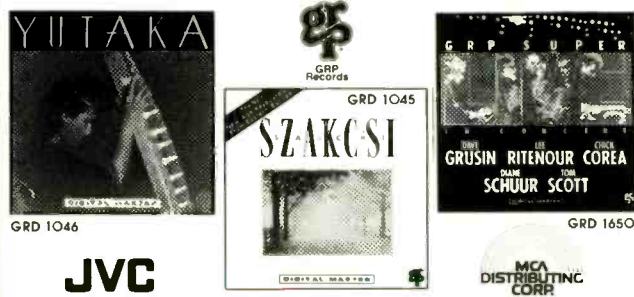


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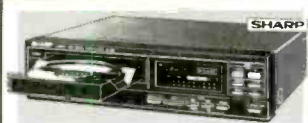
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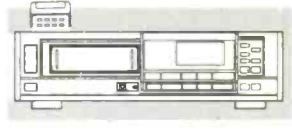
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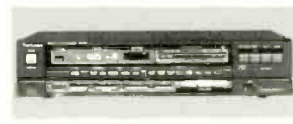
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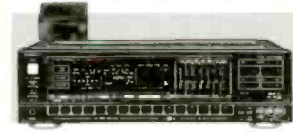
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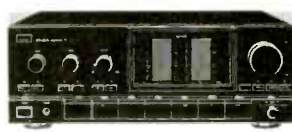
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Kathleen Battle: brilliant coloratura in Handel

**GIORDANO: *Andrea Chenier*.** José Carreras (tenor), Chenier; Eva Marton (soprano), Maddalena; Giorgio Zancanaro (baritone), Gerard; Tamara Takács (mezzo-soprano), Contessa di Coigny; Franco Federici (bass), Roucher; Klára Takács (mezzo-soprano), Bersi; József Gregor (baritone), Mathieu; Eva Farkas (mezzo-soprano), Madelon; others. Hungarian State Radio and Television Chorus; Hungarian State Orchestra, Giuseppe Patané cond. CBS ● M2 42369 two LP's; © M2T 42369 two cassettes; © M2K 42369 two CD's (113 min).

Performance: *Theatrical*  
Recording: *Vibrant, clear*

Describing a performance as "theatrical" might be to disparage it, but not in the case of Giordano's one truly successful opera. *Andrea Chenier* is quintessentially musical theater. Chenier's arias, Maddalena's "*La mamma morta*," Gerard's "*Nemico della patria*,"

and particularly Madelon's "*Son la vecchia Madelon*"—to my mind the most moving piece in the score—make musical as well as dramatic statements. And Giordano's highly colorful, evocative scoring contributes directly to the theatricality of the opera.

This new CBS recording offers a good deal of excitement, thanks to the enthusiasm of the effective cast and the rapt conducting of Giuseppe Patané. Of the singers, only two are disappointing: Tamara Takács and Klára Takács, as the Countess and Bersi, respectively, display voices that are rough and rather piercing. Eva Farkas delivers Madelon's aria affectingly, if without the moving sorrow of Christa Ludwig's intense performance in the recording of *Chenier* conducted by Chailly on London, and José Carreras brings ardent sincerity to the title role. In lyrical passages, he sings with an ease and tonal purity that have recently eluded him.

As Maddalena, Eva Marton sings

with more feeling for character than we have sometimes heard from her: In her long solo and her duets with Chenier she adds a measure of real conviction to her usual expert and intense vocalism. Giorgio Zancanaro's Gerard, on the other hand, is less high-powered. Like Tito Gobbi, he makes of Gerard a somewhat introspective character; if he is driven by physical passion for Maddalena, Zancanaro's Gerard is also a man searching for his own identity against the background of revolution. It's an interesting and rewarding approach to the character.

Under Giuseppe Patané, the choruses and the Hungarian State Orchestra sing and play with fervor and accuracy, and the performance as a whole is well paced. Compared with Chailly's *Chenier*, this one seems less driven and more considered, although, since we're dealing with melodrama here, that driven quality may be just what some listeners are looking for. I prefer Patané's approach, however. R.A.

**HANDEL: *Messiah*.** Kathleen Battle (soprano); Florence Quivar (mezzo-soprano); John Aler (tenor); Samuel Ramey (bass); Toronto Mendelssohn Choir; Toronto Symphony Orchestra, Andrew Davis cond. ANGEL © CDCB-49027 two CD's (146 min).

Performance: *Inspiring*  
Recording: *Awesome*

Handel's *Messiah* was an instant success at its first performance, in 1742, and it has been in the repertoire constantly ever since. But there are many versions, several by Handel himself and others produced in later years by Mozart, Ebenezer Prout, and Eugene Goossens, to mention only a few. In all of these later versions the goal was to augment the original sonorities with additional instrumentation and to enlarge the chorus to gargantuan size. In recent years, however, the early-music movement, aiming to re-create historically authentic performance practices on original instruments, has restored Handel's first orchestration, reduced the number of performers in the chorus and orchestra, and reassigned arias to different voice types. This return to the past has shed new light on Handel's masterpiece, but a lot has been lost. Audiences of today, especially those who have heard the work over a number of years, are sometimes simply confused, at times frustrated when countertenors take contralto parts, sopranos sing bass arias, and the "Hallelujah" Chorus is done as chamber music.

