

FEBRUARY 1981 • \$1.25

# Stereo Review®

## RECORD OF THE YEAR AWARDS FOR 1980

**AARON COPLAND:** an American composer looks back at eighty

**JAPAN AUDIO FAIR:** a report on the new products in your future

**DIGITAL COUNTDOWN:** the all-digital disc heads for the marketplace

**PRIMER FOR AUDIOPHILES:** a short course in how digital audio works

### EQUIPMENT TEST REPORTS:

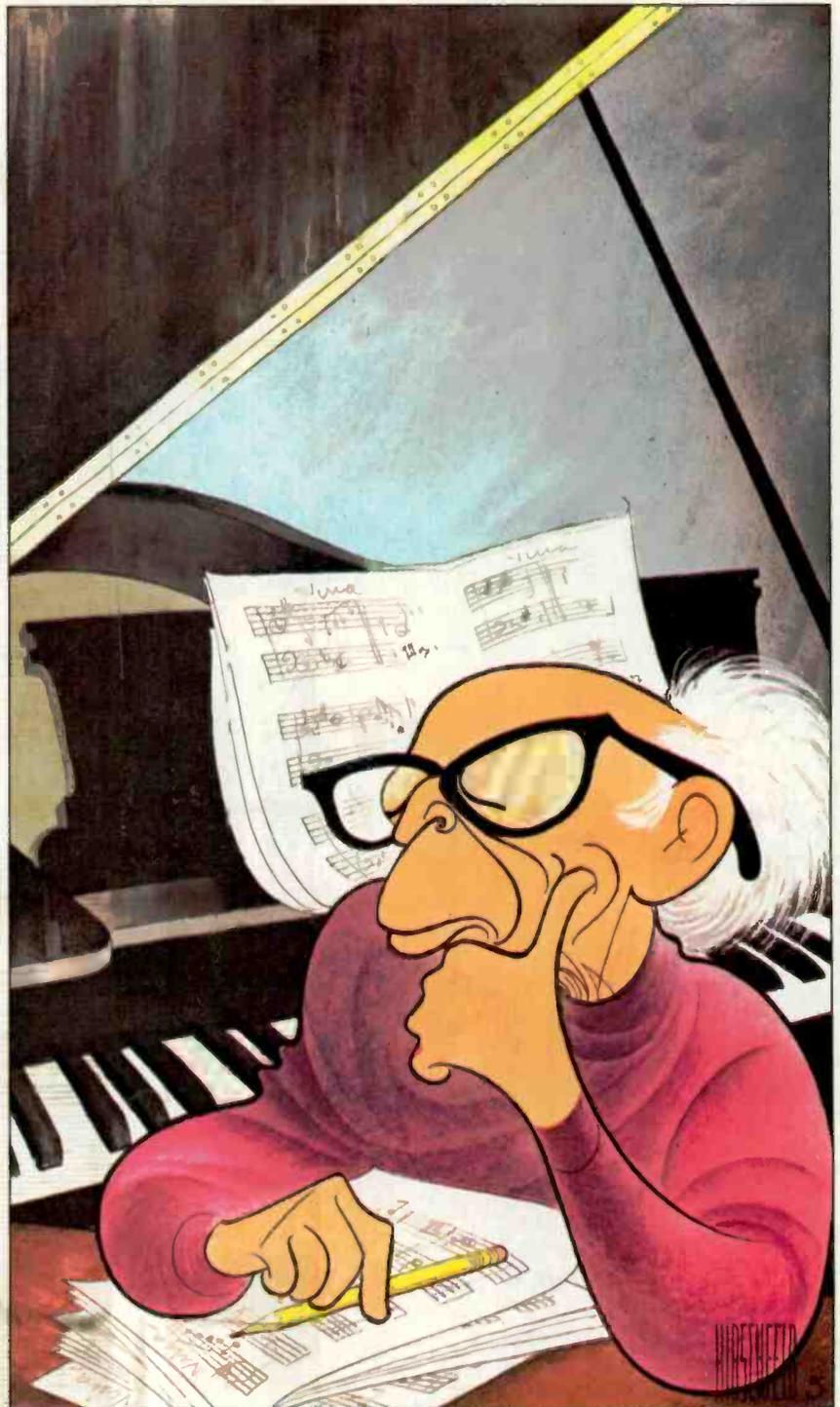
- Koss K/4DS Digital Delay System
- Celestion Ditton 130 Speaker
- Thorens TD 160 Super Turntable
- Akai AM-U06 Amplifier and AT-V04 Tuner
- Astatic MF 200 Phono Cartridge

