

# Stereo Review

MARCH 1987 ● \$2.25

## SPECIAL TAPE ISSUE

HOW TO CHOOSE  
A CASSETTE DECK

TAPE BUYING GUIDE

THE NEW DIGITAL  
AUDIO TAPE FORMAT

CONDUCTOR  
CHRISTOPHER  
HOGWOOD

LAB TESTS:

KYOCERA  
CASSETTE DECK

VECTOR RESEARCH  
CD PLAYER

SPEAKERLAB  
LOUDSPEAKERS

AND MORE



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## The System...

by *N. Nakamichi*

ST-7



CA-7A



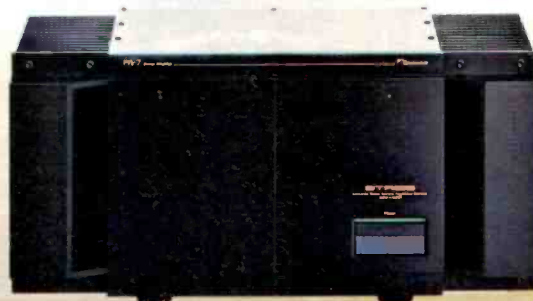
OMS-7AII



CR-7A



PA-7



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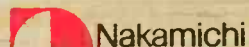
The ST-7 AM/FM-Stereo Tuner features an advanced Schotz NR system which enables it to receive stereo broadcasts where they could never be heard before.

The CR-7A Discrete Head Cassette Deck is the finest example of cassette recording technology ever produced—auto calibration, playback azimuth alignment, and a natural clarity that must be heard to be appreciated.

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# Stereo Review

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Cover: The Kyocera D-811 cassette deck; see page 33 for the Hirsch-Houck Labs test report. Design by Sue Llewellyn, photo by Yutaka Kawachi.



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CIRCLE NO. 60 ON READER SERVICE CARD



by *Christie Barter and William Burton*

## CD MANUFACTURING UPDATE

Bertelsmann, the West German media conglomerate that now owns RCA Records, has opened a plant capable of producing 25-30 million CD's a year. Sonopress (Bertelsmann's manufacturing arm) claims that it is the second largest CD facility in the world. PolyGram's in Hanover is bigger. . . . Also in West Germany, Warner Communications has opened a factory that can turn out 8 million CD's a year. . . . At Jacksonville, Illinois, Capitol Records' plant is producing 7 million CD's a year. . . . LaserVideo's newly opened facility in Huntsville, Alabama, is sixteen times the size of its plant in Anaheim, California, and can press up to 60 million CD's a year. The first CD's to come from the Huntsville plant were—appropriately—"In Touch" by the country-rock band Alabama.

## AUDIO AT WCES

At the Winter Consumer Electronics Show in Las Vegas in January, digital audio tape and DAT decks were displayed but not sold to dealers. Prototype machines were demonstrated by JVC, Kenwood, Luxman, Mitsubishi, Onkyo, Sansui, Sony, Teac, and Technics, with prototype tape from Fuji, Maxell, Sony, TDK, and Triad. Prerecorded DAT was previewed by some of the smaller audiophile labels such as DMP, GRP, and Reference Recordings. Marketing plans for both hardware and software are vague. . . . New compact-disc changers were shown by Fisher, Sanyo, Sony, and Technics. Only the Technics model uses a magazine. The Sony holds five discs on a large carousel, and the Fisher and Sanyo hold CD's in thin drawers. Magnavox had a CD player with Favorite Track Selection priced at only \$260. . . . In other components, Dual showed its first integrated amplifiers, tuners, cassette decks, and CD players, and NEC had its first receivers. . . . The new Harman Kardon Citation tuner has an "Active Tracking" system for extended re-

ception. . . . NAD showed its tweakiest cassette deck, the three-head Model 6300 (with Dyneq and HX Pro headroom extension), priced at \$798. At the other end, Sanyo's M7022, finished in black, red, or lavender, had a suggested price range of \$38.95 to \$44.95. Aiwa and Teac both showed double autoreverse cassette decks. . . . There were impressive new speakers from Clements Audio, Design Acoustics, Focus, Infinity, and Yamaha; a well-balanced three-piece system from Conrad-Johnson; Sota's first speakers (with subwoofer); and powerful subwoofers from Martin-Logan (electrostatic!), Velodyne, and American Acoustics. A new subwoofer from 3D Acoustics has a built-in surround-sound decoder. And there was talk of a new, smaller version of Carver's Amazing Loudspeaker. . . . Alpine was showing its card-programmed twelve-disc CD changer for the car, and powerful car stereo amplifiers were shown by companies from ADS to Zapco. . . . And for those audiophiles with golden ears, Mobile Fidelity had pressed a special compact disc with the reflective layer made of real gold.

## VIDEO AT WCES

In Las Vegas, Toshiba showed a VCR with digital processor and light-pen programming (for the fall). There was a Zenith camcorder with VHS Hi-Fi sound and a Pioneer LaserDisc player with digital sound for only \$550. Kloss Video demonstrated its first rear-projection TV. JVC announced another improvement in VHS picture quality, code-named Super-VHS, claimed to have over 400 lines of resolution. Beta and 8mm kept low profiles, though Aiwa and Canon introduced 8mm camcorders. . . . Meridian introduced an elegant preamplifier that makes it the first very-high-end manufacturer to have a fully remote-controlled system with multi-room capability.

## MUSICAL NOTES

Yamaha, a manufacturer of musical instruments as well as audio equipment, is celebrating its hun-

dreth anniversary. . . . Guitarist Andrés Segovia, ninety-four, is receiving an honorary degree of Doctor of Musical Arts from the Manhattan School of Music. . . . Composer/conductor Leonard Bernstein, sixty-nine, will receive the fifth Albert Schweitzer Music Award for "a life's work dedicated to music and devoted to humanity." . . . An intensive effort at high-school dropout prevention is being made in New York by the board of education, Carnegie Hall, and the New York Philharmonic. Described as the Musical Arts Experience, the project is called **THE MAX**.

## THE BEATLES ON CD

Capitol Records has announced that recordings by the Beatles will, at long last, be made available on compact disc. They are due in stores February 26. "Please Please Me," "With the Beatles," "A Hard Day's Night," and "Beatles for Sale" are the first four album titles being released on CD, all in their original format—that is, with the songs as sequenced by the English company and not as edited for U.S. release by Capitol. Additional Beatles CD's will be issued later this year. . . . Also set for release on CD are recordings by other top EMI/Capitol artists, including the Beach Boys, Glen Campbell, Nat King Cole, Fats Domino, Judy Garland, Grand Funk Railroad, the Kingston Trio, and Pink Floyd, as well as original-soundtrack recordings from such classic musicals as *Carousel*, *Oklahoma!*, and *The King and I*.



TERRY ALLEN

**Matthew Polk's Magnificent Sounding New SDA 2A**



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*"It has the ability to make your  
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*Stereo Review Magazine*

**M**atthew Polk's magnificent sounding new 3rd generation SDA 2A incorporates many new advances pioneered in his top-of-the-line Signature Edition SRSs. It achieves stunningly life-like musical reproduction which would be remarkable at any price but is simply extraordinary at \$499. each. Stereo Review said, "listen at your own risk." Once you hear them you'll never be satisfied with anything else!

## **Polk's Revolutionary True Stereo SDA Breakthrough**

The magnificent sounding new SDA 2A incorporates Polk's revolutionary True Stereo SDA technology. This patented, critically acclaimed, Audio Video Grand Prix Award winning breakthrough is the most important fundamental advance in loudspeaker technology since stereo itself. In fact, the design principles embodied in the SDAs make them the world's first and only True Stereo speakers.

Why do Polk SDAs always sound better than conventional speakers? When conventional loudspeakers are used to reproduce stereo both speakers are heard by both ears causing a form of acoustic distortion called interaural crosstalk which cuts down stereo separation, obscures detail and interferes with the proper reproduction and perception of imaging, and spaciousness. Polk SDAs are designed to eliminate interaural crosstalk so that each speaker is only heard by the one correct ear (i.e. left channel/left ear, right channel/right ear), like headphones. The result is dramatically improved stereo separation, detail and three-dimensional imaging. In order to accomplish this each SDA incorporates a separate set of drivers which radiates a special dimensional (difference) signal which cancels the undesirable interaural crosstalk coming from the wrong speaker to the wrong ear. High Fidelity called the results "Mind Boggling".

## **The Most Extraordinary Value in High End Audio Today**

The new SDA 2As, like all the current SDAs, incorporate the latest 3rd generation SDA technology developed for Matthew Polk's Signature Edition SRS and SRS-2 including **1**: full complement sub-bass drive for deeper, fuller, tighter and more dynamic bass response; **2**: phase coherent time-compensated driver alignment for better focus, lower-coloration smoother, clearer, more coherent midrange and improved front-to-back depth and; **3**: bandwidth-optimized dimensional signal for smoother high-end and even better soundstage and image. The new SDA 2A is the finest sounding and most technologically advanced speaker ever produced at its extraordinarily modest price. It sounds dramatically better than speakers from other manufacturers that cost 4 times as much and more and is, at \$499 ea., truly the speaker of your dreams at a price you can afford.

## **"Breathtaking...a new world of hi fi listening."**

*Stereo Buyers Guide*

The spectacular sonic benefits of SDA technology are dramatic and easily heard by virtually anyone. Reviewers, critical listeners and novices alike are overwhelmed by the magnitude of the sonic improvement achieved by Polk's SDA technology. Stereo Review said, "These speakers *always* sounded different from conventional speakers — and, in our view, better — as a result of their SDA design."

All Polk's SDAs, including the new 2As produce a huge lifelike three dimensional sonic image which will amaze you. You will hear for the first time instruments, ambience and subtle musical nuances which are present on your recordings but masked by the interaural crosstalk distortion produced by conventional speakers. Stereo Review said, "Spectacular...literally a new dimension in the sound...the result is

always better than would be achieved by conventional speakers". High Fidelity said, "Mind Boggling...Astounding...Flabbergasting...we have yet to hear any stereo program that doesn't benefit". With SDAs every instrument, vocalist

**"Mindboggling,  
Astounding,  
Flabbergasting"**

*High Fidelity Magazine*

and sound becomes distinct, tangible and alive; allowing you to experience the spine tingling excitement, majesty and pleasure of live music in your own home.

## **Other Superb Sounding Polks From \$85. to \$1395. each**

No matter what your budget is there is a superb sounding Polk speaker perfect for you. Polk's incredible sounding/affordably priced Monitor Series loudspeakers utilize the same basic components as the SDAs and begin as low as \$85. each. The breathtaking sonic benefits of Matthew Polk's revolutionary True Stereo SDA technology are available in 5 SDA models priced from \$395. to \$1395 ea.

## **"You owe it to yourself to audition them"**

*High Fidelity*

The experts agree: Polk speakers sound better. Use the reader's service card or write to us for more information. Better yet, visit your nearest Polk dealer today. Your ears will thank you.

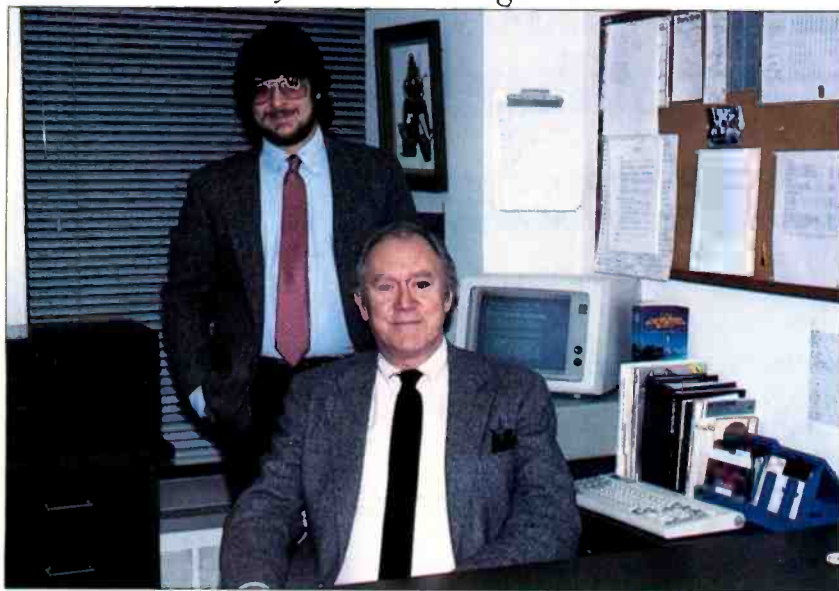
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CIRCLE NO. 37 ON READER SERVICE CARD

## SPEAKING MY PIECE

by William Livingstone



Michael Smolen, Senior Editor

**W**HEN asked for advice or guidance by young people who aspire to careers in editorial work, I generally discourage them. I tell them about the scarcity of good jobs, the long hours, low pay, and deadline pressure. Editors complain a lot.

I dwell less on the compensations for all that overwork. Dealing with subject matter you care about is very pleasant, and the sense that you touch readers who share your interest is quite satisfying. As I have advanced in my journalistic career, one of my greatest pleasures has been supervising talented young colleagues and watching them grow professionally. Editors can have a lot of fun.

The present staff of STEREO REVIEW includes a number of rapidly advancing young professionals—Technical Editors William Burton and William Wolfe, Assistant Art Director Margaret Bruen, and Senior Editor Michael Smolen—who are fun to watch and fun to work with. Smolen, who is soon to be promoted to Executive Editor, says, "Editors can have a lot of fun if they work in a place like *this*."

STEREO REVIEW is a logical place

for someone with Smolen's background to be. He came to us from *International Musician and Recording World*, where he supervised the equipment-testing program, and before that he worked for *Circus* magazine. He has operated an audio/video production facility and has played the guitar.

Very few audio editors have Michael's experience in sales. He spent eight years with the Tech HiFi chain as a top salesman and store manager. A graduate of Skidmore College, he has a master's degree from the Newhouse School of Public Communications.

Michael writes some feature articles, edits others, and maintains liaison with several of our regular contributors. He supervises our equipment-testing program, working closely with Julian Hirsch. As Executive Editor he will increase his responsibility for liaison with equipment manufacturers and decrease overtime work by the Editor in Chief.

Dwelling on the compensations for editorial stress, he says, "Music is my sole reason for being. When I realized that I couldn't support myself playing the guitar, I had to find other things I could do well that would keep me close to music. Selling audio equipment was one. Writing about it is a better one. I have a terrific job!" □

## Stereo Review

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## LETTERS

### *Amplifier Listening Tests*

Regarding STEREO REVIEW's excellent amplifier listening tests (January, "Do All Amplifiers Sound the Same?"), both blind and subjective listening tests are scientifically acceptable and valid methodologies. They differ only in the conclusions that each allows.

Blind testing limits the *source* of perceived differences in audio-component sound to aural stimuli alone, while subjective testing includes *both* aural and nonaural sources (beauty of the component, the manufacturer's reputation, listener expectations, etc.). If subjective testing indicates a perceived difference that disappears in blind testing, as often happens, it means only that the *source* of the difference is not aural.

Blind testing can never invalidate the results of a subjective listening test. It is empirically impossible to measure or know what a person hears. When a person states repeatedly that a certain component sounds better, we must conclude that it does indeed sound better to that person.

The contribution of nonaural factors to audio-system sound perception and preference is large. The loyal following for so many audio products that never seem able to demonstrate superiority in blind sessions attests to this.

The bottom line is a personal one: Do you care if the differences you perceive and your ultimate preference are caused by sound alone? If so, then accept only blind test data. If not, then you have license to believe both blind and subjective results—and all of what you hear.

RICHARD M. LOCASSO  
Carbondale, IL

Your blind amp feature will soon take its place amongst the works of Oppenheimer, Newton, and Galileo. Congratulations on an issue that could have been penned by Hemingway, Melville, or Goethe.

KERRY R. WHITE  
Chino, CA

Although great care was taken in designing a system to detect even the most minute sonic difference, nowhere do you *prove* that the system will, in fact, do this. As a control sample, an amplifier should be included that *does* sound *different* even if you must deliberately alter one to do it. You make a convincing argument that choice of system, listeners, and ABX comparator will guarantee objectivity, but you do not actually prove that any difference would be detected. The article was, however, very illuminating, and I continue to look forward to more like it.

DAVID MICHAELS  
Hamden, CT

The Truth Can Set You Free. You're right, all amplifiers sound the same. According to you, so do all CD players, cables, etc. Armed with this new information, I no longer need to read your magazine. After all, any old product will do! Please cancel my subscription and refund the balance.

JIM VANAMBURG  
Bethlehem, CT

While I'm not attempting to contradict your assertion that amplifier differences are very minor or nonexistent, I wonder why you chose to try to prove that they exist instead of trying to prove with statistical significance that they don't. In any case, one conclusion that can safely be made is that both sides of the debate have their shares of windbags. Thanks for the interesting article.

RALPH GONZALEZ  
Philadelphia, PA

STEREO REVIEW's double-blind listening tests on audio cables, CD players, and amplifiers have been a breath of fresh air in the controversy between the Believers and the Skeptics. With regard to A/B testing, many years ago I used to do equipment testing for another magazine—phono cartridges and loudspeakers, in particular. The pitfalls of A/B testing when the person knew what he was switching became clear at that time. The ABX comparator used for your tests is a step in the right direction, and it ought to be used by everyone involved in preference testing.

ALEXANDER ROSNER  
Long Island City, NY

How much would you like to wager that all of the comments and statistics in your amplifier listening tests would have been essentially the same had only *one* amplifier been used in all the listening sessions? Those who profess to have golden ears might spend their time more profitably listening for differences between Haydn and Mozart.

JOE COMPELLO  
Glen Arm, MD

Congratulations for your courageous application of scientific method to the psychoacoustic aspects of equipment evaluation. Your series of articles employing statistical techniques goes a long way toward dispelling the myths and anecdotal evidence that permeate the audio field.

The fanaticism/hysteria of the "true believers" is enough, on first encounter, to give any potential equipment buyer a severe case of indecision. Your tests help the average buyer make decisions based on factors that really count.

KRIS J. SUNDBERG  
Seattle, WA

I love it! I love it! We high-end people need an occasional dose of reality. The best part of the amplifier listening-test results was when the skeptics had a better score than the believers in comparing the Futterman amplifier (\$12,000) with the Pioneer receiver (\$220).

STEVE DRAKULICH  
Clovis, NM

### *You Oughta Be in Pictures*

We would really appreciate it if you would print a photograph of all your record reviewers, especially Alanna Nash. Mark Peel is a god.

JIM YOCUM, ADAM STANLEY  
Mt. Vernon, IA

*Herewith Ms. Nash. The gods do not permit photographs.*



*Alanna Nash (left) and friend.*

### *Who Needs DAT?*

I can't believe the furor being created by the impending arrival of digital audio tape (DAT) recorders when for a few hundred dollars you can buy a tape deck that can make copies virtually indistinguishable from the originals. All we have in DAT is a small (and perhaps inaudible) improvement in tape-recorder performance—nothing more.

The manufacturers are understandably excited because they can sell a new piece of equipment with the word "dig-





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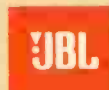
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CIRCLE NO. 22 ON READER SERVICE CARD

## LETTERS

ital" on it, but I'm not convinced the consumer should be so excited. When consumers realize that DAT cassettes are not indestructible and will not last forever like CD's (the tape rubs the heads), that they cannot provide the near-instant track access and seamless programmability of CD's, and that the tape machine they already have at home can provide darn good sound, then maybe the nonsense will stop. If all that energy had been spent pressuring the manufacturers of prerecorded tapes to improve the quality of *their* product, not only might DAT never have been a big issue, but perhaps the rush to CD's wouldn't have been so great.

JAY H. WALD  
Whippany, NJ

*For a full discussion of the pros and cons of DAT, see Steve Birchall's article on page 56.*

### Dolby's Licenses

We were very pleased with Ralph Hodges's flattering piece about Dolby in January ("The High End"), but it contained a gross inaccuracy that we must correct. Mr. Hodges stated that the licensing royalties collected by Dolby Laboratories are for the use of the Dolby trademarks only and that the use of our patents is free of charge, that "you can make and sell as many Dolby processors as you like without much fear of legal interference." This is untrue. Dolby Laboratories owns and has rights to a multitude of patents covering many aspects of analog and digital audio and video signal processing. We enforce those patents rigorously, and our licensees pay us royalties that are directly linked to the existence of our licensed patents.

ED A. SCHUMMER  
Vice President, Dolby Laboratories  
Licensing Corporation  
San Francisco, CA

### Price Increase

Thirty cents more per month, eh? Well, what the heck—STEREO REVIEW is worth the money!

DANIEL C. POPE  
Boston, MA

### Truth and Anger

Concerning William Livingstone's January column, "The Truth May Make You Mad," I would first like to commend him on his perspicacity with regard to the male middle-life crisis.

Second, with regard to "truth" and emotions, I can only quote Bertrand Russell (from his book *An Outline of Intellectual Rubbish*): "If an opinion

contrary to your own makes you angry, that is a sign that you are subconsciously aware of having no good reason for thinking as you do. Whenever you find yourself getting angry about a difference of opinion, be on your guard; you will probably find, on examination, that your belief is going beyond what the evidence warrants."

JOHN H. BERRY, JR.  
Hastings, MI

### Video Defender

I would like to respond to the recent criticisms in "Letters" of your coverage of video recorders and reviews of videos. I want to hear the best sound possible, no matter if it's on vinyl, audio tape, CD, or video. I not only like to hear the music, but on occasion I like to watch the performer as well. Who else but STEREO REVIEW would you trust and turn to to find out how to get great hi-fi sound with a picture? Now that stereo sound is available on video, why *not* include it? "Stereo" means the sound you hear, not just the type of equipment it comes from.

If you enjoy going to concerts but have never watched a video of one "because it just doesn't sound the same," give yourself a treat and try watching it in stereo. Then see if you still think information about stereo video should not be in STEREO REVIEW.

ROBIN HAMMANS  
Clarinda, IA

### True Rock on CD's

I have been reading STEREO REVIEW for a number of years, and while I very much enjoy the technical aspects of the equipment reviews, I rarely agree with the record reviews. But I was real pleased with most of the choices in Steve Simels's "Rock Music on Compact Disc" (January, page 134). In particular, I liked the two Who selections and the Pink Floyd. Very few albums can compare with these when it comes to creativity and emotional impact ("Quadrophonia" in particular). I hope at least a few people take his advice and check these discs out. Maybe that will open their eyes to what true rock music is all about.

TOM CRATIN  
Baudette, MN

### Correction

There was an error in the "Laboratory Measurements" box in the test report on the Perreux TU-3 tuner in January, pages 53-54. The selectivity measurements should have read: alternate-channel, 40 dB; adjacent-channel, 2.5 dB. We regret the error.

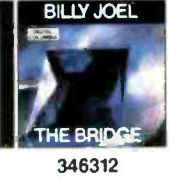
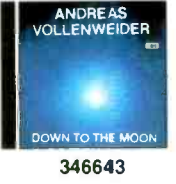


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## NEW PRODUCTS

### Denon

The DR-M07 is the most affordable cassette deck ever offered by Denon. It has full IC logic circuitry and Denon's proprietary transport design. The transport solenoids are mounted on the same circuit board that holds the logic circuitry, eliminating loose lead wires. The manual bias-trim control allows users to adjust for variations between brands of Type I and Type II tapes. Dolby B and Dolby C provide up to 20 dB of noise reduction at 2,000 Hz. Additional features include LED peak-level meters,



one-touch record standby, and full auto stop. The DR-M07 will also automatically stop and eject the tape if the eject button is pressed when the deck is in the

play, fast-forward, or rewind modes. Price: \$200. Denon, Dept. SR, 27 Law Dr., Fairfield, NJ 07006. **Circle 120 on reader service card**



### Sansui

The Sansui TU-X701 AM/FM stereo tuner has two switchable antenna inputs so users can select the one giving best reception. The sensitivity of the FM front end is said to rival that of a four-gang variable capacitor, giving improved selectivity, image-rejection response, and intermodulation-interference rejection. Usable sensitivity is rated as 10.8 dBf, and 50-dB stereo quieting sensitivity as 30.0 dBf. The

tuner's Super Linear Digital Decoder is said to combine clean performance with low harmonic distortion—0.0095 percent for stereo reception. The stereo signal-to-noise ratio is given as 91 dB at an 85-dBf input level.

The TU-X701 has thirty station presets, direct-access tuning, memory station scan, an FM noise canceller, and selectable IF bandwidth. Price: \$450. Sansui, Dept. SR, 1250 Valley Brook Ave., Lyndhurst, NJ 07071. **Circle 121 on reader service card**



### Polk

The Polk SDA 1B uses the same midrange drivers, tweeters, and crossover as the more expensive Polk SDA-SRS 2. In addition to four 6½-inch tri-laminate polymer midranges, two 1-inch silver-coil polyamide-dome tweeters, and the isophase SDA crossover, the SDA 1B has a 12-inch planar sub-bass driver that is said to improve bass response and power handling. The SDA 1B can be used with amplifiers or receivers with power outputs of 10 to 600 watts per channel.

The phase-coherent driver alignment is said to provide a smoother midrange and better driver blending. All the drivers have ribbon-wire voice coils for high efficiency, and the tweeters use Polk's point-source technology for greater vertical dispersion. Rated frequency response is 14 to 26,000 Hz, nominal impedance 4 ohms. Each speaker measures 16 inches wide, 43½ inches high, and 12 inches deep and weighs 85 pounds. Price: \$699 each. Polk, Dept. SR, 5601 Metro Dr., Baltimore, MD 21215.

**Circle 37 on reader service card**



### Kenwood

The Kenwood KDC-9R car stereo CD player/receiver has a defeatable built-in beep/tone feature that audibly confirms the driver's commands. The LED readout can display volume and muting status, the current track number of a CD, the tuned station frequency, or digital clock time. The CD section fea-

tures skip and search keys in both directions and repeat play. Twelve FM and six AM stations can be preset, and the tuner also features an Automatic Noise Reduction Circuit. Two preamplifier outputs are provided. Price: \$849. Kenwood, Dept. SR, P.O. Box 6213, 1315 E. Watsoncenter Rd., Carson, CA 90749-6213.

**Circle 122 on reader service card**

## NEW PRODUCTS



### *Boston Acoustics*

The T830 tower speaker from Boston Acoustics has an 8-inch woofer, a 3½-inch midrange, and a 1-inch dome tweeter. Frequency response is given as 45 to 25,000 Hz  $\pm$  3 dB. It is rated to handle up to 75 watts of power. Finish is rosewood-grain vinyl. The similar T1000 (not shown) has two 8-inch woofers, a 6½-inch midrange, and a 1-inch dome tweeter. Frequency response is given as 38 to 25,000 Hz  $\pm$  3 dB. Finished in walnut or oak veneer, the T1000 is rated to handle up to 150 watts of power.

With an input of 1 watt, both speakers are rated to produce a sound-pressure level of 90 dB at a distance of 1 meter. Both models have grille panels with tapered inner edges that are said to eliminate diffraction effects, and each speaker occupies less than 1 square foot of floor space. Prices per pair: T380, \$450; T1000, \$1,200. Boston Acoustics, Dept. SR, 247 Lynnfield St., Peabody, MA 01960.



### *MultiVision*

A pair of built-in video tuners enables the MultiVision 3.1 to display two pictures simultaneously on any TV screen. Viewers can watch two live broadcasts or cable transmissions or use the 3.1's two video inputs to monitor or scan a videotape, a videodisc, or images captured by a video camera while watching TV. The second, inset picture can be frozen, placed in any of the screen's four corners, and assigned one of four different sizes. The main and inset pictures can also be swapped.

The MultiVision 3.1 includes an MTS (multichannel television sound) decoder for stereo TV or Separate Audio Program (SAP) reception as well as simulated-surround circuitry. The wireless remote control operates most important audio and video functions. Price: \$499. MultiVision, Dept. SR, 1751 Fox Dr., San Jose, CA 95131-2312.

**Circle 124 on reader service card**



### *Blaupunkt*

The diversity-tuning front ends and the Codem III microprocessor circuitry in Blaupunkt's two-piece Berlin TQR 07 car stereo cassette receiver are said to result in optimum channel separation, fidelity, and frequency response. The TQR 07 memorizes the sixteen strongest AM and FM stations in any given area as well as sixteen ARI channels, which broadcast traffic and emergency information. The tuner can decode C-QUAM stereo AM broadcasts. Manual tuning and automatic seek, scan, and preset-station scan are additional tuner features.

The TQR 07 has a full-logic autoreverse cassette mechanism with brass flywheels, an extended-range HP tape head, and special equalization circuitry. An automatic volume control can adjust the tape or tuner output to overcome ambient noise. The TQR 07 has Dolby B and Dolby C, a three-level automatic loudness contour, a programmable security system, and a Data Bus system to communicate with future automotive products such as navigation and climate-control systems. Price: \$1,499.95. Blaupunkt, Dept. SR, P.O. Box 4601, North Suburban, IL 60198. **Circle 123 on reader service card**

### *Azden*

Designed to handle demanding program sources such as compact discs, the DSR-50 full-size stereo headphones from Azden use 16-micron double-dome diaphragms, copper-clad aluminum wire, and a gold-plated plug. Impedance is 300 ohms. Sensitivity is given as 101 dB sound-pressure level at 1,000 Hz. Frequency response is rated as 15 to 24,000 Hz  $\pm$  3 dB. An adaptor for use with portable CD players is supplied. Price: \$79.95. Azden, Dept. SR, 2978 Shore Dr., Merrick, NY 11566. **Circle 125 on reader service card**







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by Ian G. Masters



## Cassette Shut-Off

**Q** *What damage might I do to a cassette by turning the deck's power off while it is still in the play mode?*

ANDREW TESKA  
Markesan, WI

**A** It's unlikely that the tape will suffer very much, but the machine might. Many cassette decks have a mechanism that automatically disengages the tape drive when power is removed, and this performs exactly the same function as pushing the stop button before killing the power. It provides protection in the case of unintentional power outages and is often associated with a machine's ability to be controlled by an external timer—if applying external AC power can engage the record or play mechanism, removing it will usually *disengage* it. If your machine has this feature, you needn't worry too much about turning off the power in mid-play.

Some decks, on the other hand, lack this arrangement, in which case shutting down the power simply stops everything in its tracks—the motor stops, the electronics quit, but the mechanism remains physically in the play or record mode. As far as the tape itself is concerned, this does not matter very much. But the rubber pinch-roller that holds the tape against the rotating capstan when the tape is playing will remain in contact with the now-stationary capstan. There is a risk that this can

cause a deformity in the roller because only one spot on its surface is under pressure. If the pinch-roller isn't perfectly round, it will "bump" as it rotates in subsequent playings, causing a sort of irregular flutter. This condition is immediately audible and very annoying.

Under most circumstances, it is quite obvious that a cassette deck does, or does not, disengage itself when turned off. If you're not sure, however, it's a wise policy to hit the stop button routinely before shutting off the power.

## Microphone Inputs

**Q** *When I purchased my cassette deck I had no interest in live recording, so I chose a model without microphone inputs. Would it now be possible to record by connecting microphones to the auxiliary inputs of my amplifier?*

LEWIS A. REDDING  
Boston, MA

**A** I wouldn't recommend it. The various inputs on a receiver or preamplifier are designed for *high-level sources* such as tuners or CD players, and while manufacturers exercise some discretion in what they consider to be "high level," it is always much greater than the tiny output created by a microphone.

It is possible that you might get enough level for recording if your mike has a relatively high output and you turn the recording level control on your deck all the way up, but the signal is likely to be very noisy. Even the best preamplifier sections produce some hiss, and this will all be recorded onto the tape along with any tiny leaks from other sources such as FM. The whole system will also be susceptible to 60-Hz hum as well, particularly if your microphone uses an unbalanced cable. Some of this might be reduced by connecting the microphone directly to the line input of your deck, which has a sensitivity similar to that of a receiver's high-level inputs, but the results are still likely to be unsatisfactory. Since your live recordings will probably be of things you want to preserve, why make such compromises right at the beginning? A simple microphone preamplifier will match your microphones to your deck at low cost.

## Disappearing FM

**Q** *Because of very poor distant reception, I subscribed to the FM service of my local cable television company, and for a while I enjoyed immaculate sound. Then, overnight, I discovered I could not pick up my favorite station—another signal was on the same frequen-*

*cy, although other stations were not affected. How can a station come in loud and clear one day and not at all the next, and what can I do to correct it?*

DEAN DE LONG  
Kutztown, PA

**A** I suspect your problem is not a technical one at all, but that doesn't make it any less frustrating. Cable companies do not function simply as master antennas. They receive broadcast signals in exactly the same way you would and then retransmit them through their systems. This allows them to decide which stations they will carry, and on what frequencies. Generally, most companies try to keep FM signals as close as possible to their original places on the dial, although local stations are usually shifted to reduce the possibility of multipath distortion caused by the direct signal's arrival at the tuner's antenna inputs slightly before its cable-processed counterpart. With distant stations, on the other hand, the direct signal is usually too weak to cause such problems, so the original frequency is generally maintained. This is simply a choice the cable company makes, and it can change.

In your case, I would guess that the company decided, for whatever reason, to delete or move the station you like and replace it with something else. They are not obliged to warn you of this in advance. Call the company and ask them. You may not be able to get your station back (although it may simply have been shifted to another frequency), but you should at least get some kind of explanation.

## Audio in a Confined Space

**Q** *I have recently moved into a travel trailer, and this is posing a serious space problem. I can accommodate all of my audio components but my speakers. I need speakers about the height and width of STEREO REVIEW and 10 inches deep. How do I reconcile this requirement with full, rich, deep bass?*

RAY BUCHANAN  
Phoenix, AZ

**A** One of the fortunate things about low-frequency sound is that it is relatively nondirectional, so it doesn't necessarily have to come from the same place as the middle and high frequencies. Purists will argue the point, saying that coherence is very important and that all sound sources should be carefully time-aligned, and they are probably right on technical grounds. But sometimes it's better to have a less-than-ideal arrangement than no arrangement at all (in fact, *all* stereo setups involve compromise of one sort or another).



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The new TX-Seven and TX-Nine audiophile autosound decks employ the same Asymmetrical Charge-Coupled FM Stereo Detector circuitry as Carver's revolutionary TX-11a home tuner. They also incorporate an ingenious automatic computer logic-controlled antenna switching system that further vanquishes multipath distortion.

In point of fact, no other autosound decks in the world — regardless of price — even begin to approach the TX-Seven and TX-Nine's ability to maintain a hiss-free, glitch-free FM listening environment in your car.

**COMPUTER LOGIC-CONTROLLED DIVERSITY ANTENNA SWITCHING DRIVES AROUND MULTIPATH.** One way to get temporary relief from interference at home is to move the antenna around slightly. Instead of physically moving your car antenna, the TX-Seven and TX-Nine use computerized circuitry to switch between *two separate antennas*, one out-of-phase, and one in-phase with incoming FM signals.

When multipath occurs, a special "smart" circuit automatically switches (at the speed of light) to the other antenna, automatically correcting phase and eliminating the multipath before you ever hear it. What little multipath distortion gets through this smart antenna system runs headlong into the remarkable tuner innovation *High Fidelity Magazine* described as "... distinguished (by) its ability to pull clean, noise-free sound out of weak or multipath-ridden signals."

Alone, without antenna diversity switching, the TX-Seven and TX-Nine's Asymmetrical Charge-Coupled FM Detector Circuitry delivers a *net noise and distortion reduction of 93.5%*! Together, they set a new standard for clear, clean FM autosound reproduction.

**REAL WORLD CONFIRMATION.** Both decks were tested on a torturous 6-mile course near the Carver factory which could regularly trigger at least *287 separate multipath occurrences* in conventional autosound FM tuners.

The TX-Seven and TX-Nine with Asymmetrical Charge Coupled FM Detection and diversity antenna system, reduced multipath occurrences to an average of *two* during the same course while listening to the same stations!

**FACTORY—LOADED WITH EXTRAS.** The fifteen random presets on the TX-Seven and TX-Nine are incredibly easy to set. Just press the button marked BEST and the logic circuitry *automatically* selects the fifteen strongest signals and locks them in on the presets. Plus you can select another fifteen on your own!



Naturally both decks are metal tape compatible with Dolby® noise reduction and have auto-reverse transports, separate bass, treble, balance and loudness and four-way fader controls. All tuning and transport functions are signalled with a gentle "beep" that keeps your eyes on the road, not on the compact, ergonomically-styled deck.

There's even a security code system that renders the TX-Seven or TX-Nine inoperable to anyone but you, and a quick removal system so you can slip out your TX-Seven or TX-Nine in seconds for storage in trunk or house.

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## AUDIO Q&A

In your case, the best solution could be to use a pair of good minispeakers—there are lots of them available—located in the best position for good stereo and supplement them with an outboard bass unit. Such a subwoofer need not be huge, and you can probably make do with just one.

The question is, where do you put it?

Trailers, like boats, and airplanes, allow very little flexibility in this regard, but as long as you can fit the subwoofer in *somewhere*, it should do the trick. Depending on its size and shape, you might consider mounting it on the ceiling. To avoid bumping your head on the cabinet, you could position it over another piece of furniture—your listen-

ing chair, say. Alternatively, a first-class car audio system might be a good solution to your problem. The best of these can give home audio components real sonic competition.

### Rescuing Records

**Q** I enjoy listening to my old records but not the awful sound of the scratches caused over the years by wear or improper care. Is there anything I can do to eliminate this problem?

WES WUNSCHEL  
Bentonville, AR

**A** You have come to the right place! I have more gray records than a jukebox clearance depot, and I listen to them all the time. For some detailed thoughts on the subject, you might want to look at my "New Life for Old Recordings" (STEREO REVIEW, November 1985). If that is not immediately available, here are some tips.

*Play them in mono.* Much of the noise caused by dirt and wear is out of phase, so simply switching your receiver or amplifier to mono will cancel out a significant proportion of it. For me, the sacrifice of stereo is more than compensated for by the reduction in noise.

*Play them wet.* Dousing the disc with record-cleaning fluid can reap enormous benefits in quietness. Two cautions, however: First, it's hard to keep a disc wet throughout a complete side without spritzing it periodically, so this inconvenient technique is appropriate primarily when you are trying to get one good play for taping. Second, a record wet-played once will usually *always* have to be wet-played.

*Equalize them.* Most of the noise and distortion caused by wear occurs in the upper frequencies. If you have access to a graphic equalizer, use it to roll off the high end. The uppermost frequencies can usually be cut without sacrificing much of the musical content, but even if you do lose a bit of crispness, the improvement in noise will probably be worth it. If you don't have an equalizer, dubbing the records onto relatively low-quality tape can often achieve the same effect, but without the same control.

*Process them.* While their popularity has waned somewhat, a number of devices have been marketed over the years to help with such problems, and some of them are still available on the secondhand market or from discount mail-order houses. Two possibilities are the SAE 2000 "click and pop machine" and Phase Linear's Autocorrelator.

Bear in mind, however, that very few damaged records can be completely restored to their original condition. The best you can hope for is to make the most annoying faults listenable.

The Pioneer Artists logo is at the top left. The main title is "The Laser News" in a large, stylized font, with "JAZZ ON DIGITAL SOUND LASERVISION" underneath. The background is a collage of LaserDisc covers for artists including Al Jarreau, Reddie Hubbard, VOX-SE, and Lee Ritenour. A LaserDisc disc is shown in the foreground with the "digital SOUND" logo overlaid on it.

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#

by William Wolfe



## A Checklist for the First-Time VCR Buyer

**K**NOWLEDGE is power, especially when you're shopping for a videocassette recorder. There are so many brands on the market and so many different models to choose from, it's a wonder that people are able to decide what to buy at all. But, of course, people *have* bought VCR's—nearly forty million of them. While most advertisements, salesmen, and store displays only add to the difficulty of purchasing a VCR, some basic advice and a little background on the medium can turn a potential nightmare into a happy and rewarding process.

The following checklist of basic decisions in buying a VCR will help you determine what you want your VCR to do. Then you can narrow down the vast number of models by looking through one of the special publications that lists all of the current video equipment now available in stores. With your priorities and a manageable group of model numbers in hand, you'll be ready to begin shopping.

**Format.** Nine out of every ten

VCR's sold in this country are in the VHS format, which makes VHS the obvious choice for nearly every individual situation. Retail stores will have the tapes you want to rent, and your friends will probably have VHS VCR's, making it easy to swap tapes. VHS VCR's produce good pictures, and all but the lowest-priced models come with wireless remote controls and a host of convenience features.

Beta-format VCR's are an endangered species, and prerecorded Beta tapes are scarce. While Beta VCR's are generally less expensive and can produce appreciably better pictures than comparable VHS models, they may not be around long enough to be considered a safe investment.

The 8mm format has generated interest because of its ability to record PCM digital audio and because of the small, full-featured camcorders the format has made possible. But serious interest in 8mm VCR's is justified only if you also plan to purchase an 8mm camcorder. Movies prerecorded on 8mm tape are even more scarce than prerecorded Beta tapes.

**Picture quality.** The pictures produced by VHS, Beta, and 8mm VCR's are remarkably similar—with two exceptions. Most VHS VCR's now have HQ (High Quality) circuitry, which sharpens the

*For the audio enthusiast, video hi-fi is a "must" feature—and both VHS and Beta have it. Frequency response is rated at 20 to 20,000 Hz, and dynamic range is 80 to 90 dB.*

edges of images—limiting picture "blurriness"—and improves color balance. SuperBeta VCR's record and play back pictures that are up to 20 percent more detailed than even those of VHS HQ VCR's, and that is an appreciable difference. It shouldn't pressure you, though, to "go Beta": VHS HQ pictures look very good, and HQ has nearly become a format standard.

**Sound quality.** For an audio enthusiast, video hi-fi is a "must" feature—and both VHS and Beta have it. Hi-fi VCR's have a rated frequency response of 20 to 20,000 Hz and a dynamic range of 80 to 90 dB. All hi-fi VCR's can be used to record music alone, and some come with manual level controls, peak-reading meters, and a headphone jack. Hi-fi VCR's also have stereo audio outputs for connection to an audio receiver or an integrated amplifier, and a few of them are now equipped with stereo amplifiers and speaker jacks, eliminating the need to connect the VCR to your stereo system.

The 8mm format offers two interesting alternatives to VHS Hi-Fi and Beta Hi-Fi, but both have their drawbacks. Some 8mm VCR's have the ability to record up to 24 hours of PCM digital audio on a single 8mm cassette, but frequency response on these tracks is only 20 to 15,000 Hz. All 8mm components can record audio with a system called audio-frequency modulation, which is rated for a frequency response of 20 to 18,000 Hz and a dynamic range of 70 dB—but in mono, not stereo.

**MTS/SAP.** A VCR equipped with an MTS/SAP decoder can receive, record, and play back TV programs with stereo soundtracks or with a separate audio program (such as for bilingual broadcasts). Currently, the networks broadcast at least thirty hours of stereo programming a week, and more is sure to come. Some VCR's have MTS/SAP decoders built into them, and others have a jack for connecting an optional decoder, which usually costs \$100 to \$200. As with hi-fi videocassettes, a VCR used to record and play stereo TV should be connected to an audio component system or to a pair of powered speakers.

Some television sets are also equipped with an MTS/SAP decoder, but you can "time-shift" stereo programs only if your VCR has its own MTS/SAP decoder.

**Remote control.** For the little bit of "couch potato" in all of us, even most inexpensive VCR's come with a wireless remote control. A basic one operates standard transport controls such as play, rewind,



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- WISCONSIN** Appleton, Oak Creek, Waukegan: American TV & Appliances • Madison: American TV & Appliances, Specialized Sound

## VIDEO BASICS

and pause; the more sophisticated units control special-effects functions, such as variable-speed slow motion, allow on-screen programming, and give random access to TV channels. Some manufacturers offer deluxe remotes that operate their TV sets and their VCR's and sometimes even audio and video components made by other manufacturers. As with any seductive video feature, determine which functions are vital for you and which you can live without.