Andrew Davis has taken the bull by the horns and recorded a version that at once fulfills the average listener's expectations and pays tribute to history. Brought up amidst the splendors of the English choral tradition, Davis opts for massed forces in the choral sections but preserves the articulation and clarity of the Baroque style. In the arias, he cuts

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**MAHLER: *Symphony No. 1, in D Major*.** Israel Philharmonic Orchestra, Zubin Mehta cond. ANGEL © CDC-49044 (63 min).

Performance: *Smooth*  
Recording: *Handsome*

Unlike Zubin Mehta's two earlier recordings of the Mahler First, this new

the work that its inclusion seems a trivializing interruption. Moreover, if we are going to have a Mahler First with "*Blumine*" in it, then we ought to have the authentic 1893 version; like most of the other conductors who have recorded a five-movement First, Mehta simply gives us the final version with "*Blumine*" inserted between the first and second movements.

In any event, Mehta has always been a sympathetic Mahler conductor, and he gives a solid account of the First here. The performance overall is very smooth and very handsomely recorded, though it lacks some of the drive of Mehta's earlier New York Philharmonic recording of the four-movement version. R.F.

**MILHAUD: *Le pauvre matelot*.** Christian Papis (baritone), the Sailor; Catherine Dubosc (soprano), his Wife; Jean-Francois Gardeil (baritone), his Friend; Jacques Bona (bass), his Father-in-Law. Ensemble de Soloistes de l'Opéra, Jonathan Darlington cond. *String Trio*. Trio Albert Roussel. CYBELIA/QUALITON IMPORTS © CY 810 (46 min).

Performance: *Engaging*  
Recording: *Satisfactory*

In *Le pauvre matelot* (*The Poor Sailor*), a darkly ironic libretto by Jean Cocteau—concerning the constancy of a sailor's wife separated from her wandering husband and her subsequent murder of him, whom she does not recognize, in order to share with her spouse riches brought by the unknown "visitor"—is set in a light musical style typical of Milhaud. The score is folkishly bouncy and melodious despite the grisly goings-on. The performance is well paced by the conductor, and the cast's French diction is excellent, though the recording itself, a television soundtrack, is occasionally a bit muddy. The piece is of interest in any case as the collaboration of two leaders of French intellectual life during the years between the two World Wars. The balance of the CD is devoted to Milhaud's *Trio à Cordes* (*String Trio*), a witty and ingratiating chamber piece engagingly performed by the Trio Albert Roussel. R.A.

**NIELSEN: *Violin Concerto, Op. 33; Symphony No. 5, Op. 50*.** Dong-Suk Kang (violin); Gothenburg Symphony Orchestra, Myung-Whun Chung cond. BIS/QUALITON IMPORTS © CD-370 (68 min).

Performance: *High-voltage*  
Recording: *Very good*

Early in his career Danish symphonist Carl Nielsen earned his bread and butter playing in the violin section of the Royal Orchestra. So it is not entirely surprising that following completion of his Third Symphony, the *Sinfonia espansiva*, in 1911 he should have tackled a violin concerto. Unlike the one composed six years earlier by Jean Sibelius,



Zubin Mehta: sympathetic Mahler

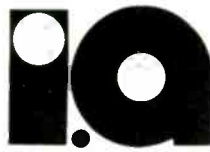
this recording is the vocal quartet. Handel traveled extensively to bring the finest singers to London. For him, there was no difference between an oratorio singer and an opera singer—he or she simply had to be the best. When he could not get the finest voices, the singers had to make up for it in projection and expressiveness. Davis's four soloists are all topnotch opera singers. Kathleen Battle is brilliant in her coloratura and seraphic in her lyric arias, Florence Quivar is rich and moving in her deep-throated music, John Aler is an elegant tenor with a clear, flexible voice and a superb sense of ornamentation, and Samuel Ramey is thrilling in his bellicose moments. Although they all sing with a sense of the appropriate style, it's the quality of vocalism that delights us, and that is the way it should be. First things first!

Obviously, this is a *Messiah* to add to your collection, and it is also one that

one offers the work in the original five-movement form, actually designated a "symphonic poem in the form of a symphony," that Mahler himself conducted for the last time at Weimar in 1894. He had removed the "*Blumine*" movement, which originally stood between what are now the work's first and second movements, and then reinstated it in 1893. In his final version he removed it again, and after that he neither made any further use of the deleted movement nor even referred to it. When the music turned up again, more than a half-century after Mahler's death, Benjamin Britten, who admired Mahler profoundly and reflected his influence in several of his own works, conducted the piece at the Aldeburgh Festival—very pointedly *not* as part of the symphony but on its own. While it does contain thematic material related to a phrase in the symphony's finale, the piece is so slight in relation to the rest of



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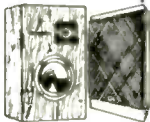
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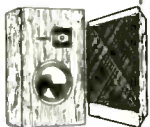
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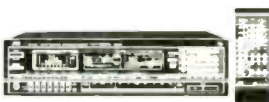
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Nielsen's concerto is neither overtly virtuosic nor nationalist in tone. The scale of discourse is almost Brahmsian, but the thematic material is not quite up to what Nielsen had attained in the preceding symphony.