**INTERVIEW:** Steely Dan

### DISC SPECIALS:

**BOBBY BARE** ● **ARETHA FRANKLIN**  
**JOHNNY CASH** ● **CARLENE CARTER**  
**JIM CARROLL** ● **IRA SULLIVAN**

**RAVEL:** a digital *Alborada*  
**SCHUBERT:** *Winterreise*  
**VERDI:** Karajan's new *Aïda*  
**WEILL:** *Silverlake*



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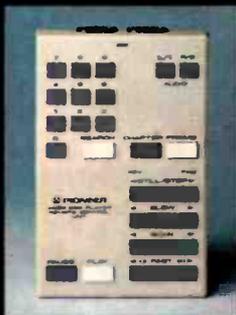
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FORMERLY HI FI/STEREO REVIEW (ISSN 0039-1220)

# Stereo Review®

FEBRUARY 1981 • VOLUME 46 • NUMBER 2

## The Equipment

<b>NEW PRODUCTS</b> <i>Roundup of the latest audio equipment and accessories</i> .....	17
<b>AUDIO/VIDEO NEWS</b> <i>Coming: True Digital Discs</i> .....	DAVID RANADA 20
<b>AUDIO QUESTIONS AND ANSWERS</b> <i>Noise Compression, Turntable Strobes, Noise Specs, Ear Ringing</i> .....	LARRY KLEIN 24
<b>TAPE TALK</b> <i>Ticks and Pops on Dubs, Eight-track Repairs, Cassette Crosstalk</i> .....	CRAIG STARK 28
<b>TECHNICAL TALK</b> <i>Hi-Fi Is Getting Better (Part 3)</i> .....	JULIAN D. HIRSCH 32
<b>EQUIPMENT TEST REPORTS</b> <i>Hirsch-Houck Laboratories test results on the Koss K/4DS digital delay system, Celestion Ditton 130 speaker system, Thorens TD 160 Super turntable, Akai AM-U06 amplifier and AT-V04 tuner, and Astatic MF 200 phono cartridge</i> .....	JULIAN D. HIRSCH 36
<b>NEW PRODUCTS AT THE TOKYO AUDIO FAIR</b> <i>Still the best place to keep an eye on the future</i> .....	PETER MITCHELL 56
<b>DIGITAL AUDIO: A PRIMER</b> <i>A shortcut to understanding "sampling," "quantization," and the like</i> .....	DAVID RANADA 63

## The Music

<b>AARON COPLAND</b> <i>The American composer is eighty</i> .....	ERIC SALZMAN 66
<b>RECORD OF THE YEAR AWARDS—1980</b> <i>STEREO REVIEW's critics and editors select the industry's top artistic achievements</i> .....	71
<b>BEST RECORDINGS OF THE MONTH</b> .....	74
<i>Bobby Bare: "Drunk and Crazy".....</i>	74
<i>Dallas Symphony: Digital Ravel.....</i>	76
<i>Aretha Franklin: "Aretha".....</i>	76
<i>Schubert: Winterreise.....</i>	77
<b>POPULAR MUSIC</b> .....	78
<i>Steely Dan: "Gaucho".....</i>	82
<i>Johnny Cash: "Rockabilly Blues".....</i>	86
<i>Carlene Carter: "Musical Shapes".....</i>	87
<i>Jim Carroll: "Catholic Boy".....</i>	90
<i>Lennie Tristano.....</i>	94
<i>"The Incredible Ira Sullivan".....</i>	96
<b>CLASSICAL MUSIC</b> .....	102
<i>Karajan's Festive New Aida.....</i>	106
<i>New Music: "Uptown" and "Downtown".....</i>	110
<i>Schubert: String Quintet in C Major.....</i>	112
<i>Kurt Weill: Silverlake.....</i>	116

## The Regulars

<b>BULLETIN</b> .....	WILLIAM LIVINGSTONE 5
<b>SPEAKING OF MUSIC</b> .....	WILLIAM ANDERSON 6
<b>LETTERS TO THE EDITOR</b> .....	10
<b>GOING ON RECORD</b> .....	JAMES GOODFRIEND 54
<b>ADVERTISERS' INDEX</b> .....	116

COVER: Caricature of Aaron Copland by Al Hirschfeld (see page 12).