**Digital enhancements.** First employed in quartz-synthesis video tuners, digital VCR technology is now used to reduce video noise, to improve existing special effects and add new ones, and to provide an inset picture that can be viewed simultaneously with the main picture on any TV screen. Videophiles and sports fans seem to love the picture-in-picture feature, but the noise reduction and special effects are more likely to appeal to the average VCR buyer. As with most new technology, though, you have to pay a premium for these digital features.

**Programmability.** You should be concerned with a VCR's ability to time-shift only if you plan to tape TV shows for later viewing. Most mid-priced to high-end VCR's can be programmed to record between the following fourteen to twenty-one days. This is more than enough to cover ordinary, daily situations and most extended absences from home. Advertisements and brochures usually list this feature as "4 event/14 day" or "8 event/21 day" programmability.

Programming itself has been made easier on VCR's that have a feature called "on-screen programming." Using buttons located on the VCR's remote control, you can summon a graphics "menu" to your TV screen and follow simple visual prompts to issue programming commands. It's the ultimate video convenience feature.

**Audio dubbing.** The ability to dub a new soundtrack over the original one on a videocassette without disturbing the video portion of the signal is called audio dubbing. The feature is most useful for people who make home movies and want

to add music or sound effects between sections of dialogue. Audio dubbing is also good for monkeying around with movies—you can come up with hilarious hybrids that resemble Woody Allen's *What's Up Tiger Lily?* But if you aren't interested in becoming a video *auteur*, it is not essential.

**Video heads.** Video signals are recorded on tape by video heads, and video heads also read those signals when you play back a tape. The choice is how many heads you need: two heads (the minimum) or more.

*There is no point in paying more for extra heads if you don't notice any improvement in the picture quality or special effects over VCR's with the minimum two heads.*

Less expensive VCR's have two heads, and mid-priced and high-end units generally have four or five. Four- and five-head machines are said to produce clearer pictures and more stable special effects, but it is a good idea to judge this for yourself. When shopping, compare recordings from a two-head VCR and a four- or five-head VCR to see if you notice a difference. Then compare still-frame and slow-motion playback. If you don't see any difference, there is no point in paying more for more heads.

There are other considerations as well. If you have cable, a VCR with a "cable-ready tuner" will do away with the need for signal-degrading splitters or junction boxes. Styling, warranty terms, and ease of use are also important factors. Styling preferences, of course, are subjective, and warranties are fairly standard at ninety days for parts and labor. As for ease of use, if the VCR comes with a wireless remote control that has buttons for on-screen programming, it will be no harder to use than a remote-controlled television. And because of all the great movies and music programs that you can rent or buy, it will be a lot more fun to watch. □



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## PIONEER DEX-77

by Julian Hirsch and Christopher Greenleaf

**P**IONEER'S DEX-77 is a new addition to the company's Centrate series of deluxe automobile stereo components. It includes an AM/FM tuner, a CD player, and an audio preamplifier. The line-level stereo audio outputs are intended to drive an external power amplifier.

Although the DEX-77 is exceptionally flexible, it has no more front-panel controls than most other high-performance after-market car stereo units. Most of its controls, however, serve dual, and sometimes triple, functions, depending on whether the radio or the CD player is being used. The CD loading slot, which is lined with a soft (non-scratch) material, extends across the top of the panel. Although some control functions are obvious, others are not. For example, the button marked FU (for "function") is not only the power switch but also switches between radio and CD operation. Many of the other controls are identifiable by equally arcane abbreviations.

Another unusual feature of the Pioneer DEX-77 is its antitheft secret-code system. To use it, a four-digit numerical code is stored in the system's computer memory. Subsequently, if the unit is removed from the car or the DC power source from the car battery is interrupted for even a moment, the DEX-77 cannot be operated without first entering the same code by means of a fairly complex, nonobvious procedure.

When a CD is inserted, the lumi-

nous panel display first shows the total playing time and number of tracks on the disc, then the current track number and its elapsed time. Two large buttons on the panel step the pickup forward or backward one track at a time. The CD player can sample all the tracks on a disc, and any of the sampled tracks can be selected for subsequent playback in sequence at the touch of a button. Pressing R. PLAY plays all the tracks in a random order.

In the tuner mode, the panel display shows the station frequency and the status of all applicable controls. The digital frequency display also serves as a clock. Tuning is done by the same two buttons used for track stepping on a CD. Normally, a single touch starts a scan in the corresponding direction until a suitable signal is received. Pressing both buttons simultaneously toggles between the auto-scan and manual tuning modes.

The DEX-77 has six preset station memories, each of which can be assigned to three different FM channels and one AM channel. There is also a "best station" feature in which the tuner scans an entire band and automatically assigns the six strongest stations to the preset memories. The preset-scan tuning mode sequentially tunes the radio to each preset frequency and plays it for about 8 seconds before proceeding to the next station. Price: \$850. Pioneer Electronics (USA), Inc., Dept. SR, P.O. Box 1760, Long Beach, CA 90801.

### Lab Tests

The specifications for the DEX-77 omit several key items, including the line-output voltage and such tuner parameters as selectivity, capture ratio, and AM rejection.

The FM tuner was one of the most sensitive we have measured, following in the tradition of previous Pioneer "Super Tuners." The distortion, like that of most car tuners, was moderately high, about 0.6 percent in mono and 0.8 percent in stereo. The noise levels were reasonably low. Also like many other car tuners, the DEX-77 has a signal-controlled channel-blending circuit that makes it difficult to determine its stereo threshold. Using stereo modulation, with both channels modulated in opposite phase, we arbitrarily defined the stereo threshold as the signal input with which the audio output was down 6 dB from its maximum level. In this case, it was about 36 dBf (17.3 microvolts, or  $\mu\text{V}$ , at the 75-ohm antenna input). The stereo indicator light, however, came on with an input of only 3 dBf (0.4  $\mu\text{V}$ ).

Like most digital-synthesis FM tuners, the DEX-77 had a moderate frequency tuning error (23 kHz) that slightly degraded its usable-sensitivity measurement, which was nevertheless outstanding. The error had no significant effect at the 65-dBf input used for most other tuner measurements.

The alternate-channel selectivity could not be measured—it appeared to be an impossibly high 110 dB! This result was probably due to the action of an internal automatic-gain-control (AGC) circuit that desensitized the tuner at the high signal levels used for a selectivity measurement. Our more reasonable adjacent-channel reading of 6 dB indicates good tuner selectivity, however. Among our tuner measurements only the capture ratio (4.5 dB) was clearly substandard, and it seems inconsistent with the overall performance of the DEX-77.

The CD section's specifications are much like those of any home unit. The control unit's built-in audio section, however, and possibly some other effects of combining the control functions of the CD player



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**Heart** • What About Love?, These Eyes, Dreams, If Looks Could Kill, Nothin' At All, Never, etc. Capitol 144276

**Elvis Presley: Return Of The Rocker** • King Of The Whole Wide World, Return To Sender, Stuck On You, etc. RCA 164071

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**Daryl Hall: Three Hearts In The Happy Ending Machine** • Dreamtime, Foolish Pride, Someone Like You, For You, etc. RCA 123691

**Mozart, Symphonies Nos. 40 & 41 (Jupiter)** Chicago Symphony Orchestra led by James Levine. RCA DIGITAL 104810

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**Phil Collins: No Jacket Required** • One More Night, Sussudio, Don't Lose My Number, etc. Atlantic 120771

**Linda Ronstadt: For Sentimental Reasons,** My Funny Valentine, etc. Asylum 154382



125074



113333

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153740

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154381



173824

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154201



170220

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**Pavarotti: Mamma** • Title song, Vien-i sul mar, more. Arranged & conducted by Henry Mancini. London DIGITAL 115310

154201

170220

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# CAR STEREO

with those of the tuner, have slightly diminished some of the usual CD performance standards. Nevertheless, the player's performance was more than adequate for automotive service. For instance, playback was relatively unaffected by physical shocks; a rather strong blow was needed in order to produce a momentary dropout.

The Pioneer DEX-77 is a very impressive product. It is difficult to imagine a better use of limited physical space and a manageable number of controls to operate a system with so much versatility. A negative by-product of this achievement is a degree of operating complexity that may render most of the features of the system unusable by many people. Almost all of the controls and features are explained reasonably well in the instruction manual, but a large percentage of users do not even look at the instructions.

I must praise, however, the DEX-77's incredibly sensitive FM tuner, which surpassed in that respect not only just about every car FM tuner we have tested but most home tuners as well. Moreover, every other function of the CD player and tuner worked exactly as claimed. Even if you don't use all of its versatility, this is a top-performing unit. *J.H.*

## Road Tests

The Pioneer DEX-77 was a very welcome electronic passenger once I'd worked out how to mount its two modules in my car. The separate tuner pack and power wiring harness came with plenty of cable, which I appreciated, and extensions are available if needed. The DEX-77 can ride at any angle up to 30 degrees off horizontal, which enables it to fit in any normal installation and adapt even to most unusual mounting situations.

My periodic trips down to the Brooklyn waterfront to test various head units on the Belgian block streets and crumbling trolley tracks around the old Navy Yard have developed into a ritual. I always drive around there at the same speed, so I have a fair chance of presenting each car CD or tape player I test with the same regular and irregular shakes and jolts. The DEX-77 performed faultlessly, never muting or

mistracking. I missed a control many other CD players have: high-speed scanning through a track with the music audible.

I decided I liked Pioneer's choice not to eject a CD automatically when the car's ignition is switched off. Weighed against the chances of leaving a disc partially exposed to hot sunlight or visible to passersby, the risk of leaving it inside the player is less.

The sound of both the compact disc player and the FM tuner was smooth, unstrained, and free from noise. The few multipath problems I encountered were under the approaches to the big East River bridges, where many a tuner has thrown its hands in the air. Pioneer's Super Tuner III circuitry handled even these nasty reception conditions with aplomb. To my surprise, the AM tuner's quieting was effective without removing all the high frequencies from the signal. Impulse noises were nearly nonexis-

tent. In a city with extreme signal conditions, this was simply outstanding performance. Also, the FM high-blend circuitry was discreet and very effective in its operation.

I found this an unusually easy CD player and tuner to learn to operate, and use on the road only confirmed my pleasant first impressions. The illumination is nicely done. Though most of the symbols are legible only close up, their positions enabled me to tell the unit's status even at a distance. All buttons were firm to the touch, making unintentional commands unlikely.

I applaud, too, the novel security system, which allows a user not to enter a code if he prefers. The warning stickers that come with the DEX-77 should eventually be a good deterrent to car thieves, who will latch onto what will be, for them, an unusable unit. All in all, this is a terrific product that I'd proudly own and use. *C.G.*

*Circle 139 on reader service card*

## FEATURES

- Digital-synthesis AM/FM tuner with Super Tuner III circuitry
- Manual, auto-seek, preset, and preset-scan tuning
- Up to twenty-four station presets (eighteen FM, six AM)
- "Best stations" memory to preset strongest stations
- Three-position sensitivity switch for seek function
- Line-level audio outputs
- Bass and treble slider tone controls
- Secret-code function to prevent operation of stolen unit

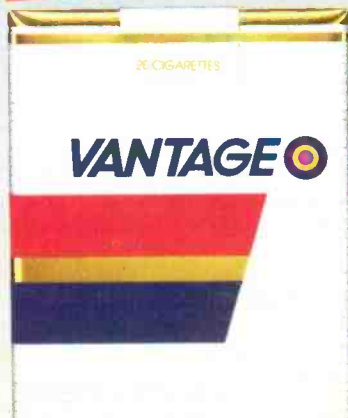
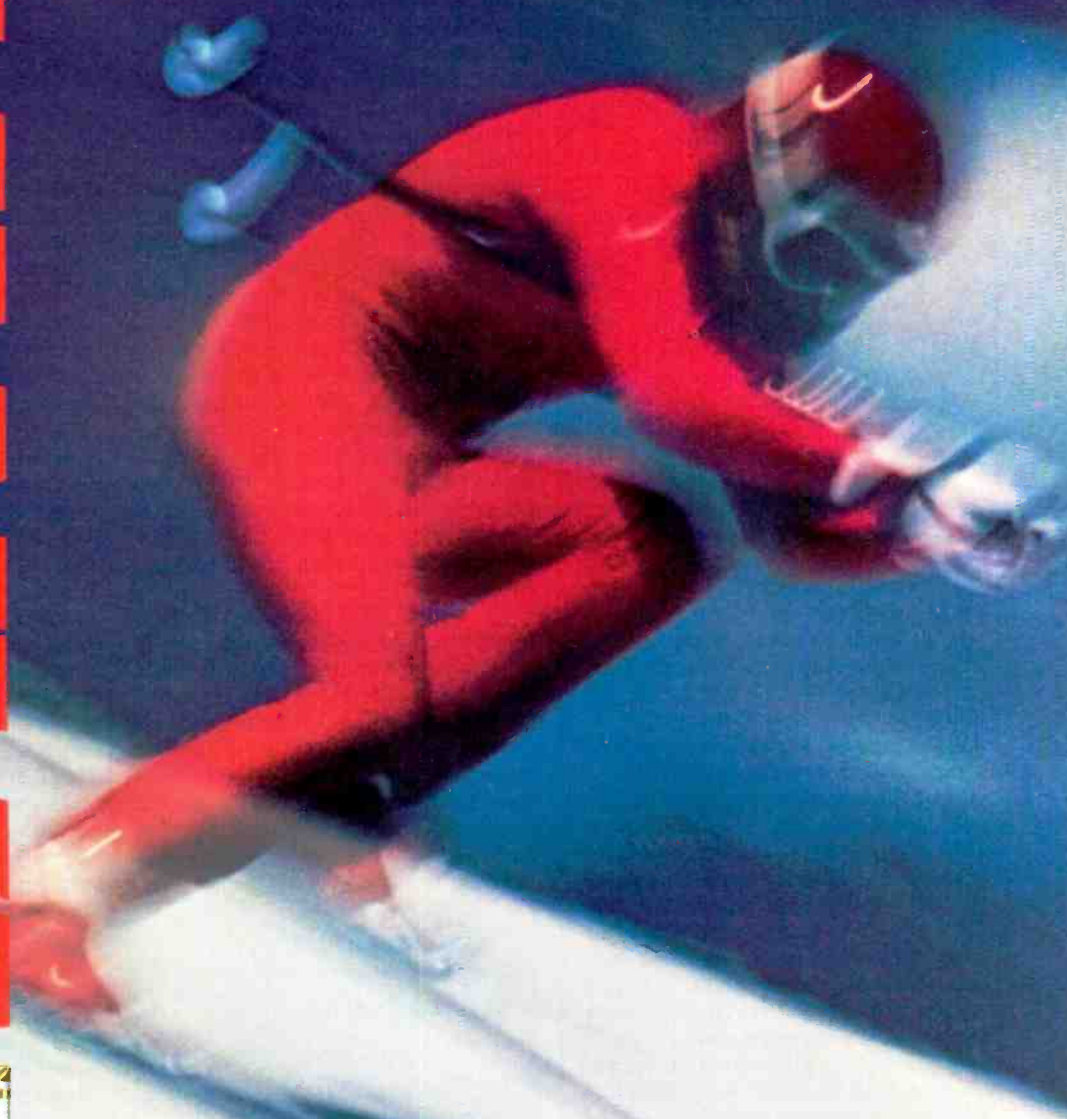
## LABORATORY MEASUREMENTS

- Tuner Section** (all measurements for FM only except frequency response)
  - Mono usable sensitivity** (75-ohm input): 12 dBf (1.1  $\mu$ V)
  - 50-dB quieting sensitivity** (75-ohm input): mono, 10.5 dBf (0.9  $\mu$ V); stereo, 33 dBf (12.3  $\mu$ V)
  - Signal-to-noise ratio** at 65 dBf: mono, 69 dB; stereo, 67.5 dB
  - Harmonic distortion** (THD + noise) at 65 dBf: mono, 0.6%; stereo, 0.82%
  - AM rejection** at 65 dBf: 52 dB
  - Selectivity**: alternate-channel, not measurable (see text); adjacent-channel, 6 dB
  - Stereo channel separation** at 100, 1,000, and 10,000 Hz: 36, 41, and 31 dB
  - Frequency response**: FM, 30 to 15,000 Hz +2.7, -1 dB; AM, -6 dB at 57 and 3,200 Hz
- CD Player Section**
  - Total harmonic distortion** at 1,000 Hz: 0.056% referred to 0 dB, 0.02% referred to -6 dB, 0.01% referred to -10 dB
  - Signal-to-noise ratio** (A-weighted): 66 dB
  - Channel separation**: 76 dB at 1,000 Hz, 51 dB at 20,000 Hz
  - Frequency response**: +0.35, -1.4 dB from 20 to 20,000 Hz
  - Impact resistance**: top, A; sides, A+
- Control Section**
  - Maximum output voltage** (0-dB CD or 100% FM modulation): 0.34 volt
  - Tone-control range**:  $\pm 8$  dB at 100 and 10,000 Hz
  - Loudness compensation** (-30-dB volume setting): +8 dB at 50 Hz, +5.5 dB at 10,000 Hz



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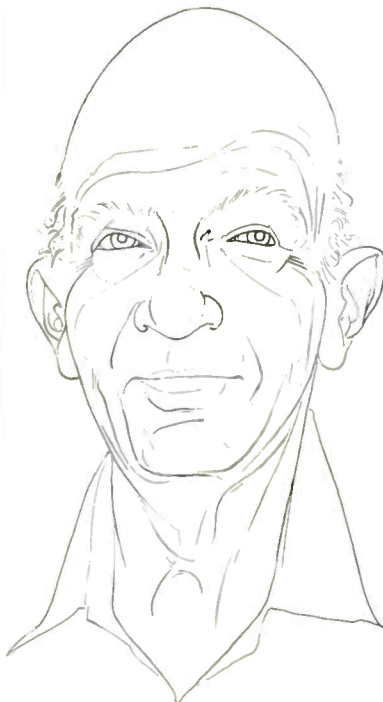


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by Julian Hirsch



## Testing Car Stereo

**F**UNCTIONALLY, a car stereo receiver is identical to a home receiver, with the possible addition of a built-in cassette deck or CD player. If you compare their measured performance, however, you will notice some striking differences between the two. Numerical differences in the measurements can be rather large, with the car receiver usually (though not always) appearing to be far inferior to its stationary counterpart. It is fair to ask why this is so and whether it really signifies that car receivers, as a class, do not match home receivers in important aspects of their performance.

Most of the differences in measurements come from the unified design and construction of a car receiver, which permits no access to its individual sections (tuner, preamplifier, power amplifier, tape deck, etc.). Even though a home receiver is also an "all-in-one" design, it has inputs for external sources, such as phono cartridges or CD players, and it usually also has

tape-recorder outputs that precede its amplifying stages. These features allow us to measure each of its sections more or less independently.

In contrast, only a few car receivers have line outputs (for driving additional amplifiers) that follow their tone controls but precede the power-amplifier sections. There is in these cases no access to the program inputs to the amplifier and thus no way to measure the distortion, noise, or frequency response of an individual section. On the other hand, a number of after-market car radios have line outputs only and require external power amplifiers, which makes it possible to measure tuner (or tape-deck) performance independently of the power amplifier but not of the preamplifier and its tone controls.

A few car receivers have line inputs, usually designed to be used with external CD players. These inputs provide access to the preamplifier's inputs, allowing the amplifier characteristics to be measured free of influence from the tuner section. Usually, though, this is not possible, and the performance of neither the tuner *nor* the amplifier can be determined in any meaningful way.

Of course, the user of such a receiver could not care a whit about its internal components and their performance, and this is as it should be. Still, to the degree that our measurements of car receivers might be compared with those of home receivers, the disparities that sometimes exist must surely raise questions among readers of STEREO REVIEW, if not the general public.

The primary offender is the FM tuner section. In part, that is unavoidable because of the conditions under which it must operate. A car radio usually receives very weak signals unless it is close to a transmitter. This situation obviously calls for a sensitive tuner, but one that does not overload when presented with a strong signal. The same circumstances require the tuner to be highly selective if it is to be free of cross-modulation effects when passing a transmitter a few hundred yards away. But all these are characteristics of a very high-quality, and thus expensive tuner, and they are not likely to be found in any affordable car radios.

The worst enemy of mobile reception is multipath distortion. As the car travels a couple of feet, a fully quieted signal may drop out completely and then return to full strength. This "picket-fencing" effect can vary in its severity, from imposing a mild noise "flutter" on the signal to completely destroying reception. The effect is even worse on stereo broadcasts, whose channel separation can be degraded severely by an amount of multipath that would be practically inaudible on a mono transmission. Multipath distortion is minimized by a good (numerically low) capture ratio and by high AM rejection. Neither of these parameters is likely to be particularly good in a car radio compared with a good home receiver.

To deal with the problem of signal-level fluctuations, most car stereo manufacturers use some form of signal-controlled channel-blending circuit. These circuits gradually convert the reception from stereo to mono as the signal strength decreases, but there are large differences among them in the actual relationship between channel separation and signal level. Almost universally, however, the blending takes place at such a high signal level (50 dBf or more) that the tuner is actually delivering a mono output most of the time except when the car is in a really strong signal area. Nevertheless, the stereo indicator light usually comes on at very low levels, implying a stereo mode that does not necessarily exist. Fortunately, not much separation is

### Tested This Month

*Kyocera D-811  
Cassette Deck  
JSE Infinite Slope  
Model 1 Speaker  
Vector Research  
VCD-770 CD Player  
Speakerlab DAS 2  
Speaker  
Ortofon X3-MC Phono  
Cartridge*



needed in a car installation, given the closeness of the listeners to the speakers, so the 5 to 10 dB of separation that you *might* actually have could be adequate.

These blending circuits are often designed to give a nearly constant signal-to-noise ratio (S/N) over a wide range of signal strengths, which seems reasonable. Since a mono signal has a 20-dB advantage over stereo in respect to S/N, it is possible to maintain an S/N of 50 to 55 dB over a wide range of signal levels with the aid of a well-designed blending circuit.

Automatic channel blending seriously complicates the measurement of quieting and channel separation, however. In some respects, it is not unlike trying to nail jelly to a tree (as the apt title of a book on computer languages puts it). The measurements simply don't come out the way one would expect them to, and comparisons of the results with those from conventional home tuners are risky at best.

But the most obvious difference between car FM tuners and home tuners is in their distortion levels. I am not entirely certain why this is so—higher distortion would be an expected result of very high selectivity, which is a desirable property of a car radio, but few we have measured have been as good in this respect as the typical low-priced home receiver, and many have marginally acceptable selectivity. Whatever the reason, it is routine for us to measure FM tuner distortion levels exceeding 0.5 percent, and sometimes well over 1 percent, compared with the 0.1 or 0.2 percent distortion of almost any home tuner.

These high tuner distortion readings—which, fortunately, are not particularly audible in normal use—make it impossible to measure the distortion of a car receiver's amplifier, since the *input* signal to the amplifier is the *output* signal of the tuner. The amplifier section has its revenge, however: we also cannot measure the frequency response of the tuner (or cassette deck, or CD player), since its output must pass through the tone controls before being measured. Some car receiver tone controls *may* have flat response (if you can find their center

settings, which is another matter), and others may not—we have no way of knowing. Of course, we *do* measure the unit's frequency response, as well as noise level, but you must realize that our results apply to the entire receiver, not the tuner or amplifier sections alone.

The cassette deck's performance is less compromised than any other part of a car receiver. It still suffers from the generic ailments of cassette decks—flutter, speed error, frequency-response errors, and (in auto-reverse models) differences in re-

*Most of the disparities in measurements between car and home receivers come from the car receivers' unified design and construction, which gives no access to their individual sections.*

sponse for forward and reverse playback—but these are not really due to its presence in a car stereo component. In fact, most of the car decks we have tested have done a creditable job. Here, too, though, we cannot measure the *true* frequency response.

The final point to be aware of does not really concern measurement problems but rather the product specifications. Without a doubt, the power ratings of car receivers are the last bastion of the totally fictional specifications that used to be common in the audio industry, before the Federal Trade Commission stepped in to restore order. Most of the car stereo power ratings we have seen are patently impossible, although here and there a manufacturer will remain within the constraints of physical laws in giving a power-output rating.

A car receiver operates from a 12-volt battery (the actual voltage in a car can be more or less than this, but it is a good value to use for illustration). If one side of its audio output is connected to a ground (the car's frame or the negative side of its battery), the absolute maximum peak voltage that can appear across the

speaker load is 12 volts. In fact, it must be less than that since there is some loss across the output transistors. But even if we ignore that phenomenon, the peak-to-peak value of a sine-wave output (which is used to establish a power rating) cannot exceed 12 volts. The rms value of that sine wave is about 4.25 volts. If the speaker impedance is 4 ohms, a common value, 4.25 volts rms represents a power output of about 4.5 watts. If the speaker outputs have grounded returns, a power rating appreciably higher than 4.5 watts is fanciful, to say the least.

Another category of car amplifier, found in many of the better after-market receivers, uses "bridged" output sections to get more power. You can recognize these models by their installation warnings *not* to ground *either* side of a speaker output. Bridging effectively doubles the available signal voltage, which in our example means that 8.5 volts rms can be delivered to the speaker. With a 4-ohm speaker, that is about 18 watts. If the rating is more than that, don't believe it!

It is possible to obtain far higher power outputs from a car amplifier and a 12-volt battery, but it requires an inverter power supply that steps up the 12 volts to whatever is needed by the output transistors. In general, such a power supply is available only in after-market external amplifiers, whose ratings can exceed 200 watts.

In case you are wondering how car receiver manufacturers can justify their exaggerated power claims, take a close look at the specs. They usually say something like "maximum power output" or "power output at 10% distortion." When I try to match these figures, I can only approach them by driving the amplifier section into hard clipping. Even then, I usually cannot match the rating, since I do not wish to destroy the unit—and I think that would be likely with such severe overdriving. It's true that if the waveform is square instead of sinusoidal, its power is doubled. But that just reminds me of the old saying, "Figures don't lie, but liars figure." You wouldn't care to listen to that kind of distortion for very long! □

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## KYOCERA D-811 CASSETTE DECK

*Craig Stark, Hirsch-Houck Laboratories*

**T**HE Kyocera D-811 cassette deck incorporates a large number of advanced features, including a direct-drive dual-capstan transport, Dolby HX Pro headroom-extension circuitry, a calibration system for the Dolby B and Dolby C noise-reduction circuits, and automated program search and memory replay.

The D-811's transport uses three motors. The first is direct-coupled to the pulling capstan (the other capstan, the holdback capstan, is belt-coupled). A second motor drives the two reel hubs, and a third is used to operate the tape-gate and pinch-roller mechanisms for quiet, shock-free operation with soft-touch control buttons. A single sinter-alloy tape head is used for both record and playback functions.

The Dolby HX Pro headroom-extension system used in the D-811 was developed originally by B&O and Dolby Laboratories. The HX Pro circuitry continuously senses the high-frequency demands of the music and slightly reduces the bias current when necessary in order to prevent treble saturation of the tape. The result is significantly better high-frequency performance without an audible increase in low-frequency distortion.

The D-811 has a rather conventional cassette-well design. An illuminated area at the back of the well shows the remaining tape per side clearly, though label visibility is limited. While most decks today use sensors within the well to set the bias and equalization for the cassette type in use, the D-811 has

manual tape-selector pushbuttons (unaided by LED indicators) for this purpose.

A four-way, four-digit tape counter can be switched to display elapsed time, remaining time, tape length (C-60, C-90 or large-hub C-46), or conventional counter units. Signal levels are shown on a pair of twelve-segment-per-channel peak-reading indicators that are calibrated from +7 to -30 dB, with 0 dB indicating Dolby level. Two switches determine whether Dolby B, Dolby C, or no noise-reduction system is used. An auto-search facility enables the user to audition, then play or skip selections that have 4-second pauses between them; a second switch is provided to generate 4-second pauses in the record mode.

Memory rewind/replay switches and jacks both for headphones and for a pair of microphones are nicely concealed behind a fold-down sub-panel. The same panel hides other less frequently used controls, such as those for headphone and output

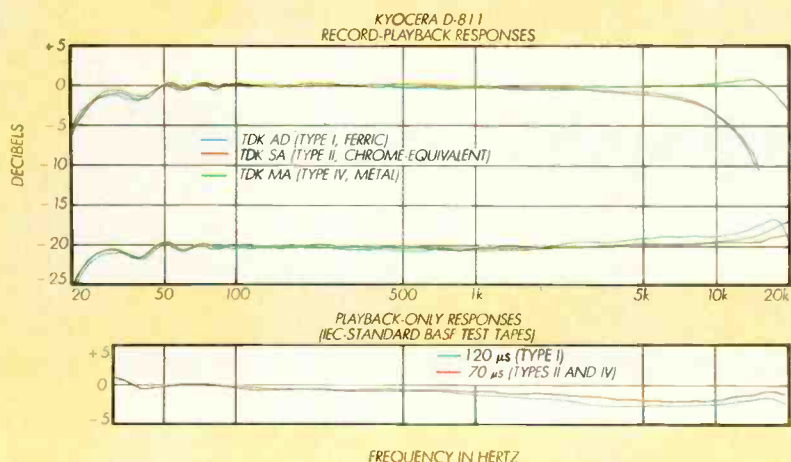
# TEST REPORTS

levels, record channel balance, bias adjustment, and a switch for a 400-Hz Dolby tone generator. The tone generator and a pair of rear-panel screwdriver controls enable the user

to compensate, if necessary, for tape-sensitivity differences that would affect the calibration (and thus the frequency response) of the Dolby noise-reduction systems.

## FEATURES

- Three-motor, dual-capstan, direct-drive transport.
- HX Pro headroom-extension system
- Dolby B and Dolby C
- Four-way time-reading tape counter
- Twelve-segment-per-channel peak-level indicators
- User-adjustable bias and Dolby calibration controls
- Memory rewind/replay and program-preview circuits
- Punch-in record capability
- Separate playback level controls for output and headphones
- Built-in microphone inputs
- Sendust-alloy record/playback head
- Defeatable FM-multiplex filter



## LABORATORY MEASUREMENTS

**Fast-forward time (C-60):** 75 seconds

**Rewind time (C-60):** 73 seconds

**Speed error:** +0.17%

**Dolby tracking error:** Dolby B, +1.5, -0 dB; Dolby C, +3.0, -0 dB

**Wow-and-flutter:** 0.022% wrms, 0.035% DIN peak-weighted

**Line input for indicated 0 dB:** 75 mV

**Line output at indicated 0 dB:** 0.59 volt

**Microphone input for indicated 0 dB:** 0.52 mV

**Microphone-input overload point:** 64 mV

**Meter indication at IEC-standard 0 dB:** +0 dB

**Tape:** TDK AD (Type I, ferric)

**IEC 0-dB distortion:** 1.1%

**Meter indication at 3% third-harmonic distortion:** +2 dB

**Signal-to-noise ratios (in decibels):**

	Unwtd.	A-wtd.	CCIR
NR off	52.0	57.3	55.5
Dolby B	56.5	69.2	69.5
Dolby C	57.5	73.5	78.4

**Tape:** TDK SA (Type II, chrome-equivalent)

**IEC 0-dB distortion:** 1.5%

**Meter indication at 3% third-harmonic distortion:** +1 dB

**Signal-to-noise ratios (in decibels):**

	Unwtd.	A-wtd.	CCIR
NR off	53.4	59.6	58.0
Dolby B	56.5	67.8	67.9
Dolby C	57.5	74.3	77.0

**Tape:** TDK MA (Type IV, metal)

**IEC 0-dB distortion:** 1.5%

**Meter indication at 3% third-harmonic distortion:** +2 dB

**Signal-to-noise ratios (in decibels):**

	Unwtd.	A-wtd.	CCIR
NR off	53.0	58.8	57.0
Dolby B	56.4	67.2	67.1
Dolby C	57.5	73.4	76.2

The main panel of the D-811 also contains switches for using an external timer and for activating or deactivating an FM stereo multiplex filter. In addition to the usual input/output jacks, the rear panel provides a 200-watt unswitched AC outlet and a connector for an accessory remote-control device.

The Kyocera D-811 is slightly larger than an average cassette deck, measuring 18½ inches wide, 5½ inches high, and 12½ inches deep. It weighs slightly over 18 lbs. Price: \$625. Kyocera International, Dept. SR, 7 Powder Horn Dr., Warren, NJ 07060.

## Lab Tests

The D-811 produced a very satisfactory frequency response, within ±2 dB, with our IEC-standard ferric and CrO<sub>2</sub> playback test tapes. We checked the overall record-playback response with certified center-line samples of TDK AD (ferric), TDK SA (chrome-equivalent), and TDK MA (metal) cassettes. At the customary -20-dB measurement level, the response of all three tapes was within ±3 dB from below 25 Hz to our 20,000-Hz measurement limit. At the same time, the rising character of the treble responses shown in the graph suggests that the tapes were slightly underbiased. While the degree of correction required to optimize performance would be well within the range of the D-811's user-adjustable bias control, we did not modify the bias.

At the IEC 0-dB level (250 nanowebers per meter), the positive influence of the HX Pro system is clearly apparent in the graph. The high-frequency headroom (-3 dB) was extended all the way to 20,000 Hz with TDK MA and nearly to 10,000 Hz with the more conventional ferric and CrO<sub>2</sub>-type formulations. The undulations in bass response below 100 Hz, typical concomitants of a two-head design, were too small to be audible.

The wow-and-flutter figures for the D-811 were very good, as was its tape handling in general. The measured signal-to-noise ratios were also good. Using metal tape did not produce the expected improvement over the other types, although this



## TEST REPORTS

will not be an important consideration for many users. The Dolby B and Dolby C tracking errors were within the normal range, and they could have been improved on by use of the deck's calibration controls, but the two-head design made the calibration procedure so cumbersome that we did not use it.

Microphone and line-level input sensitivities were both typical, though the microphone circuitry overloaded at a lower level than we would like. High-speed winding times were very good, and the speed accuracy was exceptional.

### Comments

While we could not make instantaneous A/B comparisons between source and tape because of the D-811's combined record/playback head, we were generally pleased with the sound quality of our test recordings. The deck's low wow-and-flutter was evident in the clarity of piano tones, for example, though on wide-range material a small amount of residual hiss was audible even using Dolby C. And while the imaging capabilities of this machine could not match those of our reference deck, neither did its price.

Serious audiophiles will appreciate the ability to adjust the Dolby calibration, even though most tapes today do not require such adjustment and the D-811's two-head design makes rapid, accurate calibration rather cumbersome. The single record/playback head and the lack of a calibrated tone generator also make it difficult to set the user-adjustable bias control properly.

The punch-in record capability, which allows you to enter the record mode directly from playback—as close to a real editing facility as you can get with cassettes—worked very well, without generating the usual turn-on clicks. The layout of the deck's transport-control pushbuttons could have been improved, as could the legibility of the front-panel markings, but these are minor caveats. In general the Kyocera D-811 appears to be a well-built, well-behaved, and excellent-sounding deck suitable for all but the most demanding audiophile applications.

**Circle 140 on reader service card**



## JSE INFINITE SLOPE MODEL 1 SPEAKER

*Julian Hirsch, Hirsch-Houck Laboratories*

**T**HE JSE Infinite Slope Model 1 speakers outwardly resemble many other speaker systems but embody two unique design features. The most obvious one is suggested by the term "infinite slope," which implies the use of steep crossover filters. Although not truly infinite, at about 100 dB per octave the JSE crossover slopes contrast sharply with the usual 6-, 12-, or 18-dB-per-octave slopes of other speaker systems.

The advantages of using infinite-slope crossovers, if they could be realized in practice, would include: 1) handling any specific audio frequency by only one driver, thus eliminating the response irregularities and pattern distortions that result when two or more drivers operate at the same frequency; 2) reducing intermodulation distortion by

eliminating bass frequencies from high-frequency drivers; 3) increasing dynamic range and power-handling ability, since the middle- and high-frequency drivers do not have to be designed to handle the high cone excursions imposed by bass frequencies; 4) eliminating "cone breakup" and the associated response irregularities that occur when a speaker driver is driven at frequencies above its design limits. Although the JSE crossover slopes are not really infinite, the manufacturer claims that all these benefits are realized in its products.

A conventional crossover network becomes complex (and costly) when its slope exceeds the usual 6 or 12 dB per octave. In addition, phase shifts can be very large in the vicinity of the crossover frequency when a large number of reactive elements

## TEST REPORTS

(capacitors and inductors) are used. According to JSE, the patented crossover design of the company's speakers uses inductive coupling between some of its coils to produce "zeros" (transmission nulls) in the crossover response just outside the transmission band. These zeros are canceled by "poles" (transmission maxima) in the adjacent transmission band. The result is a uniform overall amplitude and phase characteristic said to be a good approximation to that of an ideal all-pole, minimum-phase transfer function.

The second unique element in the JSE speaker's design is the Phase Shift Bass Loading system, which is claimed to provide enhanced low-bass response, flatter mid-bass response, and lower distortion than conventional woofer configurations. Two woofers, of different sizes, operate in a sealed space. The amplitude and phase of the signal driving the larger woofer are modified so that the two drivers operate in phase at the lower end of the bass spectrum (40 Hz), giving an augmented output at low-bass frequencies. At higher frequencies, the output of the larger woofer is attenuated and its phase is shifted so that the two woofers are driven in quadrature (90 degrees apart) at the upper end of the larger woofer's range

(about 300 Hz). The attenuation and phase shift together produce a steep crossover between the two bass drivers, leaving the smaller one to carry the middle and upper bass (as well as the midrange) without the usual response peak and resulting boominess.

The JSE Infinite Slope Model 1 is a fairly compact floor-standing system, equipped with casters for easy movement. Its wooden cabinet (available in walnut, natural-oak, or black-lacquer finishes) measures 31 inches high, 14 $\frac{1}{4}$  inches deep, and 13 inches wide at the bottom. The front panel slopes back at a 15-degree angle, reducing the depth of the speaker's top surface to about 6 $\frac{3}{4}$  inches. Each speaker weighs about 55 pounds.

The black grille cloth's frame un-snaps to reveal a fully finished speakerboard with three vertically aligned drivers. The 8-inch low-bass driver is just below the center of the panel, with the 6 $\frac{1}{2}$ -inch mid-bass/midrange driver above it. The 8-inch driver cone is made of reinforced polypropylene, and the 6 $\frac{1}{2}$ -inch cone is formed of filled polypropylene. Both drivers are heavily damped, with Q ratings of about 0.25. Near the top of the speakerboard is the 1-inch dome tweeter, which operates above 2,000 Hz. It is

damped and cooled by ferrofluid in its magnetic gap and is rated to handle over 300 watts.

The JSE Model 1 is recommended for use with amplifiers rated to deliver from 20 to 300 watts into 8-ohm loads. Its nominal impedance is 8 ohms, with a 5-ohm minimum. The system's sensitivity (with a 2.83-volt drive level) is rated as 90 dB sound-pressure level (SPL) at 1 meter, the frequency response as 40 to 20,000 Hz  $\pm 3$  dB. Price: \$969 per pair. JSE, Dept. SR, 519 East Middle Turnpike, Manchester, CT 06040.

### Lab Tests

The averaged room-response curve of the JSE Model 1 speakers, measured on the axis of one cabinet and about 30 degrees off the axis of the other, was remarkably smooth and free of the usual amplitude irregularities caused by a room's standing waves. The horizontal dispersion (confirmed by FFT response measurements but also evident in the room curves) was very good for a speaker using a single 1-inch tweeter, with little difference in response on-axis and 45 degrees off-axis below 10,000 Hz and only about 8 dB difference in response at 15,000 Hz.

The close-miked woofer response was measured in two ways: separately for each woofer and at a single point midway between the two. The results were similar, showing a  $\pm 1.5$ -dB variation from 60 to 1,100 Hz. The woofer curve spliced easily to the room curve, yielding a composite frequency response that varied only  $\pm 3$  dB from 56 to 20,000 Hz. The only significant departure from flatness was a slight bump between 1,000 and 2,000 Hz, apparently in the output of the 6 $\frac{1}{2}$ -inch bass/midrange driver near its upper frequency limit, with an amplitude about 2.5 dB above the average response in that frequency range. The combined low-bass output fell at 12 dB per octave below 60 Hz. The 8-inch woofer's output peaked at 90 Hz and fell off at 6 dB per octave above that frequency.

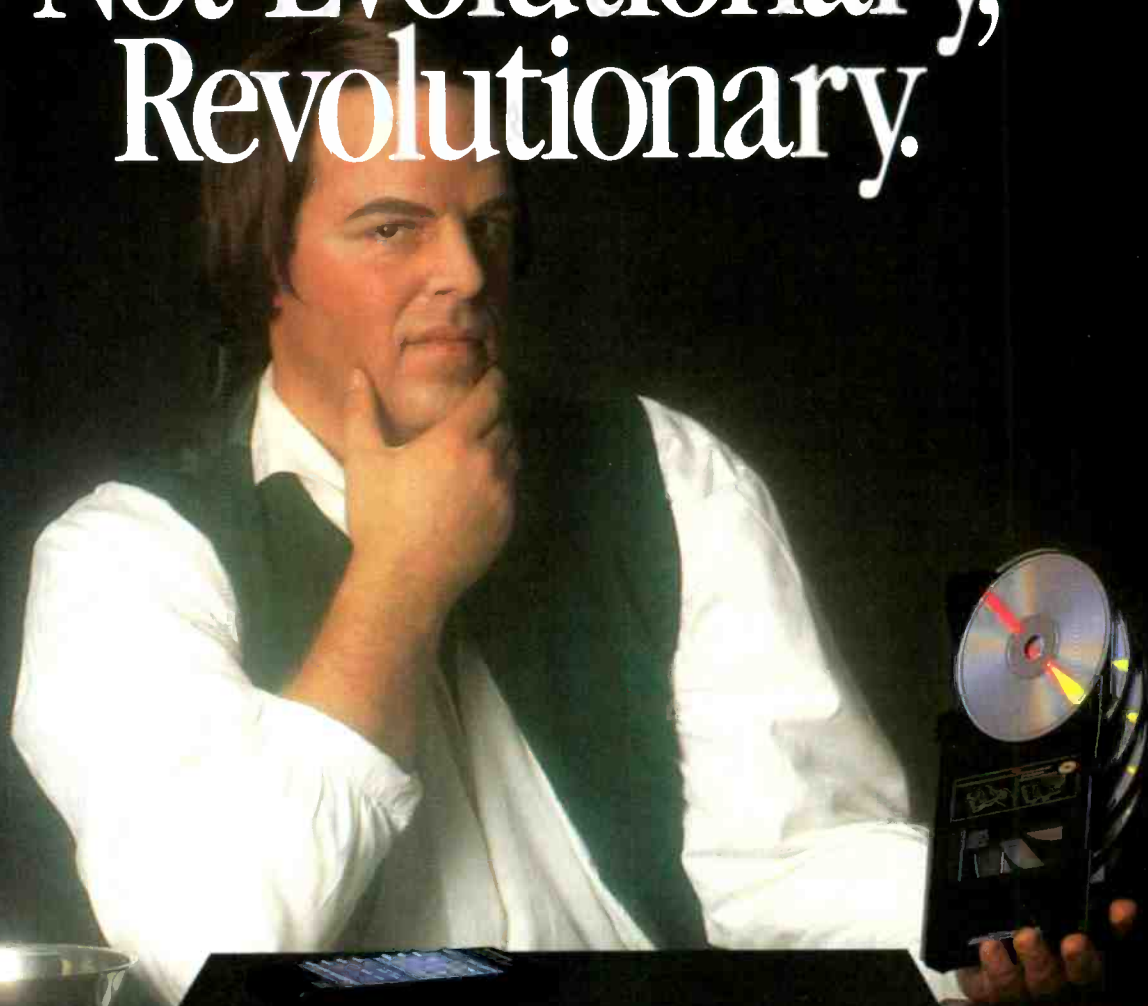
Our FFT frequency-response measurements confirmed most of the results of the room measurements, including the smoothness of



*"Terrorists struck today at a Chicago rock concert. Police said that between 2:00 and 5:00 a.m., 710 speakers in the huge, 185,000-watt sound system were rewired 'out of phase.' When the first notes were played, eight nearby bungalows collapsed and a mini mall imploded. No serious injuries were reported. . . ."*



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## TEST REPORTS

the low and middle frequencies and a tweeter response that was flat within 6 dB overall from 2,000 to 18,000 Hz. These measurements also displayed the extraordinarily steep crossover slopes of the JSE speaker—at least 50 dB per octave in the first 24 dB of the cutoff slope.