The two halves of the Violin Concerto's first movement are a brilliantly improvisatory *Praeludium* and a virile *Allegro cavalleresco*. Then comes a bittersweet slow movement, more chromatic than usual with Nielsen, which leads into a half-whimsical rondo finale reminiscent of Beethoven's *Emperor* Concerto. The writing for the violin is brilliantly effective, but you're left with the feeling that Nielsen was not sure whether he wanted to create a Brahmsian epic or a pleasing virtuoso vehicle à la Bruch or Sibelius. Nevertheless, a strong conductorial hand together with a strong-toned, rhythmically gutsy soloist can make the concerto a viable, even exciting, listening experience. That is just what happens in this performance by two brilliant Korean-born artists. Dong-Suk Kang's violin tone may not be meltingly lovely, but it does have the fire and guts to make this music go. Myung-Whun Chung, whose conducting tends to be aggressively virile, provides just the right backing.

While the concerto recording may be said to supersede all the previous versions, Chung's reading of the two-movement Fifth Symphony, generally regarded as Nielsen's masterpiece, scores a very near miss. He is just a bit too hasty with the first movement's pastoral aspects, though in the mighty climax that resolves the movement's conflict between the full forces of the orchestra and the snare-drum player—who is requested by the composer at one point to improvise "as if at all costs he wants to stop the progress of the orchestra"—Chung and the Gothenburgers eclipse all competition. It is a thrilling moment, and the orchestra's solo clarinet also does himself proud both in the developmental episodes and in the epilogue to the first movement.

The second movement is a life-asserting essay in dynamic polyphony with two major fugato episodes, one satanic, the other lyrical. I have never heard a better realization of this gorgeously scored movement, and the recorded sound is simply superb. I am not about to give up my LP's of the Bernstein or Horenstein readings of the Fifth, but certainly this first issue on CD is an outstanding one. And at nearly seventy minutes, it's also a good buy. *D.H.*

**RACHMANINOFF: Trio élégiaque No. 1, in G Minor; Trio élégiaque No. 2, in D Minor, Op. 9.** Beaux Arts Trio. PHILIPS 420 175-1, © 420 175-4, © 420 175-2 (60 min).

Performance: *Eloquent*  
Recording: *First-rate*

From a composer who managed to incorporate the tune of the *Dies irae*

into virtually every major work, it is perhaps not surprising to find the label "élégiaque" on the music he produced for piano trio. What may be more surprising, given that labeling, is how subtly the motif is used. Indeed, what the listener notices in the very early G Minor, a one-movement piece whose only overtly funereal section (*Alla marcia funebre*) comes in only at the last of its fifteen minutes, is its echoes of Schubert in the piano writing and pre-echoes of Rachmaninoff's big Second Piano Concerto here and there. These elements are apparent, too, if somewhat less conspicuously, in the fully formed Op. 9, an expansive work composed by the twenty-year-old Rachmaninoff under the immediate impact of the death of Tchaikovsky, with an especially intriguing variation movement as its centerpiece.

If we're talking about surprises, though, perhaps the real one is the circumstance of having these trios represented twice on CD: This recording by the Beaux Arts Trio was preceded by a Chandos disc containing the same two works played by the Borodin Trio. Both performances are eloquently persuasive, in their different ways, and both companies have come through with first-rate recordings. I would characterize the Borodin performances as more overtly dramatic, while the Beaux Arts players tend to let the emotional content take care of itself and explore the opportunities Rachmaninoff provided for variety in tonal coloring and for sheer songfulness. That is an oversimplification, of course: The Beaux Arts Trio is by no means lacking in intensity or unresponsive to the emotional demands of this music, and the Borodin is never excessive or heavy-handed in that respect. The Borodin's approach certainly has more impact, but the Beaux Arts' is the sort that wears extremely well. It's a no-lose situation, and the music is very much worth getting to know. *R.F.*

**RACHMANINOFF: Vespers, Op. 37.** Maureen Forrester (contralto); Gene Tucker (tenor); Choral Arts Society of Washington, Mstislav Rostropovich cond. ERATO © MCE 75319, © ECD 75319 (57 min).

Performance: *Intense*  
Recording: *Vibrant*

As part of the movement begun in the late nineteenth century to rid Russian liturgical music of Western influences and return it to its national melodic and harmonic roots, Rachmaninoff contributed two sets of vespers, *The Liturgy of St. John Chrysostom* (1910) and the *Vespers, Op. 39* (1915). It is in the latter that he achieved a perfect synthesis of Orthodox chant and rich choral techniques, creating an awesome monument of the Russian church. Recorded in the National Cathedral, Washington, D.C., the music comes across powerful-

ly under the direction of Mstislav Rostropovich, and the performance by the Choral Arts Society's mixed, unaccompanied voices, used to the fullest in various combinations and massed effects, creates a joyous sonority. Unfortunately, Erato has not seen fit to include the Russian text, only the titles of the fifteen movements, given in French and English. Such stinginess is certainly unwarranted. *S.L.*

**RAVEL: *Alcyone; Alyssa.*** Mariana Nicolesco (soprano); Nadine Denize (mezzo-soprano); Hein Meens (tenor); Wolfgang Glashof (baritone); Bamberg Symphony Orchestra, Hubert Soudant cond. RIZZOLI LP-2005, MC-2005, CD-2005 (57 min).