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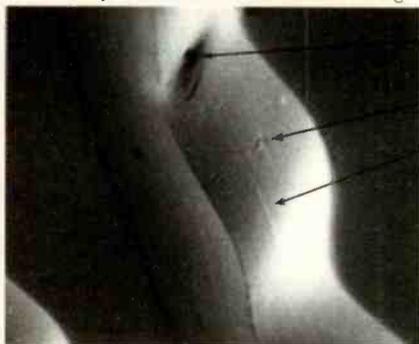
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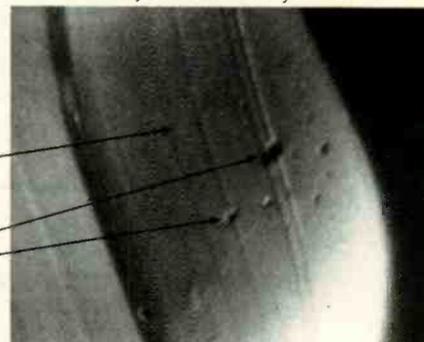


Pit from dust abrasion.  
Ground-in microdust.  
Prominent dust abrasion.

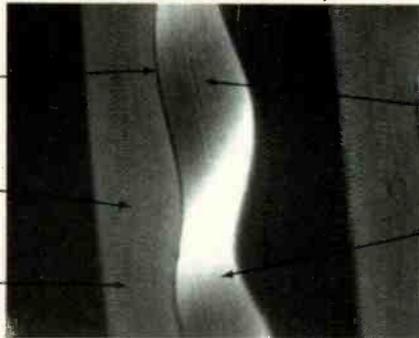
Prominent stylus path from abrasive-coated diamond face.

Vinyl particles welded by contaminated upper area of stylus.

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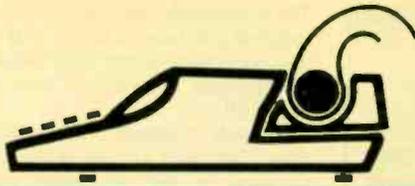
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Edited by William Livingstone