Group-delay measurements also underscored the effectiveness of the Model 1's crossover system, with a 0.2-millisecond overall variation from 3,000 to 22,000 Hz. In the combined frequency range of the two woofers, there was a delay shift of about 0.5 millisecond compared with the tweeter delay, but there was less than 0.2 millisecond variation between 500 and 3,000 Hz. This result indicates a degree of phase linearity that we have not previously seen in a multidriver dynamic speaker system. Even the best of them, which may have a very uniform group delay over most of their range, usually display large shifts in the woofer and midrange driver bands.

*The averaged room-response curve of the JSE Model 1 speakers was remarkably smooth and free of the usual amplitude irregularities caused by a room's standing waves, and the horizontal dispersion was very good.*

The impedance of the JSE Model 1 was 5 ohms at 20 and 2,750 Hz, with a maximum of 22 ohms at 56 Hz. Its first minimum above that peak was 6 ohms at 110 Hz. These measurements confirm the validity of the speaker's 8-ohm impedance rating. We measured its sensitivity (with 2.83 volts of pink-noise input) as 88 dB SPL at 1 meter. Woofer distortion was measured with a drive level of 3.56 volts, equivalent to a 90-dB SPL. Separate measurements were made for the two woofer cones. Because of the manner in which the outputs of the drivers combine, it was not practical to combine their distortion readings,

but the two curves were plotted as essentially parallel traces, with distortion readings in the range of 1 to 2 percent from 300 down to 50 Hz, increasing slowly in the lowest bass to 5 percent at 25 Hz.

Our peak-power tests with short (one- or two-cycle) tone bursts produced an audible rasp from the woofers at 100 Hz with an input of 350 watts to the speaker's 6-ohm impedance at that frequency. At higher frequencies, we were unable to drive the speaker into obvious distortion with the available amplifier power. At 1,000 Hz, the amplifier clipped at 760 watts into the 9.5-ohm impedance of the 6½-inch woofer. At 10,000 Hz, where the dome tweeter's impedance was 7 ohms, the amplifier clipped at 985 watts.

### Comments

When we first listened to the JSE Infinite Slope Model 1 speakers (before making any measurements), our impression was of a somewhat bright sound with little evidence of deep or strong bass. Other speakers to which we had been listening prior to that time had a relatively "warm" sound, with good but not prominent highs. The contrast with the Model 1 was striking—and surprising, since we had heard the JSE speaker a few months before and had not been aware of the characteristics that appeared in our familiar surroundings.

The message in this is simply that a sudden change from one speaker to another with different sound properties can lead to erroneous conclusions. Putting it another way, we tend to become accustomed to a particular sound quality and may be jarred somewhat by a very different one. That is what happened to us in this case. Extended listening left no doubt that real bass in a program was reproduced with full potency and a gratifying lack of distortion by these speakers. The absence of artificial midbass coloration was partially responsible for our initial reaction, since the voices of FM station announcers were reproduced without the annoying heaviness that we find objectionable in so many speakers.

As for the "brightness," part of

this impression may have been our reaction to the speaker's slight midrange peak at 2,000 Hz, but we suspect that it was mostly a consequence of the speaker's very flat, widely dispersed high-end response.

*Our first impression was of a somewhat bright sound with little deep bass, but extended listening left no doubt that real bass in a program was reproduced with full potency and a gratifying lack of distortion by these speakers.*

We were able to use the JSE Model 1's for several weeks and found them among the most enjoyable speakers we had heard in some time. An advantage of intrinsically flat speakers is that their overall sound balance is easily altered to suit a listener's taste (without losing the speakers' essential good qualities) by using tone controls or an equalizer. We felt no need for such alteration, but experiments left no doubt that it was a practical procedure—unlike the usual attempts to correct deficiencies in a speaker's sound by similar means, which hardly ever works! In any case, the JSE Infinite Slope Model 1 speakers sound just great. They are also very reasonably priced and look as good as they sound.

It was also gratifying to find a "radically different" speaker design that was just that—and which unarguably produced the claimed results! No hype was needed to present the case for the JSE system's design, and our measurements fully confirmed the FFT test data supplied by the manufacturer, as our ears did for its claimed listening qualities. The inventor of the Phase Shift Bass Loading system and the Infinite Slope Crossover, Richard Modaferrri, is a highly respected engineer—among his creations were the McIntosh MR77 and MR78 tuners—who has been concentrating on speaker design for over seven years. The results speak for themselves.

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## VECTOR RESEARCH VCD-770 COMPACT DISC PLAYER

*Julian Hirsch, Hirsch-Houck Laboratories*

**V**ECTOR RESEARCH'S VCD-770 CD player features a three-spot laser-pickup tracking system, quadruple (176.4-kHz) oversampling of the signal, digital low-pass filters, and full 16-bit digital-to-analog (D/A) conversion. It has a twelve-function wireless remote control that duplicates the principal front-panel controls of the main unit. Operation is simple and straightforward, and a programmable memory allows up to sixteen selections to be played in any desired sequence.

Once the motor-driven disc drawer closes, the word FOCUS appears in the display window for a few seconds, followed by a display of the total number of tracks and total playing time on the disc. Touching

PLAY/PAUSE changes the display to 1 PLAY; in a couple of seconds the PLAY is replaced by the elapsed time as the first track is played. Alternate touches on the PLAY/PAUSE toggle the player between those modes (a pause is indicated by a blinking track number on the display). Like most of the front-panel controls, it is a large, easy-to-operate touch-plate.

The pickup can be skipped forward or backward by successive touches on the appropriate controls, and another pair of controls cue the pickup at high speed to any desired part of a disc. The other controls are a row of small rectangular buttons below the display window. One of them switches the display to show the remaining time on the disc for a

couple of seconds, and another allows either the current track or the entire disc to be repeated. Two buttons are used for storing track numbers in the programming memory and for clearing the memory when other selections are to be played.

The Vector Research VCD-770 measures 17 inches wide, 12 inches deep, and 3 $\frac{3}{8}$  inches high, and it

*The Vector Research VCD-770 appears to have been designed primarily for ease of use. Few other CD players we have seen offer such a simple, straightforward control layout.*

weighs 9 pounds. The cabinet is finished in black with pale gold lettering. Price: \$350. Vector Research, Dept. SR, 1230 Calle Suerte, Camarillo, CA 93010.



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## TEST REPORTS

### FEATURES

- Quadruple (176.4-kHz) oversampling
- Digital filters
- Programmed playback of up to sixteen selections in any order
- Fast search in either direction (program not audible)
- Skip to beginning of each track in either direction
- Repeat play of any track or entire disc
- Display shows total number of tracks, total playing time, current track number, elapsed time on current track, status of operating functions
- Full-function wireless remote control

### LABORATORY MEASUREMENTS

**Maximum output level:** 2.08 volts

**Total harmonic distortion at 1,000**

Hz: 0.004% referred to 0 dB;

0.0063% referred to -10 dB

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

99 dB referred to 2.08 volts (0-dB level)

**Channel separation:** 84.5 dB at

1,000 Hz; 73 dB at 20,000 Hz

**Frequency response:** +0.2, -0 dB from 20 to 20,000 Hz

**Cueing time:** 4 seconds

**Cueing accuracy:** A

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

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

### Lab Tests

The output of the Vector Research VCD-770 was 2.08 volts from a maximum-level (0-dB) recorded test signal. The channel levels were identical. The A-weighted noise level, referred to 0 dB, was -99 dB. The frequency response was very flat, with one output channel varying less than 0.1 dB and the other by 0.2 dB from 20 to 20,000

Hz. The 1,000-Hz harmonic distortion was 0.004 percent at 0 dB. The channel separation was 83 to 85 dB up to 1,000 Hz, narrowing slightly to 78.5 dB at 10,000 Hz and 73 dB at 20,000 Hz.

The phase shift between channels, which was less than 5 degrees below 5,000 Hz, rose to 20 degrees at 20,000 Hz, results characteristic of a quadruple-oversampled playback system in which a single D/A con-



verter is multiplexed between the channels. The square-wave response showed the ringing pattern typical of digital filters.

The laser pickup slewed from Track 1 to Track 15 of the Philips TS4 test record in 4 seconds, performance typical of many current CD players. It made the transition from Track 17 to Track 18 of that disc (which have no silent interval between them) without clipping any of the opening syllable of Track 18. All the calibrated "defects" of the Philips TS5A test record were played without audible errors. The player was moderately sensitive to impact on its thin, unbraced metal top cover, but it was less sensitive to side impact.

### Comments

Unlike some CD players in which a high degree of flexibility has been achieved at the expense of operating simplicity, the Vector Research VCD-770 appears to have been designed primarily for ease of use, with an emphasis on the more basic and useful control features. For example, it lacks index cueing or indication, and there is no feature allowing the repetition of a user-defined segment of the program. Few other CD players we have seen, however, offer such a simple, straightforward control layout. Even if you have no previous experience with CD players, you should be able to use this machine with full effectiveness by simply reading the brief and very clear manual.

Just about the only feature we really missed was audible output during high-speed search/cue. As is the case with almost any properly functioning CD player, the playback performance of the VCD-770 was excellent. If its 83-dB channel separation worries you, keep in mind that a 35-dB separation figure would be considered outstanding for a phono cartridge and any LP record!

This is a CD player for people who just want to listen to the discs and give that goal a priority over elaborate, little-used features or an excessively complex (albeit impressive) appearance. It fills that role very well.

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## SPEAKERLAB DAS 2 SPEAKER

*Julian Hirsch, Hirsch-Houck Laboratories*

**S**PEAKERLAB entered the market, years ago, by developing a broad line of speaker kits that were sold both by mail and directly from the company's Seattle headquarters. Much more than a packager of raw speakers in wooden boxes, Speakerlab also designed and built many of its own drivers, and all of its products soon earned a reputation for quality and value.

The company reorganized a few years ago, and now it manufactures a full line of handsomely finished speakers with prices ranging from \$220 to \$1,798 a pair. We recently auditioned an impressive array of Speakerlab products, ranging in size from very small to quite large. We were impressed not only because they sounded very good, but also because of their very similar sound character. In fact, we found it nearly impossible to guess which model was playing, since even the smallest, the DAS 2, had the sonic balance of a much larger speaker.

The Speakerlab DAS 2, a true minispeaker, measures 13 inches high, 7 inches wide, and 8½ inches deep and weighs 13 pounds. The

wooden speakerboard behind the removable, sculptured brown cloth grille matches the rest of the cabinet, which is actually finished on all six surfaces. The DAS 2 is a two-way system, with a 5¼-inch woofer and a ¾-inch dome tweeter. The crossover frequency is 2,500 Hz. The woofer enclosure is vented by a ducted port in the rear of the cabinet. Somewhat unconventionally, the woofer is located *above* the tweeter.

The DAS 2 has a rated impedance of 8 ohms and a sensitivity of 91 dB sound-pressure level (SPL) at 1 meter when it is driven at a 1-watt level. Its frequency response is specified as 50 to 21,000 Hz ± 3 dB. The minimum and maximum recommended amplifier power ratings are 5 and 75 watts per channel respectively. Price: \$198 to \$220 per pair depending on finish. Speakerlab, Dept. SR, 735 N. Northlake Way, Seattle, WA 98103.

### *Lab Tests*

The averaged room-response curve from the left and right speakers was extremely flat from 500 to 20,000 Hz, with a broad rise of

about 3 dB between 12,000 and 20,000 Hz and a peak of about the same amplitude from 1,000 to 1,300 Hz. Elsewhere, the curve was nearly ruler-flat, indicating excellent horizontal dispersion; it was confirmed by FFT measurements of the speaker's response on-axis and 45 degrees off-axis, which differed by no more than 6 dB up to 20,000 Hz.

The close-miked woofer response, combined with that of its port, showed an overall variation of 4 dB from 36 to 420 Hz. The composite response curve, formed by splicing the woofer curve to the overall room curve, produced an overall response variation of 7.5 dB from 29 to 20,000 Hz. The on-axis FFT response measurement, at 1 meter distance, was flat within 6 dB from 180 to 20,000 Hz. The speaker's excellent phase linearity was demonstrated by its group-delay variation of only 0.2 millisecond from 2,500 to 20,000 Hz.

The impedance curve of the DAS 2 had two low-frequency peaks (characteristic of ported enclosures), at 38 and 110 Hz, with amplitudes of 18 and 24 ohms. The minimum impedance, at 250 Hz, was about 6.5 ohms, and it remained between 10 and 16 ohms from 600 to 20,000 Hz. The measured sensitivity of the speaker was lower than rated, with an 85-dB SPL at 1 meter when we drove it with 2.83 volts of pink noise.

To reach the 90-dB SPL we use for our bass-distortion measurements, we had to drive the speaker with a 5-volt signal. As would be expected from such a small-diameter woofer, the distortion was fairly high at this level, between 5 and 6 percent from 100 to 70 Hz and rising sharply to 25 percent at 50 Hz. The effective crossover to the port takes place at 60 Hz, and below this frequency the high air velocity in the small port (1¾ inches in diameter) resulted in some turbulence and air noise at high drive levels. Our peak-power handling tests also revealed the limited, but quite respectable, low-frequency power capacity of the tiny woofer, which "bottomed" audibly with 190 watts into its 17-ohm impedance at 100 Hz. At 1,000 Hz, however, where the woofer cone's excursion was much smaller, it did



not distort up to the clipping point of our amplifier, 510 watts into 13 ohms. And the tweeter, at 10,000 Hz, showed no distress before the amplifier clipped at 1,050 watts into 10 ohms.

### Comments

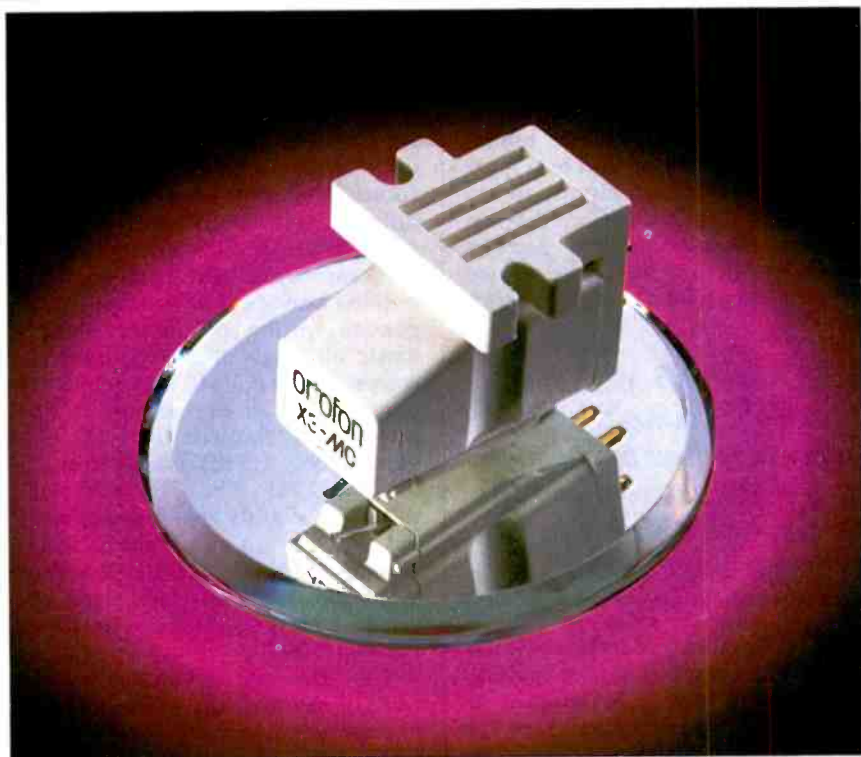
The Speakerlab DAS 2 speakers sounded just as good in our own listening room as they had during Speakerlab's demonstrations. We tried them placed against the wall as well as on stands a couple of feet away from any wall. Both positions gave excellent results, although we preferred the stand mounting.

The sound was so superbly balanced and smooth that no one would suspect that it came from these little speakers, especially with larger ones highly visible nearby. They could be played at surprisingly high levels without sounds of distress, although we did not treat them as roughly as we sometimes do larger speakers. Not only is the 5¼-inch woofer relatively fragile, but the ported enclosure effectively unloads the speaker at very low frequencies. With an amplifier capable of hundreds of watts of output down to the infrasonic range, a single careless move could vaporize these speakers.

Compared with some larger—and far more expensive—speakers, the Speakerlab DAS 2 holds its own remarkably well. It has a slightly warm sound, balanced by a sweet, extended high end, with never a hint of harshness or stridency. The bass content sounds like more than it really is, but the illusion is very convincing.

The Speakerlab DAS 2 is not a miracle speaker, and in a battle of decibels it would surely come off second to most larger speakers (especially if the low bass is involved in the comparison). Nevertheless, it can play loud enough to discourage conversation in a good-sized living room, without driving the listeners out of the room. Finally, its finish and general workmanship are uncommonly attractive (our samples were finished in a golden walnut-grain lacquer). All things considered, you won't find many speakers at its price that will match it.

**Circle 144 on reader service card**



## ORTOFON X3-MC PHONO CARTRIDGE

*Julian Hirsch, Hirsch-Houck Laboratories*

**O**RTOFON introduced the first moving-coil (MC) cartridge in 1948, and its name has been virtually synonymous with moving-coil construction ever since, although the company also makes fine moving-magnet cartridges. In spite of the cost and fragility of MC cartridges, their special sonic qualities have earned them a place in the affections of many serious audiophiles.

The newest Ortofon MC cartridges, the X1-MC and X3-MC, identical except for the contours of their diamond styli, have been refined in many ways to improve their performance and simultaneously make them more affordable. The mass of the magnetic system has been dramatically reduced by using a powerful samarium-cobalt magnet with a newly designed pole-piece structure. According to Ortofon, the magnetic system weighs only 0.8 gram, as compared

with the normal 4.2 grams of most previous MC cartridge designs.

The cartridge's moving system—consisting of the stylus, its cantilever, and the armature carrying the coils—has also been improved. The cross-shaped armature allows more turns of wire in the coils, with a correspondingly higher output voltage. Each leg of the cross contains 230 turns of fine wire (only 18 micrometers in diameter), a total of 460 per channel. Together with the improved magnetic system, the increased number of turns gives the cartridge a rated output of 2 millivolts, sufficient to drive the magnetic cartridge inputs of almost any preamplifier without the use of an auxiliary step-up transformer or head amplifier.

The X3-MC, the model we tested, has a Fine Line nude-mounted stylus with radii of 35 and 7 micrometers (in contrast with the more usual 18 and 8 micrometers of the ellipti-

## TEST REPORTS

cal stylus in the X1-MC). The extended line contact of the X3 stylus with the groove walls gives it a high-frequency response out to 40,000 Hz. The rigid aluminum cantilever tube is suspended on a fine piano-wire support and damped by a layer of butyl rubber. Like almost all MC cartridges, the Ortofon models do not have replaceable styli, but the company offers an exchange service for cartridges with damaged or worn styli.

*The Ortofon X3-MC's rated output of 2 millivolts is sufficient to drive the magnetic cartridge inputs of almost any preamplifier without need of a step-up transformer.*

The Ortofon X3-MC, which mounts on standard 1/2-inch centers, weighs 4.1 grams. It is designed to operate at tracking forces from 1.8 to 2.2 grams, with 2 grams being the recommended value. The recommended load impedance is 47,000 ohms, although the 80-ohm internal resistance of the X3-MC's coils makes it relatively immune to the effects of load variation. Channel separation at 1,000 Hz is rated at 25 dB, with the channel outputs matched within 2 dB. The cartridge is rated to track a 70-micrometer lateral-modulation amplitude at 315 Hz. Price: \$140. Ortofon, Dept. SR, 122 Dupont St., Plainview, NY 11803.

### Lab Tests

We mounted the Ortofon X3-MC in the tonearm of a medium-priced record player whose moderately high effective mass (a little over 20 grams) appeared to be compatible with the stylus compliance and overall mass of the cartridge. The system resonated at 9 to 10 Hz, an ideal frequency from the standpoint of warp tracking and full low-frequency response. At its rated 2-gram tracking force, the X3-MC passed all of our high-level tracking tests, including the 30-cm/s 1,000-Hz band of the Fairchild 101 test record, the 32-Hz tone of the Cook 60 record, and the 70-micrometer

315-Hz tones of the German Hi-Fi #2 and DIN 45-549 test records.

The cartridge output was 2.05 millivolts per channel at 3.54 cm/s velocity, and the channel levels were matched within better than 0.1 dB. We measured the frequency response and separation with several different test records, including the new CBS CTC 300 and CTC 330. The measured performance of a phono cartridge is always highly dependent on the specific test records used, although the frequency response of the X3-MC was relatively independent of the record. It was impressively flat with the CTC 330, varying only 1.5 dB overall from 20 to 20,000 Hz. The CBS STR 100 showed a slightly rising response at the extreme top end (above 15,000 Hz), and slightly different (but generally similar) responses were obtained with the JVC TRS-1007 and B&K QR-2009.

The crosstalk (channel separation) of any cartridge is also critically dependent on the test record. The CTC 330 gave the most uniform crosstalk response but the smallest numerical magnitude (the B&K QR-2009 was very similar). The channel separation was about 17 dB from 30 to 2,000 Hz, increasing to 25 dB in the 7,000- to 17,000-Hz range. The JVC TRS-1007 gave separation readings of 24 dB in the midrange, narrowing to 22 dB at 7,000 Hz and 17 dB from 15,000 to 20,000 Hz.

The response to a 1,000-Hz square wave (on the CTC 330) was excellent. There was a single overshoot and ringing cycle at about 10,000 Hz and several cycles of low-level, damped ringing at about 35,000 to 40,000 Hz. The rise time of the cartridge was 20 microseconds. Its vertical stylus angle was 20 degrees.

### Comments

Our measurements of the Ortofon X3-MC confirmed all of its ratings within the limitations of the available test records. Obviously, it is an excellent cartridge in every way that we could measure. But how does it sound?

Listening to this cartridge produced some unexpected results. Considering its unusually flat re-

sponse, we would not expect it to have the crispness or brightness typical of MC cartridges. Nevertheless, we have sometimes heard vestiges of that quality on other MC cartridges with a flat response. Most MM cartridges have little output above 25,000 or 30,000 Hz, but an MC cartridge can extract signals an octave or two higher than that, even if they consist only of noise and distortion. This extended ultrasonic response may account, at least in part, for an MC cartridge's tendency toward crispness or even brilliance.

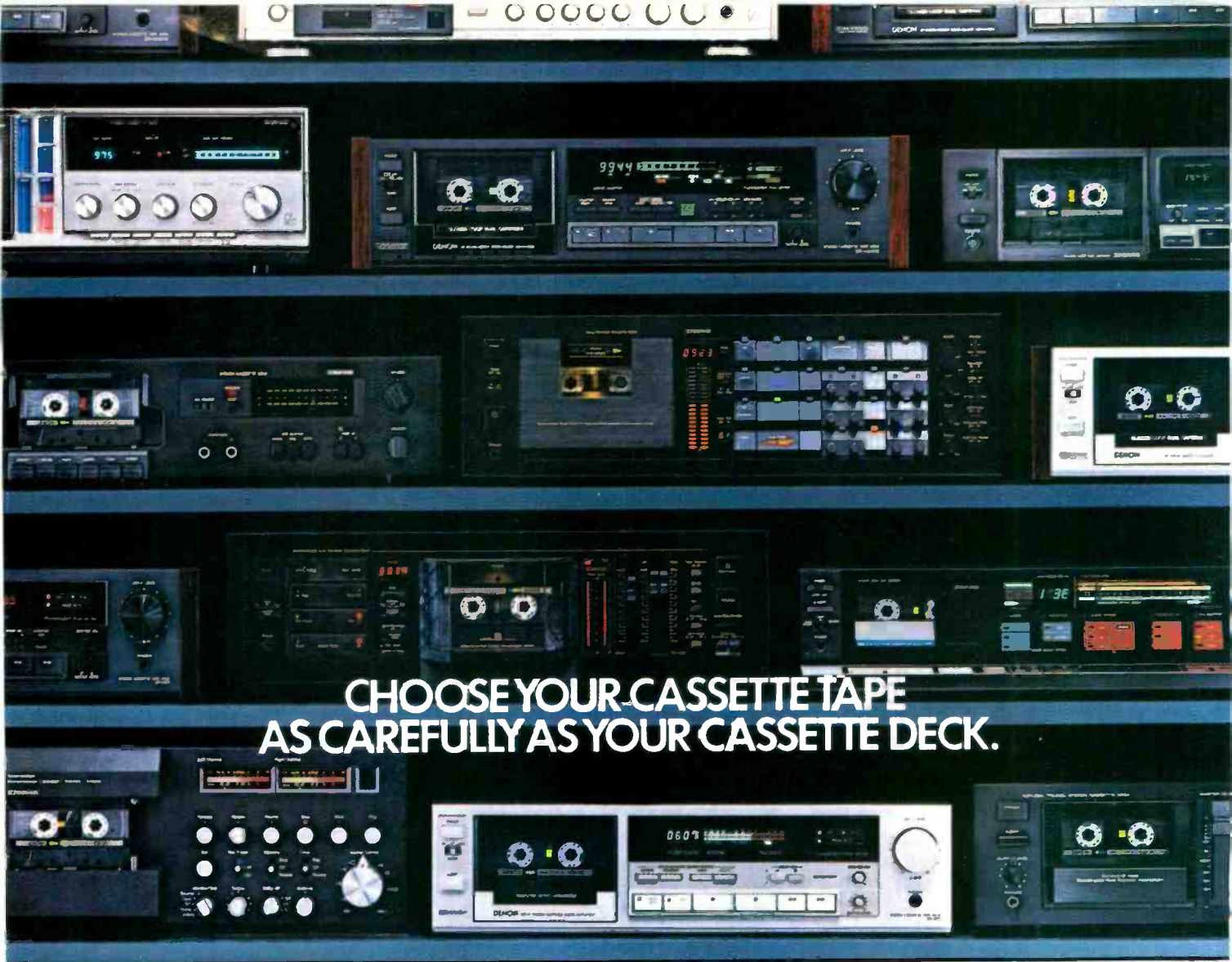
The X3-MC had none of those qualities. In fact, it sounded as flat and as smooth as its frequency-response curve implied, which is not necessarily true of all phono cartridges. It was one of the smoothest, silkiest, and least-colored cartridges we can recall using. At times it even sounded "soft," although when the record really had extended highs, the cartridge reproduced them flawlessly. We did not hear a trace of any of the abrasive qualities of some MC cartridges we have used. Rather, the sound of the X3-MC reminded us of some of the finest MM cartridges, including those selling at considerably higher prices. This is in no sense intended as a "put-down" of the X3-MC, or of MC cartridges as a class, although we suspect that this one might appeal to many people who are not enamored of that particular type of cartridge.

*The X3-MC sounded as flat and as smooth as its frequency-response curve implied. It was one of the silkiest and least-colored cartridges we can recall using.*

The Ortofon X3-MC is a delightful cartridge, the kind that can be enjoyed for hours without creating an urge to listen to something else. Its output is high enough to be perfectly usable with almost any MM preamplifier, the stylus is clearly visible for easy cueing, and its mass and stylus stiffness are well matched to most good tonearms. And the price is right!

**Circle 145 on reader service card**





## CHOOSE YOUR CASSETTE TAPE AS CAREFULLY AS YOUR CASSETTE DECK.



If you own a deck like one of these, you were obviously concerned with low wow and flutter, extended frequency response, smooth tape transport and wide dynamic range. When it comes to choosing cassette tape, why behave any differently?

Denon's new High Density HD8 formulation is the finest high-bias tape you can buy. Its "High Technoroom" dispersion and binding plus its metal hybrid formulation guarantee digital level performance on the widest range of cassette decks (including yours). You can keep an eye on things through Denon's new giant window.

And enjoy your music knowing HD8 is guaranteed for a lifetime.

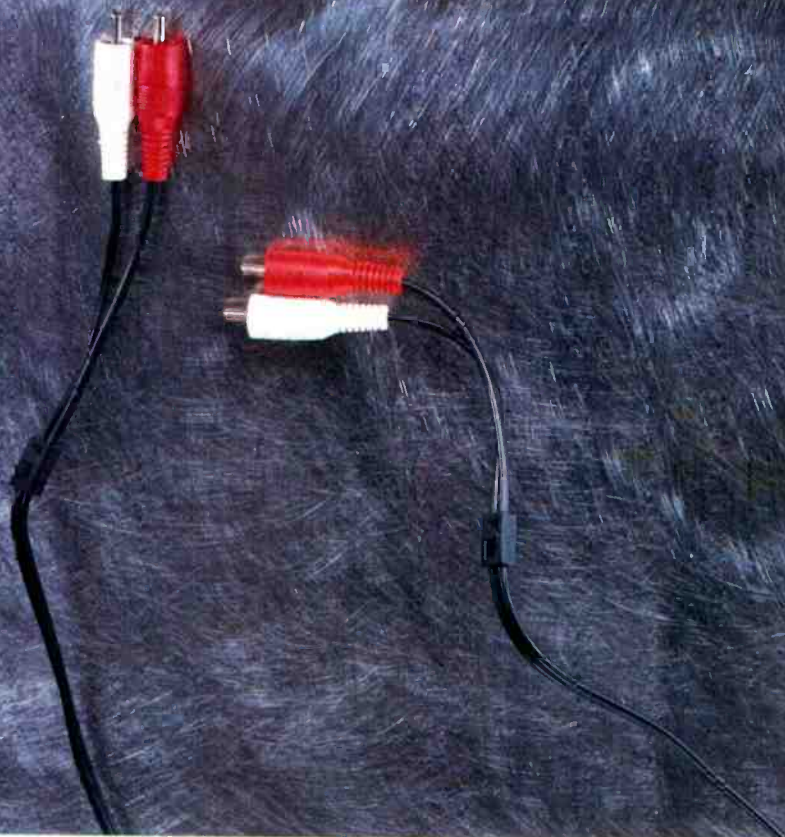
So how good is your cassette deck? With Denon HD8 it's better than you think.

# DENON

Digital-ready tape from the first name in digital recording.

CIRCLE NO. 27 ON READER SERVICE CARD

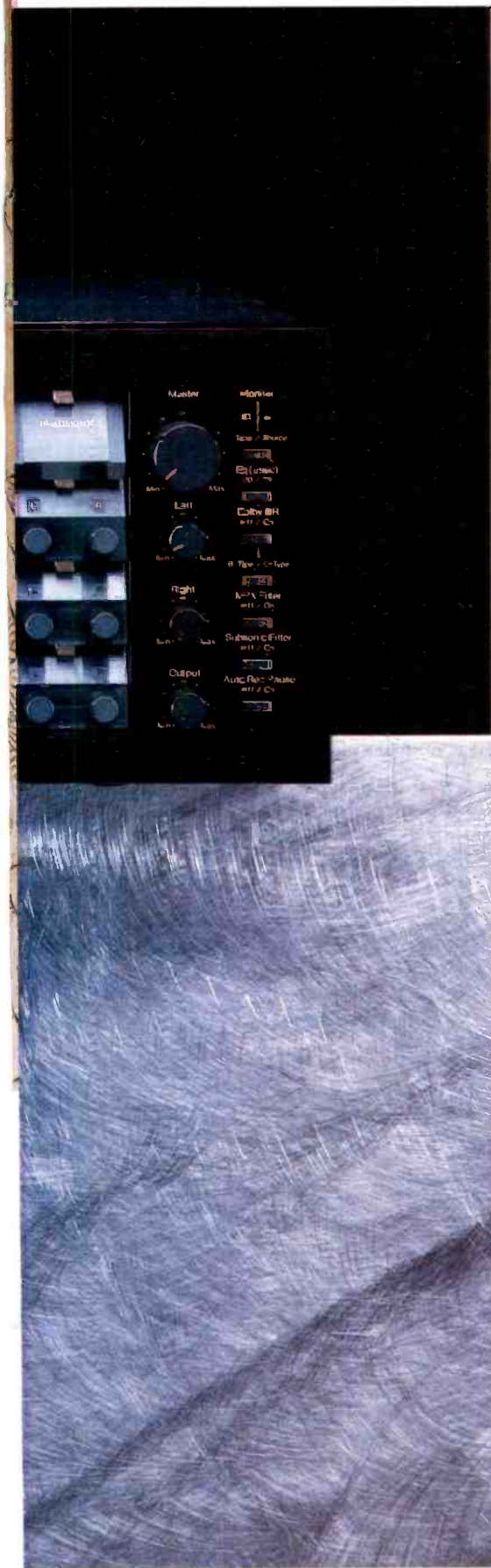






## TWELVE TIPS ON CHOOSING A

# TAPE DECK



BY WILLIAM BURTON

A PERFECT cassette deck would make perfect recordings, with no noise, no distortion, and no wow-and-flutter, and with ruler-flat frequency response so that every part of the music would sound just as loud as it should. A perfect deck would be easy to use and affordably priced. Nobody has come up with the perfect cassette deck yet. But many of the more than two hundred models now on the market feature impressive performance at reasonable prices. How do you find the right one for you?

Here are twelve tips to help you find the cassette deck of your dreams at a price that won't give you nightmares. If you are prepared, the noise, wow, and flutter of shopping for a deck will be much easier to handle.

### Set your budget.

Suggested retail prices for home cassette decks range from \$1,995 down to \$40. More expensive machines should have better sound, better design and engineering, and more useful features, and they should be easier to use. Before you go shopping, set a budget so you can concentrate on decks you can afford. State-of-the-art decks may lure you with multiple heads, multiple

motors, multiple noise-reduction systems, closed-loop dual-capstan transports, clear and logical controls and displays, amazing specs, and a seductive aura of quality and elegant design that makes them seem worth twice their high prices.

The best of anything is usually very attractive, but try to leave yourself enough money after buying a deck so you can afford necessities such as tape and food. At the other end of the scale, don't be suckered in by bargain-basement closeouts. The price may be low, but the quality, features, and performance may not be sufficient for your needs. A bargain you don't like and won't use is no bargain.

### Do a little homework.

After you've set a budget, there is more homework to be done before you step inside an audio store. You should read magazine articles, test reports, and buyers' guides. Try as many friends' decks as you can, using all the controls and judging the decks on sound and convenience. If you know people more informed about cassette decks than you are, ask their advice, but don't let them make your purchase decision for you.

When you get to the store, don't

**N**akamichi's top cassette deck is the autoreverse Dragon, shown on the preceding pages. Priced at \$1,995, it has many deluxe features, including an automatic azimuth-alignment system that continuously adjusts the angle between the tape and the playback head to insure accurate frequency response for both sides of the cassette.

**R**evox's B215 (above) has three heads, four motors, dual capstans, both Dolby B and Dolby C, and Dolby HX Pro headroom extension. The correct bias and equalization as well as recording levels can be set either manually or automatically, and the deck can store settings for six different tape brands. Wireless remote control is optional. Price: \$1,590.



panic. If you have done your homework, no salesman can talk you into buying some piece of equipment that you don't want, don't like, and can't afford. Most salespeople can be very helpful, providing valuable information, but weigh their advice carefully.

**3 Decide on at least one powerful noise-reduction system.**

All tape is noisy. Put any blank tape into any tape deck, hit play, crank up the volume, and you'll hear noise. To reduce this inherent noise, there are a few different systems you can choose. The most common noise-reduction system is *Dolby B*, and almost every deck, unless it is ancient or very cheesy, will have it. To make even quieter recordings, look for a more powerful noise-reduction system such as *Dolby C* or *dbx*. A number of cassette decks have both *Dolby C* and *dbx* in addition to *Dolby B*.

**4 Choose between a manual and an automatic.**

Cars have either a manual transmission or an automatic transmission. With a manual, you shift for yourself; an automatic does the shifting for you. Cassette decks cannot be quite so easily divided, but some decks require that you set bias, equalization, noise reduction, recording levels, and so on, while more automatic decks take care of those settings themselves. Some decks give you a choice of manual or automatic operation. Setting everything yourself is no big deal if you are a real enthusiast, but if it seems too complex, look for a deck that does these things for you.

**5 Choose between two and three heads.**

The heads in a cassette deck do three things: erasing, recording, and playing. Some decks have only two heads: one for erasing and one for both recording and playing. A two-head deck can't record and play at the same time. You have to rewind the tape and play it back to hear what you recorded. With a three-head deck, however, you can listen to ("monitor") the tape *while you are recording on it*. This can save you time and trouble. Three-head decks may also sound better because the heads are optimized for their specific functions. Three-head decks are generally more expensive than two-head decks, so you may have to sacrifice the extra head if you can't afford it.

**6 Look for Dolby HX Pro.**

*Dolby HX Pro* is not a noise-reduction system—the HX stands for *headroom extension*. It works only during recording, so a tape made in an HX Pro deck can be played on any deck without problems. The HX Pro circuit allows loud high-frequency sounds, like a cymbal crash, to be recorded with less distortion. It does this by reducing the amount of *bias*, a very high-frequency signal added during recording, when loud high-frequency sounds are being recorded, on the assumption that loud high frequencies in the music have their own biasing effect.

More important than understanding HX Pro is getting a deck that includes the circuit. HX Pro increases high-frequency headroom so that normal-bias tapes perform





more like high-bias or metal tapes. Once you have a deck with HX Pro, don't worry about it: there are no controls that you have to set for HX Pro to work.

#### Close the tape loop.

In addition to noise, one inherent problem of tape recording is inconstant speed. It can vary annoyingly from too slow to too fast. Slow variations from the correct speed are called *wow*, and fast ones are called *flutter*. A deck with a lot of wow-and-flutter will make wavering or watery-sounding recordings. A recording of a piano is a good wow-and-flutter test—listen to the notes gradually fade into silence. There should be no pitch change—no wavering—as the sound decays.

To prevent these disturbing speed inconsistencies, better tape decks control the motion of the tape on both sides of the heads, isolating the part of the tape being played from the hubs of the cassette. This kind of transport is called *closed loop*, because the second capstan closes the loop of tape between it and the first capstan. Since this feature uses the two capstans to hold the tape steady, it is also called *dual-capstan* drive. It's a good thing to have in a cassette deck, but, like some other good things, it comes at a price.

#### Get the access you want.

It is usually easier to find a particular point in a recording on a disc than on a tape. Some tape decks can search out the quiet bits between selections, allowing you to skip to the beginning or end of the song or movement you are playing. A *blank skip* feature can automatically fast-

wind through silent sections of a tape. And some decks can be programmed, like CD players, to play the selections you want in the order you want to hear them.

Autoreverse decks give you access to the other side of the tape without your having to flip the tape over yourself. Because most autoreverse decks have their heads more accurately aligned for one side of the tape than the other, their performance is sometimes poorer on one side than on the other.

Dual-transport decks, also referred to as "dubbing decks" or "double decks," give you access to two cassettes at once. They also allow you to copy one tape onto a blank tape in the other transport. The copying can sometimes be done at accelerated speed, which saves time, but at the expense of sound quality.

#### Check for microphone features.

If a deck does not have microphone jacks on the front panel, you can't record live music or conversation easily. A cassette deck can be a great way of communicating across the country or across continents—just plug in a mike and talk. And if you sing or play an instrument, you may want to immortalize your performance on tape. Mike inputs let you do that.

Additional features give you more recording flexibility. *Mike/line mixing* lets you combine your voice or instrument with another source. If you plan on doing serious recording, however, you will probably want a separate mixer to combine and process a larger number of sound sources.

**R**ealistic's SCT-82 autoreverse cassette deck has two motors, Dolby B and Dolby C noise reduction, microphone inputs, and a head-  
phone output. Separate heads for recording and playback let you check your recordings while you make them. Bias and equalization are set manually. Suggested retail price is \$220.



### Compare specifications.

There are three main specifications that you can use to compare the performance of different decks.

*Wow-and-flutter* tells you how accurately the deck moves the tape: a lower number, such as 0.03 percent, is better than a higher number, such as 0.1 percent.

The *signal-to-noise ratio*, or S/N, tells you how loud the music on the tape can be compared with the noise. It will vary according to the type of tape (metal, high-bias, or ferric tape) and the noise reduction used. Higher numbers are better.

*Frequency-response* specs tell you how accurately the deck records the various frequencies. Every note should be recorded exactly as loudly as it was played—not too loud, not too soft. A frequency-response specification will tell you the lowest sound and the highest sound that can be recorded within a certain range. A specification of “20-20,000 Hz  $\pm$  3 dB” means that every note, from one as low as 20 cycles per second, or hertz, to one as high as 20,000 cycles per second, will be recorded not more than 3 dB too loud or 3 dB too soft, which is only a slight audible difference.

### Look at the displays.

You can make a tape by ear—and with a three-head deck, you *should* listen to the tape you are making as you record—but a good display can make it easier to make a good tape. Look for displays that are simple to understand.

The most important display shows the volume level of the signal that is being recorded or played. Recording a signal at too low a level will result in a noisy tape. Recording a signal too high will result in distortion. You have to set your levels between those extremes to minimize both noise and distortion, and a good display will help you do that.

An LED (light-emitting diode) or LCD (liquid-crystal display) readout that has many parts, or segments, is more accurate than one with only a few segments and makes it easier for you to see the actual level of the signal being recorded.

Level displays usually have one section for the left channel and one for the right channel. These parts are sometimes arranged horizontally, with the left on top of the right, and sometimes vertically, so that the left is on the left and the right is on the right. Look for the kind of display that makes more sense to you.

### Push the buttons.

If you use a cassette deck a lot, you will be pressing a lot of buttons, flipping a lot of switches, and turning a lot of knobs. Each control should do something worthwhile, should be clearly labeled, and should be easy to use. Before you buy a deck, operate all the controls and see what they do.

Is every control labeled logically? Is there some sort of visual indication telling you how the control is set? This can be a single light or a row of lights, or the control itself, if it is a toggle switch or a pointy knob, can indicate its setting clearly. Get a feel for the deck. Your fingers can sense the quality of the mechanical engineering of a deck, just as your ears can judge the quality of its electronic circuitry and its transport.

Operate all the transport controls with a tape in place. Go from fast forward to rewind to see how well the transport handles the tape. Can you go from play into record mode easily? Does the transport coddle the tape or abuse it? The deck that feels good to your fingers, sounds good to your ears, and leaves your wallet full enough to buy prerecorded and blank tape is the right one for you. Enjoy the music that it brings. □

Harman Kardon's TD302 (\$245) has Dolby B and Dolby C noise reduction, Dolby HX Pro headroom extension, and a logic-controlled solenoid transport for gentle tape handling. Bias can be adjusted for optimal high-frequency response. An auto-repeat feature will rewind and replay a tape. Infrequently used controls are concealed behind the panel at lower right. Shown in Harman Kardon's traditional champagne finish, the TD302 is also available in black.