Performance: *Elegant*  
Recording: *Fine*

These are the first recordings of Ravel's two secular cantatas. Set to mythological texts, they were composed in 1902 and 1903 as entries for the Prix de Rome, but both lost to works by composers who are now virtually unknown. If the failure of the cantatas was a disappointment for the young Ravel, they nonetheless clearly herald the limpid, economical, atmospheric vocal writing of the mature composer. They are unmistakably Ravelian in their orchestral tonality, their thematic construction, and their elegance. Further, they are beautifully sung by Mariana Nicolesco, who appears in both works. Her admirably schooled soprano glides effortlessly through the music, and she is handsomely supported by her vocal colleagues as well as the Bamberg Symphony under the cultivated direction of Hubert Soudant. In short, this is music of exceptional interest in lovely, well-recorded performances. *R.A.*

**SAINT-SAËNS: *Violin Concerto No. 3, in B Minor, Op. 61; Havanaise, in B Minor, Op. 83; Introduction and Rondo capriccioso, Op. 28.*** Augustin Dumay (violin); Orchestre Philharmonique de Monte Carlo, Hikotaro Yazaki cond. ANGEL CDC-47893 (47 min).

Performance: *Spirited*  
Recording: *Good*

Augustin Dumay, one of the up-and-coming French violinists of the younger generation, has hitherto been represented in the U.S. on import labels, mainly in chamber music, such as the three Schubert violin sonatas and the Chausson Concert for Violin, Piano, and String Quartet. The Saint-Saëns works for violin and orchestra that he recorded in 1982 and that were issued in England at the time are only now being released here.

The B Minor Concerto, a virtuoso vehicle par excellence, does not lack for strongly competitive versions on CD, but Dumay acquires himself with great aplomb. For me, though, the greatest pleasure in this disc comes from his per-

formances of the sinuous *Havanaise* and the scintillating *Introduction and Rondo capriccioso*. These are performances of real class and *élan*, and the Monte Carlo Orchestra under Hikotaro Yazaki provides excellent support. The recorded sound is clean and well balanced. *D.H.*

**R. STRAUSS: *Don Quixote, Op. 35; Till Eulenspiegels lustige Streiche, Op. 28.*** Antônio Meneses (cello); Wolfram Christ (viola); Leon Spierer (violin);

Berlin Philharmonic Orchestra, Herbert von Karajan cond. DEUTSCHE GRAMMOPHON 419 599-1, 419 599-4, 419 599-2 (58 min).

Performance: *A bit standoffish*  
Recording: *Photographic clarity*

*Don Quixote*, the most humane of the Strauss tone poems, gets a rather detached treatment in this new recording by Herbert von Karajan, his third traversal of the work. Even though the pacing is a bit more deliberate than usual, I

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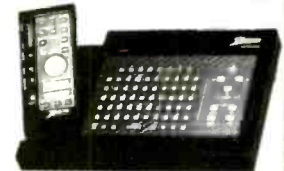
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Lazar Berman: lyrical yet spirited Tchaikovsky

miss the resilience of phrasing and rhythm, not to mention the humanity, that informs the remarkable 1959 Rudolf Kempe interpretation with the Dresden Staatskapelle, now available on CD. In terms of detail, I was surprised at the dry tone displayed by the first-chair oboe at his important initial entry, and in the all-important role of the Don, I found António Meneses's cello curiously lacking in the warmth and nuance associated with, say, Rostropovich, Piatigorsky, or Fournier. Violist Wolfram Christ comes off far better in his richly characterized portrayal of Sancho Panza.

*Till Eulenspiegel* gets an efficient run-through, with all dramatic and coloristic points duly made but with less of the style and savagery this music needs to become a memorable listening experience. The sound throughout is clear, crisp, and on the whole less harsh than on some recordings made in Berlin's Philharmonie. *D.H.*

**STRAVINSKY: *Pulcinella, Suite; Concerto in E-flat Major for Chamber Orchestra ("Dumbarton Oaks"); Eight Instrumental Miniatures.*** Orpheus Chamber Orchestra. DEUTSCHE GRAMMOPHON ● 419 628-1, © 419 628-4, © 419 628-2 (46 min).

Performance: *Delightful*  
Recording: *Bright and clear*

For a conductorless orchestra to perform with the finesse and precision displayed here in these Stravinsky works, which demand razor-sharp rhythmic

and dynamic response, is no mean feat. The Orpheus Chamber Orchestra carries everything off with great aplomb, and at tempos just a hair slower than in the composer's own CBS recordings. The eight movements making up the concert suite from the 1920 ballet *Pulcinella*, based on music attributed to Pergolesi, are highly entertaining fare, and the *Dumbarton Oaks* Concerto of 1938 is a prime example of Stravinsky's neo-Classical style at its most austere yet elegant. The Eight Instrumental Miniatures were orchestrated in the early 1960's from a set of five-finger piano exercises composed four decades earlier. The music is by turns tart and charming.

All told, this is a delightful package, recorded with utmost clarity in a decidedly bright acoustic. *D.H.*

**TCHAIKOVSKY: *Piano Concerto No. 1, in B-flat Minor, Op. 23 (original version).*** Lazar Berman (piano); Berlin Radio Symphony Orchestra, Yuri Temirkanov cond. SCHWANN MUSICA MUNDI/KOCH IMPORT SERVICE © CD 11644 (37 min).

Performance: *Broadly lyrical*  
Recording: *Good*

The story of the famous Christmas Eve of 1874 at the Moscow Conservatory, when Tchaikovsky previewed his B-flat Minor Piano Concerto for its initial dedicatee, Nicholas Rubinstein, only to meet with slashing criticism, is well known, as is the fact that Hans von Bülow gave the work its official world

première in Boston in October of the following year. But what is not so well known is the version of the concerto actually performed on those occasions prior to its publication, with some revisions, in 1879. Tchaikovsky's first version was rediscovered only a little more than thirty years ago, and there seem to have been few performances of it outside of Russia. This recording by the redoubtable Russian pianist Lazar Berman, with Yuri Temirkanov conducting, appears to be its first.