- RCA'S SELECTAVISION VIDEODISC PLAYER will be introduced by 5,000 TV dealers on March 22 at a price of \$499.95. Since RCA had announced in 1979 that it would market the unit in the first quarter of 1981 at a price less than \$500, the company is coming into the videodisc field with a margin of one week and five cents. Discs for the SelectaVision player, which have up to an hour of playing time on each side, will cost \$14.98 to \$27.98. RCA's target audience for the system is not the audiophile or videophile, but the "average American family." The company estimates that despite the uncertain economy it will sell 200,000 players and 2 million discs in 1981. It plans a multi-media ad blitz to (we quote) "sell the totality of the videodisc experience," but SelectaVision will be mono-only this year. Introduction of an RCA stereo videodisc player is slated for 1982.
- THE SUITE FOR FLUTE AND JAZZ PIANO with Jean-Pierre Rampal and Claude Bolling (CBS Masterworks M 33233) has been certified gold by the Recording Industry Association of America. The disc has been on Billboard's classical charts for over 250 weeks. Released last July, Bolling's Picnic Suite, on which he is joined by Rampal and the classical guitarist Alexandre Lagoya, is also selling well and climbing the charts in Billboard, Cashbox, and Record World. Bolling's newest album, released in January, is California Suite, written for the Neil Simon movie of the same name and featuring jazz flutist Hubert Laws.
- YAMAHA'S B-6 "X" POWER AMPLIFIER and A-6 integrated amplifier are the first products using Carver Magnetic Field Technology to reach the Japanese market. Results of the licensing agreements between Yamaha and Carver Technology Development, Inc., both units are also being introduced in the United States. Other manufacturers are negotiating licenses to utilize the Carver Magnetic Field Technology, which substantially reduces the size and cost of power amplification.
- STEELEYE SPAN, the popular English folk-rock band; has reunited after a two-year hiatus. The 1981 line-up includes the personnel who were on "Parcel of Rogues," which won a STEREO REVIEW Record of the Year Award in 1973. They are: singer Maddy Prior and multi-instrumentalists Rick Kemp, Bob Johnson, Tim Hart, and Peter Knight. Also included is the drummer Nigel Pegrum, who has been on all Span albums since 1974. Their new record, "Sails of Silver," is out on English Chrysalis, but not yet scheduled here.
- A FILTER TO CUT THE VIDEOTAPE HISS audible when a videocassette's audio signal is channeled through a hi-fi system has been introduced by KLH. Physically redesigned, the KLH Burwen Dynamic Noise Filter (Model DNF-1201A) senses the frequency levels of the audio signal on a videotape and then automatically rolls off the high frequencies as appropriate for optimum subjective signal-to-noise ratio. Tape-hiss reduction of 5 to 14 dB is claimed for the unit, which can be used with any VCR with an audio-output jack. The filter will also work with records and tapes. Price: \$379.
- AWARDS AND HONORS: Composer Gunther Schuller has been elected to the American Academy of Arts and Letters. He will occupy Chair Nine, formerly held by painter Edwin Dickinson and architects Eero Saarinen, Frank Lloyd Wright, and Charles Follen McKim.... The Prix Italia Committee has awarded the RAI Prize for Radio Music to Civilization and Its Discontents, a modern-opera buffa by Michael Sahl and Eric Salzman (a contributing editor on this magazine). Produced at WXXI-FM in Rochester, New York, for National Public Radio, it was heard on NPR stations nationwide.... A Major Armstrong Award for innovative radio programming was given to Chicago's WFMT for commissioning song cycles by nine American composers: Paul Cihara, Lukas Foss, Philip Glass, Barbara Kolb, Shulamit Ran, Ivan Tcherepnin, Hugo Weisgall, Richard Wernick, and Charles Wuorinen.

# Speaking of Music...

By William Anderson



## AMERICAN BRASS

FOR fourteen years now, in this February issue, the editorial staff and critics of *STEREO REVIEW* have been sharing with readers their opinions as to the significant contributions made during the previous year to the arts of music and recording. And for seven of those years we have also been singling out an individual to receive a Certificate of Merit "for outstanding contributions to the quality of American musical life." The first of these, in 1975, was Mabel Mercer, ageless doyenne of the fine art of the popular ballad, followed by violinist Jascha Heifetz (who declined the award), the late conductor Arthur Fiedler, the musical theater's much-missed Richard Rodgers, soprano Beverly Sills, jazz pianist Earl Hines, and, this year, composer Aaron Copland.

The list, short as it is, says a great deal about what America's musical life is—as opposed, one might say, to what some would like it to be. This is the first year, for example, that the award has gone to a composer of classical music. In an interview with Copland in this issue (page 66), composer/critic Eric Salzman remarks that "it is in this century and in the lifetime of Aaron Copland that American music came to maturity." Mature, perhaps, but hardly flourishing. Classical-music composers—of whatever stripe—have a tough row to hoe in this country, no matter that the row is one they've chosen. The problem was neatly stated a couple of years ago in the title of a Columbia University lecture by Richard Taruskin (a former composer): "Who Cares if You Listen; Who Cares if You Write."

The predictable result of this oft-articulated standoff has been a music that stubbornly pursues grants rather than audiences—see, for example, the review "New Music" on page 110.

Though "modern" or "contemporary" music has been around at least as long as Copland, it has not found an audience beyond that of what composer/critic Virgil Thomson calls its "addicts." However just-as-unlistened-to European composers may explain this to themselves, American composers have the excuse of history—or, rather, the lack of one. Whether we call it "serious," "learned," or "classical" music, it is a music largely founded on previous examples, built up according to established forms. Having no such centuries-old historical well to draw upon, nineteenth-century American composers turned to European, largely German, sources. It worked for a while, but the method fell apart when a tenuous homogeneity was thrown into possibly permanent disarray by mass immigration; no one history could satisfy all the needs of the resulting polyglot culture.