# Handel, Haydn & Hogwood

Conductor  
Christopher Hogwood  
establishes a base  
in North America.

by William Livingstone



CHRISTIAN STEINER/LONDON RECORDS

**T**HE Handel and Haydn Society in Boston is the oldest performing arts organization in the United States. Now in its 172nd season, the Society has a new artistic director. He is glamorous. He is English. He is Christopher Hogwood.

A harpsichordist/conductor with many best-selling recordings in his discography, Hogwood is a leader in the movement to perform eighteenth-century music on original instruments. He is much in demand for

engagements in England, Continental Europe, North America, and as far away as Australia and Japan. His star shines very brightly in the musical firmament.

Landing Hogwood was a great coup for the Handel and Haydn Society. On the other hand, the United States has played an increasingly important part in Hogwood's career in recent years, and he seems pleased as Punch to have been offered the job with H & H. It's old. It's good. It's in the heart of the Northeastern Intellectual Establishment Territory.

# Christopher Hogwood

When I chatted with Hogwood recently he said, "Out of the possible bases in America, the Handel and Haydn Society seemed best suited to me, considering my experience with those two composers. My predecessor Thomas Dunn had already streamlined the Society's chorus to a size I could work with." Dunn had pruned the chorus from ample Victorian proportions down to the leaner size now favored for Baroque music.

"A position on the East Coast was desirable," Hogwood continued, "and the Handel and Haydn Society performs music of all periods, which makes possible the slightly didactic programming I like. For example, in my most recent concert with them I conducted the Pergolesi *Stabat Mater* on a program with Stravinsky's *Pulcinella*, a reworking of some elements from Pergolesi's music.

"I don't want to seem too didactic—not too old—so I still plan to conduct in the Hollywood Bowl once a year." The day after our interview Hogwood was due to fly to Australia, where he regularly conducts the Australian Chamber Orchestra in the Sydney Opera House. His performances in the Hollywood Bowl and Sydney Opera House are viewed with a jaundiced eye by Hogwood's detractors, who see him as a charming careerist bent on world conquest. Detractors? Certainly.

A handsome, youthful man with compelling eyes, Hogwood does not have the ungainly physique, unruly hair, and bad teeth commonly associated with specialists in authentic Baroque performance practices. Quite aside from his musical accomplishments, he is articulate and has the ability to charm audiences with a few well-chosen, witty, didactic words from the podium. You don't get to be that young, that good-looking, and that successful without acquiring at least a few detractors.

Hogwood was born in Nottingham in 1941. He studied classics and music at Cambridge University, where his teachers included Raymond Leppard and Thurston Dart. He later studied with Gustav Leonhardt and Rafael Puyana, and he mentions David Munrow among others who influenced his career in music. "I learned a great deal from Thurston Dart," he said. "He was the model for being a performer as well as a scholar."

Scholarly work for Hogwood includes writing and editing, and among his books is a successful biography of Handel. "I try to write a book a year, and I edit a lot of music, mostly keyboard music, particularly works for the clavichord. Then I have a big sixteenth-century diary I'm working on. To make time for it all I plan to cool keyboard recitals for a while, except recording projects or projects involving the clavichord. I'm keen to promote the clavichord."

Hogwood is best known to American audiences for his recordings with the Academy of Ancient Music, a performing group he founded in 1973 and named after an eighteenth-century organization. He performed as a keyboardist with Munrow's Early Music Consort and with the Academy of St. Martin-in-the-Fields under Neville Marriner, and now he directs his own orchestra from the harpsichord.

Based in Cambridge, where Hogwood lives, the Academy of Ancient Music records for L'Oiseau-Lyre, one of the Decca/London labels. "Our first record was music of Arne," he said. "This was on original instruments. Then we made a lot of out-of-the-way records, filling gaps in

the catalog with compositions by Johann Christian Bach, some Handel church music, and early Haydn masses. Then we moved on to *Messiah* and found our bearings."

Hogwood came to the attention of large numbers of STEREO REVIEW readers when Igor Kipnis reviewed the first volume of his complete set of all of Mozart's symphonies in the "Best of the Month" section of our May 1980 issue. That volume contained eleven works from Mozart's Salzburg period of 1772-1773. A harpsichordist and early-music specialist himself, Kipnis raved.

He was enthusiastic about the scholarship behind the project and the care devoted to authentic performance practices. He felt that with this one blockbuster presentation post-Baroque music on period instruments had come into its own. He said, "The use of period instruments means a more transparent and articulated sound. First and second violins have been separated so that one can more easily hear Mozart's antiphonal intentions. Ornamentation is handled according to the latest scholarship (appoggiaturas, for instance, are played for expressive values rather than as short, blipped grace notes, and trills start clearly on the upper note). . . . every scholarly 'i' has been dotted, every 't' crossed."

Kipnis made it clear that the recordings were not merely academic exercises. "The performances themselves are all first-class musical ones, with the emphasis very much on sparkle and *galant* entertainment. . . . They have tremendous vivacity and fiery energy."

In November 1981 our critic Stoddard Lincoln reviewed a subsequent volume in the series, the one that contained the popular *Haffner* and *Linz* Symphonies. He was no less enthusiastic about the leadership by Hogwood and concertmaster Jaap Schröder and the way members of the Academy of Ancient Music had mastered old instruments and performed on them.

Lincoln wrote: "The orchestral language of the late eighteenth century was created for these instruments, and their skillful use gives to the sudden accents, contrasts of dynamics and timbres, crescendos, and delicate melodic articulations of the music the clarity and ease, the balance of power and grace that are so typical of the period. There is a dramatic contrast between the 'white' strings, the militant brass, and the reedy woodwinds, and yet they somehow manage to blend, creating a tremendous sonority in which every instrument is still heard individually. This is, in fact, the most important advantage of an orchestra of old instruments, that everything can be heard clearly, thus shedding new light on the music."

What's about it in a nutshell. That's what all the shouting is about and what the original-instrument specialists, such as Hogwood, Trevor Pinnock, and John Eliot Gardiner, strive for. Hogwood does not claim to be the first to apply authentic performance practices to the music of Mozart.

He gives credit to the developers of such chamber orchestras as I Musici and the Academy of St. Martin-in-the-Fields. "They convinced the public that you only need twenty-five performers, not two hundred, to play Mozart. In chamber music, Schröder, Leonhardt, Nikolaus Harnoncourt, and others had been experimenting with Mozart on old instruments. So the chamber-orchestra people got the scale right, and Leonhardt and other



# Christopher Hogwood

players got the instruments right, and we put together a lot of things that were already going on.

"I had been wondering about whether we could make a Classical orchestra that was different from a Baroque orchestra, and I was thinking about size and proportions and how many violins and the fact that wind players needed a different kind of instrument. In our work with Haydn and J. C. Bach we had come to the Rococo and were on the verge of Mozart.

"The idea of recording all the Mozart symphonies came from Decca. We wanted a future plan, a profile to project for the orchestra. I thought *some* of the Mozart symphonies would be nice, but the idea of recording *all* of them was quite novel.

"Right away we needed a structure for the project. We found a specialist concertmaster in Jaap Schröder, a violinist who already had the appropriate idiom, the idiom we were still looking for."

The musicologist Neal Zaslow, of Cornell University, assisted in research and other scholarly matters. "Zaslow grouped the symphonies according to where they were composed. Mozart did different things in different places, depending on the performing forces available to him in Italy, Paris, Salzburg, or Vienna. The symphony is the public side of Mozart. His internal side comes out in the concertos and chamber music."

In Hogwood's performances some people miss the expressivity we have come to expect in Romanticized interpretations of Mozart. Hogwood says, "I try to let what is in the symphonies be heard without adding my feelings to Mozart's. We shouldn't *milk* the slow movements to underline what doesn't need underlining."

The Mozart symphony recordings put Hogwood and the Academy of Ancient Music on the map of North America as well as Europe, and they have toured here several times. Last November he brought a small group of the players for appearances in such cities as Columbus (Ohio), Louisville, Milwaukee, Toronto, and New York. In February he is scheduled for concerts with the full forty-member orchestra in Chicago, Pasadena, and New York. In Boston the group will perform with the chorus of the Handel and Haydn Society.

In addition, Hogwood has engagements this spring as a guest conductor with such orchestras as the National Symphony in Washington, the San Francisco Symphony, and the Chicago Symphony. Besides Mozart, the composers whose works he has programmed include Bach, Haydn, Stravinsky, Martinù, and Villa-Lobos.

His recordings with the Academy of Ancient Music do not include such moderns as Martinù and Villa-Lobos, but they are certainly not limited to Mozart. Besides Mozart's symphonies, Requiem, and *Exsultate, jubilate*, Hogwood's best-sellers are the Bach *Brandenburg* Concertos, Pachelbel's Canon, Handel's *Messiah*, and Vivaldi's *Four Seasons*. And now—fasten your seatbelts—they are taking on all nine Beethoven symphonies!

"Once you have become completely familiar with the vocabulary for Haydn and Mozart," Hogwood says, "you can prepare yourself psychologically for what was surprising in Beethoven. We are doing his symphonies chronologically, and each of them is a surprise." Symphony No. 3 is reviewed in this issue on page 97.

It's one thing for critics and musicologists to get excited about where the second violins are placed on

stage and about performances based on scholarly editions, but it's hard to believe the general public responds to performances and recordings by Hogwood, Pinnock, and Gardiner in quite that same way. Nevertheless, Hogwood has attracted a passionately devoted following, and his name has been constantly on industry lists of best-selling records for the last five years.

In other interviews he has offered a variety of explanations for the public's enthusiastic response. In one he suggested that the people who are buying his records are a different audience, like those who go to concerts of new music. When I raised the subject with him, he said, "I think the public had got tired of a lot of varied repertoire presented in the same way—everything from Bach to Bartók with one accent. A 90- to 100-piece orchestra is a real headache. It's suited only to certain repertoire.

"Not everyone is comfortable with the sound of original instruments. I was leafing through *The Penguin Guide to Compact Discs*—the critics who write for it say some very nice things about our recordings—but I was struck by how frequently they used the word 'acid.' That could mean something good, like 'astringent,' but not in, 'This is a fine performance if you can stand the acid string tone.' There is still a sweet tooth in the public. I think people hanker for the lush sound of the modern orchestra."

Hogwood is likable, and I enjoyed talking with him. The big question in my mind—as in the minds of many others—was, where does he go from here? I mentioned Neville Marriner, who started with a chamber orchestra, made many best-selling records, then moved on to big modern orchestras, conducting the nineteenth-century symphonic repertoire and even opera. Could Hogwood imagine that his career might parallel Marriner's?

"There's no reason why it shouldn't," he said. "I tend not to plan very far ahead. I wouldn't want to sacrifice the laboratory of early music, but neither would I want to be condemned forever to pre-1800 music."

Does this mean there is a complete cycle of Mahler symphonies in his recording future? "No, not Mahler or Bruckner. If I were the music director of a large symphony orchestra, I'd have to invite guest conductors for those composers. No matter what the period, though, I'd still apply the same principles of the right size, the right placement, and the right text. My leaning is to a larger chamber orchestra rather than a reduced symphony."

This does not sound like a man consumed by ambition, lusting for global domination. He may not plan very far ahead, but he has made some pretty detailed plans for the Handel and Haydn Society—a major Handel oratorio each year (this year *Athalia*), introducing authentic instruments for Classical and Baroque works, free concerts in parks to attract new audiences, and taking the Society to perform in other cities. "Touring will increase the prestige of the Society and the public's perception of my presence with the Society."

It appears, therefore, that the H & H Search Committee need not think about looking for a replacement artistic director for at least the next few seasons. Still, if I were Seiji Ozawa or Zubin Mehta, I wouldn't get too comfortable with the Boston Symphony or the New York Philharmonic. I'd tend not to plan very far ahead. □

FAQ

# DIGITAL AUDIO TAPE

*Issues and answers*



*by Steve Birchall*



"DOUBLE, double, toil and trouble," cackled the witches in *Macbeth* as they stirred their cauldron of magic potions. Recently, the electronics industry dipped its ladle into its bubbling cauldron and pulled out a controversial new product called R-DAT. Now, industry leaders are trying to decide whether they have found a magic elixir or an evil curse.

Essentially, R-DAT (rotary-head digital audio tape) is the compact disc format adapted to the cassette tape medium. It has all the advantages of tape over disc—along with tape's disadvantages. [Another digital audio tape system, called S-DAT because it uses stationary heads, has been proposed. It is nowhere near being ready for commercial release. For the remainder of this article, therefore, "DAT" will refer to R-DAT.] Within the industry, intense politics are pushing DAT in three directions at once. *One:* The manufacturers are eager to start making and selling DAT decks. *Two:* Philips, co-developer (with Sony) of the CD format, has lobbied persuasively to delay the introduction of the DAT medium until the CD becomes more strongly established. A format war could destroy both. *Three:* The recording industry is fundamentally opposed to the concept of a digital cassette recorder (or recordable CD) because of the problems of piracy.

From the computer industry comes a *fourth* factor: Digital audio tapes can store computer data, just like CD-ROM's, but they are easier and cheaper to duplicate, and the data can be revised, unlike that stored in CD-ROM (the "ROM" stands for read-only memory). The computer industry has already proposed a data format, called R-DAT-RAM (for random-access memory) that has nearly three times the capacity of CD-ROM. Users can update the tapes easily and make copies quickly. DAT could survive even without audio applications.

At the Japan Audio Fair last October, most major manufacturers had large displays of working DAT decks. But, in deference to Philips's wishes, they put "prototype" stickers on them. At other recent shows, Sony has displayed key elements of the DAT chain, including a portable professional DAT recorder and both real-time and high-speed tape duplicators. Sony's development of these software production chains

for the CD helped make it a reality. In DAT technology, Sony reportedly owns over half the patents. Thus, the company has a vested interest in the success of *both* the CD and DAT formats.

### *The System and How It Works*

The DAT system has two basic operating modes. With a 44.1-kHz sampling rate, Mode One is identical to the compact disc and is for playback only. Mode Two is for recording *and* playback, but, by industry choice, its 48-kHz sampling rate is incompatible with the CD to prevent digital-to-digital dubbing.

Both modes have variations to provide additional capabilities. In Mode Two, an optional 32-kHz sampling rate provides either longer playing time, or four channels. In the playback-only mode, the system has Narrow Track and Wide Track variations. Narrow Track is for prerecorded tapes made from the CD master tape duplicated in real time by large banks of machines. High-speed duplication is not possible in this mode.

### *Contact Printing Prerecorded Tapes*

High-speed duplication is possible, however, with Sony's new "contact printing" method using the Wide Track option. The same method is currently used for videotapes. The duplicating machine winds the master and a blank tape so that they touch at one point. A bias head saturates the blank tape with a tightly focused magnetic field, the bias field, shaking up the magnetic particles and helping them become magnetized. The master tape then acts like a record head. But since the magnetic energy on the master tape is weaker than a record head's output, and magnetic energy decreases with the square of the distance, the copier squeezes the two tapes together against the contact-printing drum with a jet of compressed air.

Du Pont has developed another contact-printing method for videotape that could work for DAT as well. Instead of applying a bias field, Du Pont heats a portion of the duplicating tape with a laser. While they are heated, the magnetic particles assume the magnetic properties of the master tape, and they retain

R

-DAT (rotary-head digital audio tape) is the CD format adapted to the cassette medium. The DAT system has two basic operating modes. With a 44.1-kHz sampling rate, Mode One is for playback only. Mode Two is for recording and playback, but at a 48-kHz sampling rate to prevent direct digital-to-digital dubbing such as from CD's. Top photo on facing page shows a prototype Luxman DAT deck.



T

he DAT cassette shell, which looks like a miniature VHS videocassette (a Triad prototype is shown at left), is sealed to prevent damage from dust and dirt. A sliding cover on the bottom keeps contaminants from entering through the hub holes. The shell also has recognition slots for tape type, record lockout, and tape speed. The shell's design prevents incorrect insertion. The metal-particle tape inside is similar to 8mm videotape.





Denon is apparently ready to enter the market with a full line of DAT decks. Shown here is the company's display at the Japan Audio Fair.



Sony's DAT-7 was the first prototype deck ever demonstrated in the U.S. It was shown at the National Association of Broadcasters conference last April.



Because DAT tapes are so small, we are likely to see an abundance of personal-size portable players. Here's a prototype from Aiwa.

these when they cool. This technique is also the basis for recordable compact discs.

### The Main DAT Record/Playback Modes

In the full record-and-playback modes, the sampling rate is 48 kHz, with 16-bit quantization. Professional digital recorders use the same format. Departing from the official standard, Sharp and Hitachi have shown consumer DAT decks that record at 44.1 kHz, the same rate as CD's. Although DAT machines have direct digital inputs and outputs, they can't record program material that uses special copy-inhibiting codes (many CD's already include them, as do many videotapes), no matter what the sampling rate is. A DAT deck can also record any analog source, including the analog output of a CD player or another DAT machine. Inevitably, the extra digital-to-analog (D/A) and analog-to-digital (A/D) conversions will add noise and distortion, but the differences would probably not be noticeable, or even detectable.

### Encoding the Signal: Sequence of Events

Before recording the audio signal on the tape, the circuitry puts it through an elaborate series of transformations. The first step is the "regular" PCM encoding process. Next, double Reed-Solomon encoding (the same as the CD format uses) generates extra data so the playback circuits can detect incorrect or missing data and restore the correct data. If the dropout is too large to correct, the circuits insert plausible numbers between the missing samples.

Unless preventive measures are taken, consumers could make thousands of perfect, but illicit, DAT copies of every CD sold. That would spell economic disaster for the recording industry.

The machine then breaks the 16-bit digital "words" into two 8-bit halves prior to Eight-to-Ten Modu-

lation (ETM). Similarly, CD's employ eight-to-fourteen modulation (EFM). The circuit replaces each 8-bit word with a 10-bit word, using a lookup table stored in a ROM chip. The relationships are arbitrary—no particular logical or mathematical connection exists, but the goal is to use only those words with a pattern of ones and zeros that the tape head can read with consistent accuracy.

Finally, the system duplicates the 10-bit words from the left and right channels and interleaves them between adjacent tracks. This checkerboarding protects against problems caused by dropouts and dirt. If one head can't read the data recorded on the top half of the track during its pass, the other head can read the duplicate data on the bottom half of the next track.

Now the DAT recorder assembles the signal into the five-block structure of a single slanted track. In the Narrow Track mode, each track is 13.591 micrometers wide—about a tenth the thickness of a human hair. The first block contains subcode data, block two the tracking data. The third block is the largest block, and it contains 196 bytes of audio data. Following the audio data is another tracking block and then the other subcode block. Because of the system's rotating heads, a brief signal gap occurs between the time one head on the drum leaves the tape and when the other head spins into place to record data. So the recorder stores the data in a buffer memory until the other head is in position.

The Automatic Track Finding (ATF) system, designed especially for DAT, keeps the rotating heads centered on the track. Because of the ATF system, the tracks don't need guard bands between them, making DAT decks extremely efficient in their use of tape.

The two subcode blocks, like those on CD's, can store program notes, lyrics, or even still pictures. The DAT subcodes have a larger total capacity and a recovery rate 4.5 times faster than the CD subcodes (273.1 kilobytes per second compared with the CD's 60 kilobytes per second).

### Here Comes the Music

The main data block is the longest of the five. Four 8-bit words precede the actual audio data. The sync burst tells the deck, "Pay attention! Real audio data is on the way!" The identity word carries technical infor-



mation (sampling rate, number of channels, quantizing steps, tape speed, copy-inhibit codes, and pre-emphasis). The *block address* tells the machine, "You Are Here." The fourth word contains the *error-checking data*. At last comes the good stuff: *196 bytes of audio data*.

On playback, the microprocessor in the deck sorts out and unscrambles all of the data and converts it back to an analog signal for human perception and enjoyment. It also sends data to the deck's digital output for the amusement of other DAT decks. Considering the complexity of the system, the truly astonishing thing is that this little 16-bit dedicated audio computer does it all in real time. To make a deck that allows you to monitor a tape while recording it, the manufacturer simply adds two more heads to the drum and two more playback channels.

**T**o prevent illicit dubbing, DAT decks record at a different sampling rate than CD's use. And many CD's have copy-inhibiting codes that won't allow digital dubs at any sampling rate.

.....

The DAT cassette shell, which looks like a miniature VHS videocassette, is sealed to prevent damage from dust, hair, bat wings, or smoke. On the bottom, a sliding cover keeps dirt from entering through the hub holes. The shell also has recognition slots for tape type, record lockout, and tape speed. The shell's design prevents you from inserting it in the wrong position. The metal-particle tape inside is similar to 8mm videotape.

### *The Ethical Issue*

Unless preventive measures are taken in the design, with a DAT deck it would be possible to make an exact copy of the data on a CD. After buying one CD, you could give or sell unlimited numbers of exact copies to your friends with DAT decks. They, in turn, could do the same. For every CD sold, consumers could make potentially thousands of perfect, but illicit,

copies. That would spell economic disaster to the recording industry. For consumers, the demise of the recording industry would mean the end of commercial recordings.

Consequently, DAT decks have been designed so that they can record only at 48- or 32-kHz sampling rates. Thus, the only way to dub a CD is to record the player's analog output. That tape's quality would not be equal to a *direct* copy of the digital data—but it might be audibly indistinguishable.

### *Beyond Catch 22*

**Catch 22:** DAT decks can make digital copies of that first-generation tape copy. Since every digital copy will be equally as good, piracy will continue unchecked. **Catch 23:** The audio industry is moving toward a networking standard based on 44.1 kHz, the CD sampling rate. At the Japan Audio Fair, several manufacturers showed amplifiers and preamplifiers with digital inputs and outputs, CD players with digital outputs, and DAT decks that can record at the 44.1-kHz rate. In the U.S., the FCC has encouraged Boston's WGBH-TV's experimental frequency-modulated broadcasts of PCM-F1 digital signals, which DAT decks could decode with an appropriate adaptor.

**Catch 24:** Every copy-protection scheme eventually gets cracked, and sampling-frequency converters are not difficult to make. **Catch 25:** In the computer software industry, legitimate buyers and users have complained about the inconvenience and annoyance that copy protection causes them. In response, many software publishers now don't use copy protection. Will music lovers too revolt against copy protection? In the Disney/Sony case, the U.S. Supreme Court ruled that people can make copies of movies on videotape for their own private use. But the movie and recording industries are pressing Congress for laws requiring copy-protection chips on all tape recorders, thus rendering them nearly useless as recorders.

**Catch 26:** By restricting DAT recording capabilities, the industry nearly guarantees that consumers will perceive DAT and CD as competing formats. Remember, the *only* sources of digital music will be pre-recorded DAT's—or CD's. **Catch 27:** While CD's are still in short supply, commercially duplicating digi-

tal tapes doesn't require expensive, high-tech plants and complex pre-production processes. With the contact-printing method, tape duplication is fast and inexpensive.

**Catch 28:** Digital tapes will wear and develop dropouts. With a record-breaking data density of 114 megabits per square inch, that's inevitable. How many playbacks are acceptable? Will music lovers expect a back-up copy with every pre-recorded tape, or will they settle for a lower price? Will consumers accept a medium with limited longevity but no way to make their own back-up copies?

### *Taxing Red Herrings*

The question still remains: If people can copy a recording borrowed from a friend instead of buying the tape or disc, how do we pay the artists for their efforts? ASCAP and BMI provide good models. They collect fees for the performance of a composition or its recorded use on radio or TV. Then they distribute those fees to the artists in proportion to the number of performances.

The most straightforward solution to the piracy problem is to build a royalty fee into the price of the blank tape and pay the artists in proportion to the ASCAP and BMI distributions. That would be fair both to the artists and to the consumers. Though imperfect, those systems have worked well for too long to ignore. The current proposed tax on blank tape and tape recorders is clearly too high—a red herring intended to defeat the whole idea. But a royalty fee at a *reasonable* rate could benefit everyone. Beyond the question of ethics, we have a vested interest in solving this problem if we want musicians to make recordings in the future.

### *Your Choice*

In the end, you and I will make the final decision on whether DAT will succeed. The first machines will appear in the shops sometime in 1987. Among the early contenders will be Sony, Technics, Onkyo, Denon, Sharp, Hitachi, and JVC. Initial prices will be in the \$1,500 neighborhood. When the decks become available, we consumers will finally have the opportunity to vote, with credit card in hand. I'll probably buy one, but I may go shopping with bell, book, and candle—or maybe a big wooden spoon. □

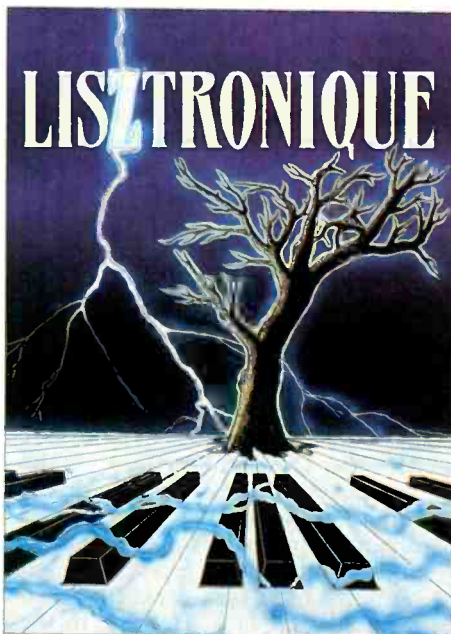
# LISZT LIVES!

**T**O honor the Hungarian composer Franz Liszt (1811-1886), a free copy of the Newport Classic prerecorded cassette "Lisztronique" by synthesizer artist Jeffrey Reid Baker will be sent to you for only \$3 for packing and mailing. Included with "Lisztronique" will be a free Shape Mark 10 C-90 blank chrome cassette, which brings the value of this gift to \$14.98.

In 1986 throughout the Western world music lovers observed the one-hundredth anniversary of the death of Liszt. Pianists were particularly conspicuous in paying homage to a composer who was himself a great performer on their instrument and permanently enriched the literature for keyboard virtuosos.

Liszt lives on through his music, and as we enter the second post-Liszt century, STEREO REVIEW honors Liszt, with the cooperation of Newport Classic, a new recording company, with the gift of "Lisztronique" to the readers of this magazine.

A commercial release on a high-quality cassette, "Lisztronique" (Newport Classic 30022) is a recital of works by Liszt synthesized by Jeffrey Reid Baker. Included on the digitally recorded tape are the Piano Concerto No. 1, Hungarian Rhapsody No. 2, *La Campanella*, *Gnomenreigen*, *Un Sospiro*, and *Au bord d'une source* (No. 4 from *Années de pèlerinage*, *Première*



*Année*). The recital is rounded off by the world-première recording of Baker's own virtuosic composition *Homage to Liszt*.

An American pianist who has developed a command of electronic keyboards, Baker is making his recording debut with this Liszt program. In performing well-known classics on the synthesizer he is the latest in a line of musicians that includes Wendy Carlos, Isao Tomita, Don Dorsey, and Graziano Mandozzi.

Some synthesizer artists approach their work with deadly earnestness. Others, like Mandozzi,

have a sense of humor about it and perform great works by Bach and Handel, for example, with a sense of affectionate parody. Baker also has a sense of humor, and you should too if you send for this gift.

You may recall that in 1985, during the celebrations of the Bach and Handel tricentennial, we offered a limited number of free copies of Mandozzi's "Bach/Handel 300" on Deutsche Grammophon to STEREO REVIEW readers. We underestimated the response, and thousands of people were disappointed that the supplies were exhausted by the time we received their requests. This year Newport Classic has guaranteed us that they will honor *all* requests for "Lisztronique" and the free Shape C-90 cassette that are received by the deadline of April 1, 1987.

To get your free "Lisztronique" gift package, send a check or money order for \$3 (no cash, please) for postage and handling to LISZTRONIQUE, Newport Classic, 106 Benefit Street, Providence, RI 02903. Clip the coupon printed below and include it with your order. No requests will be honored without the coupon, and photocopies of it will not be accepted.

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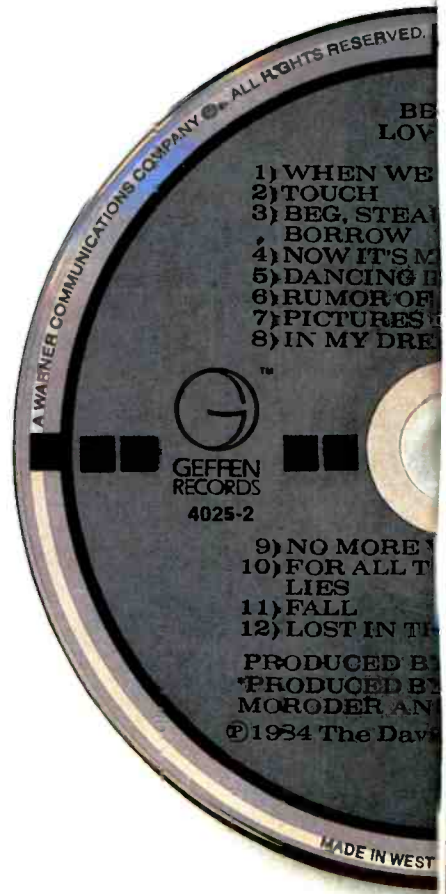
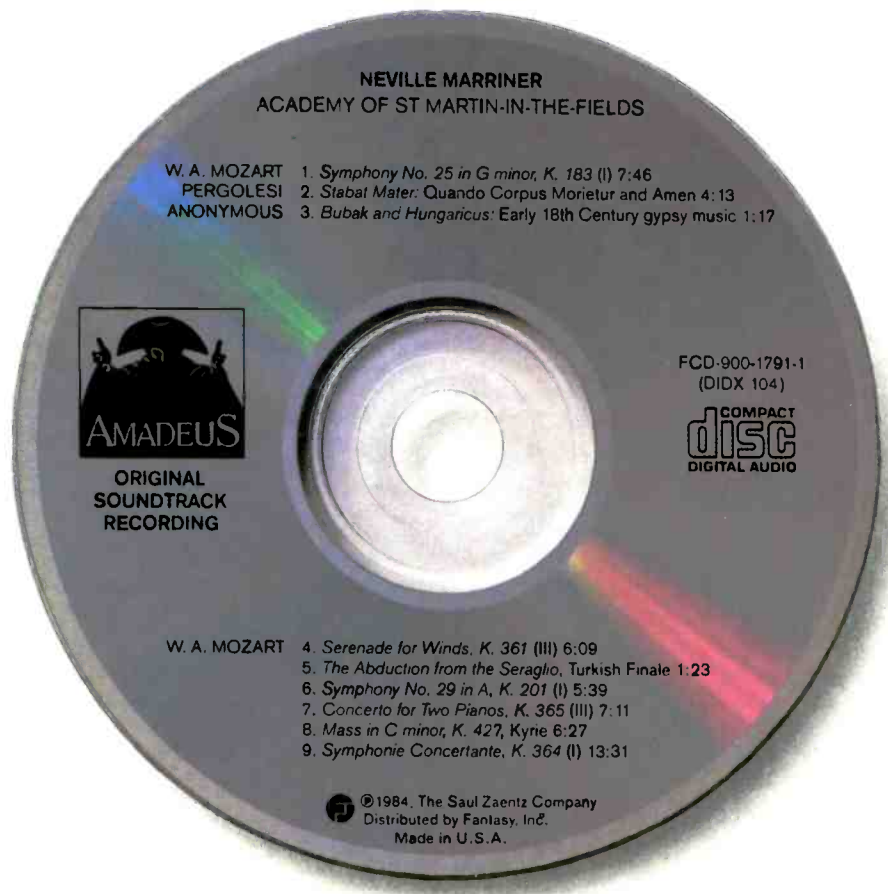
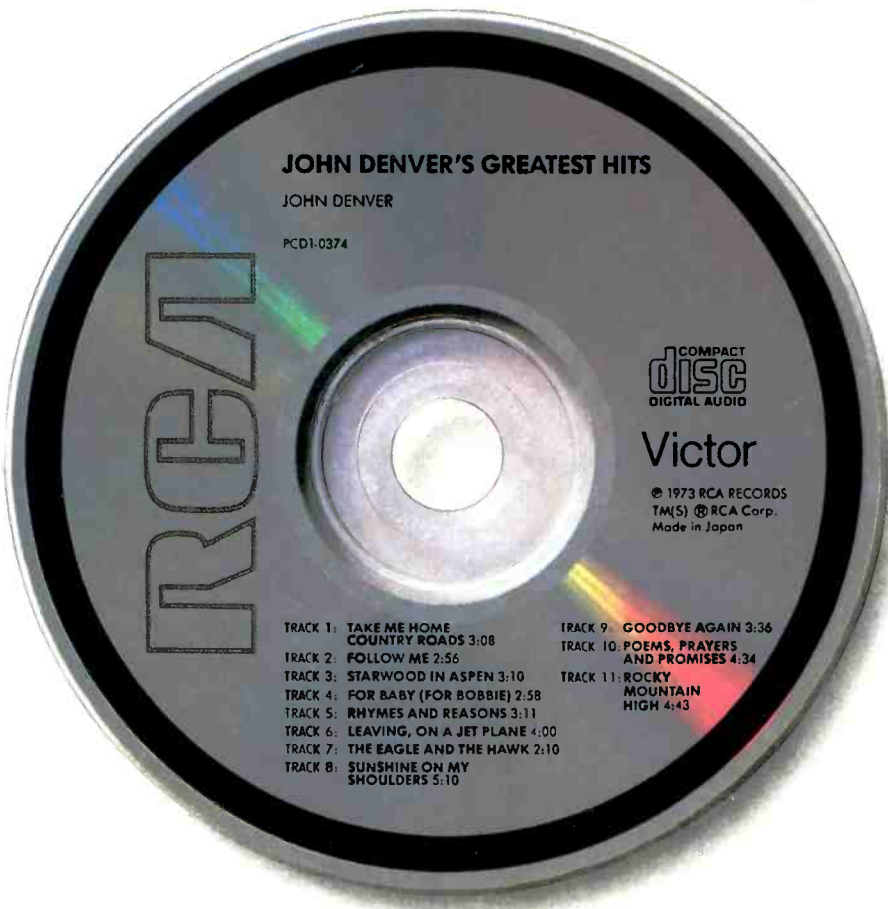
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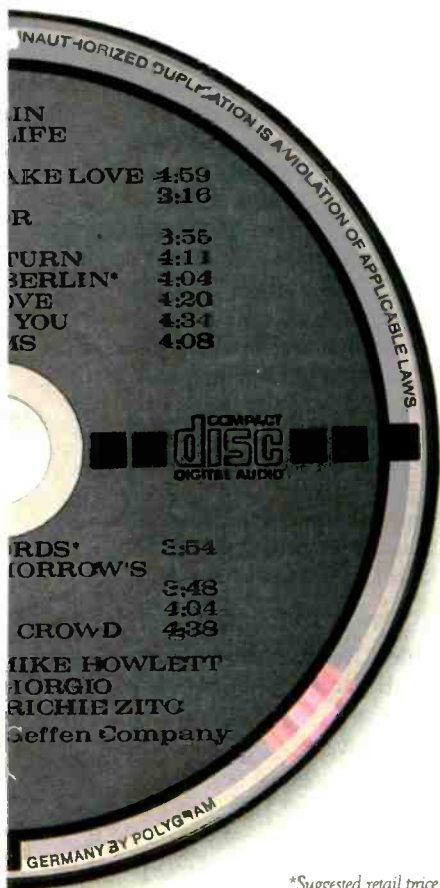
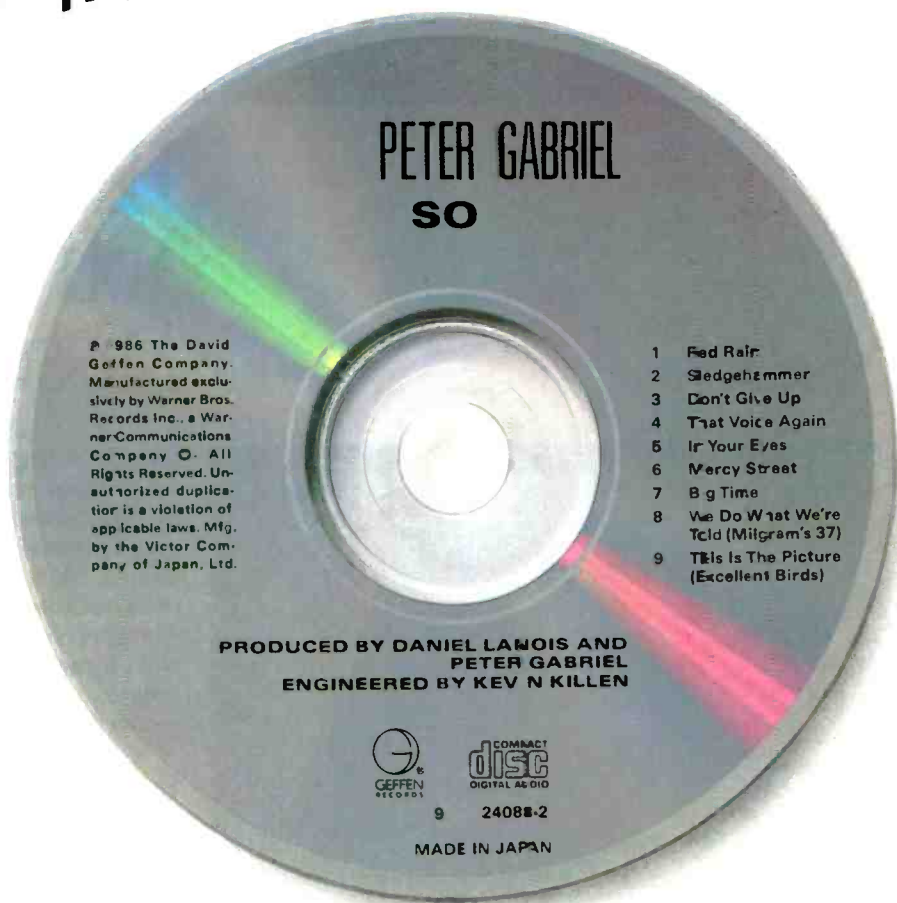


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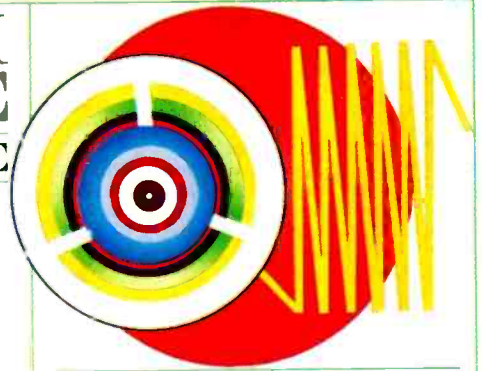


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# BLANK TAPE BUYING GUIDE



## BASF

### Metal IV Cassettes

Metal-particle tape for metal settings.

ME-IV C-120. 120 min ..... \$6.99

### LH Maxima I Cassettes

Ferric tape with high MOL for increased S/N and low distortion.

C-90. 90 min ..... \$2.49

C-60. 60 min ..... \$1.99

### Chromdioxid Maxima II Cassettes

High-density chrome formulation, precision shell.

C-90. 60 min ..... \$4.29

C-60. 90 min ..... \$3.29

### Chromdioxid Extra II Cassettes

Pure chrome for lowest noise and high output.

C-90. 90 min ..... \$3.29

C-60. 60 min ..... \$2.59

### LH Extra I Cassettes

Ferric position. Extended S/N over entire frequency range.

C-90. 90 min ..... \$1.79

C-60. 60 min ..... \$1.49

## CERTRON

### Endless Cassettes

Continuous ferric cassettes.

EC 12. 12 seconds ..... \$5.50

EC 20. 20 seconds ..... \$5.50

EC 30. 30 seconds ..... \$5.76

EC 45. 45 seconds ..... \$5.76

EC 60. 60 seconds ..... \$5.76

### Microcassettes

Ferric microcassettes with 390-oersted coercivity.

M60. 60 min ..... \$3.99

### HD Cassettes

Ferric cassettes with 360-oersted coercivity.

C60 HD/3. 60 min. 3 pack ..... \$3.99

C90 HD/3. 90 min. 3 pack ..... \$4.99

C30 HD. 30 min ..... \$1.19

C45 HD. 45 min ..... \$1.29

C60 HD. 60 min ..... \$1.39

C90 HD. 90 min ..... \$1.79

C120 HD. 120 min ..... \$2.49

### UX Cassettes

Ferric cassettes with 390-oersted coercivity.

C60 UX/2. 60 min. 2 pack ..... \$2.99

C90 UX/2. 90 min. 2 pack ..... \$3.99

## DENON

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### High Density Series

#### HD-M Metal Cassettes

High-stability pure metal tape formulation uses

CASSETTES continue to be the most popular audio tape format, far outselling open-reel tape, microcassettes, minicassettes, and, of course, eight-track cartridges. The information in this guide was provided by tape manufacturers, and the prices given are suggested; actual prices are set by retailers. Like any listing of this type, this one cannot be complete, although it ranges from budget normal-bias cassettes to Extra Efficiency open-reel. To find the best tape for your machine, we suggest that you buy samples of the tapes you can afford, record on them, and compare the results until you find one you like. The names and addresses of blank-tape manufacturers can be found on page 68.

high-density dispersion technology that yields a residual magnetic flux density of over 3,500 gauss and a coercivity of 1,200 oersted.

HDM-90. 90 min ..... \$6.50

HDM-60. 60 min ..... \$5.00

### HD8 High-Bias Cassettes

High-density metal particle formula uses New High Technorom magnetic pigment to increase residual flux density to 2,800 gauss yielding an MOL of -13.5 dB at 10 kHz.

HD8-90. 90 min ..... \$4.75

HD8-60. 60 min ..... \$3.75

### HD7 High-Bias Cassettes

Type-II formulation with extended high-frequency response and low noise. Residual flux density 1,700 gauss, MOL -17 dB at 10 kHz.

HD7-90. 90 min ..... \$3.00

HD7-60. 60 min ..... \$4.00

### HD6 High-Bias Cassettes

Type-II formulation with extended high-frequency response. Residual flux density 1,700 gauss, MOL -16 dB at 10 kHz.

HD6-90. 90 min ..... \$3.25

HD6-60. 60 min ..... \$2.50

### DY Series

#### DX4 Ferric Normal Cassettes

Type-I formulation with extended frequency response. Residual flux density 1,700 gauss, MOL -14.5 dB at 10 kHz.

DX4-90. 90 min ..... \$4.00

DX4-60. 60 min ..... \$3.00

### DX3 Ferric Normal Cassettes

Improved DX3 offers a 12% increase in both retentivity and coercivity yielding better high-frequency response and dynamic range. MOL -16.0 dB at 10 kHz.

DX3-90. 90 min ..... \$3.00

DX3-60. 60 min ..... \$2.50

### DX1 Ferric Normal Cassettes

Type I low-noise high-output cassettes with high sensitivity and high MOL (-19.5 dB at 10 kHz).

DX1-90. 90 min ..... \$2.25

DX1-60. 60 min ..... \$1.75

## FUJI

### FR Series Metal Cassette Tape

Metal-coated tape with tensilized polyester base. Designed for metal bias, 70- $\mu$ s EQ. Packaged in hinged plastic box.

FR (C-46). 46 min ..... \$5.79

FR (C-60). 60 min ..... \$6.39

FR (C-90). 90 min ..... \$8.49

### FR-II Super Series Cassette Tape

Type-II super-premium high-bias cassettes for 70- $\mu$ s EQ with cobalt-modified super-fine Beridox magnetic particles.