The most immediately obvious change from the familiar score comes with the initial solo-piano entry, usually played as a series of crashing chords, but here arpeggiated. There are not many other striking changes until the finale, where there is an unfamiliar seventeen-bar transitional passage for orchestra leading to the reprise of the second theme.

The effect of arpeggiating the opening chords, together with Berman's general approach to the work, is to imbue the first movement with a pronounced lyrical feeling, more in the manner of the Schumann Piano Concerto than that of the hell-for-leather virtuoso vehicle we're accustomed to. But the slow movement is the particular gem here, especially in the central *scherzando* section where Berman's fingers flit over the keys with the delicacy of a butterfly. The finale has all of the urgency and brio that anyone could ask for, and the recorded sound is full and spacious, with the piano front and center, but tastefully so.

This unique recording will not necessarily displace anyone's favorite version of the concerto, but it certainly offers a new and provocative perspective on this familiar work. *D.H.*

**TCHAIKOVSKY: *Symphony No. 6, in B Minor, Op. 74 ("Pathétique"); Marche slave, Op. 31.*** Chicago Symphony Orchestra, Claudio Abbado cond. CBS ● M 42368, © MT 42368, © MK 42368 (54 min).

Performance: *Taut and passionate*  
Recording: *Very good*

Claudio Abbado's new recording of the Tchaikovsky *Pathétique* is very much to my taste, with an overall Verdian warmth and a welcome freedom from hysteria. My preferred approach to the later Tchaikovsky is to play what's in the score with conviction and rhythmic alertness, and to let the inherent drama of the music emerge of itself, which is just what happens here. The long first movement comes through as both impassioned and beautifully proportioned, the *Allegro con grazia* is imbued with all the requisite grace and melancholic undertow, the Russian-quickstep march is properly fierce and frantic, and the concluding *Adagio lamentoso* conveys to the full its burden of hope abandoned.

The sonic focus of the recording

locale, Chicago's Orchestra Hall, is somewhat narrower than that of the city's Medinah Temple, which is favored by the Chicago Symphony's music director, Georg Solti, but it works very effectively for the symphony as well as for *Marche slave*. Abbado and the Chicagoans play this often-abused work too with care, alertness, and suitably fiery conviction. *D.H.*

**VAUGHAN WILLIAMS: *Symphony No. 2 ("A London Symphony")*; *Fantasia on a Theme by Thomas Tallis (see Best of the Month, page 82)***

**WAGNER: *Lohengrin* (see Best of the Month, page 84)**

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Performance: *Brilliant*  
Recording: *Stunning*

Two outstanding works in the modern string-orchestra repertoire receive altogether exceptional realizations here, not only by virtue of the whiplash precision and tension of the performances by I Musici de Montréal, but also thanks to the peculiarly bright yet warm acoustic surround of the Montreal church where the recording was made. The expected reverberance of the Église de Ste. Madeleine is fully evident, but, miraculously, it does not muddy the musical texture.

The outer movements of the Bartók *Divertimento* are performed with slashing vigor and savage humor, and the spookiness of the great slow movement is enough to make you believe in the Dracula legend—these are some of the most spine-chilling sounds you'll ever hear. As for the Stravinsky *Concerto in D*, anyone who has seen the Jerome Robbins ballet set to it, *The Cage*, knows the work is gestural music par excellence. The recording makes a sense of physical movement all but palpable, and the elegant line, texture, and meter of Stravinsky's neo-classicism come through with crystalline clarity.

Of lesser consequence, but effective in its own way, is the brief *Scherzo* of the contemporary French-Canadian composer André Prévost, which is imbued with twelve-tone expressionist and Bartókian elements. The one failure in this set is the Barber *Adagio*, which is not only dragged out a full two minutes more than usual but is performed in an essentially vibratoless fashion—a great trick if it's done with flawless intonation, which is not quite the case here. Nonetheless, the Bartók and Stravinsky pieces make the recording well worthwhile. *D.H.*

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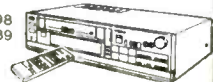
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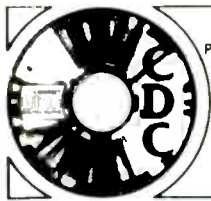
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by Christie Barter & Steve Simels



Aronoff: lead drums

**M**ILTON BERLE'S old joke about a jazz group whose drummer carried the melody notwithstanding, you may have noticed that **John Cougar Mellencamp's** drummer, **Kenny Aronoff**, has become the first rock percussionist since the **Who's Keith Moon** to function effectively as his band's lead instrument. Well, in case you haven't, Aronoff has just released a home video entitled *Laying It Down* (DCI Music Video). It's a fifty-two-minute instructional tape in which he shows off his considerable chops and gives tips for aspiring thumpers on such drumming essentials as selecting the right beat and keeping steady time. As a bonus, the stereo tape features some impressive live Mellencamp footage. Aronoff can also be glimpsed in *Cherry Bomb*, the nostalgic new video from Mellencamp's Top-10, multi-Platinum "Lonesome Jubilee" album. □

**D**ESPITE the success of **Jimi Hendrix**, the **Bus Boys**, and **Prince**, the music business still seems to have a hard time comprehending black people who play rock-and-roll, which is both silly and disgraceful. But perhaps things are beginning to change. As exhibit A, we offer guitarist/singer **Vernon Reid** and his band **Living Color**, a tough-as-nails outfit that makes some of the least compromising music we've heard

in a long time. Their debut album is due imminently on Epic. Yes, they're black; yes, they play real rock; and yes, they're terrific. If MTV doesn't air their videos, we suggest a sit-in.