What could fill the gap—and did so almost immediately—was popular music, which has no need of a history. Probably for the first time ever, and thanks to the ubiquity of phonograph discs and radio broadcasts, there is such a thing as an "international" style in music—and it is both American and popular.

Where does that leave Aaron Copland? Still in charge of the only going classical concern on the block. Though he founded no "school," set up no signpost reading "this way for American music," his style continues to inspire countless movie and TV scores, and the brave, braying brass of his *Fanfare for the Common Man* was the only serious business transacted at the last two Democratic conventions. *Gebrauchsmusik* of the highest order. Very American. □

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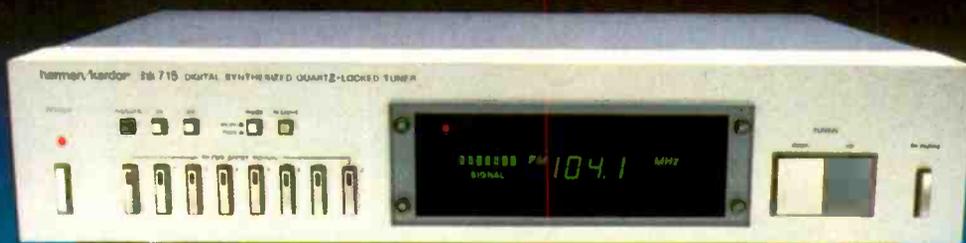
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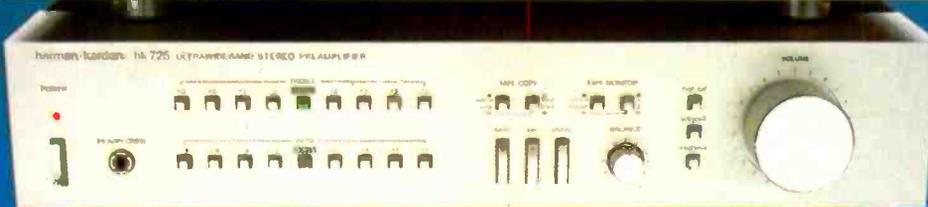
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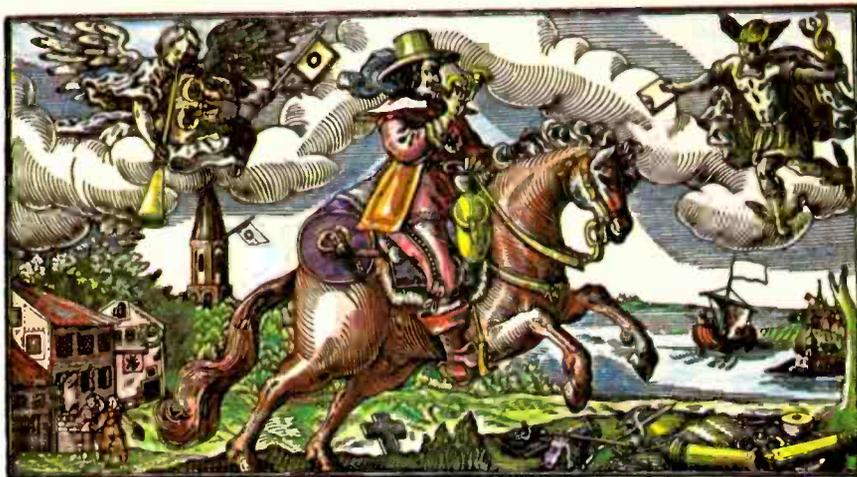
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## LETTERS TO THE EDITOR

### Digital Exposure

● I would like to compliment William Anderson on his terse and discerning editorial, "Necessary Noise," in the December STEREO REVIEW. I would only add a word in defense of the many honest and also discerning listeners who do hear differences between digitally mastered and analog mastered recordings. It is not only that they "miss the noise," but that the "noise" of conventionally mastered discs has masked defects in the recording-reproduction chain that digital mastering now exposes. At the record end, defects may exist in the digital processing, but they more likely exist in the associated *analog* equipment and recording techniques. The reduction of "defect masking" has always slowed acceptance of improvements in any part of the chain. Remember, for example, the public perception of many early high-fidelity recordings as "screechy and irritating."