FR-II Super (C-46). 46 min ..... \$4.39

FR-II Super (C-60). 60 min ..... \$4.89

FR-II Super (C-90). 90 min ..... \$6.49

### FR-II Series Cassette Tape

Chromium-dioxide cassettes with tensilized polyester base. Designed for Type-II (CrO<sub>2</sub>) bias with 70- $\mu$ s EQ. Packaged in hinged plastic box.

FR-II (C-46). 46 min ..... \$3.99

FR-II (C-60). 60 min ..... \$4.49

FR-II (C-90). 90 min ..... \$5.99

### FR-I Super Series Cassette Tape

Super-premium Type-I normal-bias cassettes with 120- $\mu$ s EQ and cobalt-modified fine Beridox magnetic particles.

FR-I Super (C-46). 46 min ..... \$3.79

FR-I Super (C-60). 60 min ..... \$4.19

FR-I Super (C-90). 90 min ..... \$5.49

### FR Series Cassette Tape

Type-I normal-bias cassettes for 120- $\mu$ s EQ with cobalt-modified fine Beridox particles.

FR (C-46). 46 min ..... \$2.69

FR (C-60). 60 min ..... \$2.99

FR (C-90). 90 min ..... \$3.99

### DR Series Cassette Tape

DR (C-46). 46 min ..... \$2.39

DR (C-60). 60 min ..... \$2.59

DR (C-90). 90 min ..... \$3.49

DR (C-120). 120 min ..... \$4.99

### GT-II Series Cassette Tape

High-bias cassettes for 70- $\mu$ s EQ. Heat-resistant

# BLANK TAPE

tape, shell, and clear plastic case. Dual-spring pressure pad.

C-46	\$4.39
C-60	\$4.89
C-90	\$6.49

## GT-I Series Cassette Tape

Normal-bias, 120- $\mu$ s EQ car audio cassette with heat-resistant tape, shell, and clear plastic case. Tensitized polyester backing.

GT (C-46). 46 min	\$3.79
GT (C-60). 60 min	\$4.19
GT (C-90). 90 min	\$5.49

## IRISH

### High-Output Cassettes

Ferric cassettes in Norelco box. Precision shell.

XR-90. 90 min	\$2.70
XR-60. 60 min	\$2.10

### Low-Noise Cassette

Precision-shell, ferric cassette in Norelco box.

LN-90. 90 min	\$2.15
LN-60. 60 min	\$1.75
LN-30. 30 min	\$1.50

## JVC

### ME90P11 Metal Cassettes

Metal cassette tape with pure high-density metal-alloy magnetic particles. Tape is housed in a precision-molded cassette shell with a low-friction lining and head-cleaning leader tape. EQ 70  $\mu$ s.

C-60. 60 min	\$3.90
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### UF11 High-Bias Cassettes

High-bias cassette tapes housed in a heat-resistant smoked plastic shell. EQ 70  $\mu$ s.

UF11-60. 60 min	\$1.50
UF11-90. 90 min	\$1.75

### UF1 Normal-Bias Cassettes

Normal-bias cassette tapes housed in a heat-resistant smoked plastic shell. EQ 120  $\mu$ s.

UF1-60. 60 min	\$1.20
UF1-90. 90 min	\$1.65

### FI Normal-Bias Cassettes

FI C-60. 60 min	\$0.85
FI C-90. 90 min	\$1.00

## LASER BY SWIRE MAGNETICS

### Laser XL Cassettes

Normal-bias ferric cassettes with extra low noise. For voice or music.

C-120. 120 min	\$2.49
C-90. 90 min	\$1.89
C-60. 60 min	\$1.49
C-45. 45 min	\$1.39

### Laser UHD-I Cassettes

Normal-bias ferric cassettes with high-energy, high-density formulation.

C-90. 90 min	\$2.59
C-60. 60 min	\$1.99

### Laser UHD-II Cassettes

High-bias ferric cassettes with high-energy extended frequency response.

C-90. 90 min	\$2.59
C-60. 60 min	\$1.99

## MAXELL

### MX Metal Cassettes

Metal bias and EQ.

MX-46. 46 min	\$4.39
MX-60. 60 min	\$5.39
MX-90. 90 min	\$6.99

## XLII-S Epitaxial Cassettes

High-level bias, 70- $\mu$ s EQ.

XLII-S60. 60 min	\$3.69
XLII-S90. 90 min	\$4.99

## XLI-S Epitaxial Cassettes

Normal bias, 120- $\mu$ s EQ.

XLI-S60. 60 min	\$3.69
XLI-S90. 90 min	\$4.99

## XL-I Epitaxial Cassettes

Normal bias; 120- $\mu$ s EQ.

C-46. 46 min	\$2.49
C-60. 60 min	\$2.99
C-90. 90 min	\$3.79

## XL-II Epitaxial Cassettes

Chrome; high-level bias; 70- $\mu$ s EQ.

C-46. 46 min	\$2.69
C-60. 60 min	\$2.99
C-90. 90 min	\$3.79

## UDS-I Normal-Bias Cassettes

Features phase-accuracy shell, frictionless slip sheets, Quin-Lok hubs, cleaning leader.

C-46	\$2.29
C-60	\$2.49
C-90	\$2.99

## UDS-II High-Bias CrO<sub>2</sub> Cassettes

Features phase-accuracy shell, frictionless slip sheets, Quin-Lok hubs, cleaning leader.

C-46	\$2.29
C-60	\$2.49
C-90	\$2.99

## Normal-Bias Cassettes

UR-46. 46 min	\$1.59
UR-60. 60 min	\$1.69
UR-90. 90 min	\$1.99
UR-120. 120 min	\$2.99

## Microcassettes

Normal bias.

MC-46UD2PK (2 per card)	\$6.19
MC-60UD2PK (2 per card)	\$6.49

## XLII Open-Reel Tapes

Designed for use with EE-tape-capable decks.

XLII 35-90. 1,800 ft	\$16.48
XLII 35-180. 3,600 ft	\$44.98

## XLI Back-Coated Open-Reel Tapes

XLI 50-60B. 1,200 ft, 7" reel	\$10.58
XLI 50-120B. 2,500 ft, 10.5" reel	\$31.98
XLI 35-90B. 1,800 ft, 7" reel	\$12.48
XLI 35-180B. 3,600 ft, 10.5" reel	\$32.98

## Ultra-Dynamic Open-Reel Tapes

UD50-60. 1,200 ft, 7" reel	\$8.68
UD50-120+. 2,500 ft, 10.5" reel	\$27.38
UD35-90. 1,800 ft, 7" reel	\$8.98
UD35-180. 3,600 ft, 10.5" reel	\$27.98
UD50-120. 2,500 ft, 10.5" reel	\$11.48
UD18-180. 3,600 ft, 10.5" reel	\$12.48



## MEMOREX BY MEMTEK

**CDX II High-Bias Cassettes**  
Metal tape for high-bias (Type II) setting. Designed for recording CD's or other digital sources at high-bias, 70- $\mu$ s setting. Greater headroom for distortion-free reproduction at higher recording levels than conventional high-bias tapes. New permanent reference cassette mechanism.

C-90	\$4.99
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## HBX II High-Bias Cassettes

High-performance ferric/cobalt tape for use at high-bias, 70- $\mu$ s setting. Higher MOL's, greater sensitivity compared to standard high-bias and CrO<sub>2</sub> tapes. New permanent reference cassette mechanism.

HBX II High Bias C-90	\$3.79
HBX II (Type II) C-60	\$2.99

## HB II High-Bias Cassettes

Premium tape for high-bias, 70- $\mu$ s EQ position. Improved low-end MOL, greater sensitivity, new permanent reference cassette mechanism in clear shell.

HB II High Bias C-90	\$2.79
HB II (Type II) C-60	\$2.29

## MRX I Normal-Bias Cassettes

Premium normal-bias tape in clear shell. Full lifetime warranty.

C-90. 90 min	\$2.69
C-60. 60 min	\$2.19

## dBS Cassettes

Normal-bias tape for general music recording. Clear shell. Full lifetime warranty.

C-120. 120 min	\$2.59
C-90. 90 min	\$1.79
C-60. 60 min	\$1.49
C-46. 46 min	\$1.29

## NAKAMICHI

**ZX Reference Cassette Tapes**  
Metalloy (metal-particle) formulation for recording on metal-compatible decks only; features ultra-high coercivity and retentivity for improved distortion and MOL; 70- $\mu$ s EQ.

ZX-C60. 60 min	\$7.25
ZX-C90. 90 min	\$10.00

## SX II Reference Cassette Tapes

Double-coated ionized cobalt and ferric-oxide formulation. CrO<sub>2</sub> bias and EQ (70  $\mu$ s).

SXII-C60. 60 min	\$6.50
SXII-C90. 90 min	\$8.90

## SX Reference Cassette Tapes

Single-coated ionized-cobalt and ferric-oxide formulation. High coercivity permits use of CrO<sub>2</sub> bias and EQ (70  $\mu$ s) for 4-5 dB better S/N ratio.

SX-C60. 60 min	\$4.50
SX-C90. 90 min	\$6.50

## EX II Reference Cassette Tapes

Single-coated ferric-cobalt formulation; same bias and EQ (120  $\mu$ s) as EX tape; extra-low noise; high output.

EXII-C60. 60 min	\$4.25
EXII-C90. 90 min	\$6.00

## PANASONIC

**Microcassettes**

RT-602 MC. C-60 length. 2 pack	\$5.95
RT-604 MC. C-60 length. 4 pack	\$11.95
RT-90 AMC. C-90 length. Angrom composition	\$6.95

## Normal-Position Cassettes

RT-60EN2. C-60 length. 2 pack	\$3.95
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# BLANK TAPE

RT-80EN2. C-90 length. 2 pack ..... \$5.45  
 RT-60FS2. Fashion series. C-60 length. Color-tinted shell. 2 pack ..... \$5.45

## CrO<sub>2</sub>-Position Cassettes

RT-90EX2. C-90 length. 2 pack ..... \$9.95

## QUASAR

### Microcassettes

MT462M. 46-minute metal-bias microcassettes in twin pack ..... \$8.49  
 MT90A. Angrom-tape microcassettes ..... \$4.49  
 MT602. 60-minute normal-bias microcassettes in twin pack ..... \$2.95

## REALISTIC

### Supertape Type-IV Metal Cassettes

44-960. 60 min ..... \$5.99  
 44-961. 90 min ..... \$6.99

### Supertape Type-II Metal Cassettes

44-950. 60 min ..... \$4.89  
 44-951. 90 min ..... \$5.69

### Supertape Type-II High-Bias Cassettes

44-940. 60 min ..... \$3.49  
 44-941. 90 min ..... \$4.29

### Supertape Gold Type-I Cassettes

44-920. 45 min ..... \$2.59  
 44-921. 60 min ..... \$2.79  
 44-922. 90 min ..... \$3.79  
 44-923. 120 min ..... \$4.99

### Realistic Type-I Cassettes

*Low-noise, high output.*

44-601. 30 min ..... \$1.59  
 44-602. 60 min ..... \$1.99  
 44-603. 90 min ..... \$2.79  
 44-604. 120 min ..... \$3.49

### Concertape: Type I 3-Packs

44-606. 30 min ..... \$1.99/3-pack  
 44-607. 60 min ..... \$2.59/3-pack  
 44-608. 90 min ..... \$3.59/3-pack  
 44-609. 120 min ..... \$4.99/3-pack

### Concertape: Singles

44-605. 60 min ..... \$0.88  
 44-620. 90 min ..... \$1.25

### Mini-Cassettes

44-633. 30 min ..... \$2.89

### Microcassettes

44-640. 2.4 cm/sec. 60 min. .... \$3.49  
 44-644. 2.4 cm/sec. 90 min. .... \$6.95

### Open-Reel Tape

#### Supertape Premium

44-1872. 5" reel, 900 ft ..... \$3.99  
 44-1878. 7" reel, 1,200 ft ..... \$5.79  
 44-1877. 7" reel, 1,800 ft ..... \$6.49  
 44-1880. 7" reel, 3,600 ft ..... \$11.49

#### Low-Noise

44-754. 7" reel, 1,800 ft ..... \$5.49  
 44-758. 7" reel, 2,400 ft ..... \$6.49  
 44-766. 7" reel, 3,600 ft ..... \$7.99

## SCOTCH

### YSM IV Cassettes

*Fine-metal magnetic-particle formulation. Delivers maximum output up to 10 dB better than typical oxide tapes and up to 7 dB greater than chrome tapes. Low distortion, added high-frequency response, and improved S/N.*

60 min ..... \$7.99  
 90 min ..... \$10.29



### XS II Cassettes

*Features premium grade; improved S/N; less tape hiss; dual-layer cobalt-modified ferric oxide; for use with recorders in the chrome or 70-μs EQ; album packaging; improved shell for critical mechanical permanence and 3-head equipment.*

60 min ..... \$4.79  
 90 min ..... \$5.99

### XS I Normal-Bias Cassettes

*Features premium-grade, low-noise ferric-oxide formulation; improved high-frequency sensitivity and max output; album packaging; improved shell for critical mechanical permanence and 3-head equipment.*

60 min ..... \$4.49  
 90 min ..... \$5.79

### CY Cassettes

*Normal-bias ferric-oxide cassette featuring improved low-frequency output and clarity. Six-screw impact polymer shell houses an inner assembly with specially made low-friction roller guides; album package.*

60 min ..... \$3.29  
 90 min ..... \$4.79

### BX Cassettes

*Ferric-oxide formulation for all-purpose cassette use; polyester base; 5-screw impact polymer shell with low-friction roller guides and high-impact case.*

60 min ..... \$2.49  
 90 min ..... \$3.39

## SONY

### Metal-ES Cassettes

*Type-IV metal cassettes with 70-μs EQ. High-performance extralloy particle formulation ideal for live or digital recording.*

ES-90. 90 min ..... \$11.95

### UX Series Cassettes

*Type-II chromium-oxide high-bias cassettes using Sony's uniaxial super-fine particle formulation for high-density packing, more uniform recording, and high frequency response. 70-μs EQ.*

UX-60. 60 min ..... \$4.10  
 UX-90. 90 min ..... \$5.50  
 UX-S 60. 60 min ..... \$4.75  
 UX-S 90. 90 min ..... \$6.95  
 UX-ES 60. 60 min ..... \$5.25  
 UX-ES 90. 90 min ..... \$7.95

### UX-Pro Cassettes

*Similar to UX cassettes with high retentivity and ceramic tape guide for stable transport.*

UX-Pro 60. 60 min ..... \$7.95  
 UX-Pro 90. 90 min ..... \$9.95

### HF-S Series Cassettes

*Type-I normal-bias cassettes for micro-fine gam-*

*ma particles. 120-μs EQ.*

HF-S 60. 60 min ..... \$3.10  
 HF-S 90. 90 min ..... \$4.25

### HF Series Cassettes

*Type-I normal-bias cassettes for 120-μs EQ.*

HF 46. 46 min ..... \$2.05  
 HF 60. 60 min ..... \$2.25  
 HF 90. 90 min ..... \$3.15  
 HF 120. 120 min ..... \$4.05

### Microcassettes

3MC-60N. 60/120 min. 3 pack ..... \$2.75  
 MC-90N. 90/180 min ..... \$8.00

## TDK

### Metal Tape

#### MA-R (Metal Alloy-Reference) Cassettes

*Metal bias; 70-μs EQ; housed in reference standard die-cast metal shell; designed for excellent high-frequency MOL and high coercivity for improved sens and extra recording headroom.*

MA-R90. 90 min ..... \$9.40  
 MA-R60. 60 min ..... \$7.00

#### MA-XG Type IV Cassettes

*Metal bias; 70-μs EQ; housed in RS-II (reference standard II) shell with die-cast frame; ultra-fine Super Finavinx particles; designed for excellent high-frequency MOL and high coercivity for improved sens and extra recording headroom to meet the demands of digital sources.*

MA-XG90. 90 min ..... \$9.40  
 MA-XG60. 60 min ..... \$7.00

#### MA-X Type IV Cassettes

*Metal bias; 70-μs EQ; reference standard DLM (dual layer mechanism) shell for increased resonance control and superior tape-to-head contact; ultra-fine Super Finavinx particles; designed for excellent high-frequency MOL and high coercivity for improved sens and extra recording headroom to meet the demands of digital sources.*

MA-X90. 90 min ..... \$7.00  
 MA-X60. 60 min ..... \$5.20

#### MA (Metal Alloy) Cassettes

*Metal bias; 70-μs EQ; housed in precision molded plastic shell housing and laboratory standard mechanism.*

MA-90. 90 min ..... \$6.00  
 MA-60. 60 min ..... \$4.25

#### HX-S Type II Cassette Tape

*Metal-particle tape for high-bias setting; designed for recording compact discs or other digital material. Coercivity 700 Oe; remanence 3,000 gauss.*

HX-S90. 90 min ..... \$7.00  
 HX-S60. 60 min ..... \$5.20

#### High-Bias Type-II Cassettes

##### SA-XG Cassettes

*Double-coated Super-Avilyn-particle tape; high bias; 70-μs EQ; high output and wide dynamic range; RS-II (reference standard) mechanism consisting of 3-layer die-cast shell with stainless steel guide pins for reduced modulation noise and increased tape transportability.*

SA-XG60. 60 min ..... \$7.00  
 SA-XG90. 90 min ..... \$9.40

##### SA-X Cassettes

*Double-coated Super-Avilyn-particle tape; high bias; 70-μs EQ; high output and wide dynamic range; reference standard DLM (dual layer mechanism) shell for increased resonance control and superior tape-to-head contact.*

SA-X60. 60 min ..... \$3.90  
 SA-X90. 90 min ..... \$5.50

# BLANK TAPE



## SA (Super Avilyn) Cassettes

Improved cobalt-ferric formulation; high bias; 70- $\mu$ s EQ; extended FR and low noise; laboratory standard mechanism.

SA-90. 90 min	\$3.70
SA-60. 60 min	\$2.80

## Normal-Bias Type-I Cassettes

**AD-X (Acoustic Dynamic-Extended) Cassettes**  
Avilyn-particle technology in a normal-bias cassette. High output, wide dynamic range, high sens. Laboratory standard mechanism. 120- $\mu$ s EQ.

AD-X90. 90 min	\$4.30
AD-X60. 60 min	\$3.00

## AD (Acoustic Dynamic) Cassettes

Linear ferric-oxide particle formulation for normal bias; 120- $\mu$ s EQ; superior high-end response and output level; laboratory standard mechanism.

AD-90. 90 min	\$3.30
AD-60. 60 min	\$2.40

## General-Purpose Cassettes

**D (Dynamic) Cassettes**  
Normal bias; 120- $\mu$ s EQ; precision mechanism.

D-120. 120 min	\$3.20
D-90. 90 min	\$2.20
D-60. 60 min	\$1.90
D-46. 46 min	\$1.80
D-30. 30 min	\$1.70

## SA Open-Reel Tape

Extra-efficiency Super Avilyn open-reel tape for high-end tape recorders with EE (Extra Efficiency) bias position. Designed for high coercivity and low noise for full performance at half speed.

SA35-180M. 3,600-ft, 10.5" metal reel	\$32.80
SA35-90. 1,800-ft, 7" plastic reel	\$12.50

## GX Open-Reel Tape

Extremely high output level, extended range.



low-noise, low-distortion tape for mastering and all critical recording applications. Back treated for smooth running and stable winding. Available in 35- and 50-micron thicknesses.

GX35-180BM. 3,600 ft, 10.5" metal reel	\$27.30
GX50-120BM. 2,500 ft, 10.5" metal reel	\$23.40
GX35-90B. 1,800 ft, 7" plastic reel	\$10.10
GX50-60B. 1,200 ft, 7" plastic reel	\$8.60

## Microcassettes

**D-MC60B3.** Same dynamic formulation as standard-size cassettes. Has flat response and low noise for speech recording. Packed in threes. 60 min each

**AD-MC60B3.** Same acoustical dynamic formulation as standard-size cassettes. High-output, extended-range, low-noise tape for music and speech recording. Packed in twos. 60 min each

**MA-MC60.** Same metal-alloy tape formulation as standard-size cassettes. High-MOL, high-coercivity tape for critical music recording in metal-compatible microcassette recorders. Single pack. 60 min

## TEAC

### Metal-Reel Cassette Tapes

CRC-60. CrO <sub>2</sub> tape. 60 min	\$5.95
CRC-90. CrO <sub>2</sub> tape. 90 min	\$6.50
CDC-60. Normal bias. 60 min	\$5.75
CDC-90. Normal bias. 90 min	\$6.00

### High-Grade Cassette Tapes

CrO <sub>2</sub> high-grade cassette tapes.	
HDX-60. 60 min	\$3.95
HDX-90. 90 min	\$5.00

### Premium-Grade Cassette Tapes

Metal premium-grade cassette tapes.	
MDX-60. 60 min	\$4.75
MDX-90. 90 min	\$6.30

### Studio 52 Cassette Tape

Metal cassette tape wound on colored metal reels (gold, silver). C-52 length

### Sound 52 Cassette Tape

Normal-bias cassette tape wound on colored metal reels (blue, black, gold, green, pink, silver). C-52 length

## TRIAD

### MG-X90 Cassettes

90-min, metal-position Type-IV tape featuring Delta transport mechanism shell and cleaning leader. FR at 10,000 Hz +0 dB; MOL at 315 Hz +5 dB; SOL at 10,000 Hz, -1 dB; retentivity 3300 gauss; coercivity 1,150 Oe

### FX-90 Cassettes

90-min, normal-position Type-I tape featuring Delta transport mechanism shell and cleaning leader. FR at 10,000 Hz +3 dB; MOL at 315 Hz +5.5 dB; MOL at 10,000 Hz -6 dB; retentivity 1,800 gauss; coercivity 380 Oe

### EM-X90 Cassettes

90-min, high-bias Type-II tape featuring Delta transport mechanism shell and cleaning leader. FR at 10,000 Hz +0.5 dB; MOL at 315 Hz +5 dB; SOL at 10,000 Hz -3 dB; retentivity 3,100 gauss; coercivity 720 Oe

## VISA BY INTERWORLD ELECTRONICS

### High Performance I Tape

Ferric cassette tape with iron dioxide coating.	
60 min	\$1.59
90 min	\$1.99

## Extra Performance II Tape

High-bias cassette tape.	
60 min	\$1.99
90 min	\$2.49

## CX-II Professional Tape

High-bias cassette tape.	
60 min	\$2.49
90 min	\$3.49

## FDX-I Professional Tape

Ferric cassette tape.	
60 min	\$1.99
90 min	\$2.79

## UFX-I High Tech Turbo

Ferric cassette tape with clear housing.	
60 min	\$2.99
90 min	\$3.99

## UCX-II High Tech Turbo

High-bias cassette tape.	
60 min	\$2.99
90 min	\$3.99

## UCX-II-S High Tech Turbo

High-bias cassette tape with ultra-refined CrO <sub>2</sub> coating and special housing.	
60 min	\$3.49
90 min	\$4.99

# DIRECTORY OF MANUFACTURERS

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**IRISH MAGNETIC TAPE**, 270 Newtown Rd., Plainview, NY 11803

**JVC COMPANY OF AMERICA**, 41 Slater Dr., Elmwood Park, NJ 07407

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**MEMOREX by MEMTEK**, 2155 S. Bascom Ave., Campbell, CA 95008

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**SCOTCH (3M Corp.)**, 3M Center, Bldg. 223-5N-01, St. Paul, MN 55144

**SONY**, Sony Drive, Park Ridge, NJ 07656

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## The company that set the standards for modern loudspeakers now raises them.

AR invented the high fidelity bookshelf loudspeaker with our Acoustic Suspension principle in 1954. Since that time, the speaker business has been divided into two principal camps: AR and the companies imitating AR.

Today AR introduces the TSW Series. These Acoustic Suspension speakers are so refined in performance, so sophisticated in technology, they're a virtual textbook of loudspeaker design.

We've carefully shaped, braced, and grooved the inside of our cabinets to resist unwanted resonance. We've selected special carbon-filled polypropylene diaphragms to lower distortion at low frequencies. Our new 6½-inch midrange driver reproduces vocals with precision. And we mount our titanium dome tweeter on a unique Tetra-Helix™ plate to minimize diffraction and its consequent distortion.



As an integral part of the project, we harnessed the talents of one of America's top industrial designers to create a speaker that you'll be proud of even when it's not playing. In place of the typical 1/125-inch veneer, these speakers have solid American Walnut or Oak tops and bottoms\* nearly one inch thick.

The new TSW Series Loudspeakers  
Once again, AR reshapes the future of  
loudspeakers

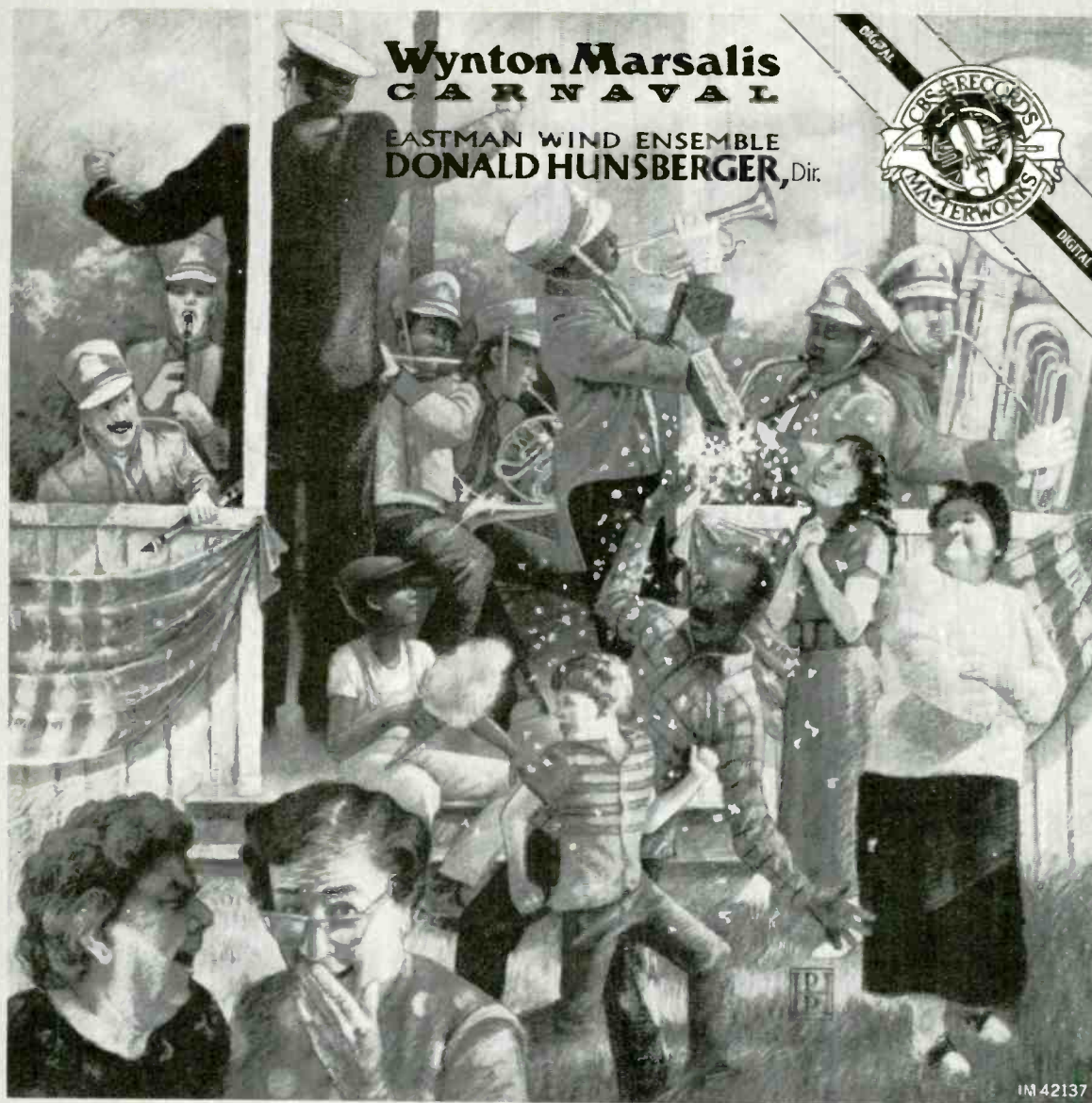
\*Wood top only on Model TSW-100.

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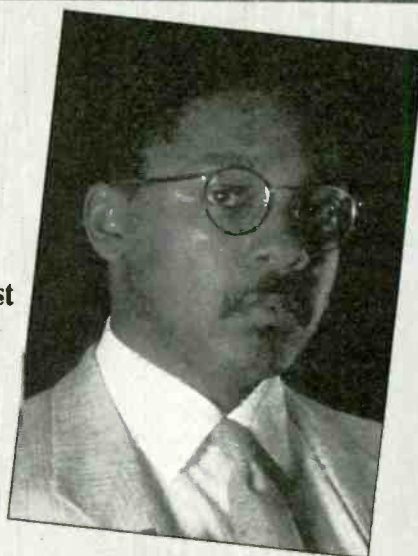


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*Stereo Review's critics choose the outstanding current releases*

## ANDRÁS SCHIFF'S FRESH-SOUNDING TCHAIKOVSKY

**A**NDRÁS SCHIFF is a pianist we identify with the music of Bach, Mozart, and Schumann. We don't think of the Tchaikovsky Concerto in B-flat Minor as his sort of work, and neither does Schiff. He surely never thought of recording it, but London/Decca, the label that has made him one of its star "properties" in the last few years, thought it would be a good idea and put him together with no less a team than Sir Georg Solti and the Chicago Symphony. According to Schiff, he didn't have to learn the piece: "I still had it in my fingers from having had to play it in the Tchaikovsky Competition, and I thought, too, that it might be nice to record it before I simply drop it from my repertoire."

Anyone who can make this work sound as fresh and beautiful as Schiff does ought never to think of dropping it from his repertoire, but if he does, the recording will be even more of a treasure, in the sense that it will be the only way to hear his performance. In any event, it joins the Argerich/Dutoit recording on Deutsche Grammophon at the very top of the list of CD versions of this most popular of all concertos.

What Schiff does with the Tchaikovsky is nothing mysterious. He simply approaches the work with the same seriousness and enthusiasm he shows for Bach or Mozart or any other music he might choose to play. He is neither especially influenced by tradition nor out to flout it. He lets the big tunes sing without milking them. He knows how to be powerful without being overpowering and how to make every note really beautiful without impeding the natural momentum of the piece. And what momentum! He finds an ideal tempo for every movement, and there is no gear-

shifting; phrases don't appear to be "molded" but flow with the same sense of intuitive assurance. There is, in short, nothing the least bit labored or self-conscious in this performance. It is a model of clarity and apparent spontaneity in many respects similar to the recordings of this work made by Solomon and the late Sir Clifford Curzon. Solti was the conductor in Curzon's recording, too, and in the new one with Schiff he seems to respond to both his soloist and their joint undertaking with an altogether exceptional enthusiasm—an enthusiasm generated, one has every reason to feel, by the joy of discovering so much freshness and beauty in a work as "overexposed" as the Tchaikovsky First Concerto.

In nearly every one of Schiff's concerto recordings (all but two, I think), his conductors have been fellow Hungarians, but this is the first in which he has performed music by a Hungarian composer. Coupled with the Tchaikovsky is the *Variations on a Nursery Song* by the great Ernő Dohnányi, who was himself an elegant pianist with repertoire affinities very much like Schiff's—and who was also one of Solti's teachers. This was an imaginative idea; the Dohnányi is an enchanting work, and it is not heard nearly as frequently as it ought to be. I can

imagine it played with a little more vivacity than is evident here, but certainly not with more affection, subtlety, or all-round charm.

The recording itself is as close to perfection as even this label has yet come, with the piano in the Tchaikovsky for once in absolutely ideal balance with the orchestra. And how one appreciates the wide dynamic range of the compact disc in the soft passages of the slow movement!

*Richard Freed*

**TCHAIKOVSKY: Piano Concerto No. 1, in B-flat Minor, Op. 23. DOHNÁNYI: Variations on a Nursery Song, Op. 25.** András Schiff (piano); Chicago Symphony. Georg Solti cond. LONDON 417 294-1 \$10.98, © 417 294-4 \$10.98, © 417 294-2 no list price.

## TAJ MAHAL GOES HIS OWN WAY

**T**HOSE who lament the lack of individualism among today's recording artists should listen to "Taj," the new album by Taj Mahal. It is the first release in eight years by this versatile singer-guitarist-composer, who has always sounded more like an old-time Mississippi bluesman

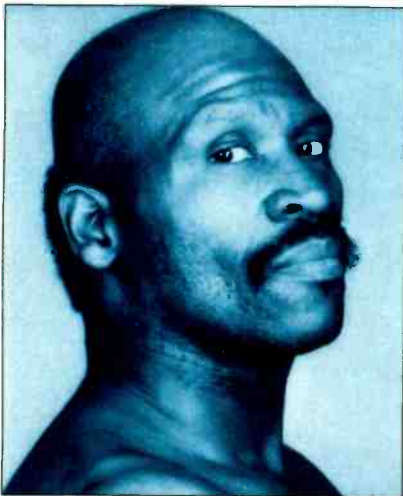
*András Schiff: a model performance of the most popular of all concertos*



than a college-educated, one-time farmer from Massachusetts. Back in the late Sixties and early Seventies, a time of national soul-searching, there was a ready audience for his distinctive brand of music, which deftly blended genuine folk idioms with urgent contemporary messages. He came fully equipped with a built-in sense of authenticity, cultivated by his careful study of his roots. But the times changed.

Now Taj Mahal has re-emerged to launch a counterattack against what he has called "today's chocolate-covered-granola-bars music." In ten resplendent selections, ranging from the heavy blues we know so well through previously unheard-of varieties of South Pacific popular music, he has created an album that challenges the comfortable constraints of current popular modes while providing an extraordinarily high level of musical gratification.

Taj Mahal has always followed his personal muse. In the past—as in the present—it has led him to the music of black America. But he has lived in Hawaii for the past four and a half years, and he has also sought inspiration in the indigenous music and social concerns of the South Pacific. This element, as much as anything else here, places the album



Taj Mahal: immediately engaging

in a category of its own. The special lilt and lyrical cadences of the warm climates are its hallmark, and its political statements are ironically couched in the most appealing of music. For instance, the first track,

*Everybody Is Somebody*, says "Black is beautiful," but in the most palatable terms. *Light of the Pacific* and *French Letter* employ familiar reggae rhythms while addressing such concerns as nuclear testing and its disastrous effect on the environment. *Kauai Kalypso*, referring to the state in which Taj Mahal now lives, deals with the economic concerns of its sugar-cane farmers.

"Taj" is an album that must be listened to quite carefully, for the music is so immediately engaging it's easy to overlook the lyrics. Taj Mahal at his best, as he is here, is simply so riveting a musical force that the formidable funk of his vocals and instrumentals is all that seems to matter. What's more, he delivers two superb servings of down-home blues, *Do I Love Her* and *Deed I Do*. The group of supporting players on "Taj" is crammed with stars, but none of the musical trappings detract from the essential message, which is that Taj Mahal is a musician with a view. Views, really—views to be reckoned with.

Phyl Garland

**TAJ MAHAL:** *Taj*. Taj Mahal (vocals, acoustic and electric guitars, bass, percussion, keyboards); Wayne Henderson (keyboards); Babatunde Olatunji, Ralph McDonald (percussion); other musicians. *Everybody Is Somebody*; *Paradise*; *Do I Love Her*; *Light of the Pacific*; *Deed I Do*; *Soothin'*; *Pillow Talk*; *Local Local Girl*; *Kauai Kalypso*; *French Letter*. GRAMAVISION 18-8611-1 \$9.98, © 18-8611-4 \$9.98, © 18-8611-2 no list price.

## CHARLES DUTOIT: A SURPASSING "FIREBIRD"

IT was a little more than five years ago that Charles Dutoit and the Montreal Symphony Orchestra appeared on records for the first time, in a marvelous performance of the complete *Daphnis et Chloé* on London. It identified the orchestra as one of this continent's overlooked treasures and Dutoit himself as a conductor in no danger of being overlooked from that moment on. Since then Dutoit has made some valuable recordings

with French and German orchestras for Erato, and further releases with his Canadian orchestra have solidified its reputation.



Charles Dutoit: enthusiasm and polish

The deservedly successful *Daphnis* launched an extended Ravel cycle and further exploration of the ballet scores written for Diaghilev by such composers as Stravinsky and Falla. The latest in this series is, to my ear, the finest issue yet from this team, a gorgeous complete *Firebird* that surpasses the most distinguished previous recordings of this glittering but very substantial score. I feel that Dutoit has gone just a bit farther than other conductors in probing its fairy-tale core and in lighting its remarkable colors, and he's persuaded every player to respond on the level of a shared vision.

And what a splendid program Dutoit has devised! While other recordings of the complete *Firebird* come without additional material, Dutoit fills out his package with the two earlier pieces that first aroused Diaghilev's interest in the obviously talented but still unknown young Stravinsky: the *Scherzo fantastique*, a fascinating piece that alone might have made a lesser composer's reputation, and the brief fantasy called *Fireworks*.

These three works were the first in which Stravinsky's own personality came to the fore, and one might almost say they grew out of one another. In any event, they add up to a stunning package, for Dutoit brings the same enthusiasm and polish to the shorter pieces as to the big one, and the recording itself

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(with access points on the CD for cueing each section of *The Firebird*) is another demonstration-class production from a label that has given us more than a few. *Richard Freed*

**STRAVINSKY:** *The Firebird (Complete Ballet, 1910); Scherzo fantastique, Op. 3; Fireworks, Op. 4.* Montreal Symphony, Charles Dutoit cond. LONDON 414 409-1 \$10.98, © 414 409-4 \$10.98, © 414 409-2 no list price.

## FIRE TOWN: RESTORING ROCK'S PROMISE

**A** LOT of the fun of rock-and-roll used to be discovering things for yourself, finding out about a band that nobody else in your school had heard of, or stumbling across a record and wondering where the music had been all your life. These days, when the major record companies have become a *de facto* monopoly and pop music has blanded out as a result, this happens less than it used to, but it still happens. Case in

Erikson and Phil Davis, are a lot more resonant and complex than that categorization might suggest.

The twelve-string part on the raggingly beautiful *Carry the Torch*, for example, doesn't recall the Byrds so much as the *idea* of the Byrds, and the central guitar riff of *Favorite Song*, which turns into a metaphor for the relationship being described in the lyric, is so integral to the whole thing that you might not even notice that it's based on a quote from the Yardbirds.

There's just so much else to admire, from the deft production touches on the Creedence-like *Rain on You* to the way the gorgeous country ballad *Secret Heart* turns near-symphonic in the most unexpected places. But what's most impressive about the album, apart from its ungimmicky integrity, is Fire Town's serene self-assurance. Clearly, these guys write and play the way they do because they have to, not because they think it's a good career move.

Let me be as unequivocal about "In the Heart of the Heart Country" as I can. There is more intelligence, craftsmanship, and genuine feeling



Doug Erikson, Butch Vig, Tom LaVarda, and Phil Davis of Fire Town

point: Fire Town's "In the Heart of the Heart Country," a debut album on a small independent label by an unknown band from the wilds of Wisconsin that crossed my desk totally unheralded—and then proceeded to knock my socks off.

As the title suggests, Fire Town's music can be lumped, at least superficially, with that of a lot of other roots-conscious bands, and there is a certain Midwestern-gothic feel to much of it—fleeting images of rain-swept highways, deserted factories, and the like. By and large, though, the songs, mostly by guitarists Doug

here than in almost any record I have heard in a good long time, and you should do everything humanly possible, short of theft, to get hold of a copy. It's the kind of album that will restore your faith, and not just in rock-and-roll. *Steve Simels*

**FIRE TOWN:** *In the Heart of the Heart Country.* Fire Town (vocals and instrumentals). *Places to Run; Carry the Torch; Secret Heart; Rain on You; Heart Country; Favorite Song; There's a Fire; One More Reason; The Mystery Field.* BOAT FT 1013 \$8.98 (from Boat Records, P.O. Box 3362, Madison, WI 53704).

## NOW ON CD Compact Discs of previously released LP's

### POPULAR

- **ERIC CLAPTON:** *No Reason to Cry.* RSO/POLYGRAM 813 582-2 (with a previously unreleased bonus track). "Rich and fad-free" (February 1977).
- **ROBERT CRAY:** *Strong Persuader.* MERCURY 830 568-2. "Uncomplicated, soulful music [delivered with] engaging urgency" (February 1986).
- **CULTURE CLUB:** *Kissing to Be Clever.* VIRGIN/EPIC EK 38398. "New Wave supper club" (April 1983).
- **PETER GABRIEL:** *Plays Live.* GEFEN 4012-2 (two CD's). "Electrifying" (September 1983).
- **BENNY GOODMAN:** *Air Play.* DR. JAZZ/CBS WGK 40350 (two-record set on one CD). Broadcast recordings dating from 1936-1938.
- **MAME (Jerry Herman).** COLUMBIA CK 03000. Original 1966 Broadway cast, with Angela Lansbury.
- **THE MOODY BLUES:** *Seventh Sojourn.* THRESHOLD/POLYGRAM 820 159-2. "Lithe and responsive, one of [their] best" (April 1973).
- **TELEVISION'S GREATEST HITS, VOLS. I-II.** TEEVEE TUNES TVT 1100 and 1200. "Never a dull moment" (January 1987).

### CLASSICAL

- **BACH:** *Violin Concertos Nos. 1-2; Double Concerto.* Perlman, Zukerman; Barenboim. EMI/ANGEL CDC 47856. "Superbly musical" (March 1973).
- **BEETHOVEN:** *Piano Concertos Nos. 1-5.* Gilels; Szell. EMI/ANGEL CDC 47713 (Nos. 1-2); CDC 47714 (Nos. 3-4); CDC 47619 (No. 5 plus variations for solo piano). "Total mastery" (December 1968).
- **BERLIOZ:** *La Damnation de Faust.* Veasey, Gedda, Bastin; C. Davis. PHILIPS 416 395-2 (two CD's). "Unflagging splendors" (March 1974).
- **FAURÉ:** *Barcarolles.* Collard. EMI/ANGEL CDC 47358. "Exquisitely molded, richly lyrical" (December 1975).
- **MONTEVERDI:** *Orfeo.* G. Quilico; Corboz. ERATO/RCA ECD 88133. "Charged with drama" (June 1986).
- **VERDI:** *Nabucco.* Suliotis, Gobbi; Gardelli. LONDON 417 407-2 (two CD's). A performance of "great conviction" (Best of Month, September 1966).







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

**JOHN ANDERSON: *Countrified.***  
John Anderson (vocals, guitar); vocal and instrumental accompaniment. *Countrified*; *What's So Different About You*; *Yellow Creek*; *Do You Have a Garter Belt*; *Honky Tonk Crowd*; *Peace in the Valley*; *You Can't Judge a Book (By the Cover)*; *If I Could Have My Way*; and two others. WARNER BROS. 25373-1 \$8.98, © 25373-4 \$8.98.

Performance: *Not his best*  
Recording: *Very good*

John Anderson, a Lefty Frizzell acolyte who came on the scene in 1980 and won a Horizon award from the Country Music Association three years later, looked for a while as if he were going to turn Nashville upside down, and he darned near did with a boogie tune called *Swingin'*, the 1983 Single of the Year. Since then, however, Anderson's albums—which were once packed with glistening, left-field jewels such as *I'm Just an Old Chunk of Coal (But I'm Gonna Be a Diamond Some Day)*, *Wild and Blue*, and *Would You Catch a Falling Star*—have gotten increasingly spotty. Part of the reason is that he has slacked off on the honky-tonk, barroom weepers that he does best and chosen some particularly airless songs that do nothing to boost his career.