No less a figure than **Mick Jagger**, who caught the band at CBGB's in New York and was utterly knocked out, produced the demos that landed Reid his record deal. Given Mick's longstanding debt to various black musicians, we think that was a pretty cool thing for him to do. □

**N**O American opera in recent years has generated more widespread interest than *Nixon in China* by the California-based composer **John Adams**. Nor has any new opera in a good long time marshaled the resources of so many far-flung producing companies. Given its world premiere six months ago by the Houston Grand Opera, which co-commissioned *Nixon* with the Kennedy Center and the Brooklyn Academy of Music, the three-hour opera was presented by those three organizations in association with the Los Angeles Music

Center Opera Association and the Netherlands Opera. Written to a libretto by **Alice Goodman**, it was directed by **Peter Sellars**,



Duykers (left) and Maddalena in Nixon in China

choreographed by **Mark Morris**, and conducted by **John de Main**. It was also recorded, shortly after the premiere, by **Nonesuch**.

The Nonesuch "original-cast" recording of *Nixon in China*, featuring baritone **James Maddalena** as President Nixon and tenor **John**

**Duykers** as Chairman Mao, is being released to coincide, roughly, with a telecast of the Houston production by PBS in its Great Performances se-

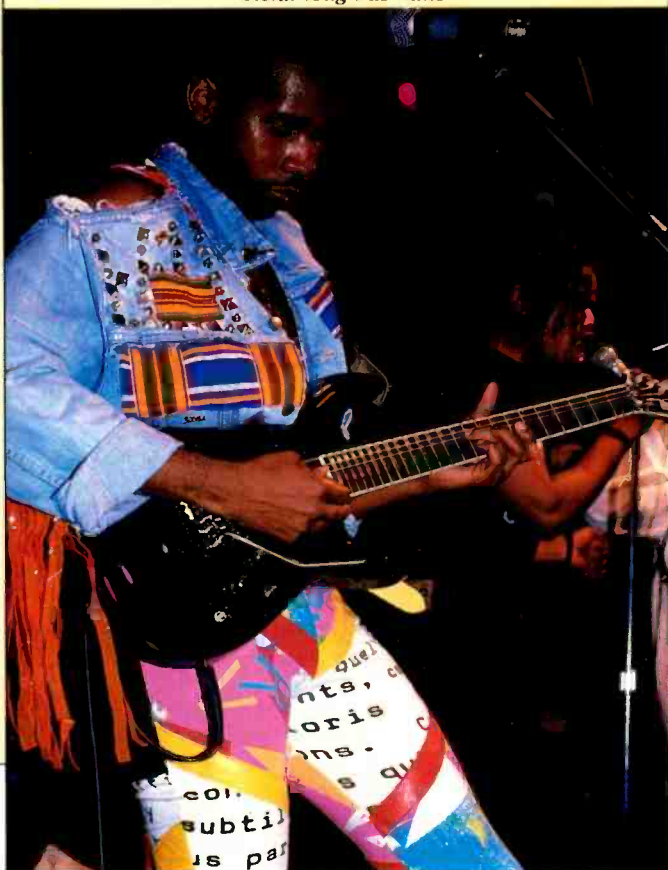
ries. The scheduled airdate is April 15. □

**T**HE toast of Broadway these days, and one of its newest stars, is **Sarah Brightman**, who shares top billing with **Michael Crawford** in **Andrew Lloyd Webber's** hit musical *The Phantom of the Opera*. Billed as Sarah Brightman, soprano, she also "stars" among Angel's spring releases with an album of folk-song arrangements by **Benjamin Britten**, in which she is accompanied by pianist **Geoffrey Parsons**. This is Brightman's second recording for Angel. In her first she was soprano soloist in her husband's (that is, **Lloyd Webber's**) *Requiem*, conducted by **Lorin Maazel**.

**Michael Crawford**, by the way, has a new solo album of his own in England, on the Telstar label, containing a collection of songs from the musical theater and films. And **Lloyd Webber's** London-based production company, **The Really Useful Company**, has a new junior employee. He's **Prince Edward**, the Queen's youngest son and fifth in succession to the throne. □

**I**T looks to be a big year for neo-salsa star **Ruben Blades**. Due out soon is his first English-language album

Reid: tough as nails



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(Lou Reed, among other gringos, collaborated on the album's songs). The charismatic Latin American singer stars in Robert Redford's soon-to-be-released film *The Milagro Beanfield War*. (He's already starred in the independent feature *Crossover Dreams*.)

Blades is also going video. Sony has just released a tape, "The Return of Ruben Blades," featuring concert performances of tunes like *Buscando America* and *Silencios*. A cameo appearance is made by Linda Ronstadt (part of her return to her Latin roots?). □

**T**HE Portuguese pianist Maria João Pires returned to the U.S. last month for the second leg of her first major North American tour, which winds up this month in Detroit. It has also included a solo recital in Chicago's Orchestra Hall and concerts with the National Arts Centre Orchestra of Ottawa and the Toronto Symphony. Pires then returns to the farm she and her husband are building,



Blades: neo-salsa in English

dienices this spring, Pires was preceded by a generous number of Decca and Erato recordings. Among the most recent were four releases in Erato's new Bonsai Collection of mid-price CD's distributed by RCA, three of them containing piano concertos and other concerted works by Mozart. Mozart is a bit of a specialty with Pires—and has been ever since she first appeared as soloist with an orchestra, playing a Mozart concerto, at the age of seven. The fourth mid-price Erato CD is a coupling of the two Chopin piano concertos.