DANIEL QUEEN  
Daniel Queen Laboratories  
Chicago, Ill.

### Cassette Dubbing

● James Goodfriend's "Home Piracy" in December brought out some good points, but he did not explore the actual reasons so many people dub record albums. I am an audio mixer by profession, and I and most of my friends enjoy fairly decent cassette playback systems in our cars. All of us realize that most prerecorded cassettes are a joke. If we want to listen to anything that doesn't roll off at 8,000 Hz, we have to record it ourselves. I think most consumers are tired of paying \$7.98 for a welded shell with cheap, commercial-grade tape inside and program material dubbed at high speeds, all of which results in a product that is devoid of high frequencies, noisy, and full of dropouts. Besides, if I like the selections enough to spend my time dubbing them, I have most likely purchased the album anyway. And what about tape dubbing to preserve one's own albums? Those of us who have spent mucho bucks on our cassette recorders (not to mention open-reel machines) with logic controls, adjustable bias

and equalization, Dolby, d.c.-servo capacitors, etc. want to get some use out of them—not just erode their heads playing tapes assembled on the cheap in Mexico.

ROBERT SORKIN  
Chicago, Ill.

● James Goodfriend's comments in December's "Going on Record" regarding home taping of classical record releases were certainly well taken. His indictment of the taping practices of certain classical enthusiasts was right on target; undoubtedly their activities are a contributing factor in the deplorable and unfortunate decline of the classical recording industry. I must count myself among the guilty in this respect. However, I have never purchased a record solely for the purpose of taping it and then returned it for credit under the false pretense that it was defective. Such an act is clearly an abuse of retailers' and manufacturers' good will in accepting returns of truly defective recordings. There are perhaps no adequate means, legal or otherwise, of limiting the borrowing of records among friends or acquaintances for the purpose of taping, but surely there must be something that the recording industry or record merchants can do to restrict the return of allegedly "defective" records that were, in fact, merely pirated.

JOSEPH R. SUTTON  
Alexandria, Va.

### Superdiscs

● In their contribution to "Superdiscs" in December, Tomlinson Holman and Danny Kumin question the ability of the neighbors to accommodate the wider dynamic ranges due on records sometime before the next world war. The solution seems obvious: let the bonus feature of the first all-digital *1812 Overture* (inescapable!) be a bronze cannon—fired digitally, of course, and aimed at the neighbors.

E. D. HOAGLAN  
Omaha, Neb.

*The first digitally mastered 1812 cannon*

(Continued on page 12)



Zero tracking error, 0.025% wow  
and flutter, -78 dB rumble and it  
even plays upside down.

It's Technics SL-10 and it represents the most radical departure in turntable design since Technics first introduced the modern direct-drive turntable in 1969.

Not much bigger than a record jacket, the SL-10 combines a quartz-locked direct-drive motor, a servo-controlled linear-tracking tonearm and a moving-coil cartridge, complete with a built-in pre-preamp.

To play a record, simply place it on the platter, close the cover and push the start button. The SL-10's micro-computer automatically senses the record size and speed.

In addition to providing zero tracking error, the gimbal-suspended linear tonearm is dynamically balanced allowing you to play the SL-10 on its side or even upside down with no loss in accuracy or tracking ability.

Another reason for the SL-10's outstanding accuracy is its moving-coil cartridge. With its built-in pre-preamp, coreless twin-ring coils and pure boron pipe cantilever, the cartridge provides an extremely linear and flat frequency response as well as superb dynamic range.

Technics SL-10. The world's most unique turntable.

**Technics**  
The science of sound

CIRCLE NO. 61 ON READER SERVICE CARD

has already been fired, of course (Telarc DG-10041, reviewed in January 1980); the ending will, according to David Hall, "knock you out of your chair," but we think the neighbors ducked.

I've had to help my sister catch lyrics for songs she was learning, only to discover completely unintelligible lines. Magazine's—or, rather, Howard Devoto's—lyrics are, however, quite clear.

KARL BRASAEMLE  
Minneapolis, Minn.