On "Countrified" Anderson offers up two barroom ditties, the ingratiating *Wife's Little Pleasures* and *Honky Tonk Crowd*, but he recycles four songs—Tony Joe White's *Do You Have a Garter Belt*, Merle Haggard's *The Fightin' Side of Me*, Willie Dixon's *You Can't Judge a Book (By the Cover)*, and Thomas A. Dorsey's *Peace in the Valley*—that, with the possible exception of the last tune, only make you yearn for the better-known renditions. I'm sure that Anderson is still a formidable talent—there's something transfixing about his weirdly wistful voice—but this album does little to prove it. Better luck next time. *A.N.*

**FRANKIE BEVERLY AND MAZE:** *Live in Los Angeles.* Frankie Beverly and Maze (vocals and instrumentals). *Running Away*; *Too Many Games*; *I Wanna Thank You*; *You*; *Happy Feel-*



## ERIC CLAPTON

**A**FTER nearly a decade of lowering our expectations, Eric Clapton brings a lot of excess baggage to his new recording, "August." So maybe it isn't as good as I think it is. But don't bet on it. On "August," Clapton has stopped hiding behind slick, empty arrangements and started playing for keeps again. Nothing flashy, just clean, sharp attacks and simple, solid rhythm work.

Take the opener, for instance, *It's in the Way That You Use It*, from *The Color of Money*. All right, it's a star vehicle and you're supposed to be keying on the vocal, but if you hang with the song till the end, you're rewarded with a sizzling exit solo. For me, that solo is really when the album begins.

Clapton picks up momentum with Lamont Dozier's *Run*, which features a punchy rhythm chart by Phil Collins, then starts to burn with *Tearing Us Apart*, a duet with Tina Turner. Clapton is clearly showing off his chops for Tina, but he upstages even her with a terrific growling vocal. The first time I heard Clapton sing "The rain is falling" on this track, I swear I got drenched. He also does a nice cover of West Coast blues guitarist Robert Cray's *Bad Influence*, comes up with a great police-siren guitar sound for *Hold On*, and transforms a rather bland tune called *Miss You* (for which he has no one to blame but himself, since he wrote it)

into something memorable with an exquisitely raunchy solo. As if to demonstrate his range, Clapton even does a convincing job on the weird, Euro-synth-pop *Behind the Mask*. It's actually my favorite track on the album.

"August" isn't a guitar album. Clapton has developed into a wizened, distinctive vocalist with the years, and while he gets swamped occasionally by some of the headier arrangements, it is really his vocals that give "August" its character. But his guitar work is important nonetheless. It's workmanlike and confident, and given Clapton's history, that's nothing to sneeze at. Phil Collins's production is bright, flattering, never overpowering, and the band—including the Brecker Brothers and Jon Faddis, who tear through Leon Pendarvis's horn charts—seems to have enjoyed the session. So, I'm happy to predict, will you. *Mark Peel*

**ERIC CLAPTON: *August.*** Eric Clapton (guitar, vocals); Greg Phillinganes (keyboards, backing vocals); Nathan East (bass); Phil Collins (drums, percussion, backing vocals); other musicians. *It's in the Way That You Use It*; *Run*; *Tearing Us Apart*; *Bad Influence*; *Walk Away*; *Hung Up on Your Love*; *Take a Chance*; *Hold On*; *Miss You*; *Holy Mother*; *Behind the Mask*. WARNER BROS. 25476-1 \$8.98, © 25476-4 \$8.98. © 25476-2 no list price.

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Earl Thomas Conley sings a duet with Anita Pointer in his new album.

ings; *Feel That You're Feeling*; *I Want to Feel I'm Wanted*; *We Are One*; and seven others. CAPITOL SWBB-12479 two LP's \$17.98, © 4XWW-12479 one cassette \$17.98.

Performance: *Nostalgic vibes*  
Recording: *Satisfactory*

Frankie Beverly and the vocal-instrumental group called Maze are a delightful throwback to the glorious era in soul music that began in the mid-Sixties and extended into the mid-Seventies, ending at about the time synthesizers seized control. Somehow they have managed to survive by emphasizing lilting rhythms, expressive singing, sympathetic instrumentals, and a light airy flavor—all characteristics of the black popular music of that earlier period. Stylistically, they are reminiscent of the memorable West Coast band War, though they steer clear of urban politics and focus on love, faith, and personal feelings. The dominant element is the pleasant baritone of Beverly, who also writes and produces all of the group's material. The creative drain this represents is apparent on this extended set recorded live in Los Angeles. For all its captivating music, it does generate a certain monotony with its repetitious rhythms and themes spread over four sides, though there are some moments when the dynamics change, as on the gospelish *I Wanna Thank You*. The album has nevertheless made a home for itself on my turntable, transporting me back to the time when this music was creating a lot of good vibes. P.G.

**JAMES BROWN:** *Gravity*. James Brown (vocals); vocal and instrumental accompaniment. *Gravity*; *Let's Get Personal*; *How Do You Stop*; *Turn Me Loose*, *I'm Dr. Feelgood*; and four oth-

ers. SCOTTI BROTHERS/CBS FZ 40380, © FZT 40380, no list price.

Performance: *Soul lives*  
Recording: *Good*

The Godfather of Soul has worked a bit of techno-funk into his new record, but the emphasis here is still on solid rhythm-and-blues tunes. And they are perhaps the most tuneful and ingratiating of James Brown's long career.

There is a heavy, heady trace of the old Memphis blues in *How Do You Stop* and a get-down boogie beat on *Turn Me Loose*, *I'm Dr. Feelgood*, while the title tune and *Let's Get Personal* employ rhythmic repetition imaginatively without beating you over the head. The result is hypnotic. The best selection overall, though, is *Living in America*, once a Top 10 hit with its irresistible beat, catchy melody, and patriotic message. Here Brown whips that message across with a sense of urgent energy.

No small ingredient in the artistic success of this recording is the high quality of the instrumentals that compensate for Brown's minimal vocalism. The Uptown Horns punch out sharp, inspired statements that are perfectly complemented by the sassy guitar work of Dan Hartman and T. M. Stevens. And nowhere in this album do you hear a single one of those horrible cliché horn licks that are now standard fare on black pop records. Instead, these guys really *play!* "Gravity" offers welcome assurance that soul music is alive and well and will continue to thrive as long as James Brown is around. P.G.

**VASSAR CLEMENTS:** *Hillbilly Jazz Rides Again*. Vassar Clements (fiddle, lead vocals); Dave Salyer (guitars); Steve Davidowski (saxophone); Kirby Bivans (drums); Edgar Meyer (bass);

Doug Jernigan (steel guitar); other musicians. *Hillbilly Jazz*; *Don't Hop, Don't Skip*; *Airmail Special*; *Swing Street*; *Be a Little Discreet*; and seven others. FLYING FISH FF 385 \$8.98.

Performance: *Top of the form*  
Recording: *Good*

A dozen years ago fiddler Vassar Clements, along with David Bromberg, D. J. Fontana, and Doug Jernigan, recorded a ground-breaking double album called "Hillbilly Jazz," which fused country, blues, western swing, jazz, and big-band music. Now comes its sequel, with a couple of the original players.

"Rides Again" couldn't possibly seem as revolutionary as the first one did, times and musical evolution being what they are, but this record has nothing to be ashamed of. There aren't any roaring fires on it, but it burns steadily and vigorously and occasionally breaks into a blaze. The original tunes, written mostly by the players in the band, jive beautifully with the old swing standards. A delight. A.N.

**EARL THOMAS CONLEY:** *Too Many Times*. Earl Thomas Conley (vocals); vocal and instrumental accompaniment. *Too Many Times*; *I Can't Win for Losin' You*; *Attracted to Pain*; *Many Forgiving Years*; *That Was a Close One*; and five others. RCA 5619-1 \$8.98, © 5619-4 \$8.98, © 5619-2 no list price.

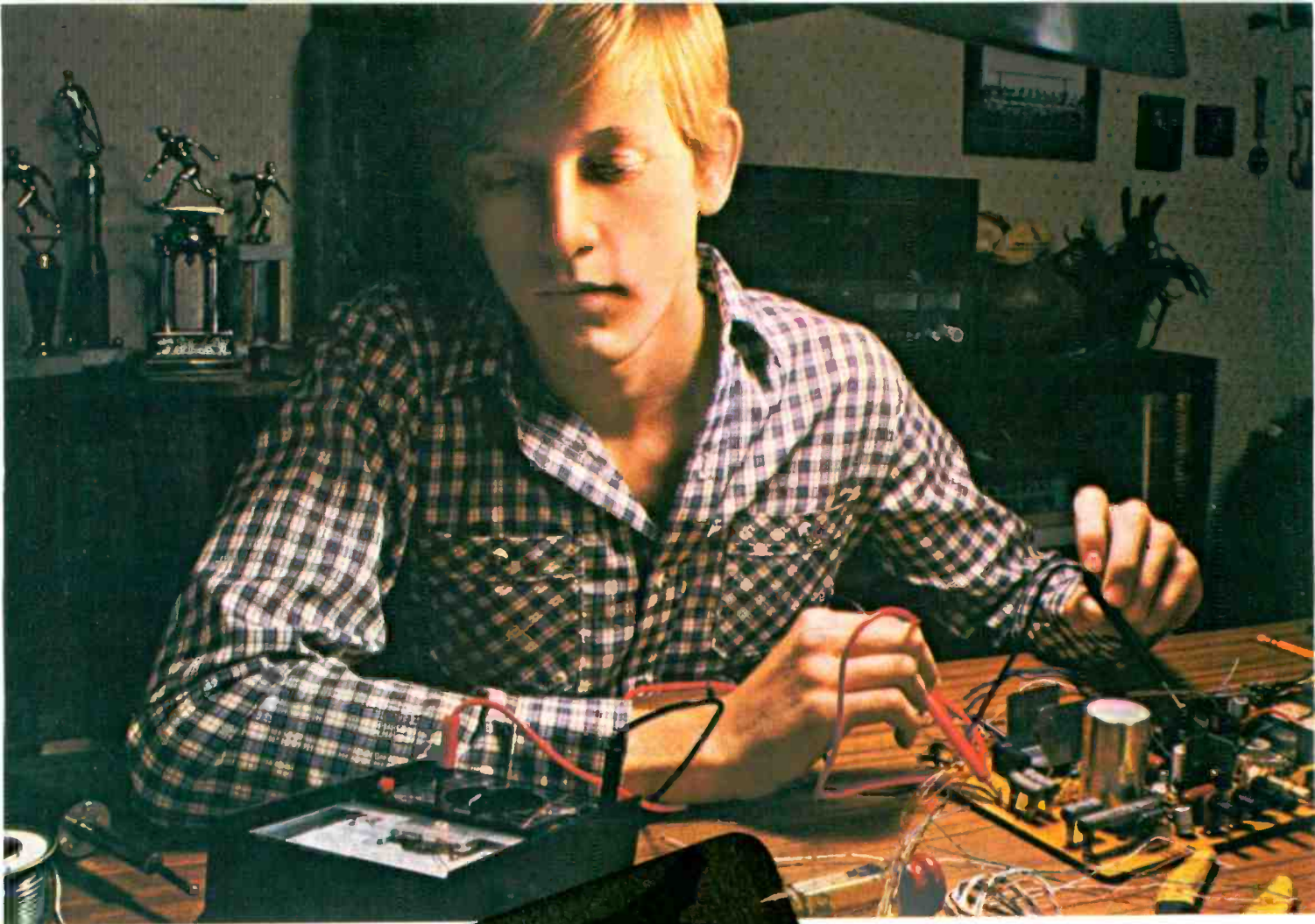
Performance: *Stretching out*  
Recording: *Nice*

For his sixth RCA album, Earl Thomas Conley, one of country music's most powerful and poetic songwriters, cut back on the number of his original tunes in an effort to showcase his vocal talents. He performs a pop-oriented duet with Anita Pointer, *Too Many Times*, and a variety of not-very-country-sounding songs—mostly white-faced r-&-b, Fifties rock-and-roll, and upbeat love ballads—that stretch him out as a singer.

The duet, written by Michael Smotherman, has already proved a big hit, so Conley makes his point. But the irony is that the most affecting songs here are the three that Conley had a hand in writing—*Attracted to Pain*, *I Need a Good Woman Bad*, and *If Leavin' Was Easy*, the first exploring the dark side of love, one of Conley's strong suits, and the second offering aching country-soul. The more commercial, hit-bound tunes have more integrity than those usually smuggled onto a country record, and as a singer Conley knows how to sail them home. But it is in his originals—the songs that RCA probably regards as fillers—that Conley again shows himself to be one of country's true and indispensable treasures. A.N.

**FIRE TOWN:** *In the Heart of the Heart Country* (see *Best of the Month*, page 74)





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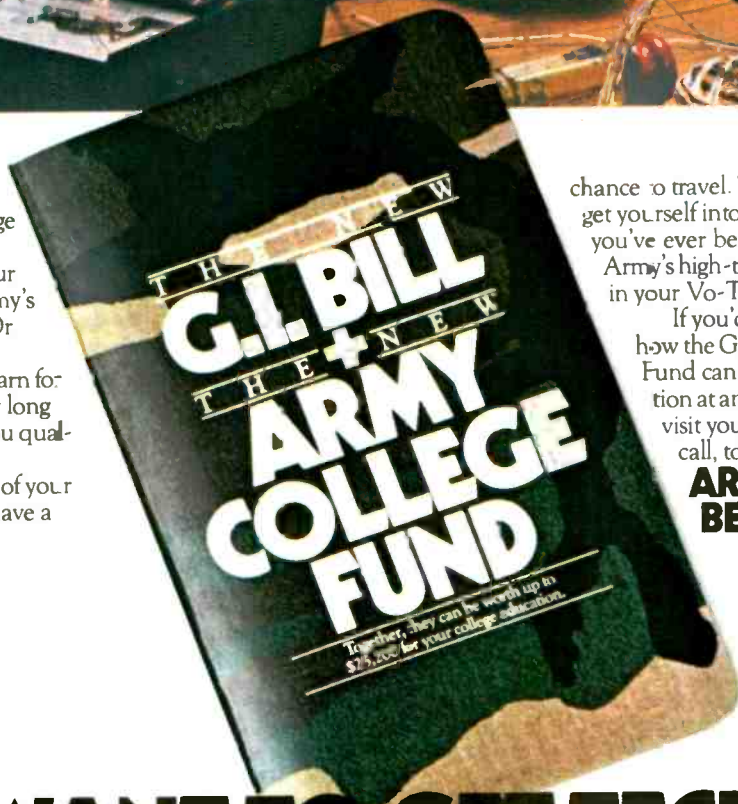
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**JESSE JOHNSON:** *Shockadelea*. Jesse Johnson (vocals, guitar); other musicians. *Change Your Mind; Crazy; Baby Let's Kiss; A Better Way; Do Yourself a Favor; Burn You Up*; and four others. A&M SP-5122 \$8.98, © CS-5122 \$8.98, © CD-5122 no list price.

Performance: *A new Sly?*  
Recording: *Very good*

Just when it seemed that funk had become nothing but a noisy irritant that wouldn't go away, Jesse Johnson came along to show us what contemporary black dance music is all about. A gifted guitarist who speaks with his instrument as well as his voice, Johnson does not rely simply on a beat. He surrounds it with music that reflects influences of the distant and more recent past.

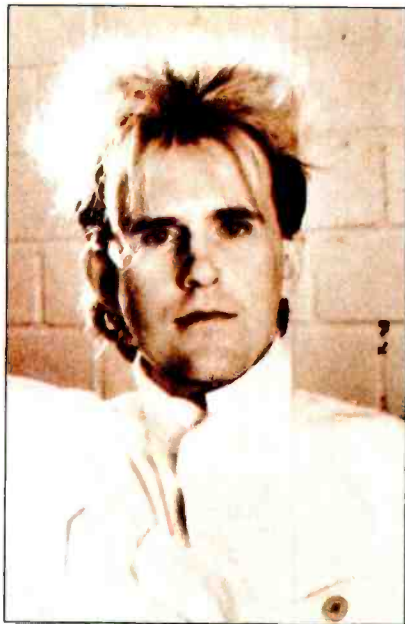
*A Better Way* is a deep bow to the blues with its sensual bass lines and inspired guitar work. *Black in America*, an appeal for racial equality cast in the form of a ballad, rings with sincerity. Another highlight is Johnson's duet with Sly Stone on the rollicking *Crazy*, which is guaranteed to put you in motion. *P.G.*

**HOWARD JONES:** *One to One*. Howard Jones (vocals, keyboards, drum and percussion programs, sequencing); vocal and instrumental accompaniment. *You Know I Love You . . . Don't You?; The Balance of Love (Give and Take); All I Want; Where Are We Going?; Don't Want to Fight Anymore*; and five others. ELEKTRA 60499-1 \$8.98, © 60499-4 \$8.98.

Performance: *Perky*  
Recording: *Excellent*

A Howard Jones album is like a date with a beautiful woman who makes you squirm every time she opens her mouth. I don't think there's anyone in pop music right now who's as inventive or as musical a performer on synthesizers. His songs are wonderfully melodic, his keyboard palette has a wide range of moods and colors, and he's got counterpoint down like one of the Bach kids. And his intentions are good: he's against conformity and anarchy, not to mention drugs and meaningless sex. But somehow everything Jones says winds up sounding sanctimonious or, worse, simpleminded. You're left with the impression that his contribution to a discussion of the arms race would be something on the order of, "Well I don't see why we can't all just live together in peace and harmony."

That caveat out of the way, "One to One" is a huge improvement over "Dream into Action" and "Action Replay." From the quasi-reggae beat of *Give Me Strength* to the lush orchestration of *Will You Still Be There* to the shards of splintered synth on *The Balance of Love* to the bleating horns of *You Know I Love You*, Jones coaxes forth an amazing assortment of styles and sounds. On titillation alone, you've



Howard Jones: *wonderfully melodic*

got to give him high marks. And if he gets a little preachy now and then, his sincerity makes it easier to take.

At the risk of sounding like a broken record, I'll say it again: Howard Jones's "Human's Lib" is an essential acquisition. But "One to One" is certainly the best of the rest. *M.P.*

**FRED KOLLER:** *Night of the Living Fred*. Fred Koller (vocals, guitar, Dobro); Bruce Sweetman (fiddle, viola, trumpet); vocal and instrumental accompaniment. *I Know How the Dinosaurs Felt; Jennifer Johnson and Me; Roundin' Third and Heading Home; The White Bread Blues*; and six others. LUCRATIVE 0001 \$8, © 0001 \$8 (from Lucrative Records, P.O. Box 90363, Nashville, TN 37209).

Performance: *Fine time for all*  
Recording: *Good*

Imagine, if you can, what Randy Newman might sound like doing a Sylvester the Cat impersonation, and you have some idea of the air that circulates around Fred Koller, one of Nashville's most prolific—and off-the-wall—songwriters. After writing songs recorded by Gene Watson, Bobby Bare, Gail Davies, Jerry Lee Lewis, Michael Martin Murphy, and others, Koller has now cut his own solo album, offering what he says is the most-requested material from his club performances.

A man who says he "looks for a sense of the absurd" when adding to his collection of 5,000 records, Koller spills some of that over his own work too, such as *Goodnight Little Houseplant*, which he wrote with Shel Silverstein. But Koller's humorous approach alternates with an affecting and lyrical quality that's evident in Lacy J. Dalton's *Boomtown* and Nanci Griffith's *Goin'*

*Gone*. Koller may not have a household name, but in Nashville he's practically a cult artist. Here's why. *A.N.*

**KRAFTWERK:** *Electric Cafe*. Kraftwerk (vocals and instrumentals). *Boing Boom Tschak; Techno Pop; Musique Non Stop; The Telephone Call; Sex Object; Electric Cafe*. WARNER BROS. 25525-1 \$8.98, © 25525-4 \$8.98.

Performance: *What performance?*  
Recording: *Unfortunately, yes*

If your telephone answering machine could think, it would probably love Kraftwerk. But I can't imagine any earthly reason why a human being would want to listen to this stuff. "Electric Cafe" is an example of digital technology taken to horrible extremes. Digitized voices and percussion sniff, clank, and burble self-reflexive lyrics, like "synthetic electronic sound, industrial rhythms all around," over and over and over. It's like eavesdropping on a robot in therapy.

"Electric Cafe" is so preposterous that at first you think there's got to be more to it than meets the ear: maybe it's some kind of neo-Expressionist statement about the domination of technology, or maybe the group's machines really did take over the recording session—maybe the guys are tied up in the studio and the synthesizers are out spending their royalty checks on one-night stands with cheap cable-ready TV's. But by the time you get to *The Telephone Call*—yes, they actually did a song using that most tired of clichés, a ringing telephone—you realize that Kraftwerk is just plain dumb. *M.P.*

**STACY LATTISAW:** *Take Me All the Way*. Stacy Lattisaw (vocals); vocal and instrumental accompaniment. *Jump into My Life; The Hard Way; Take Me All the Way; A Little Bit of Heaven; You Ain't Leavin'; Over the Top*; and four others. MOTOWN 6212 ML \$8.98, © 6212 TC \$8.98.

Performance: *Robust*  
Recording: *Satisfactory*

Stacy Lattisaw, the little girl who grew up in the spotlight, having made her recording debut with Van McCoy when she was twelve, is now nineteen, which places her squarely in the age group most likely to respond to this album. Gifted with a robust voice, she has always sung with an authority amazing in one so young, and her vocal sureness has increased over the years. While most of the songs here are molded according to today's pop formulas, she rises above them by virtue of her forceful delivery. She is heard to best advantage on *Take Me All the Way* and a ballad called *Love Me like the First Time*. In all, a promising step forward. *P.G.*

**CYNDI LAUPER:** *True Colors*. Cyndi Lauper (vocals); vocal and instrumental accompaniment. *Change of Heart;*



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Enlarged detail from center of photo: the rigid aluminum ring with obliquely positioned permanent magnets. In front of it, the semiconductor sensor which is linked via a supporting plate with the diaphragm and moves to and from with it.



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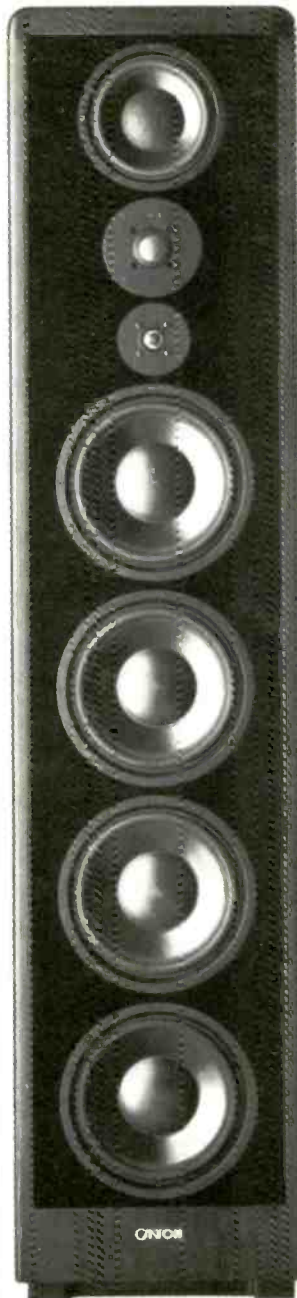
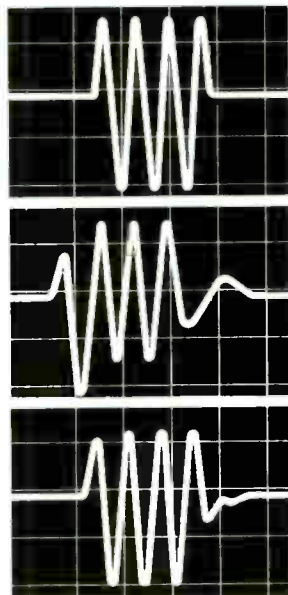
Canton's new CA series, in addition to their advanced power amplifiers, are equipped with a built-in electronic signal correction system which monitors each speaker diaphragm, checking whether its motion corresponds exactly with the impulses of the musical signal at all times. Instantly—within a fraction of a

A "sound burst" (upper curve) as seen on the oscilloscope: fast attack and equally rapid decay of sonic impulses. Here's

what an uncorrected speaker makes of the signal (center curve): there are distinct discrepancies on both incursion and excursion. And here's how the Canton system corrects diaphragm motion (lower curve): to the exact image of the original sound burst, in all but infinitesimal "afterflash."

millisecond—any discrepancies are registered, fed back and corrected via counteraction of the built-in power amplifiers.

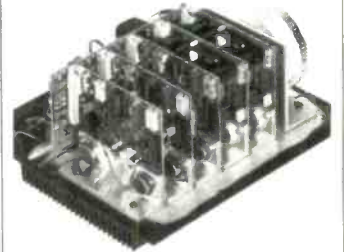
Canton employs a number of new patented processes for driver correction. In the woofer illustrated here, the "Hall Effect" is used. A semiconductor element serving as sensor cuts across the field of a fixed magnet. This creates an electrical voltage related to depth of insertion. Inversely, this "Hall Voltage" is an indicator for the position of the sensor, e.g. the diaphragm. By comparing this actual value with the target value of the musical signal, the control circuitry acquires the impulse needed for any amplifier counteraction. The diaphragm is accelerated or braked accordingly.



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Connecting and control elements on rear panel of a CA series active speaker. Each frequency range can be independently boosted or attenuated to compensate for listening room idiosyncracies.



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## LIONA BOYD

ON her new album, "Persona," the world-renowned English-born guitarist Liona Boyd turns her attention to an entrancing and dignified set of pieces that intelligently bridges the gap between classical guitarists and their pop counterparts. Joined by an ensemble that includes blues/rock guitarist Eric Clapton, David Gilmour of Pink Floyd, and cellist Yo-Yo Ma as well as keyboards, synthesizer, percussion, and bass—the presence of which is bound to alienate some of the more purist classical-guitar buffs—Boyd balances short, lyrical, and introspective pieces with moody, impressionistic, medium-length compositions that evoke other eras of history, such as the Middle Ages in producer Michael Kamen's *Sorceress*.

Boyd seems to be just as much at ease with Francisco Tárrega's *Recuerdos de la Alhambra* (here renamed *Memories of a Thousand Moons*), where she gets to prove her nickname of "Miss Tremelo," as she is with Vangelis's movie music (*L'Enfant*, from *The Year of Living Dangerously*), and she interacts well

with the supporting musicians without ever letting them take the upper hand. The modern pieces, including Boyd's own *Destiny* and *Persona*, have more emotional range to them than the adaptations of classical fare (the Tárrega and *Sea of Tranquility*, credited to Brahms). But throughout the program, Boyd displays a particularly diverse range of tonal colors and textures. It is this, rather than her magnificent virtuoso technique, that the listener remembers long after the album is over—one of the ways "Persona" differs from the usual nylon-string performance and one of the reasons this album is so satisfying and moving. *Alanna Nash*

**LIONA BOYD:** *Persona*. Liona Boyd (acoustic guitar); Eric Clapton, David Gilmour (electric guitar); Yo-Yo Ma (cello); other musicians. *L'Enfant*; *Sun Child*; *Memories of a Thousand Moons*; *Sorceress*; *Mother and Sister*; *Labyrinth*; *Phoenix Reborn*; *Sea of Tranquility*; *Destiny*; *Flight of the Phoenix*; *Persona*. CBS FM 42120, © FMT 42120, © MK 42120, no list price.

*Maybe He'll Know*; *Boy Blue*; *True Colors*; *Calm Inside the Storm*; *What's Going On*; and four others. PORTRAIT OR 40313, © ORT 40313, © RK 40313, no list price.

Performance: *Sincere*  
Recording: *Familiar*

As a pop-culture icon, Cyndi Lauper is the patron saint of the awkward, the disaffected, the homely, and the nonconformist. If you're under twenty, hate the jocks, preppies, and greasers in your homeroom, make Mom slide your meals under the door, and never leave your room except to buy records, Cyndi's for you.

"True Colors" has some killer tracks—an inspired cover of Marvin Gaye's *What's Going On*, which shows Lauper's got a lot more vocal technique than I would have guessed, and a hopping Brenda-Lee-on-drugs torch song, *Maybe He'll Know*. Lauper reveals more of herself than most pop artists are willing to, but "True Colors" is the musical equivalent of her on-screen persona—freakish, squeaky, and a little too pitiable to be much fun. *M.P.*

**DOROTHY LOUDON:** *Broadway Baby*. Dorothy Loudon (vocals); Buddy Barnes (piano); Ron Delseni (electric keyboards); John Chiodini (guitars); David Finck (bass); Jimmie Young (drums). *Broadway Baby*; *Bobo's*; *Pack Up Your Sins and Go to the Devil*; *Ten Cents a Dance*; *After You: It All Depends on You*; and seven others. DRG ● SL-5203 \$8.98, © SLC-5203 \$8.98, © CDSL-5203 \$15.98.

Performance: *Wow!*  
Recording: *Excellent*

This is the album that lots of us have been waiting for Dorothy Loudon to make—to prove, once and for all, that there are few singers who can come near her in getting beneath the lyrics of our best Broadway songsmiths' best songs. Whether she's belting out to the last row of an imaginary balcony (as in Sondheim's *Broadway Baby*) or purring intimately to someone sitting right next to her (Porter's *After You*, Gershwin's *Do It Again*), she brings something special—and deeply communicative—to each lyric. And Buddy Barnes's fresh, infectious arrangements let her get right to the core of each song.

For all her reputation as a rowdy comedienne, Loudon is (like Martha Raye) at her best in the intimate ballads. She brings to them a poignance and sincerity that is always touching and convincing. Her versions of Arlen and Mercer's *I Had Myself a True Love* and Rodgers and Hart's *He Was Too Good to Me* may well become the standards by which other versions of these songs will hereafter have to be judged. *Roy Hemming*

**TAJ MAHAL:** *Taj* (see *Best of the Month*, page 71)



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Flora Purim: a few new twists worth noting

**TOM PRINCIPATO: *Smokin'!*** Tom Principato (vocals, guitar); Steve Wolf (bass, vocals); Clark Matthews (drums, vocals); other musicians. *Slipped, Tripped, Fell in Love; My Baby Worships Me; Blue Mood; Lipstick, Powder & Paint; Fish Fry; Here I Come (Back for a Taste of Your Love)*; and four others. POWERHOUSE P-101 \$8.98 (from Powerhouse Records, 3144 Darwin Dr., Falls Church, VA 22042).

Performance: *Best foot forward*  
Recording: *Good*

Tom Principato, former guitarist for the Boston-based band Powerhouse and now a Washington, D.C., area favorite, pulls out all the stops on his first solo LP. Working from a blues base of the Muddy Waters, Howlin' Wolf, and B. B. King variety, Principato goes on to whet his axe on old r-&-b, straight-ahead rock-and-roll, rockabilly, jazz, and swing.

Principato doesn't have the most distinctive voice in the world—he sounds somewhat like Eric Clapton, which isn't a compliment so much as an assessment that he does the most with what he has. But what he lacks in vocal color he makes up in enthusiasm, instrumental execution, and song selection. In addition to two tasty instrumentals, he offers an odorous mix of ripe chestnuts: Clarence Carter's *Slipped, Tripped, Fell in Love*, Big Joe Turner's *Lipstick, Powder & Paint*, Jerry Lee Lewis's *I'm on Fire*, and Sly Johnson's *Here I Come (Back for a Taste of Your Love)*. But one of the most dynamic numbers is Steve Earle's *My Baby Worships Me*, where Principato is joined by the Fabulous Thunderbirds' Kim Wilson on harmonica and duet vocals. This is undiluted, honkin' stuff, with cut-deep guitar solos. Get it. *A.N.*

**FLORA PURIM AND AIRTO: *The Magicians***. Flora Purim (vocals); Airo Moreira (percussion); other musicians. *Sweet Baby Blues; Garimpo; Esquinas; Bird of Paradise; The Magicians*; and four others. CROSSOVER/CONCORD JAZZ CR-5001 \$8.98, © CR-5001-C \$8.98.

Performance: *A delicious blend*  
Recording: *Very good*

The usual delectable blend of jazz with Brazilian music that is the specialty of Flora Purim and her husband, the percussionist Airo Moreira, is in abundance here, with a few new twists worth noting. Purim tries to sing the blues on *Sweet Baby Blues*, and while it is clear that this is not her forte, the selection features some outstanding tenor-saxophone work by Mary Fettig, who is heard on other tracks playing soprano and alto sax. This woman can blow! Also, Purim and Airo offer their own interpretation of Djavan's *Esquinas*, which the Brazilian star sang on his North American debut album. They do much better by his lovely song than he did, being augmented by an array of first-rate backing musicians, as he was not. Purim otherwise offers plenty of delights with her inimitable vocal special effects, especially on *Jump* and the title track, while Airo is consistently amazing in his rhythmic resourcefulness. A splendid album. *P.G.*

**JUDY RODMAN: *Judy***. Judy Rodman (vocals); vocal and instrumental accompaniment. *I've Been Had by Love Before; Until I Met You; Do You Make Love as Well as You Make Music; You're Gonna Miss Me When I'm Gone; She Thinks That She'll Marry; He's All I'll Ever Need; Sure Need Your Lovin'*; and three others. MTM/CAP-

TOL ST-71050 \$8.98, © 4ST-71050 \$8.98.

Performance: *Bright future*  
Recording: *Crisp*

Judy Rodman, a former Memphis jingles singer, comes to mainstream country music with a smooth, expressive soprano, proven songwriting abilities, and a sure sense of commercial worth. Sounding alternately like Janie Fricke, Dolly Parton, and Tanya Tucker, Rodman also sounds like a good girl trying to tame a hot libido. The resulting conflict, greased by producer Tommy West's eager production, has so far yielded Rodman a handful of hit singles, with more on the way. Underneath, she probably has the capacity to tackle something more substantial than an LP ready-made for radio. But for now, her album "Judy" points to a busy future. *A.N.*

**KENNY ROGERS: *They Don't Make Them Like They Used To***. Kenny Rogers (vocals); El DeBarge (background vocals); vocal and instrumental accompaniment. *This Love We Share; If I Could Hold On to Love; Anything at All; Twenty Years Ago; Life Is Good, Love Is Better*; and five others. RCA 5633-1 \$8.98, © 5633-4 \$8.98, © 5633-2 no list price.

Performance: *Knuckling down*  
Recording: *Very good*

The last few times out, Kenny Rogers has seemed to demonstrate a new interest in his records. Unlike the old days, they didn't sound as if the singer just breezed into the studio, glanced at whatever his producer put in front of him, and cut it. Of course, back then, Rogers was the King of Countryopolitan. Now, as he settles around the fifty-year mark, he seems to be more concerned with easy listening.

Nothing on this new set ever rises above midtempo, and almost all of it is backed with earnest, fervent strings. But if there is a certain airless feel to the production, Rogers sings the program—mostly well-crafted songs about love, the strength derived from it, and the redemptive quality of old friendships—as if he means it. Could these be reflections of a man well into middle age? Does Imelda Marcos wear shoes? *A.N.*

**SOUTH PACIFIC (Rodgers and Hammerstein)**. Kiri Te Kanawa, José Carreras, Mandy Patinkin, Sarah Vaughan, others: Ambrosian Singers; London Symphony Orchestra, Jonathan Tunick cond. CBS ◉ SM 42205, © SMT 42205, © MK 42205, no list price.

Performance: *Unenchanted*  
Recording: *Good*

New recordings of classic American shows are always welcome and often give fresh insights into their scores (as RCA's *Follies* recently did). But forget this one. Unlike its best-known song,





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Stevie Ray Vaughan: an hour and a half of guilty pleasure

some enchanted evening it isn't. Opera stars Kiri Te Kanawa and José Carreras may be less miscast than they were in Deutsche Grammophon's *West Side Story*, but they are still distressingly out of their element.

Te Kanawa, in particular, overdoes what she presumes to be pop mannerisms, adopting an unattractively nasal little-girl voice for some songs and coming across in the process more like a parody of a pop singer than a legitimate crossover artist in the Dorothy Kirsten or Julia Migenes-Johnson tradition. Her *Honey Bun* and *I'm Gonna Wash That Man Right Out of My Hair* are, to put it charitably, embarrassing.

Carreras sings *Some Enchanted Evening* and *This Nearly Was Mine* very prettily, but his tenor voice sounds much too youthful and innocent for the aging plantation owner he's playing (a role many of us identify perhaps too completely with the bass voice of Ezio Pinza on Broadway and Giorgio Tozzi in the movie version). Sarah Vaughan sings *Bali Hai* and *Happy Talk* as if they were part of one of her supper-club sets, which may be fine on those terms but is certainly not appropriate for a Bloody Mary characterization in a show album. Only Mandy Patinkin, as Lt. Cable, seems right for his role, and he makes *Younger Than Springtime* the highlight of the album.

Most disappointing of all is Jonathan Tunick's flaccid musical direction. There's none of the brightness and bounce of Columbia's 1948 original-cast album, even though Tunick has provided us with a few musical dividends not included in that earlier recording (mostly unimpressive instrumental interludes). A great show is lost at sea here.

Roy Hemming

**STEVIE RAY VAUGHAN AND DOUBLE TROUBLE:** *Live Alive*. Stevie Ray Vaughan (vocals, guitars); Tommy Shannon (bass guitar); Chris Layton (drums); Reese Wynans (keyboards); Jimmy Vaughan (guitars, bass). *Say What!*; *Ain't Gone 'n' Give Up on Love*; *Pride and Joy*; *Mary Had a Little Lamb*; *Superstition*; *I'm Leaving You (Commit a Crime)*; and eight others. EPIC E2 40511 two LP's, © E2T 40511 two cassettes, © E2K 40511 two CD's, no list price.

Performance: *Professional*  
Recording: *Good*

Remember when everybody did live albums, even Jan and Dean? Now that synthesizers have given us a generation of recording artists who can't perform in front of an audience, the once-obligatory live concert recording will probably become as rare as hen's teeth. All the better—leave the live stuff to the guys who can bring it off. Like Bruce Springsteen. And Stevie Ray Vaughan.

Vaughan, of course, is a tireless and idiomatic, if somewhat derivative, guitar wiz whose specialty is electric blues. Tex-Mex, and blatant Hendrix imitations. For power-chord junkies, "Live Alive" is an hour and a half or so of guilty pleasure—bluesy dances up and down the fretboard, with lots of sustain, wah-wah, distortion, and, when you're lucky, the accompaniment of a tawdry Farfisa.

Most of the material on "Live Alive" has appeared on Vaughan's outstanding studio albums, so the real questions are: 1) How's the sound? 2) Does the band go over the top? To answer the first question, the sound is excellent, especially the vocals. But to the second, I'd say that Vaughan and company never

really reach that moment of catharsis when sweat and inspiration ignite and all hell breaks loose. Vaughan almost hits it on *Voodoo Chile*, but a Hendrix solo, no matter how well done, really has to come under the heading of Cheap Theatrics.

M.P.

**RONNY WHYTE TRIO:** *Something Wonderful*. Ronny Whyte (piano); Frank Tate (bass); Butch Miles (drums). *Porgy and Bess Medley*; *Caravan*; *Satin Doll*; *Something Wonderful*; *Take the 'A' Train*. PROGRESSIVE PRO-7075 \$8.98.

Performance: *The title says it*  
Recording: *First-rate*

All of Ronny Whyte's previous recordings, both as a solo singer and as half of a still-unmatched (and lamentably inactive) team with Travis Hudson, have been distinguished by Whyte's ingenious, colorful, often witty, and always topnotch arrangements—and by piano playing that must make him the envy of every other supper-club singer-pianist. So "Bravo!" to whoever it was who had the idea of spotlighting Whyte as strictly an instrumentalist for this album. It's so good you wonder why Whyte didn't do it sooner.

The interplay between Whyte's alternately swinging and impressionistic pianism and the rhythmically crisp, pungent, and always-so-musical lines of bassist Frank Tate and former Basie drummer Butch Miles makes every track the sort you want to play over and over, with marvelous new things to hear every time you do. The highlight is an exceptional twenty-minute medley from Gershwin's *Porgy and Bess* that captures the underlying bittersweet qualities of the score without ever losing its nobility or its swinging exuberance. Even though Whyte doesn't sing a note, his experience as a singer shines through in the way each note takes on a shading or meaning perfectly in line with the familiar lyrics. *Roy Hemming*

**LENNY WILLIAMS:** *New Episode*. Lenny Williams (vocals); vocal and instrumental accompaniment. *Episode*; *Ten Ways of Loving You*; *When I Need You*; *Love Will Come in Its Own Sweet Time*; *No More Lonely Nights*; and three others. KNOBHILL/FANTASY F-9648 \$8.98, © F-59648 \$8.98.

Performance: *Promising*  
Recording: *Good*

Lenny Williams has a light, sweet voice and an engaging way with lyrics, qualities that are well suited to ballads and the moderately paced fare featured here. The problem is that too many of the songs are so unremarkable that they're difficult to remember even after repeated listenings. He does manage to make something more of the material in a few cases, such as *No More Lonely Nights*. Williams has talent, but it's a talent waiting to be properly shaped.

P.G.





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# THE STONES ON CD



Near right, the early Sixties Stones (clockwise from top): Bill Wyman, Charlie Watts, Brian Jones, Keith Richards, and Mick Jagger.

Facing page: Mick Jagger in the late Seventies; the late Seventies lineup, with Richards, Wyman, Ron Wood, Watts, and Jagger.

THE recordings the Rolling Stones made during the Sixties might seem to be among the least likely candidates for digital refurbishment ever. They're mostly in mono, often indifferently engineered, and sometimes musically sloppy and out of tune. Nevertheless, they contain one of the most impressive and exciting bodies of work in rock-and-roll, and their release by PolyGram on CD is, with certain qualifications, a genuine event. (The Stones' Seventies and Eighties output is also due out on CD, courtesy of CBS, and will be discussed separately in a future issue.)

The most basic decision confronting Andrew Oldham, the band's original producer and the overseer of the new digital transfers, was what to include. The Stones' American and British albums rarely coincided in terms of track selection, and more frustratingly, several songs—the ones they cut at the old Chess studios in Chicago with genius engineer Ron Malo—appeared in true stereo versions only on obscure European anthologies.

Probably wisely, Oldham opted to retain the song selections on the American releases, but, somewhat inexplicably,

he has been arbitrary about stereo. On "The Rolling Stones, Now!," for example, the wonderful *Down the Road Apiece* makes a first-ever Stateside stereo appearance, but on "December's Children," the bluesy *Look What You've Done*, heretofore the only early two-channel Stones track available in America, reverts to mono. Even more confusing, on "Hot Rocks," the band's early greatest-hits collection, all the cuts are presented in their mono singles mixes, which makes good aesthetic sense (this is the way they were designed to be heard on the radio), except for *Heart of Stone*, which shows up in its American stereo debut. As my mother used to say, go figure.

Purist carping aside, however, how do these albums *sound* on CD? Well, speaking as somebody who's auditioned the various LP pressings—American, European, audiophile—over the years, I am happy to report that they sound generally sensational. Everything is brighter—a lot brighter—than I remembered, and though the band's early recordings would not have won audiophile awards even in their own day, an impressive amount of sonic murk (and, of course, all that Sixties fake stereo) seems to

have been stripped away at last. The better-engineered later albums similarly benefit from the digital remastering. The improved stereo spread on "Aftermath," for example, lets you hear into the music in ways that will probably surprise you, and the clarity and snap of "Beggars Banquet" are now really breathtaking.

When the Stones CD project was announced, a number of critics wondered publicly whether this music might not be suited to hi-fi scrutiny, whether the new digital technology might, in fact, destroy the basic atmosphere of the records. Happily, that is not the case. These new CD's retain every bit of the crude power of the original incarnations, only more so. As PolyGram's trade ads perhaps hyperbolically suggested, it just might be time for you to throw out your old Stones records.