Scheduled for release this month, again on Erato and again at mid-price, is an album of popular Beethoven sonatas. □

**R**EASON to be cheerful: Shoes is back. We refer, of course, to the wonderful Illinois-based band that did two utterly fab albums for Elektra during the early-Eighties pop boomlet, both critically praised (deservedly so) and both commercially underwhelming.

Just out, on the band's own Black Vinyl label, is a twenty-two-song "Shoes Best" CD (that's right, CD), with tracks from the Elektra albums (the sublime *Too Late*, among

others), some from the group's home-recorded debut record, and even a preview track from a forthcoming studio album. The sound quality is astonishingly good (the Elektra albums were very opulently produced), and every one of the tunes is the kind of fuzz-toned, Beatles-like pop rock that induces goose bumps. The group's tag, in fact, comes from a remark Paul McCartney made during the Sixties. Asked why his band was called the Beatles, Paul observed that it could have had any name . . . even Shoes. "Shoes Best" is not to be missed. □

**G**RACENOTES. From our "Believe It or Not" file: Caroline Records has actually released the Swans' "Chil-

dren of God" album on CD. Since the Swans are the loudest and most depressed-sounding band currently working the fringes of rock-and-roll, we can't wait to see the sales figures on that one. . . . After about a zillion years on Atlantic Records, ex-Led Zeppelin guitarist Jimmy Page has signed a solo deal with Geffen. Expect an album this summer, with late Zeppelin drummer John Bonham's son Jason and Sixties soul singer Chris Farlowe along for the ride. . . . Paramount is releasing episodes from the syndicated hit series *Star Trek: The Next Generation* on home videocassettes, but don't save your lunch money just yet. The videos will be available only in Europe for at least a year. . . . More CD news: Rykodisc has just issued a compact disc version



Pires: return engagements

of "Nils Lofgren," the 1975 power-pop classic by the guy who's currently lead guitarist with Bruce Springsteen's E Street Band. □

Shoes Gary Klebe, John and Jeff Murphy: goose bumps



TIM KLEBE

MICHAEL LE POER/TRENCH/ANGEL

GARY GERSHIOFF/RETNA

JACQUES SARRAT/ERATO

Brightman: top billing

from scratch, 150 kilometers north of Lisbon—to practice, as she does every year, for at least a month away from the concert platform.

Although she was a relative newcomer to American au-



# Brain vs. Bulk.

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**BRAIN vs. BULK.** Pictured is a photo of the 20-pound, cool-running M-1.0t. Above it are the outlines of the pair of legendary mono amplifiers used in the *Stereophile* challenge. Even individually, they can hardly be lifted and demand stringent ventilation requirements. And yet, according to some of the most

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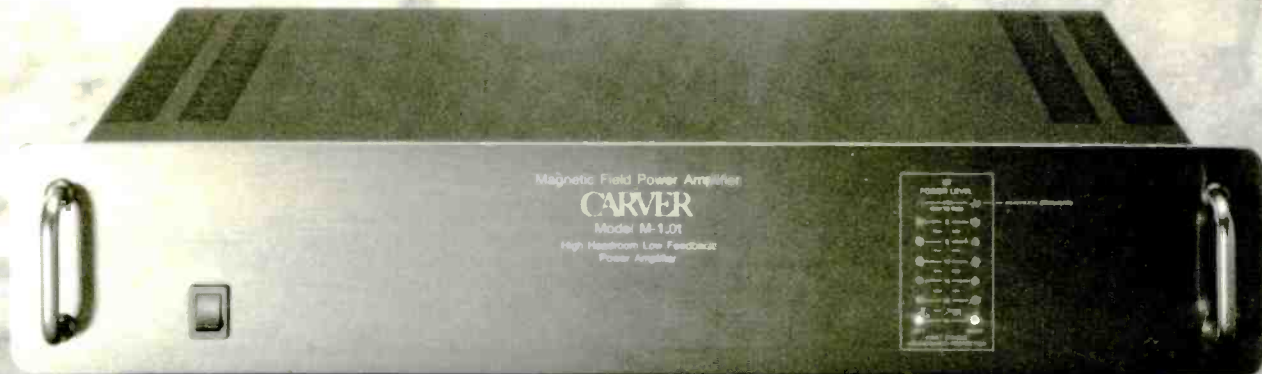
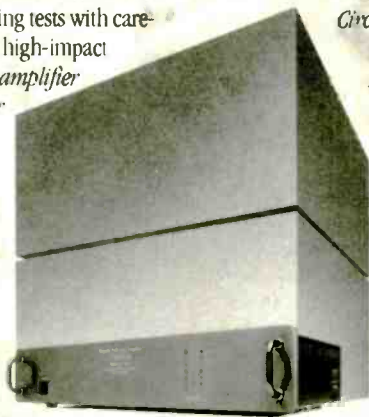
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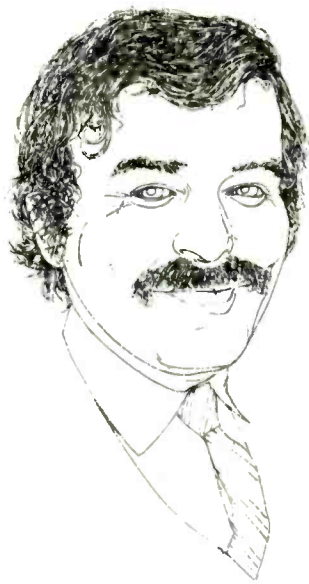
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## THE HIGH END