## Magazine's Third

● Regarding Joel Vance's November review of Magazine's "The Correct Use of Soap," allow me to set the record straight: it is hardly the group's debut album but, rather, their third; the preceding albums were "Real Life" and "Secondhand Daylight," also on Virgin Records. As for the lyrics, since when are "rock" lyrics totally clear?

## In Re Simels

● Please keep Steve Simels on STEREO REVIEW's staff. He lends just the right Oliver Hardy touch to an otherwise serious magazine. It has been known for generations that Shakespeare believed he was writing pot-boilers and doing hackwork, which is an im-

portant part of the reason he is considered a genius. As for whether or not he was an artist, we'll have to go to Greenwich Village and take a poll. Isaac Asimov's story "The Immortal Bard" is must reading for Steve. I realize that he would probably hold the book upside down, but he should still finish the five or six pages of the story before his Social Security checks start rolling in.

LYLE MCDOLE  
Hawarden, Iowa

● I'd like to thank STEREO REVIEW for bringing Steve Simels into my mailbox every month. I am an American GI in West Germany and look forward to my monthly issues to bring me news of a rock world that is more than just miles away. Most of the records I listen to are unavailable locally and have to be mail-ordered, and Steve lets me know which of them are worth the wait.

D. FRITZ  
Ramstein, West Germany

● Once again this month I hurriedly opened the new issue of STEREO REVIEW to "Letters to the Editor," only to find more of the standard, ever-present "Steve Simels doesn't know what he is talking about" letters. It is unfortunate that so many condemn Mr. Simels' style of reviewing simply because he holds opinions differing from their own. I think he does a splendid job—even though I haven't agreed with the man once!

DEAN A. SMITH  
Wellesley Hills, Mass.

# the ULTIMATE EQUALIZER—

## Soundcraftsmen's NEW SCAN-ANALYZER/EQUALIZER



**GUARANTEED to improve -and enhance- any fine stereo component system!**

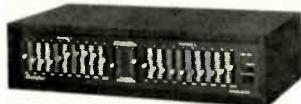
The Patent-Pending DIFFERENTIAL COMPARATOR circuitry of the "SCAN-ANALYZER/EQUALIZER IS THE KEY TO HIGH PRECISION ACCURATE EQ analysis. The basic simplicity of the DIFFERENTIAL COMPARATOR circuitry makes it possible for even a novice to accurately EQ his room and his system, yet that same circuitry is so highly accurate it can actually be used for 0.1 dB laboratory measurements in EQ analysis. This combination of

equalizer and analyzer creates a functional component that should be an integral part of every high quality home stereo system. The "SCAN-ANALYZER/EQUALIZER with its accompanying COMPUTONE CHARTS, can be used in a home stereo system for so many important functions we can't begin to list them here. See your nearest Soundcraftsmen dealer, or circle Reader Card, for complete information.

**6 GRAPHIC EQUALIZERS, 1/3, 1-OCTAVE, \$249 to \$550**

**3 STATE-OF-THE-ART PREAMPS, \$399 to \$699**

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Includes TEST REPORTS, complete specifications, Class H amplifier ENGINEERING REPORT, EQ COMPARISON CHART, and the "WHY'S & HOW'S" of equalization—an easy-to-understand explanation of the relationship of acoustics to your environment. Also contains many unique IDEAS on "How the Soundcraftsmen Equalizer can measurably enhance your listening pleasures." How typical room problems can be eliminated by Equalization; and a 10-POINT "DO-IT-YOURSELF" EQ evaluation checklist so you can FIND OUT FOR YOURSELF WHAT EQ CAN DO FOR YOU!

## THIS MONTH'S COVER

is being made available in a limited-edition poster version, in full color, to commemorate STEREO REVIEW's 1981 award of the Certificate of Merit to Aaron Copland. Send \$3 to Aaron Copland Poster, Stereo Review, 1 Park Avenue, New York, N.Y. 10016. Remember: limited edition—first come, first served. Price includes handling, mailing tube, tax, and postage.