A final note: longtime fans will notice the absence of "Got Live If You Want It" and "More Hot Rocks." The former, admittedly one of the group's more eccentric efforts, will not be restored to the catalog because of the disappearance of the original tapes (not a cataclysmic loss, though I'll miss it). The



latter, however, is promised for next year, newly reprogrammed to include every above-ground Stones track from the period not included in the rest of the series. And, oh yeah—those of you who haven't taken the CD plunge will be pleased to learn that the simultaneous virgin-vinyl and chrome-cassette rereleases from the same new masters sound nearly as impressive.

Steve Simels

**THE ROLLING STONES: *England's Newest Hit Makers*.** The Rolling Stones (vocals and instrumentals); other musicians. *Not Fade Away; Route 66; I Just Want to Make Love to You; Honest I Do; Now I've Got a Witness; Little by Little; I'm a King Bee; Carol; Tell Me; Can I Get a Witness; You Can Make It If You Try; Walking the Dog.* ABKCO/POLYGRAM © 7375-2.

**THE ROLLING STONES: *12 × 5*.** The Rolling Stones (vocals and instrumentals); Ian Stewart (piano). *Around and Around; Confessin' the Blues; Empty Heart; Time Is on My Side; Good Times, Bad Times; It's All Over Now; 2120 South Michigan Avenue; Under the Boardwalk; Congratulations; Grown Up Wrong; If You Need Me; Susie Q.* ABKCO/POLYGRAM © 7402-2.

**THE ROLLING STONES: *Now!*** The Rolling Stones (vocals and instrumentals); other musicians. *Everybody Needs Somebody to Love; Down Home Girl; You Can't Catch Me; Heart of Stone; What a Shame; Mona (I Need You Baby); Down the Road Apiece; Off the Hook; Pain in My Heart; Oh Baby (We Got a Good Thing Goin'); Little Red Rooster; Surprise, Surprise.* ABKCO/POLYGRAM © 7420-2.

**THE ROLLING STONES: *Out of Our Heads*.** The Rolling Stones (vocals and instrumentals); other musicians. *Mercy Mercy; Hitch Hike; The Last Time;*

*That's How Strong My Love Is; Good Times; I'm All Right; Satisfaction; Cry to Me; The Under Assistant West Coast Promotion Man; Play with Fire; The Spider and the Fly; One More Try.* ABKCO/POLYGRAM © 7429-2.

**THE ROLLING STONES: *Big Hits (High Tide and Green Grass)*.** The Rolling Stones (vocals and instrumentals); other musicians. *(I Can't Get No) Satisfaction; The Last Time; As Tears Go By; Time Is on My Side; It's All Over Now; Tell Me; 19th Nervous Breakdown; Heart of Stone; Get Off of My Cloud; Not Fade Away; Good Times, Bad Times; Play with Fire.* ABKCO/POLYGRAM © 8001-2.

**THE ROLLING STONES: *December's Children (And Everybody's)*.** The Rolling Stones (vocals and instrumentals); other musicians. *She Said Yeah; Talkin' About You; You Better Move On; Look What You've Done; The Singer Not the Song; Route 66; Get Off of My Cloud; I'm Free; As Tears Go By; Gotta Get Away; Blue Turnsto Grey; I'm Moving On.* ABKCO/POLYGRAM © 7451-2.

**THE ROLLING STONES: *Aftermath*.** The Rolling Stones (vocals and instrumentals); other musicians. *Paint It Black; Stupid Girl; Lady Jane; Under My Thumb; Doncha Bother Me; Think; Flight 505; High and Dry; It's Not Easy; I Am Waiting; Going Home.* ABKCO/POLYGRAM © 7476-2.

**THE ROLLING STONES: *Between the Buttons*.** The Rolling Stones (vocals and instrumentals); other musicians. *Let's Spend the Night Together; Yesterday's Papers; Ruby Tuesday; Connection; She Smiled Sweetly; Cool, Calm & Collected; All Sold Out; My Obsession; Who's Been Sleeping Here?; Complicated; Miss Amanda Jones; Something Happened to Me Yesterday.* ABKCO/POLYGRAM © 7499-2.

**THE ROLLING STONES: *Flowers*.** The Rolling Stones (vocals and instrumentals). *Ruby Tuesday; Have You Seen Your Mother, Baby, Standing in the Shadow?; Let's Spend the Night Together; Lady Jane; Out of Time; My Girl; Backstreet Girl; Please Go Home; Mother's Little Helper; Take It or Leave*

*It; Ride On, Baby; Sittin' on a Fence.* ABKCO/POLYGRAM © 7509-2.

**THE ROLLING STONES: *Their Satanic Majesties Request*.** The Rolling Stones (vocals and instrumentals); Nicky Hopkins (keyboards); other musicians. *Sing This All Together; Citadel; In Another Land; 2000 Man; Sing This All Together (See What Happens); She's a Rainbow; The Lantern; Gomper; 2000 Light Years From Home; On with the Show.* ABKCO/POLYGRAM © 8002-2.

**THE ROLLING STONES: *Beggars Banquet*.** The Rolling Stones (vocals and instrumentals); Nicky Hopkins (keyboards); other musicians. *Sympathy for the Devil; No Expectations; Dear Doctor; Parachute Woman; Jig-Saw Puzzle; Street Fighting Man; Prodigal Son; Stray Cat Blues; Factory Girl; Salt of the Earth.* ABKCO/POLYGRAM © 7539-2.

**THE ROLLING STONES: *Let It Bleed*.** The Rolling Stones (vocals and instrumentals); Ry Cooder (guitar); Nicky Hopkins (keyboards); other musicians. *Let It Bleed; Love in Vain; Midnight Rambler; Gimme Shelter; You Got the Silver; You Can't Always Get What You Want; Live with Me; Monkey Man; Country Honk.* ABKCO/POLYGRAM © 8004-2.

**THE ROLLING STONES: *Through the Past Darkly (Big Hits Vol. 2)*.** The Rolling Stones (vocals and instrumentals); other musicians. *Paint It Black; Ruby Tuesday; She's a Rainbow; Jumpin' Jack Flash; Mother's Little Helper; Let's Spend the Night Together; Honky Tonk Women; Dandelion; 2000 Light Years From Home; Have You Seen Your Mother, Baby, Standing in the Shadow?; Street Fighting Man.* ABKCO/POLYGRAM © 8003-2.

**THE ROLLING STONES: *Get Yer Ya-Ya's Out!*** The Rolling Stones (vocals and instrumentals); Ian Stewart (piano). *Jumpin' Jack Flash; Carol; Stray Cat Blues; Love in Vain; Midnight Rambler; Sympathy for the Devil; Live with Me; Little Queenie; Honky Tonk Women; Street Fighting Man.* ABKCO/POLYGRAM © 8005-2.

**THE ROLLING STONES: *Hot Rocks 1964-1971*.** The Rolling Stones (vocals and instrumentals); other musicians. *Time Is on My Side; Heart of Stone; Play with Fire; Satisfaction; As Tears Go By; Get Off of My Cloud; Mother's Little Helper; 19th Nervous Breakdown; Paint It Black; Under My Thumb; Ruby Tuesday; Let's Spend the Night Together; Jumping Jack Flash; Street Fighting Man; Sympathy for the Devil; Honky Tonk Women; Gimme Shelter; Midnight Rambler (Live); You Can't Always Get What You Want; Brown Sugar; Wild Horses.* ABKCO/POLYGRAM © 6667-2 two CD's.



**ART BLAKEY AND THE JAZZ MESSENGERS:** *Live at Kimball's*. Art Blakey and the Jazz Messengers (instrumentals). *Jody*; *I Love You*; *Old Folks*; *Polka Dots and Moonbeams*; and three others. CONCORD JAZZ CJ-307 \$8.98, © CJ-307-C \$8.98.

Performance: *Sparkling*  
Recording: *Fine remote*

I don't believe there is such a thing as a routine Art Blakey performance—at least I have never heard one. The energy level can, however, vary, and it has never been higher than on this new album recorded during an April 1985 engagement at Kimball's in San Francisco. One of Blakey's finest groups in recent years, this edition of the Jazz Messengers features Terence Blanchard, Donald Harrison, and Jean Toussaint in the front line, with pianist Mulgrew Miller and bassist Lonnie Plaxico.

Tenor saxophonist Toussaint remains relatively inconspicuous, but to hear his performances on *I Love You* and *Jody* is to know that time will remedy that situation. Other highlights are Miller's solo reading of *Old Folks* and

his feverish weave of creativity on *You and the Night and the Music*, Blanchard's mellow performance on *Polka Dots and Moonbeams*, the diabolic stompede (if you will) by Harrison and Mulgrew through Jackie McLean's *Dr. Jekyll*, and, as always, Blakey's own indefatigable percussion work. C.A.

**ROY ELDRIDGE:** *The Nifty Cat*. Roy Eldridge (trumpet); Benny Morton (trombone); Budd Johnson (soprano and tenor saxophones); Nat Pierce (piano); Tommy Bryant (bass); Oliver Jackson (drums). *Ball of Fire*; *Cotton*; *5400 North*; and three others. NEW WORLD NW 349-1 \$10.98, © NW 349-2 no list price.

Performance: *Royal treat*  
Recording: *Good*

Roy Eldridge's "The Nifty Cat," originally released on LP on the Master Jazz label in 1971, is a generous serving of small-band mainstream jazz tastefully dominated by the leader's horn, which is sometimes hot and raspy, sometimes warm and melancholy, but always scrupulously honest. Eldridge invariably

had a way with humorous lyrics, and the album's only vocal, a blues called *Wineola*, is a good example. Add to these Eldridge gems the fine, sympathetic work of trombonist Benny Morton, the surging, blues-drenched saxophone of Budd Johnson, and a rhythm section headed by pianist Nat Pierce. It is good to see such timeless jazz make its way back into the catalog. C.A.

**DUKE ELLINGTON:** *The Blanton-Webster Band*. Duke Ellington and His Orchestra. *Jack the Bear*; *Ko-Ko*; *Conga Brava*; *Just a Sittin' and a Rockin'*; *Concerto for Cootie*; *Cottontail*; *Bojangles*; *The "C" Jam Blues*; *Never No Lament*; *Warm Valley*; *John Hardy's Wife*; *Harlem Air Shaft*; *Main Stem*; *Jump for Joy*; *Rocks in My Bed*; *Dusk*; *In a Melotone*; *Perdido*; and forty-eight others. BLUEBIRD/RCA ● 5659-1 four LP's \$29.98, © 5659-4 three cassettes \$29.98, © 5659-2 three CD's no list price.

Performance: *In focus*  
Recording: *So-so transfers*

As he liked to point out himself, Duke Ellington's main instrument was not so

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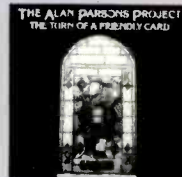
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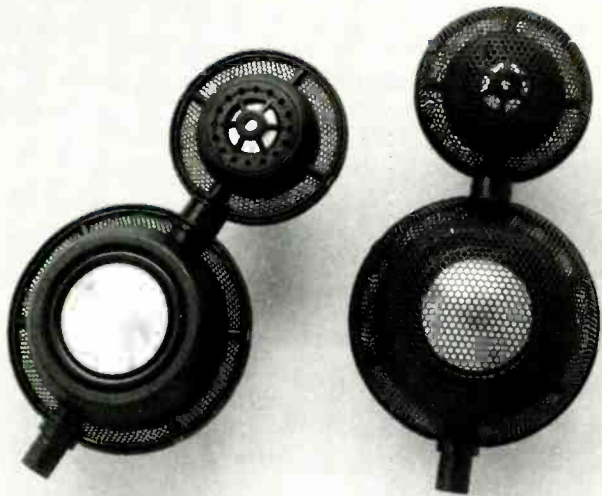
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much the piano as it was his orchestra, which helps to explain why he was able to keep it together for more than six decades. There were occasional changes in personnel, though far fewer than in most big bands, but sometimes even a slight change could make an appreciable difference. When composer/arranger Billy Strayhorn joined Ellington in 1939, the result was almost a rebirth of the band. The following year, which saw bassist Jimmy Blanton and tenor saxophonist Ben Webster come aboard, is considered by many fans and critics to have been the Ellington orchestra's finest. That was the year in which the band recorded such classic sides as *Ko-Ko*, *Conga Brava*, *Warm Valley*, *Concerto for Cootie*, and *Harlem Air Shaft*. While Strayhorn was not directly responsible for any of these compositions or the arrangements, it is reasonable to assume that he served as an inspiration to Ellington, who once wrote, "Any time I was in the throes of debate with myself, harmonically or melodically, I would turn to Billy Strayhorn. We would talk and then the whole world would come into focus."

Certainly, the band was in full focus in 1940 and 1941 when it made those memorable recordings, when Strayhorn contributed its famous theme, *Take the "A" Train*, when Ben Webster roared through *Cottontail*, when Johnny Hodges's *Warm Valley* redefined beauty, and when Jimmy Blanton enhanced the position of bass players with the kind of dazzle he generates on *Jack the Bear*. It was also a period in which Ellington hired an unusually gifted vocalist, Ivie Anderson.

Now sixty-five sides made between March 6, 1940, and July 28, 1942, have been gathered in an attractively packaged four-record boxed set that includes a sixteen-page illustrated booklet with scholarly notes on each of the recordings. There are some weak sides here too but enough strength to make this a very positive listening experience. Technically, I am less impressed. The recordings were digitally remastered, but they still have far too much surface noise and the lack of clarity that often indicates over-equalization. RCA's engineers have never sparkled in the area of vintage disc restoration, but they have been known to treat older material better than they have here. Still, the set as a whole represents a very important slice of the Ellington pie and must be recommended. C.A.

**SONNY ROLLINS:** *The Quartets, Featuring Jim Hall*. Sonny Rollins (tenor saxophone); Jim Hall (guitar); Bob Cranshaw (bass); Ben Riley, Harry T. Saunders, Mickey Roker (drums). *God Bless the Child; John S.; You Do Something to Me; Where Are You; If Ever I Would Leave You; The Bridge; The Night Has a Thousand Eyes; My Ship; Without a Song*; and five others. BLUE-BIRD/RCA ◉ 5634-1 two LP's \$11.98.





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Sonny Rollins: intense, intelligent musical statements

© 5634-4 two cassettes \$11.98, © 5634-2 one CD (containing nine of the fourteen titles) no list price.

Performance: *Excellent*  
Recording: *Excellent*

Here is the sound of Sonny Rollins, vintage 1962, in a double album of material that originally appeared in three Sixties albums: "What's New?," "The Bridge," and "The Standard Sonny Rollins." Since then some of these performances have been hard to find, especially in this country, and this release is the first with all the celebrated quartet sides in chronological order.

I recall the shock that went through the jazz community in 1961 when it was rumored that RCA had signed Rollins to a \$100,000 contract. That kind of money was rarely, if ever, offered to a jazz performer, not even a firmly established international star like Basie or Armstrong. What worried many of us was the belief that Rollins's records would not earn the money back and that RCA would consequently give up on jazz. That is precisely what happened, but if it seemed like a bad move twenty-five years ago, my ears today tell me that it was—if you will pardon a pun—a sound investment.

Sonny Rollins continues to be a somewhat enigmatic figure about whom there circulate intriguing stories of nights, even months, spent playing the saxophone under New York bridges. He is a man of few words who, as critics like to point out, can thrill jazz fans in person while leaving them cold on records. But these quartet sides, cut early in 1962, are the exception. At the time guitarist Jim Hall was with Chico Hamilton's group working on his first

New York job, opposite the Clifford Brown/Max Roach Quintet, with whom Rollins played. Rollins asked Hall to join a new quartet, Sonny Rollins and Co., and a fine partnership was formed.

There is an extraordinary rapport between Rollins and Hall. Rollins had come completely into his own at this point, and Hall provided the perfect complement to every one of his shifting moods. Two Caribbean-flavored tracks, *Brownskin Girl* and *Don't Stop the Carnival*, are a bit on the pop side—they were regarded as experimental at the time, and the latter was released in Europe only. But even here Rollins's blasting tenor makes intelligent musical statements. There is much to cherish in this collection of superb teamwork and finely structured solos, but to me the high point is *The Bridge*. In a sense, these recordings formed a bridge for Rollins to cross, but I don't think he has ever matched their intensity—at least not on records. C.A.

**MCCOY TYNER: *Double Trios.*** McCoy Tyner (piano); Avery Sharpe, Marcus Miller (bass); Louis Hayes, Jeff Watts (drums); Steve Thornton (percussion). *Latino Suite; Lil' Darlin'; Lover Man; Sudan;* and four others. DENON © 33CY-1128 no list price.

Performance: *Invigorating*  
Recording: *Excellent*

Pianist McCoy Tyner's new Denon album has an odd title. "Double Trios," since it features him leading two quartets. Perhaps the title refers to Tyner's playing with two different trios, but that doesn't make sense because this is not an album of McCoy Tyner with trio

accompaniments. These are integrated quartets.

It's the music that counts, though, and here Tyner is full of surprises. For one thing, he has all but abandoned the tinkly style that had begun to be wearisome. Second, he spends part of his time on this CD at an electric keyboard. Tyner's playing is quite heavy-handed, and you might even say that he has gone to the other extreme when he pounds his way to the deep South on *Down Home*. The usually delicate *Lover Man* isn't exactly treated with kid gloves either, and the piano on that selection has a tinny sound that suggests it's an electronic instrument. If *Lover Man* is equivocal in its use of an electronic keyboard, *Sudan*, a not very original composition by bassist Marcus Miller, makes no bones about it. Mind you, I am not condemning the use of electronic pianos, but I see little reason for an artist like Tyner to play one if all he is going to do is to make it sound like an acoustic piano. All told, though, I do rather like this album. It has an energy and forthrightness that I have found lacking in most of Tyner's recent releases. C.A.

**WORLD SAXOPHONE QUARTET: *Plays Duke Ellington.*** World Saxophone Quartet (instrumentals). *Take the "A" Train; Come Sunday; In a Sentimental Mood; Lush Life;* and four others. NONESUCH ● 79137-1 \$10.98, © 79137-2 no list price.

Performance: *Kinda un-Dukish*  
Recording: *Good*

**WORLD SAXOPHONE QUARTET: *Live at Brooklyn Academy of Music.*** World Saxophone Quartet (instrumentals). *Great Peace; Georgia Blue; Kinda Up;* and three others. BLACK SAINT/POLYGRAM BSR 0096 \$9.98.

Performance: *Pathetic*  
Recording: *Good*

The ongoing existence of the World Saxophone Quartet is a mystery to me. Its members—Hamiet Bluiett, Julius Hemphill, Oliver Lake, and David Murray—have all carved small niches for themselves in the so-called avant-garde jazz world, but not one of them is more than a so-so saxophone player. Put them all together and you have an excruciating noise machine that makes album after album of grating pretentiousness. On these two recent releases—a live Black Saint album made at the Brooklyn Academy of Music in December 1985 and an April 1986 Nonesuch set devoted to music by or associated with Duke Ellington—the group buzzes, scratches, and screeches as appallingly as ever. The original material on the live set is easier to accept than the destruction of familiar tunes like Billy Strayhorn's *Lush Life* and Ellington's *Prelude to a Kiss*, but there is not a single moment on either album when any of this sounds professional. C.A.





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\*For more information on Rashid VRSS collision warning system, see *Popular Science*, January 1986.

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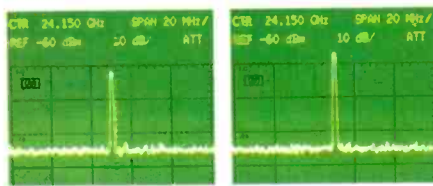


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by Chris Albertson

**F**IFTY-EIGHT years ago, on a windy Chicago night, Mel Tormé's parents gave their four-year-old son an unusual treat. They took him to hear the Coon-Sanders Original Nighthawk Orchestra at the Blackhawk Restaurant. Why? Because the boy had a special fascination for the family radio, and he never missed the orchestra's broadcasts over station WGN. "I had my electric train, little fire engines, and all that stuff," he recalls, "but the radio was my favorite toy, and I loved the bands."

As he wound up a recent, successful New York engagement, Tormé reminisced about his singing debut. "I was sitting ringside, tapping my feet and singing along with the orchestra when one of the leaders—Joe Sanders, I think—walked over and asked 'Who's the kid?' or words to that effect. My mother told him that I listened to all the band's broadcasts and had memorized every arrangement, so they got me up to sing *You're Driving Me Crazy*. You have to understand that this was 1929. It was a wacky time, and kid performers were very much a part of that scene."

Tormé performed with the Coon-Sanders Orchestra once a week. By the time he was six he was also appearing regularly with the bands of Louis Panico, Frankie Masters, and Buddy Rogers.

While still in school, Tormé began writing songs and became, as he says with pride, "the youngest songwriter to have a song on the Hit Parade." The song that made it to No. 7 was *Lament to Love*, and Tormé was only sixteen when it was recorded by a number of big bands, including those of Harry James and Les Brown.

"Ben Pollack, who really put the Chico Marx band together, got me an audience with Glenn Miller, who looked at my tunes. I had heard all kinds of stories about Glenn Miller, but he was really a very nice man, at least to me, and not at all condescending. He said, 'Mel, you've got a knack for songwriting, but you've got to get away from the moon-June variety.' Then he walked over to the piano, grabbed a lead sheet off it, and showed it to me. It was a brand-new Johnny Mercer song called *That Old Black Magic*. He started pointing out the lyrics. 'These words make pictures,' he said. "'Like a leaf that's caught in the tide'—that's a picture."

"Later, when I asked Mercer how he did it, he said, 'I read everything there is to read. I read pulp magazines, comic books, Dickens, Thoreau, current novels, nonfiction, *Time* magazine, everything I can lay my hands on. That's the best advice I can give to you.' From that



## MEL TORMÉ

*"I just don't sing like I used to. The 'Velvet Fog' is a misnomer. It does not fit."*

moment on, I was devoted to reading. I read every single night of my life."

Tormé often read scripts, too. The dramatic element in his song delivery is no accident. He also acted in radio soap operas from 1933 to 1939 and made his film debut in a 1943 Frank Sinatra film for RKO, *Higher and Higher*. These were but early steps in an acting career that, so far, has included parts in twenty-two films, some of them nonmusical, and a 1957 Emmy nomination for an appearance in the Playhouse 90 TV production *The Comedian*.

In the mid-Forties, with his group the Meltones, Tormé developed a cool, smooth singing style that earned him his nickname as the "Velvet Fog." It is no longer a valid one, he feels. "From 1946, when I started making those Musicraft sides with Artie [Shaw], until approximately 1955, when I shifted gears and began to sing like I really, honestly sing, that whole 'velvet fog' sound, that sort of head-toney, creamy, wispy sound, was—well, I can't say manufactured, because I was singing legitimately, but not as robustly as I could have been.

"When I started recording for Bethlehem, in 1955, I was able to relax and open up, and sing like I really like to sing. Since then, I have changed radically as a singer. My range on the low end

has increased about four notes, and I've lost track of how many it has increased on the high end, but—from the bottom to the top—my whole range has gained at least an octave, and I just don't sing like I used to. So, when somebody today refers to me as the 'Velvet Fog,' it's a misnomer. It simply does not fit."

Tormé considers a Gershwin medley on the 1976 Atlantic album "Mel Tormé Live at the Maisonette" to be the turning point. "From that album on, I have really been proud of my output—the things I did at Marty's and obviously the things I've done with [George] Shearing—I think they are really good records." The Shearing collaboration has won Tormé two Grammys.

He becomes positively radiant when he talks about his fine recent release, "Mel Tormé—Rob McConnell and the Boss Brass" on Concord Jazz (CJ-306, also available on compact disc CCD-4306). It's the most expensive album Concord Jazz has ever made, according to Tormé. "I can't tell you what this album means to me," he says, "and to find it on the charts is just delightful." A smooth, thoroughly swinging affair, with tight, imaginative arrangements by McConnell and inspired vocals by Tormé, the album is decidedly a Grammy contender. The brassy, bouncy arrangements are very up-to-date, but the songs are from the past, and there is a reason for that.

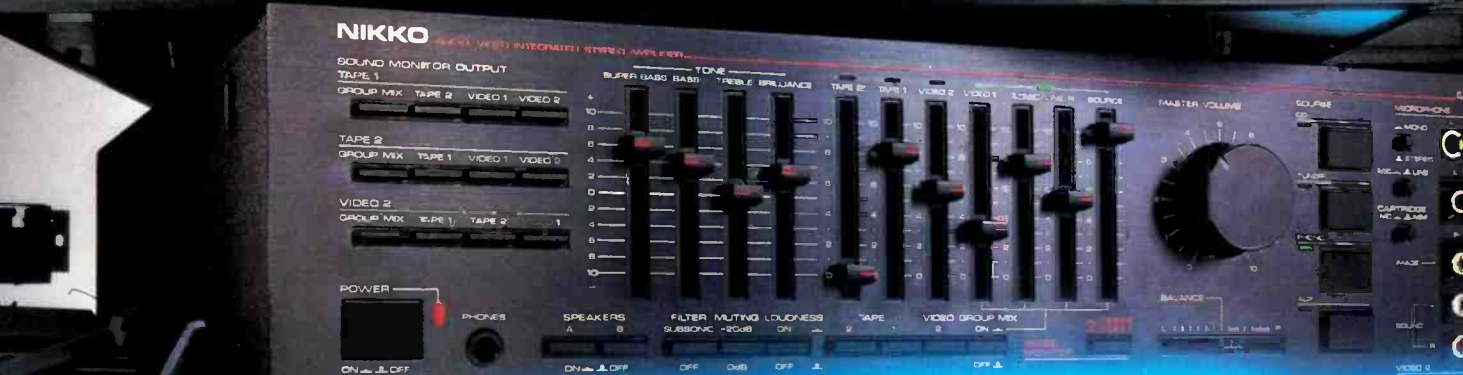
"New material is very, very, very tough to come by," Tormé maintains. "That is to say, material with which I can be credible. There are some good tunes around, from young writers, but they are patently written for the young market, and I don't feel there is any credibility in Mel Tormé singing them. I look very hard at the Donald Fagen songs, because I love them. I love Steely Dan, and I love Donald Fagen on his own. I've never met him, I just think the guy is marvelous, and I like his singing, too. But other than *Walk Between Raindrops*, from his 'The Nightfly' album, I have trouble adapting what he writes to what I am—not the way I sing, but what I am."

Obviously having the time of his life, Tormé is quick to tell you that the past ten years have been wonderful for him. "What is so terribly rewarding to me," he says, "is that my audience is filled with extremely young yuppies, not just a mass of snow-white heads. That's tremendously rewarding because, when you start getting up in years—even if you're active and in demand—you tend to be in demand only by your peers, and it's just not so with me."

Mel Tormé has a lot more to say about his life, but you'll be able to read all about it in his autobiography, which he has just completed. □



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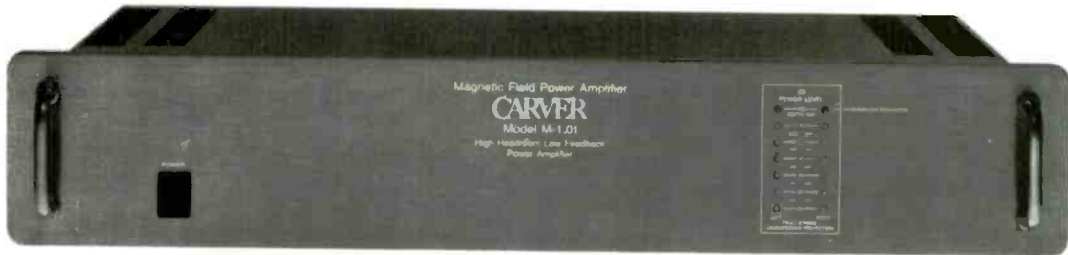
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*Discs and tapes reviewed by  
Robert Ackart, Richard Freed,  
David Hall, Stoddard Lincoln*

**BACH: Goldberg Variations (BWV 988).** Maria Tipo (piano). LA VOIX DE SON MAÎTRE/EMI ● 270438-1 \$12.98 (from International Book and Record Dists., 40-11 24th St., Long Island City, NY 11101).

Performance: *Singing*  
Recording: *Bright*

While I've enjoyed several of Maria Tipo's recordings—her Scarlatti sonatas in particular—I've never seen her or a photograph of her. When I saw the one on the cover of this recording I thought at first someone had made a mistake and used a picture of the soprano Arleen Augér. It's no mistake, and if the resemblance isn't quite as close as it seemed at first, it seems curiously appropriate, for this performance of Bach's Goldberg Variations might be characterized by the word "singing."

Fortunately, Tipo does not embellish the music with actual singing, as some of her colleagues have done. The only sound one hears is that of the piano—or, one might say, "the sound of Bach," for the music proceeds so naturally and unfussily that one becomes as unaware of the instrument itself as of the performer as intermediary. In sum, this is a stimulating and enriching performance that, while it may not displace the superb recordings by Glenn Gould and András Schiff, is worthy to stand beside them. The exemplary sound, bright and crisp, is enhanced by Direct Metal Mastering. (Angel is releasing this recording in the U.S. on CD only.) *R.F.*

**BEETHOVEN: Piano Concerto No. 5, in E-flat Major, Op. 73 ("Emperor").** Emanuel Ax (piano); Royal Philharmonic Orchestra, André Previn cond. RCA ● HRC1-5854 \$11.98, © HRE1-5854 \$11.98, © RCD1-5854 no list price.

Performance: *In the classic mold*  
Recording: *Very good*

This installment in the Beethoven piano-concerto cycle by Emanuel Ax and André Previn follows much the same tack as their readings of the previously released Concertos Nos. 1 and 2, which is to say that the phrasing and dynamics are poised yet vital, with Ax's bent for lyrical pianism showing to best advan-

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HOGWOOD'S BEETHOVEN

**N**OTHING in Christopher Hogwood's deadpan treatment of Beethoven's first two symphonies with the Academy of Ancient Music would have prepared anyone for his uncontrivedly eloquent *Eroica*, released toward the end of last year on L'Oiseau-Lyre. The persuasiveness of this performance is, of course, the more surprising because of the *Eroica*'s dimensions and its long identification with the big-orchestra repertoire. It is the earliest symphony that we would never think of assigning to the "chamber-orchestra" literature—and, of course, it is not a chamber orchestra that Hogwood has assembled for this performance but an ensemble numbering forty-four players, which is nearly half again as many as Beethoven had for the work's première. The Collegium Aureum recordings, issued here on Pro Arte, actually duplicated Beethoven's original orchestra, and they achieved considerable power. Hogwood achieves more, not simply by virtue of his larger ensemble but because of his insightful conducting.

This is a flexible, extremely well-bal-

anced *Eroica*. It manages to be at once spacious and brisk. The smallish ensemble makes possible the clarity of articulation that in turn enables a feeling of unrushed expansiveness to be evoked at a fleet and flowing pace. It is convincing, too, because it sounds so thoroughly uncontrived. Hogwood thrusts neither his reduced instrumentation nor his interpretation into the listener's consciousness with a demand for attention. (Nor the fortissimo from which he conducts—I didn't even notice it during the entire performance.) The first-movement repeat is taken, dynamic markings are given exceptional attention, winds are gratifyingly crisp, and the lean strength of the symphony is the more effective overall for the absence of the usual muscle-flexing. The recording itself, like the performance, is exemplary. *Richard Freed*

**BEETHOVEN: Symphony No. 3, in E-flat Major, Op. 55 ("Eroica").** Academy of Ancient Music, Christopher Hogwood cond. L'OISEAU-LYRE ● 417 234-1 \$10.98, © 417 234-4 \$10.98, © 417 234-2 no list price.

CHRISTIAN STEINER, LONDON, RECORDS

tage in the slow movement. Previn and the Royal Philharmonic provide fine orchestral collaboration, giving us a finale with a good deal of snap and verve. Sonics are both clean and warm throughout. *D.H.*

**BEETHOVEN: *Missa solennis in D Major, Op. 123.*** Lella Cuberli (soprano); Trudeliene Schmidt (contralto); Vinson Cole (tenor); José van Dam (bass); Vienna Singverein; Berlin Philharmonic Orchestra, Herbert von Karajan cond. DEUTSCHE GRAMMOPHON 419 166-1 two discs \$19.96; © 419 166-4 two cassettes \$19.96, © 419 166-2 two CD's no list price.

Performance: *Magisterial*  
Recording: *Very good*

For raw intensity, Leonard Bernstein's two stereo recordings of Beethoven's Himalayan masterpiece, the *Missa solennis*, stand alone. Herbert von Karajan's latest recorded version, his fourth, seems to attempt a viable compromise between the volatile Toscanini approach and the Austro-German tradition represented by Böhm and Klemperer. The swift pacing here of the "*Et vitam venturi saeculi*" typifies for me the Toscaninian element at work.

As a whole, I find the performance takes a while to work up a full head of steam, not to mention spiritual intensity. Despite lovely work by a beautifully matched team of soloists, the *Kyrie* left me rather unmoved, and I was a bit put off by the orchestral work at the start of the heaven-storming *Gloria*. But in the elaborate *Credo*, Karajan elicits the kind of total communicative absorption that this music by its very nature demands. The "*Et incarnatus*" is endowed with true mystery and the "*Crucifixus*" with heart-wrenching poignance, which makes the "*Et resurrexit*," by contrast, the electrifying experience it should be. The *Benedictus*, with its celebrated violin solo, is wholly exquisite, and the performance is properly capped by an *Agnus Dei* that is in turn hushed and terrifying (as in the agonized pleas for peace by the contralto and chorus, followed by relentless martial fanfares).

I do not expect to experience the ultimate *Missa solennis* in this world, on or off records, but overall Karajan's latest is among the very finest recorded realizations. Certainly I found it the best of his four tries, not only by virtue of the fine soloists—among whom José van Dam (in the *Agnus Dei*) and Vinson Cole particularly stand out—but especially because of the virtually superhuman work of the Vienna Singverein. The chorus's rhythmic address and mastery of dynamic inflection bring immense vitality and textural clarity to every page they sing. And, of course, the Berlin Philharmonic Orchestra is in top form all the way. Add in the fine digital sonics, and it all amounts to a major achievement. *D.H.*



Jean-Philippe Collard: attractive performances of Chausson, sumptuously recorded

**CARTER: *Piano Concerto; Variations for Orchestra.*** Ursula Oppens (piano); Cincinnati Symphony Orchestra, Michael Gielen cond. NEW WORLD 347 \$9.98, © NW-347-4 \$9.98, © NW-347-2 no list price.

Performance: *Excellent*  
Recording: *Ditto*

These pieces belong to the heroic age of modern music, when new music was very new and very modern indeed. Elliott Carter was (and is) the finest American representative of the big-scale international modernism that dominated the musical Fifties and Sixties in the way that abstract expressionism bestrode the world of painting. Both of these pieces were written in Europe—the Variations for Orchestra in Rome in the mid-Fifties, the Piano Concerto in Berlin a decade later.

The location of the composition of the two seems more than fortuitous. The variations, although regarded as difficult in their day, are by far the more accessible of the pair. They are eclectic, fantastic, open-spirited, optimistic, even expansive.

We now know that Carter was headed elsewhere. Within a very few years he had developed a very personal and idiosyncratic style in which instruments or groups of instruments were given extreme individuality and then set off against one another. In his Piano Concerto, in a form traditionally based on competition anyway, Carter isolates the soloist musically, emotionally, and spatially. The piano inhabits one world, the orchestra another; a small chamber ensemble surrounding the piano tries (quite unsuccessfully) to mediate.

It is no secret that the inspiration for all this was a year spent living near the Berlin wall, and the result is that, unlike

the earlier and almost mellow variations, the concerto has a terribly tragic, bleak, even inhospitable climate. It is in its way a great work, but one that is very hard to like.

The performances here, recorded live, are both excellent. Michael Gielen is the master of this kind of modernism, and his collaboration with Ursula Oppens is particularly notable. The concerto, by the way, is an excellent digital recording (the variations were recorded on analog equipment), and the compact disc makes an impressive showcase for the new medium. *Eric Salzman*

**CHAUSSON: *Concert in D Major for Piano, Violin, and String Quartet, Op. 21; String Quartet, Op. 35 ("Unfinished").*** Jean-Philippe Collard (piano); Augustin Dumay (violin); Muir String Quartet. LA VOIX DE SON MAÎTRE/EMI 270381-1 \$12.98 (from International Book and Record Dists., 40-11 24th St., Long Island City, NY 11101).

Performance: *Very good*  
Recording: *Sumptuous*

It was an imaginative idea to couple Chausson's fairly well-known *Concert* with his virtually unknown unfinished string quartet, and these are very attractive performances. Itzhak Perlman, Jorge Bolet, and the Juilliard Quartet may be marginally more appealing in the *Concert*—and more than marginally so in the second-movement *Sicilienne*—but their performance for CBS is spread extravagantly over two whole sides and is less sumptuously recorded. The new recording from Pathé Marconi in France, with Jean-Philippe Collard, Augustin Dumay, and America's Muir Quartet, is a handsome proposition. Like all recent releases from EMI's French company, it also offers the addi-



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tional advantages of DMM processing and good value in terms of playing time (about sixty-six minutes). R.F.

**CHOPIN: Ballades Nos. 1-4; Piano Sonata No. 2, in B-flat Minor ("Funeral March").** Emanuel Ax (piano). RCA ◉ ARCI-7069 \$12.98, © AREI-7069 \$12.98, © RCDI-7069 no list price.

Performance: *Warm*  
Recording: *Fine*

**CHOPIN: Ballades Nos. 1-4; Piano Sonata No. 2, in B-flat Minor ("Funeral March").** Andrei Gavrilov (piano). ANGEL ◉ DS-37669 \$11.98, © 4DS-37669 \$11.98, © CDC-47344 no list price.

Performance: *Cold*  
Recording: *Fine*

The contrast between these two readings of Chopin's Piano Sonata No. 2 and the four ballades is incredible. Emanuel Ax invokes the full sonorities of the piano and molds them into beautifully contoured long lines. The dynamics are exquisitely shaded, and the playing is full of subtle details. Ax never seems rushed; the music unfolds in undulating waves of lyric beauty and powerful drama. Andrei Gavrilov, on the other hand, limits his sound to a dry crispness that undermines those long lines. He pushes forward relentlessly and never allows himself, or us, to savor

the ever-changing moods of this passionate music. Gavrilov's Chopin is harsh and cold. S.L.

**COPLAND: Symphony No. 3; Quiet City.** New York Philharmonic, Leonard Bernstein cond. DEUTSCHE GRAMMOPHON ◉ 419 170-1 \$10.98, © 419 170-4 \$10.98, © 419 170-2 no list price.

Performance: *Compelling*  
Recording: *Rich and vivid*

**COPLAND: Symphony No. 3; Danzón cubano; El salón México.** Dallas Symphony Orchestra, Eduardo Mata cond. EMI/ANGEL ◉ DS-37365 \$11.98, © 4DS-37365 \$11.98, © CDC-47606 no list price.

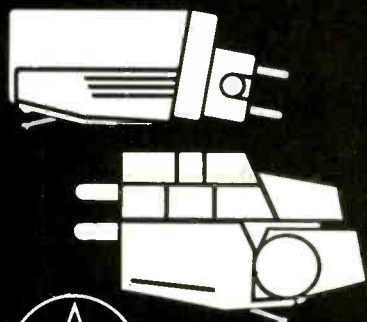
Performance: *Impressive*  
Recording: *Well-defined*

Both of these new recordings bring us strong, valid statements of a work that survived a long period of near neglect to emerge as one of the truly great American symphonies. Leonard Bernstein, of course, is immensely authoritative in Copland's music, but Eduardo Mata's impressive performance of the big Third Symphony on Angel puts him in the same league. In fact, Mata's generous program shows how far he has brought his already very good Dallas orchestra since they first recorded *El salón México* for RCA.

Bernstein's performance of the symphony, as one might expect, is somewhat more expansive as well as more intense than Mata's, making more of the hymn-like sections in the third movement as well as the "grand gestures" of the finale. Mata is more straightforward in these sections, and in general he stresses the lean muscularity of the work and the clarity of its structure. To describe the overall differences between these two fine performances in such terms is, of course, to oversimplify. It need hardly be said that Bernstein's has plenty of muscle and leaves no detail unclarified, and Mata's almost matches it in intensity. The recorded sound in each case reflects the actual characteristics of the respective performances. Deutsche Grammophon has captured the New York Philharmonic with greater richness in a relatively close-up focus (a *big* sound, one might say, in keeping with the nature of the work itself), whereas Angel has provided X-ray clarity in which the winds and brass stand out crisply, but somewhat at the expense of the strings.

Narrowing it all down, I would have to say that the totality of Bernstein's realization of the Third Symphony here is irresistibly compelling, and the poignant *Quiet City*, in what is surely its finest performance on records to date (a studio-recorded one in which the trum-

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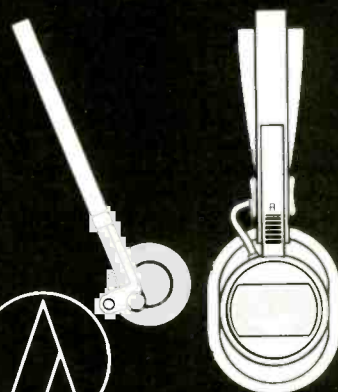
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pet and English-horn solos are played eloquently by Philip Smith and Thomas Stacy, respectively), is a more apt encore for the big work than the two Latin-flavored pieces offered (with great piquancy and charm) by Mata. But the margin of preference is by no means wide, and surely no one can be other than pleased by either of these splendid releases. *R.F.*

**DOHNÁNYI: Variations on a Nursery Song, Op. 25** (see Best of the Month, page 71)

**DVOŘÁK: Cello Concerto in B Minor, Op. 104. TCHAIKOVSKY: Variations on a Rococo Theme, Op. 33.** Mstislav Rostropovich (cello); Boston Symphony Orchestra, Seiji Ozawa cond. ERATO/RCA ◉ NUM 75282 \$10.98, ◉ MCE 75282 \$10.98, ◉ ECD 88224 no list price.

Performance: *Superb solo work!*  
Recording: *A disappointment*

For all his conducting activity over the past decade and more, Mstislav Rostropovich has lost none of his prowess as one of the world's leading cellists. As in his justly celebrated 1969 Deutsche Grammophon recording of this same Dvořák-Tchaikovsky coupling with Herbert von Karajan, he displays the utmost poetry and passion in the Czech masterpiece and dazzling virtuosity and amazing command of tonal coloration in the Rococo Variations. But all this does not a great recorded performance make. The Dvořák in particular requires a conductorial presence of the kind required for the Brahms concertos, and in my opinion Seiji Ozawa is no match for Karajan in that department, let alone George Szell in the historic Pablo Casals recording with the Czech Philharmonic.

But for me the *real* fly in the ointment here is the recording balance, which puts the soloist decidedly more in the spotlight (or the orchestra more in the background) than the DG production and also places the timpani in an obtrusively resonant spot in the orchestra. Fortunately, DG has had the wisdom to make the 1969 performance available on CD. Grab it! *D.H.*

**HAYDN: Cello Concerto in C Major; Cello Concerto in D Major.** Ofra Harnoy (cello); Toronto Chamber Orchestra, Paul Robinson cond. FANFARE ◉ DFL-6001 \$9.98, ◉ DFC-6001 \$9.98.