*Nakamichi-shi*

**I**T was back around 1973, at a press conference heralding the introduction of the Benjamin Nakam-Z cassette deck, a bewildering machine sporting dual capstans, an intricate metering system, a truly effective means of adjusting record-head azimuth, and a retail price of about \$1,000. I sensed that the colleagues around me were suppressing chortles or snorts of disgust, but I had different feelings about the matter. Craig Stark and I had been conferring recently about a hypothetical "Dream Machine" cassette deck. The Nakam-Z was essentially what we had dreamed up, with a few practicalities added. If there was a cassette deck worth owning, this was it.

The Benjamin product was never heard from again. It abruptly became the Nakamichi 1000. The parent company, which had hitherto been responsible for almost all cassette-deck innards of enduring significance, had gotten a whiff of the U.S. market and wanted in on its own terms, with its own name.

Together with the launch of the Nakamichi 1000—which, in my opinion, has rarely been excelled, and then mostly by succeeding Nakamichi cassette decks—came the

launch of Etsuro Nakamichi into American society.

Rarely have I seen a man quite so ill at ease. Presumably, considering his distinguished war record, he had faced far tougher opponents than the U.S. press corps. He appeared nervous during the introduction, and the presentation was promptly given over to his son Ted, who is thoroughly Americanized. When it was finally shown that we were not going to eat him alive, he relaxed, partied relentlessly, and proceeded to make some of us eat many unspeakable things alive. (Raw pork liver sound bad? It tastes worse.)

He also proceeded to raise considerable hell. When Japanese manufacturers began insisting on more than the 10 dB of noise reduction that Dolby B provides ("Camping on my doorstep and threatening to tear my clothes off whenever I appeared," as Ray Dolby has put it), Nakamichi-shi made a characteristically renegade move. Instead of beseeching Dolby, he picked up some technology from Telefunken, fashioned it into a consumer product, and put it on the market. Plunk. When Dolby at last came up with its Type C noise reduction, Nakamichi immediately dropped its product and signed the Dolby licensing form. I don't know whether Telefunken has yet figured out exactly what happened.

I last saw Etsuro Nakamichi in his office, about midway between Tokyo and Yokohama. He had sent a limousine for me (Japanese don't believe that Westerners can find their way around Greater Tokyo without assistance; they are probably right), and I was disturbed to find that the car's sound system, which the driver felt forced to inflict on me, was disgracefully inferior.

"Mr. Nakamichi," I said upon arrival, "I'm surprised you don't have a Nakamichi system in your car."

"Yes." Had his English been better, or my Japanese even usable, this exchange might have developed more briskly. Still, I persisted.

"Does that mean you're surprised that I'm surprised?"

"Yes." Sigh.

"Mr. Nakamichi, may I respectfully ask why there *isn't* a Nakamichi sound system in your car?"

"Ah! Too good for car. Hahaha!"

Shortly thereafter, with the help of Godehard Guenther of a/d/s/, there was a part-Nakamichi audio system for cars, and many have followed since. But the old man isn't around any more to express his approval or disapproval.

His brother, Hiro Nakamichi, is now the titular head of the Nakamichi combine, and the pace hasn't slackened discernibly. There are those who believe he has always

---

*The original Nakamichi 1000 cassette deck has rarely been excelled, and then mostly by succeeding Nakamichi machines.*

---

been the engineering genius behind the operation, and I'm not prepared to argue the point. But I saw the gleam in Etsuro Nakamichi's eye when the company's second home deck, the stunning Model 700, was introduced, and it looked like pride of parentage.

The Nakamichi 700 is gone too; perhaps its styling was a bit too advanced for a new, more conservative Nakamichi. Yet the underlying principles remain in place. A few nights ago a friend called, offering home-cooked food. I was just settling down to evaluate some tapes made by a new duplication process, with a freshly uncrated Nakamichi MR-1 pro deck to assist. Man must eat, however, and this show could go on the road. I grabbed deck, tapes, and a reliable headset and rushed out into the gloom.

Could I get her to relinquish the headphones after curiosity had impelled her to take a brief listen? No. Did she burn dinner? Yes. Finally, I was able to reclaim my deck and tapes and do the listening I had set out to do earlier. I should have known in advance. The headphone amp was getting into a bit of trouble on peaks, but otherwise everything was splendid—a combination of a thousand little things that Nakamichi has learned to do consummately well over the years. I cannot think how the cassette format could be better served. □



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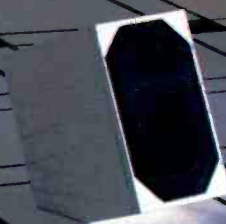
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B&W's Concept 90 demonstrates the shape of audio art for the rest of this century. Challenges the view that only a sizeable, intrusive enclosure could produce sound of true monitor quality. Concept 90 is B&W Matrix technology miniaturised. The result CMI and CM2. Loudspeakers whose mighty performance is at home in limited rooms. Whose appearance is perfectly attuned to design-conscious living. CMI's presumptuously massive voice completely belies its diminutive size. CM2. A further dimension giving supreme power and bass extension. Altogether a superlative omnidirectional pattern of sound radiation. The perfect exposition of the state of B&W art.



*The* **MATRIX**  
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