Performance: *Lush*  
Recording: *Very good*

One of the most interesting aspects of coupling the two Haydn cello concertos is hearing the stylistic difference between the two. The C Major (circa 1765) is a gruff hangover from the Baroque era with its dazzling passage work and brusque melodic writing. The D Major (1783), on the other hand, is purely Classical in its graceful melodic

work and delicate tracery. Ofra Harnoy plays both of them with a lush, vibrant tone, pouring forth a long, unarticulated line. Stylistically correct or not, she is an excellent cellist who is well worth hearing. The Toronto Chamber Orchestra under Paul Robinson offers rich support, and the music making is relaxed and supple. *S.L.*

**PUCCINI: Tosca.** Kiri Te Kanawa (soprano), Tosca; Giacomo Aragall (tenor), Cavaradossi; Leo Nucci (baritone), Scarpia; Spiro Malas (bass), Sacristan; Malcolm King (bass), Angelotti; others. Welsh National Opera Chorus; Children of the Royal Opera, Covent Garden; National Philharmonic Orchestra, Georg Solti cond. LONDON ◉ 414 597-1 two LP's \$19.96, ◉ 414 597-4 two cassettes \$19.96, ◉ 414 597-2 two CD's no list price.

Performance: *Correct and cool*  
Recording: *Splendid*

One's heart leaps to imagine what Sir Georg Solti might do with Puccini's fiery melodrama. And for *his* part in this new recording of *Tosca*, I have high praise. The orchestra, recorded with vibrancy and exceptional clarity, plays very well indeed, responding deftly and sonorously to Sir Georg's impassioned reading of the score. I cannot recall a better-sounding *Tosca* orchestra. Moreover, the chorus sings the Te Deum with spirit and richness of tone, and the off-stage Act II cantata is similarly well performed.

Of the three principal artists, Giacomo Aragall seems most involved with the dramatic goings-on. His durable voice is equal to Cavaradossi's rhetorical outbursts and capable of the lyricism required in his arias. If Aragall does not have the most beautiful tenor imaginable, he is convincing in this part, to which he brings a feeling of urgency.

Leo Nucci is curiously unmoving as Scarpia. He sings well, he is readily understandable, but he is not arresting. His performance lacks the quality of aristocracy that Baron Scarpia commands as well as his pathological cruelty, fanatical need for power, and sado-masochistic desire. All these traits of character are there in the music or text or in Puccini's explicit stage directions. Nucci's is a correct villain—musically sound, openly interpreted—but not a particularly memorable or richly individual one.

The same applies to Kiri Te Kanawa's *Tosca*. By temperament a somewhat objective artist, Dame Kiri seems unable to illumine *Tosca's* unembarrassed passion. Her voice, though pure and disciplined, is not a large one, and while she does not push it in heavier moments, her climaxes sound somewhat unfulfilled and too carefully prepared. An artist of *musical* persuasiveness when heard in roles well suited to her—Mozart's Countess, for example—she is less often moving *dramatically*,



for she seems to perform outside a given character. Like her audience, she is the observer.

It is the performances of Te Kanawa and Nucci that lead me to characterize this performance as "Correct and cool." The earlier *Tosca* on RCA featuring Leontyne Price, Plácido Domingo, Sherrill Milnes, and Zubin Mehta is less correct but more impassioned. And then there is the supreme *Tosca* of Maria Callas, supported wonderfully on Angel by Di Stefano, Gobbi, and De Sabata. Both of these performances are still available (and on CD), though neither boasts the magnificent sound of the new London recording. R.A.

**REICH: *Sextet*.** Bob Becker, Russ Hartenberger, Garry Kvistad, Glen Velez (marimba, vibraphone, bass drum, crotales, tam-tam, sticks); Edmund Niemann, Nurit Tilles (piano, synthesizers). ***Six Marimbas*.** Bob Becker, Kory Grossman, Russ Hartenberger, James Preiss, Bill Ruyle, William Trigg (marimba). NONESUCH ● 79138-1 \$10.98, © 79138-4 \$10.98, © 79138-2 no list price.

Performance: *Hypnotic*  
Recording: *Excellent*

You've probably experienced the sensation while listening to a ticking clock. At first, you may hear the ticking as two beats, with the accent on the first. Gradually, though, the emphasis shifts to the second beat—or the beats re-form into groups of four rather than two. Nothing in the movement of the clock has changed, but the pattern your subconscious has superimposed over the ticking has. Steve Reich calls this effect "rhythmic ambiguity," and, in a much more complex form, it plays an important role in both his *Sextet* and *Six Marimbas*.

Reich's intensely rhythmic, iterative music isn't so much minimalist as it is mathematical. Of course, all music has a mathematical component—rhythm can be expressed as a ratio of beats over time, melody and harmony as patterns or "equations" of notes whose values are defined by their distance from a tonic center. But where these abstractions are merely descriptive conveniences for most composers, they are an implied framework in Reich's compositional technique. *Sextet*, for example, takes the form of an A-B-C-B-A structure of cyclical movements, each of which follows strictly defined chordal and metric operations. In *Six Marimbas*, three marimbas play the same eight-beat rhythmic pattern but with different notes; a fourth marimba mimics the pattern of one of the first three but reverses the fifth and seventh notes, the first and third, and so forth; finally, two other marimbas double some of the patterns created by the first four.

The result of all this is a fascinating, richly contrapuntal music with absolutely no emotional overtones what-

soever. It's much too energetic and varied to be "drone" music, but unless you listen actively and concentrate on Reich's compositional technique, it might very well lull you to sleep. *Sextet* and *Six Marimbas* are both scored for percussion (the piano is considered, in this context, as a percussion instrument), but the soft, rounded tone of vibes, marimbas, bass drum, and synthesizers keeps the music from sounding hard or brittle. In fact, with Reich's technique, the effect is altogether relaxing and felicitous—every contrapuntal encounter is a happy coincidence.

Mark Peel

**STRAVINSKY: *The Firebird; Scherzo fantastique, Op. 3; Fireworks, Op. 4*** (see Best of the Month, page 72)

**TCHAIKOVSKY: *Piano Concerto No. 1, in B-flat Minor, Op. 23*** (see Best of the Month, page 71)

**TCHAIKOVSKY: *Piano Concerto No. 1, in B-flat Minor, Op. 23*.** Barry Douglas (piano); London Symphony Orchestra, Leonard Slatkin cond. RCA ● 5708-1 \$9.98, © 5708-4 \$9.98, © 5708-2 no list price.

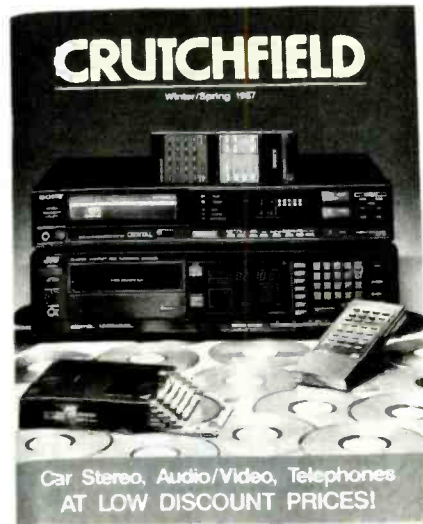
Performance: *Splendid*  
Recording: *Very good*

This performance of the Tchaikovsky First by Barry Douglas, the 1986 International Tchaikovsky Competition winner, seems to strike a golden mean between the lyrical emphasis of Van Cliburn's historic 1958 RCA recording and the brilliantly virtuosic approach of, say, Martha Argerich on Deutsche Grammophon. What impresses me about Douglas is the way he has managed to integrate the virtuosic passage-work of the outer movements into a reading that is intellectually and musically all of a piece. Yet there is nothing *merely* cerebral about his playing. His piano tone is as big and his coloration as brilliant as anyone could wish, and in the slow movement, with its contrasting lyrical and *scherzando* sections, he comes up with a flawless amalgam of elegance and keyboard flash. And, of course, the fabled double-octave cadenza that caps the finale comes off gloriously.

Leonard Slatkin and the London Symphony provide A-1 collaboration throughout, backed by splendid sonics all the way. The piano-orchestra balance is just about ideal for this work, and the recorded sound of the Hamburg Steinway can only be described as imposing from top to bottom. D.H.

**TCHAIKOVSKY: *Variations on a Rococo Theme*** (see DVORÁK)

**WALTON: *Belshazzar's Feast; Henry V, Suite*.** Benjamin Luxon (baritone); Brighton Festival Chorus; Royal Philharmonic Orchestra, André Previn cond. MCA MCA-6187 \$9.98, ©



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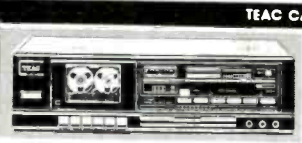
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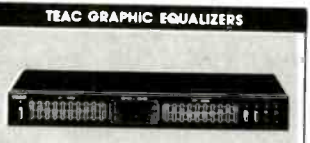
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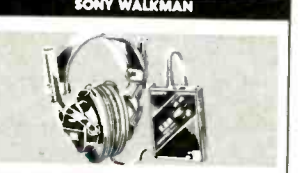
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Performance: *Splendid*  
Recording: *Splendid*

It seems incredible that so important a choral work of our century as Walton's *Belshazzar's Feast* should have been totally unrepresented on records for the last few years, but it is good to have that situation corrected with such distinction. The Royal Philharmonic chose this material to launch its own record label in England last year, and now MCA has taken on the U.S. distribution to mark its own return to the "classical" record business.

For some of us, the late Sir Adrian Boult's 1953 recording of this work for Westminster, with Dennis Noble as soloist, will never be matched, but as impressive as the sound of that version was when it was new, this brilliantly scored work really requires wide-range stereophonic treatment. Boult never got round to remaking *Belshazzar's Feast*; Walton himself did, but his LP is gone now too. Among the deleted recordings are one made by Sir Georg Solti for London about ten years ago and one made by André Previn for EMI about five years before that. Previn had by that time pretty well established himself as the near equal of Boult, who was still active then, in the performance of twentieth-century English music, and over the years Previn's authority in this repertoire has deepened to the point that he is now acknowledged as peerless.

Previn's new *Belshazzar*, I think, is more powerful than his earlier one, as well as a more spacious and impressive recording—and the filler is more attractive too. The little suite from *Henry V*, the finest of Walton's Shakespearean film scores, is set forth here with a panache and all-round evocativeness beyond anything Walton himself or any other conductor who has recorded it achieved. I haven't heard the CD, but the beautifully processed LP leaves nothing to be desired except the freedom from turnover—and a printed text, which I have to assume will be missing from the CD as well. R.F.

(ETC 1019) was a valuable issue that carried an implicit promise to respond to the demand it would surely create for more, and here that promise is handsomely honored. Once again there is music of Samuel Barber, Aaron Copland, Paul Bowles, and Phillip Ramey. Once again there is music never recorded before: Roy Harris's little piece on *When Johnny Comes Marching Home* (not a piano version of the concert overture, but the opening number in a projected second set of ballads for piano), all the Bowles material, all the Copland, the Blitzstein, the Barber, and the Ramey (which was written for Lerner less than five years ago). The big William Schuman work, a cycle of five very substantial pieces, had not been recorded since Beveridge Webster's mono version on Columbia in the mid-Fifties. In all, the new collection represents greater variety and greater substance than its predecessor, and, since none of the music could be in more authoritative or persuasive hands, and the recording itself is again first-rate, Volume II seems to call even more strongly than the first for still more. R.F.

**TERESA STRATAS: *Stratas Sings Weill*.** Teresa Stratas (vocals); Y Chamber Symphony, Gerard Schwarz cond. *Lonely House; J'attends un navire; Das Lied von der Unzulänglichkeit; Surabaya-Johnny; One Life to Live; Havana-Lied; It Never Was You; Der kleine Leutnant des Lieben Gottes; Foolish Heart;* and six others. NONESUCH 79131-1 \$10.98, © 79131-4 \$10.98, © 79131-2 no list price.

Performance: *Wrong flavor*  
Recording: *Excellent*

When Lotte Lenya sang such songs by her husband, Kurt Weill, as *Swabaya-Johnny* and *Havanna-Lied*, she conjured up images of pre-war Berlin decadence. When Teresa Stratas sings these songs, I get the same feeling of uneasiness I experienced when I heard James Earl Jones recite old blues lyrics on a television program a few years back—a feeling that there has been a terrible mismatch.

I understand that Stratas's earlier album, "The Unknown Kurt Weill," is quite good, but its sequel, "Stratas Sings Weill," sends chills down my back—for the wrong reasons. The problem may well be that Stratas was reluctant to do the album, an impression I get from reading the sleeve notes, an interview with the singer that is far more interesting than anything within. Stratas sings these Weill songs in a most dispassionate way, every once in a while erupting as if to inject an emotion that refuses to show itself. I would buy this album for the notes and look for the Lenya recordings to hear how this music should really sound. If you want to hear Stratas at her best, pick up the DG recording of *Lulu* by Weill's contemporary, Alban Berg. Chris Albertson

### COLLECTIONS

**BENNETT LERNER: *American Piano Music, Vol. II*.** Harris: *American Ballads; When Johnny Comes Marching Home*. Bowles: *Dance; Cross-Country for Two Pianos; Sonata*. Copland: *Three Moods; Sonnet II; Petit portrait ("Abe")*; *Sentimental Melody (Slow Dance)*. Barber: *Love Song*. Ramey: *Canzona*. Schuman: *Voyage*. Blitzstein: *Variation II; Pas de deux; Three-Four Dance*. Bennett Lerner (piano). ETCETERA • ETC 1036 \$12.98.

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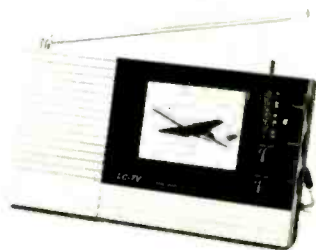
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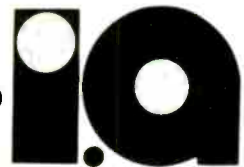
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## VIDEO REVIEWS

*Discs and tapes reviewed by Robert Ackart, Chris Albertson, Louis Meredith, Alanna Nash*

**LOUIS ARMSTRONG AND HIS ORCHESTRA 1942-1965.** Louis Armstrong (trumpet, vocals); Buster Bailey (clarinet); Big Sid Catlett (drums); Velma Middleton (vocals); other musicians. *You Rascal You; Swingin' on Nothin'; Sleepytime Down South; Shine; Mack the Knife;* and five others. JAZZ CLASSICS/AUDIOFIDELITY 102 VHS and Beta \$19.95.

Performance: *The one and only*  
Recording: *Vintage*

Jazz Classics is a new series of videocassette releases featuring material from a variety of sources, including early TV kinescopes and "Soundies." The latter were forerunners of today's music videos, short (three-minute) films, shown on special video jukeboxes, in which musicians often synchronized their movements to the sounds of their own recordings and acted out stories based on the lyrics.

This skimpy, thirty-three-minute video offering consists of four Soundies made by Louis Armstrong in 1942, possibly to get around that year's musicians' union recording ban, and five selections from a 1965 television show. Visually, the Soundies paint a racist portrait of black people that will make you cringe, but you can always close your eyes and enjoy the music, which is typical Satchmo pop of the day. The embarrassing moments are provided by comedian Nicodemus, who is of the old Stepin Fetchit mold, and Velma Middleton, a pedestrian singer who cashed in on her obesity.

The television segment, directed by Jørn Winther, who these days keeps himself busy with the soap opera *All My Children*, is a more dignified presentation. Here we have the mid-Sixties version of the All-Star group, with Tyree Glenn on trombone and vibraphone, Buster Bailey on clarinet (heard to greater advantage than on the Soundies), and Billy Kyle on piano. Middleton's replacement, Jewell Brown, is an even worse singer than Middleton, but she does look pretty good as she sings *My Man* (not the famous French song we all know).

The accompanying notes are informative and nearly accurate, but to set things straight, it was *Lil Armstrong*, not Louis, who wrote *Struttin' with Some Barbecue*, and Sam Theard, not Pheard, who gave us *You Rascal You*. I also wish some care had gone into assembling these films for video release. Providing smooth transitions between clips would not have been difficult, so



*Albert Dieudonne in the title role*

## NAPOLEON

**B**ILLED as "Abel Gance's 1927 Masterpiece" when Francis Coppola brought it back from film limbo in 1981, *Napoleon* is a movie that deserves its legend and then some, but unlike many certifiable masterpieces it's also a lot of fun. Director Gance was a hell of a showman, among other things, and his ahead-of-his-time bag of tricks—multiscreen triptychs anticipating Cinerama, overlapping montage, faster-than-the-eye editing—not only make powerful emotional sense but give you the impression that somebody is working very hard at knocking your socks off.

Starring Albert Dieudonne, who looks for all the world like a vest-pocket Rod Stewart (come to think of it, a lot of the actors look like contemporary pop stars), the film is an astonishing collision between Gance's nineteenth-century literary/philosophical sensibility and his twentieth-century visual one, and as restored here to close to its original marathon running time (through the heroic efforts of film archivist Kevin Brownlow), it registers as the work of someone who was a filmmaker down to his bones, the kind of bravura directing that has all but disappeared in this era of cinema by conglomerate. Despite the film's occasional naïveté and melodramatic excess, it's hard to avoid words like "art" after seeing *Napoleon*, and you can readily understand why Coppola wanted it to reach a wider audience:

he obviously recognized in Gance a kindred spirit.

MCA's home version necessarily suffers in comparison with the theatrical version. Gance packed an astonishing amount of detail into most of his scenes, much of which gets lost on a video monitor, and the concluding triple-screen sequence (which had people standing and cheering when I saw it at Radio City in New York) simply doesn't work in the compressed video format. Fortunately, Carmine Coppola's well-recorded score restores much of the epic sense of scale. It may rely too heavily on quotes from Beethoven, Mendelssohn, Berlioz, and *La Marseillaise*, but in its cornball, bombastic way, the music strikes me as exactly the kind of music a genuine Hollywood composer of the period would have ground out, and it's cued to the visuals quite effectively.

Regardless of what you think of the music, though, and allowing for the limitations of the TV screen, there's no doubt that *Napoleon* is one of the genuine home video events of the Eighties. Don't miss it. *Steve Simels*

**NAPOLEON (Carmine Coppola).** Restored version of the 1927 film by Abel Gance. With Albert Dieudonne, Antonin Artaud, and Abel Gance. Orchestra, Carmine Coppola cond. MCA A0086 VHS Hi-Fi and Beta Hi-Fi two cassettes \$79.95, 40086 three LaserDiscs \$89.98.

there is no excuse for simply slapping them together, end-of-reel noise and all. As for the claimed digital transfers, I don't believe it, because I have seen these same films with far better quality on imported Japanese LaserDiscs. *C.A.*

**BOB DYLAN WITH TOM PETTY AND THE HEARTBREAKERS:** *Hard to Handle*. Bob Dylan (vocals, guitar); Tom Petty and the Heartbreakers (vocals and instrumentals). *In the Garden; Just like a Woman; Like a Rolling Stone; It's Alright, Ma (I'm Only Bleeding)*; and six others. CBS/FOX 3402 VHS Hi-Fi and Beta Hi-Fi \$29.98, 3402-80 LaserDisc \$29.98.

Performance: *Worth watching*  
Recording: *Terrific*

I don't know what history will make of the recent collaboration between Bob Dylan and Tom Petty and Co., but on the basis of this new home video, shot on tour in Australia by director Gillian Armstrong (*My Brilliant Career*), it was more or less a dream match. Petty and the Heartbreakers are, in fact, absolutely superb accompanists, unerringly musical and utterly in synch with the trademark Dylan instrumental sound without slavishly imitating it. It's not an exaggeration to say that a lot of these songs have never been played so well.

The nominal star, meanwhile, is an interesting case. He seems to be enjoying himself, and he remains an arresting presence, but his vocals, even by his own unpredictable standards, are so eccentric that you can't quite tell if he's re-interpreting his past or simply trashing it. Nevertheless, there are moments here (*Just like a Woman, Knockin' on Heaven's Door*) when everything comes together in a genuinely goosebump-inducing way, and Armstrong's camera catches the whole affair with a nicely objective distance. Not the Dylan concert for the ages, perhaps, but never less than fascinating. *L.M.*

**THE MONKEES:** *Head*. The Monkees, Annette Funicello, Frank Zappa, Teri Garr, Victor Mature, others. RCA/COLUMBIA 60702 VHS Hi-Fi \$69.95, 20702 Beta Hi-Fi \$69.95, 30702 LaserDisc \$29.95.

Performance: *Surprisingly good*  
Recording: *Well-done*

*Head*, the Monkees' only feature film, was made in 1968 at the time when the group's fortunes were flagging and they had little to lose by taking potshots at their image as a cutesie-poo plastic contrivance. What the group—along with director Bob Rafelson and screenwriter Jack Nicholson (look for his brief cameo)—came up with is a sort of genial American version of Fellini's *8½*: an amusingly surreal collage of topical bits (the Vietnam war is a virtual subtext), old-film parodies (Westerns, *Golden Boy*, etc.), stepping-out-of-the-movie visual non sequiturs, and some genu-



*The Monkees: Davy Jones, Peter Tork, Mickey Dolenz, and Mike Nesmith*

inely off-the-wall sequences, including one with the group on a golf ball swatted by a giant Victor Mature.

There's also a fair amount of music, most of it better than you'd expect (Mike Nesmith's *Looks Like We Made It Once Again*, for instance, staged as what today we'd call a concert video), and a good deal of not-so-gently self-deprecating humor. Imagine a typical episode of the Monkees' TV show laced with a bit of R-rated cynicism and worldliness, and you'd get an idea of the feeling of the film. All in all, it's not so much a period piece as a nice way to remember four guys who rank as the baby-boom generation's favorite guilty pleasure. The bottom line: a diverting way to kill eighty-six minutes. Picture quality and sound are first-rate. *L.M.*

**RICK NELSON:** *In Concert*. Rick Nelson (vocals, guitar); the Jordanaires (background vocals); instrumental accompaniment. *Stood Up; Travelin' Man; Hello Mary Lou; Garden Party*; and four others. MCA 80360 VHS Hi-Fi and Beta Hi-Fi \$19.95.

Performance: *Fitting tribute*  
Recording: *Good*

The summer before his death in a New Year's Eve plane crash, Rick Nelson teamed with Fats Domino for a series of revival shows that had people talking seriously about his comeback. One such performance, at the Universal Amphitheatre in Los Angeles—where the neon sign in the background, like the cover of this video release, insists on adding the old "y" at the end of his name—was filmed for a one-hour TV special scheduled to air in January 1986. With Nelson's death, however, his manager recalled the show. The home-video concert is brief—only eight tunes—but it is worth checking out.

Nelson, who was more amiable than dynamic on stage, looks as boyish here as ever (the Jordanaires, however, look older than God), and the performance, with Nelson's crackerjack band, walks the line between pure nostalgia and rockabilly for the Eighties. Through it all, Nelson appears more to be having fun than thinking about how his music is going over, but the one new tune—*You Know What I Mean*, a rockabilly song with a shuffle beat—shows that he was probably ready to move forward

instead of resigning himself to the oldies circuit.

The real tragedy of Rick Nelson is not so much that he died but that he never really fulfilled the promise of either his country-rock phase (*She Belongs to Me*) or his rockabilly repopularization. Still, as this video proves, he was one of rock's forgotten resources and an underrated figure in the evolution of the music itself. *A.N.*

**BOBBY SHORT:** *Bobby Short and Friends (Live at the Carlyle)*. Bobby Short (vocals, piano). *The Way You Look Tonight; Just One of Those Things; As Time Goes By; Let's Misbehave; I Can't Get Started; Hooray for Love; Too Marvelous for Words; I Didn't Know What Time It Was*; and eight others. MGM/UA MV300859 VHS \$29.95, MB300859 Beta Hi-Fi \$29.95, ML100859 LaserDisc \$34.95.

Performance: *A bore, darling*  
Recording: *Satisfactory*

It was all I could do to sit through this hour of pretentiousness. It all starts with Bobby Short stepping out of a limo and into the Cafe Carlyle, one of New York's showiest watering holes, where he has been a mainstay for a decade and a half. Then the name-dropping begins, as the camera pans from face to familiar face. The gathering includes Jack Lemmon, Scavullo, Alice Faye, Tony Bennett, Lisa Hartman, and Rex Reed—all looking like Madame Tussaud figures after the blitz, their smiles frozen, their eyes glassy, their make-up cracking.

The music on this tape is equally hard to take, all of it sounding like the resort-pianist skits Bill Murray used to do on the original *Saturday Night Live* shows. At one point, Jack Lemmon is encouraged to play the piano (it's a good thing he can act), Lucie Arnaz sings *What Love Has Done to Me*, and everybody is asked to participate on *Too Marvelous for Words*. Don't you hate it when performers force you to join in the act?

If you want to eavesdrop on an ever-so-precious gathering of Bobby Short and his dearest friends, this video is for you. A little bit of Short goes a long way with me, but this entire presentation, performance and all, is drenched in shallow drivel. *C.A.*



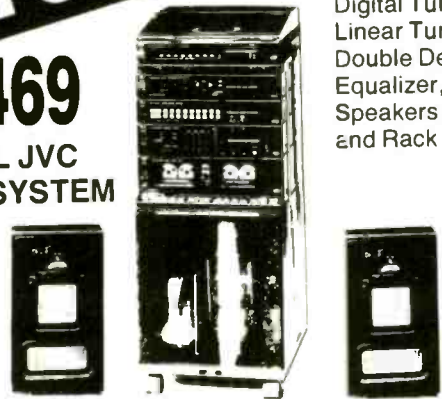
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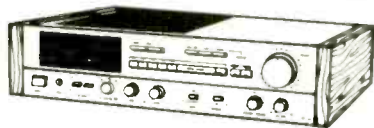
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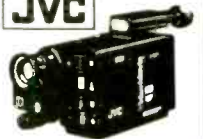
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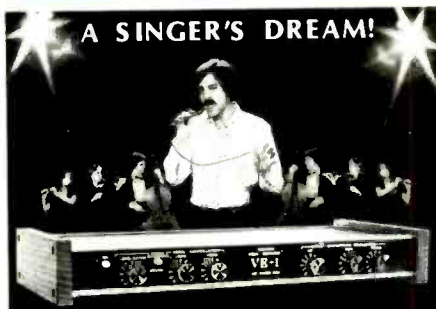
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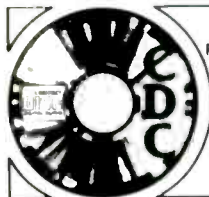
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by Christie Barter  
& Steve Simels

**S**AY IT AIN'T SO! DEPARTMENT: This being an era when pop stars fall all over themselves in a rush to hawk everything from soft drinks (Glenn Frey) to motorcycles (Lou Reed) to magazines (Tina Turner), we probably should have expected it, but none other than ex-Beatle Ringo Starr is about to become ubiquitous as a TV pitchman for Sun Country Classic, a new up-scale (?) wine cooler. This gives Ringo the dubious distinction of being the first Beatle to act as a product spokesman (unless, of course, you count the late



Short: definitive

group's second feature film and one of the crucial comedic artifacts of the Sixties. List price (VHS or Beta) is \$69.95. □

**R**ETURN OF THE WEREWOLF! Warren Zevon, possibly the sharpest American singer/songwriter of recent vintage, hasn't made an album since 1982, but thanks to Tom Cruise's pool-hall dance number to the strains of Zevon's hit *Werewolves of London* in Martin Scorsese's *The Color of Money*, the man will be recording again momentarily, this time for the Virgin label. And get this: in one of the most fortuitous pairings since Leopold and Loeb or Rimsky and Korsakov, the backings on the as yet untitled waxing will be provided by the favorite band of sensitive Yuppies everywhere, none other than R.E.M. Meanwhile, Zevon's old label (Asylum) has just unleashed "A Quiet Normal Life: The Best of Warren Zevon." Fans are advised to spring for the CD version,

which contains two bonus tracks. □

**N**OT so very long ago the veteran cabaret singer and pianist Bobby Short was described in these pages, by Peter Reilly, as a New York City landmark: "Not to go and hear him sing at the Café Carlyle is rather like going out of your way to avoid the Plaza fountain or Rockefeller Center or the Metropolitan Museum of Art."

Located only a couple of blocks from the museum on Manhattan's upper East Side, the Carlyle has been Short's home away from home for almost twenty years. But Atlantic Records has been his home as a recording artist for a good deal longer than that. The label has thus seized the opportunity of honoring his fiftieth year in show business in 1987 with the release of a four-record set titled "50 by Bobby Short."

The earliest tracks go back to the mid-Fifties, ranging from such standards as *I Like the Likes of You* by E. Y. Harburg and Vernon Duke and *Manhattan* by Richard Rodgers and Lorenz Hart to the Bessie Smith classic *Gimme a Pigfoot*. Side eight winds down with Short's inimitable renditions of Stephen Sondheim's *Losing My Mind* (recorded live at the Carlyle in 1973) and another Rodgers and Hart entry, *Spring Is Here*.

Hailed by his Atlantic producer of many years, Nesuhi Ertegun, as "the definitive authentic original genuine interpreter of the American song," Short is slated to participate

in a Rodgers and Hart evening at the White House on March 8. □

**I**N CASE YOU'RE WONDERING, IT STANDS FOR DECIBELS. The dB's, the quirky, original pop/rock outfit that once described their work (apparently with lasting regret) as "smart music for stupid people," made nary a commercial ripple with "Like This," their 1984 Bearsville debut after a string of successes on a small British independent label. But quality, it seems, will out, and they're getting another shot at the big time. I.R.S. Records, the home of several other quirky, original bands that nonetheless get played on the radio,



The dB's: bracing

has signed the dB's, and a new album (no producer chosen yet) is promised for mid-year.

While waiting, however, we strongly urge you to hunt up a copy of "Like This," still in print as Bearsville 25146-1 and still one of the most bracing, melodic, and intelligent albums of the decade. (Aside to Bearsville: a CD version would be nice). □

**A**MONG the many pianists observing the centenary of Liszt's death in 1986 was Earl Wild, a Lisztian from way back, with several recordings of the composer's music to his credit. Wild's contribution to last year's commemorative activities



Starr: pitchman

John Lennon's relentless shilling for the music of his wife, Yoko Ono. Ah well, another vestige of innocence shot to hell.

In less depressing Beatles news, however, we are pleased to report that MPI Video is releasing a home-tape version of *Help*, the

R.E.M. (left) and Zevon: Yuppies' favorite band backing hitmaker



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Wild: honoring Liszt

was a series of three all-Liszt recitals he was invited to play at the English estate of Lord Londonderry, Wynyard Hall. A series of all-Liszt recordings has been drawn from the recitals, all three double sets (two LP's, two cassettes, or two CD's) on the Etcetera label from Qualiton.

The first of these new sets, "Liszt the Virtuoso," was released late last year at just about the time Wild received a Franz Liszt Commemorative Award from the People's Republic of Hungary. The two remaining sets are devoted to "Liszt the Transcriber," due out this month, and "Liszt the Poet," which is set for September. □

**T**HERE'S good news and bad news for fans of Jane Wiedlin, formerly the rhythm guitarist of trail-blazing punkette hitmakers the Go-Go's. The good news is that she made her feature-film debut in one of the smasheroos of the season, *Star Trek IV: The Voyage Home*. The bad news is that her appearance lasts under ten seconds and that she is all but unrecognizable under Spock-type eyebrows and ears (for the record, Wiedlin can be glimpsed as an alien communications officer on a video monitor on

the right side of Starfleet headquarters approximately thirty minutes into the film). Undeterred, Wiedlin is said to be preparing material for her second solo album on I.R.S. □

**T**HE Hungarian-born composer György Ligeti, now living in Hamburg, Germany, was in the U.S. recently to accept the 1986 University of Louisville Grawemeyer Award for Music Composition. Funded by retired engineer and Louisville alumnus H. Charles Grawemeyer, the award carries with it a cash stipend of \$150,000, making it probably the music world's most generous. Said Ligeti, "That such a generous prize is available to composers, that is an inspiration. It brings glory to us all." His prize-winning work was a set of six piano etudes.

Ligeti was only the second winner of the Grawemeyer. The Polish composer Witold Lutoslawski was the first, in 1985, for his Symphony No. 3, which was commissioned by the Chicago Symphony in 1972 and first performed eleven years later. □

**Y**OU should look for the first batch of reissues from the newly re-activated Chess/MCA catalog. In print for the first time in years (with original cover art and a bargain list price of \$4.98!) are twelve all-time-classic blues and r-&-b albums, including "Muddy Waters at Newport" (a brilliant live set from 1961), Howlin' Wolf's "Moanin' in the Moonlight," "The Best of Little Walter," a blues album by John Lee Hooker, and the first two efforts from Bo Diddley, all of which are indispensable. □

**T**HE eminent cellist and conductor Mstislav Rostropovich celebrates his sixtieth birthday this month, an occasion being marked on the very day, March 27, with a gala performance in Washington by the National Symphony, of which he is music director.

A few days earlier Rostropovich is being feted in Paris by his friends there, notably

by his record company, Erato Disques, with which he signed exclusively last fall. And a few days earlier than that he appears with the Boston Symphony under Seiji Ozawa in both Boston and New York, soloing in what amounts to an overview of the literature for cello and orchestra. In two programs he

port on EMI's French label (as is the Strauss). But the Dvořák concerto, a piece Rostropovich has recorded many times before, has just been released in a new version on Erato with Ozawa conducting. The cellist is very pleased with his work on this one, and so is our reviewer (see page 104). □



ANN SUMMA/LONDON FEATURES INT'L.

Wiedlin: trail-blazing punkette in feature-film debut

is playing cello concertos by Vivaldi, Boccherini, Dvořák, Prokofiev, and Lutoslawski as well as Richard Strauss's *Don Quixote*, in which the cellist plays the "title role."

The Lutoslawski and Prokofiev concertos are among the many works especially written for Rostropovich by leading twentieth-century composers. The Prokofiev is still in the catalog, on an old mono LP, but it's not easy to find, and the Lutoslawski is now available only as an im-

**G**RACENOTES: Given the current national anti-drug hysteria, we note without comment the home-video release of *Psych Out*, perhaps the quintessential LSD-exploitation film of the Sixties. Available from HBO/Cannon, it stars Jack Nicholson as a crazed biker and features soundtrack music and an on-screen appearance by the Strawberry Alarm Clock. . . . Fans of Those Fabulous Sixties may or may not be pleased to hear that Paul Revere and the Raiders (the 1987 edition, that is) are likewise entering the home-video sweepstakes. MCA's "The Last Madman of Rock and Roll" features Revere and company in an hour-long program of hits including *Hungry*, *Steppin' Out*, *Good Thing*, and the anti-drug classic *Kicks*. . . . Ozzie Osborne, reportedly missing after a short stay at the Betty Ford Clinic, shaved his head and sent the peroxidized locks to his wife, prompting her to tell reporters, "I'd say we haven't seen hide nor hair of him, but obviously that's not strictly true." □

Rostropovich: sixty



JACQUES SARRAT/ERATO DISQUES

## NEW PRODUCTS

### Sherwood

The Sherwood CRD-175 in-dash AM/FM cassette receiver delivers 6 watts per channel minimum rms into 4 ohms with less than 10 percent total harmonic distortion at 1,000 Hz. Line inputs allow connection of a portable compact disc player, and a more powerful amplifier can be connected through the preamplifier output. Other features include an autoreverse tape mechanism, Dolby B noise reduction, separate bass and treble controls, and a digital clock.

Six AM and six FM stations can be pre-



set, and the preset stations can be scanned with the touch of a single button. Frequency response for the cassette section is given as 30 to 13,000 Hz with Type I (normal) tape and 30 to 15,000 Hz with Type II (high-bias) or Type IV

(metal) tape. Stereo 50-dB quieting is 46.8 dBf, tuner selectivity is 65 dB, and capture ratio is 1.8 dB. Price: \$229.95. Sherwood, Dept. SR, 13845 Artesia Blvd., Cerritos, CA 90701.

**Circle 126 on reader service card**



### Hitachi

The Hitachi DA-C50 compact disc changer has a six-disc magazine and a one-disc magazine. A sequence of up to thirty-six tracks from any of the CD's in the six-disc magazine can be programmed either with the front-panel controls or with the wireless remote control. The DA-C50 also features repeat play, random playback, a headphone jack with level control, and an audible, two-speed music-search system for scanning discs in either direction. The multifunction readout displays the number of the disc being played, the track number, the elapsed time on the disc, and the total playing time and number of tracks on the disc. Signal-to-noise ratio is given as 98 dB, dynamic range as 94 dB, frequency response as 4 to 20,000 Hz. Price: \$499.95. Hitachi, Dept. SR, 401 W. Artesia Blvd., Compton, CA 90220.

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### Hafler

The XL-280 power amplifier from Hafler uses the company's Excelinear technology, which is said to make distortions of all types virtually nonexistent throughout the audio range. As loudspeaker systems reflect amplifier performance, the XL-280 can easily be adjusted to minimize distortion in individual audio systems. The amplifier is rated for a power output of 145 watts per stereo channel, or 400 watts in bridged mono operation. It uses an all-complementary design, including FET inputs. Phase shift is said to be less than 0.5 degree at both ends of the audio spectrum. Price: \$600. David Hafler Co., Dept. SR, 5910 Crescent Blvd., Pennsauken, NJ 08109.

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## NEW PRODUCTS

### Sonrise

Placed side by side, the Sonrise SH-4 Magnolia audio cabinet and SC-9 Vuemont video cabinet measure a total of 55 inches wide. Each cabinet is 34½ inches high and 17½ inches deep and has casters for easy movement. The Magnolia (at left in photo) is made of solid oak with plywood shelves (one adjustable) and wood-and-glass doors. Options include all-wood doors and a scratch-resistant glass top for use with a turntable.

The Vuemont (right) has room for a VCR and a video monitor or TV set with a screen size of up to 26 inches. It, too, is crafted from solid oak with plywood shelving; glass doors are optional. The lower doors conceal a drawer that can hold compact discs, cassettes, or



VHS, Beta, or 8mm videotapes. Prices (as shown): SH-4 Magnolia, \$500; SC-9 Vuemont, \$770. Sonrise, Dept. SR, 13622 N.E. 20th St., Suite F, Bellevue, WA 98005.

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### Parasound

The Parasound PDM1950 mixer/preamplifier has six inputs: four for microphones, with selectable phono or unbalanced phone plugs, and two others switchable for phono or line level. Each input has its own pan pot and can

be cued separately or combined with another input through the headphone monitor independently of the master output-level control. Calibrated LED peak-level meters are provided for each channel. Feedback and standing-wave effects are controlled by a six-band equalizer with three  $\pm 15$ -dB low-frequency adjustments. Other features include a fixed subsonic filter and an echo/reverb circuit with adjustable level and repeat for use with any or all of the microphone inputs. Price: \$479.95. Parasound, Dept. SR, 945 Front St., San Francisco, CA 94111.

**Circle 130 on reader service card**



### Lazer-Tech

The WD 80 Wedge from Lazer-Tech is a three-way speaker system that features an 8-inch polypropylene bass driver, a 4½-inch midrange, and a 1-inch

soft-dome tweeter. Crossovers are at 750 and 4,750 Hz with 12-dB slopes. Nominal impedance is 8 ohms. The WD 80 can be comfortably powered by amplifiers or receivers providing from 10 to 175 watts per channel.

Imaging and sound projection are said to be enhanced by the speaker's sloped driver panel, which is 38 degrees off the vertical. Frequency response is given as 38 to 25,000 Hz  $\pm 3$  dB, sensitivity as 92 dB sound-pressure level with an input of 1 watt. Each speaker measures 11 inches wide, 36 inches tall, and 2 inches deep at the top and 12 inches at the bottom. Weight is 47 pounds. The cabinet is finished in simulated walnut, oak, teak, or rosewood Formica. The WD 80 carries a seven-year warranty. Price: \$378 per pair, including stands. K-Tronic Labs, Dept. SR, P.O. Box 28342, Spokane, WA 99228-8342.

**Circle 131 on reader service card**

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MARCH

More New Products on page 15

by Ralph Hodges



## Why Test?

A RECENT meeting of the Audio Engineering Society once again attempted to face off "objective" (that is, numbers-oriented) hi-fi equipment evaluators with their "subjective" (listening-oriented) counterparts for another round of the soul-searching quest for the real secrets of audio truth and beauty—or audio truth vs. beauty, as more than a few would put it. There were four panelists on the dais: Julian Hirsch and Brad Meyer (audio journalists), and Dick Sequerra and John Marovskis (manufacturers and consultants of the refreshingly outspoken sort). None of them could be described as purely objectivist or subjectivist, but each leaned far enough in one direction or the other to provoke a few sparks of debate. Of conclusions there were none, except that some members of the panel were able to subscribe, with reasonably untroubled consciences, to the current formula for audio "wisdom," the evolution of which is interesting to track.

In the Fifties it was said, "If it tests good, it will sound good," and no one in his right mind ventured to disagree. Then in the late Sixties we began to hear, "If it tests bad, it will sound bad; but if it tests good, it

may or may not sound good." Today the dictum is, "If it tests very good, it will sound anywhere from superb to marginally acceptable; if it tests mediocre, it will sound anywhere from execrable to better than superb." What is going on here?

Something fairly simple, I think, if we restrict ourselves to one equipment category, such as amplifiers. In the Fifties, very little in this category was good, and almost anything designed to test good sounded distinctly better than the alternatives. Later, in the Sixties and early Seventies, transistorized designs facilitated the "negative-feedback fix" and the "protective-circuit safety net." These were stratagems that could work well in the hands of a master designer but fail miserably for the neophyte who studied the meters religiously but never bothered to listen to the *Hammerklavier*. Right now we're making a rapid recovery from some of the earlier excesses of that sort, but we evidently haven't found just the right path even yet.

This brings us to one of the questions posed by an audience member to the panel: "Why test? Why compile the numbers if they are, after a certain point, at best uninformative, and at worst misleading?" Even

*Today the dictum is, "If it tests very good, it will sound anywhere from superb to marginally acceptable; if it tests mediocre, it will sound anywhere from execrable to better than superb."*

from a high-end standpoint, I can think of several reasons:

*To keep everybody honest.* You have to have worked inside an industry for a while to realize how quickly manufacturing propriety slips when the spotlight is switched off and the scrutiny is directed elsewhere. Perhaps the quest for less than 0.001 percent static distortion has not done anything beneficial for our ears (although I'll bet signal-to-noise ratios in excess of 100 dB have). Still, do we want to throw

these efforts—which do represent progress of a sort, or at least contributions to the body of audio knowledge—entirely away? We will throw them away if we stop paying close attention to the test figures, within their appropriate context.

*To provide due recognition.* To create a powerful and stable amplifier with loads of negative feedback and the ability to save its own life in the crunch is no mean feat, whether or not the device turns out to be a good audio amplifier. It would probably be easier to teach the designer of such an amplifier to hear than to teach a golden-eared audiophile to design. Hence, the designer is an asset for the future and should be encouraged to keep at it.

*To continue the search for meaningful correlations between measurements and sound quality.* Perhaps, at the moment, the amplifier that tests best does not sound best. This is no reason to stop testing. If we do, we'll never know whether the amplifier that ultimately sounds best doesn't test just as well as we think it should.

*To keep testers busy.* Do not laugh. Experienced reviewers with an established sense of what they're about are hard to come by. A well-qualified reviewer with a deep background can have a profound influence on the long-term evolution of audio design (for better or worse, granted), and most of the big names in the field have at least once offered comments that have helped an "almost" product into becoming a finished piece. You don't have to agree with a reviewer's priorities, or even believe what he writes, to benefit in some way from his considerable influence. And in the end, you're going to find that a reviewer who is comfortable with the numbers as well as with armchair listening is the best bet overall.

I hope this list has included your favorite reason for testing, or has at least outraged you enough to insist on printed redress. Like many others, I was frustrated by the inconclusiveness of the AES panel discussion and would like the debate continued at greater length. So come all ye faithful, pen in hand, and let's see if there are some fresh ideas on an endlessly argued subject. □



# Boston Acoustics



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