## FEBRUARY 1981 • \$1.25 Stereo Review

*Aaron Copland  
1981  
Certificate  
of Merit  
for outstanding  
contributions  
to the quality of  
American  
musical life*

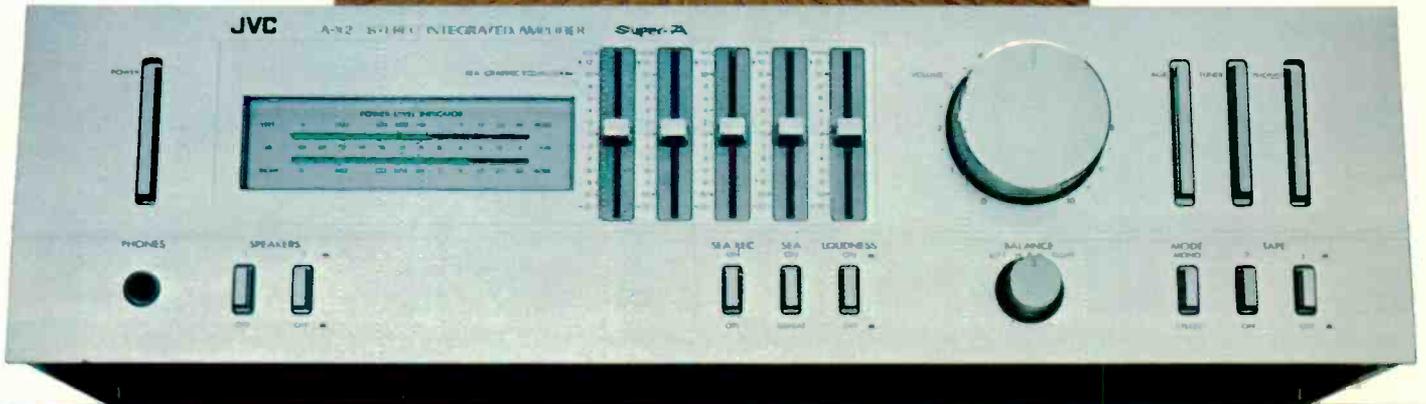


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SEND \$6.00 FOR EQUALIZER-EVALUATION KIT: 1-1/2" LP TEST RECORD, 1 SET OF CHARTS, 1 CONNECTOR, 1 INSTRUCTION FOLDER  
SOUNDCRAFTSMEN INC., 2200 So. Ritchey, Santa Ana, CA 92705 • CANADA: E.S. Gould Marketing, Montreal H4T 1E5

CIRCLE NO. 45 ON READER SERVICE CARD

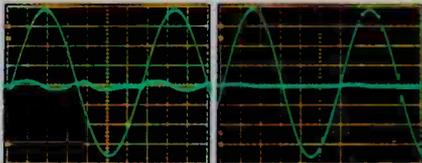
We don't charge extra for brilliant engineering.  
**JVC Super-A.**



Super-A  
**A-X2**  
 Integrated Amplifier

For years, audiophiles have praised the purity, depth and naturalness of Class-A amplifiers.

But they haven't been wild about the heat, weight, power limitations and high cost that go hand-in-hand with Class-A's low efficiency and high idling currents. That's why Class-A has remained a rare, esoteric design



Class-AB Jagged center line indicates switching distortion.

JVC Super-A Minimal distortion in output waveform.

chosen by the few who were willing to pay for its fidelity and put up with its limitations.

JVC Super-A design brings together the purity of Class-A and the efficiency of the more common Class-AB. By eliminating most of the measurable switching and crossover distortion, Super-A achieves the kind of sound that has distinguished Class-A designs of the past.

At the same time, Super-A is as efficient as Class-AB, so there are no heat and weight problems which also drive up the cost of conventional Class-A. And JVC Super-A amplifiers have no transient intermodulation distortion (TIM) thanks to very wide bandwidth

capabilities. What's more, the A-X2 Super-A amplifier shown here includes a 5-band graphic equalizer for both normal playback and recording EQ, LED power meters, "direct power supply" which yields high damping factor at all frequencies, and JVC's Triple Power Protection system.

All this comes with plenty of power behind it: 40 watts per channel continuous (RMS) power into 8 ohms, from 20-20,000 Hz, with no more than 0.007% total harmonic distortion. When you put everything together, and compare our power and price with the competition, you'll discover you're getting the benefits of Super-A and graphic equalization practically for nothing.

**JVC**<sup>®</sup>

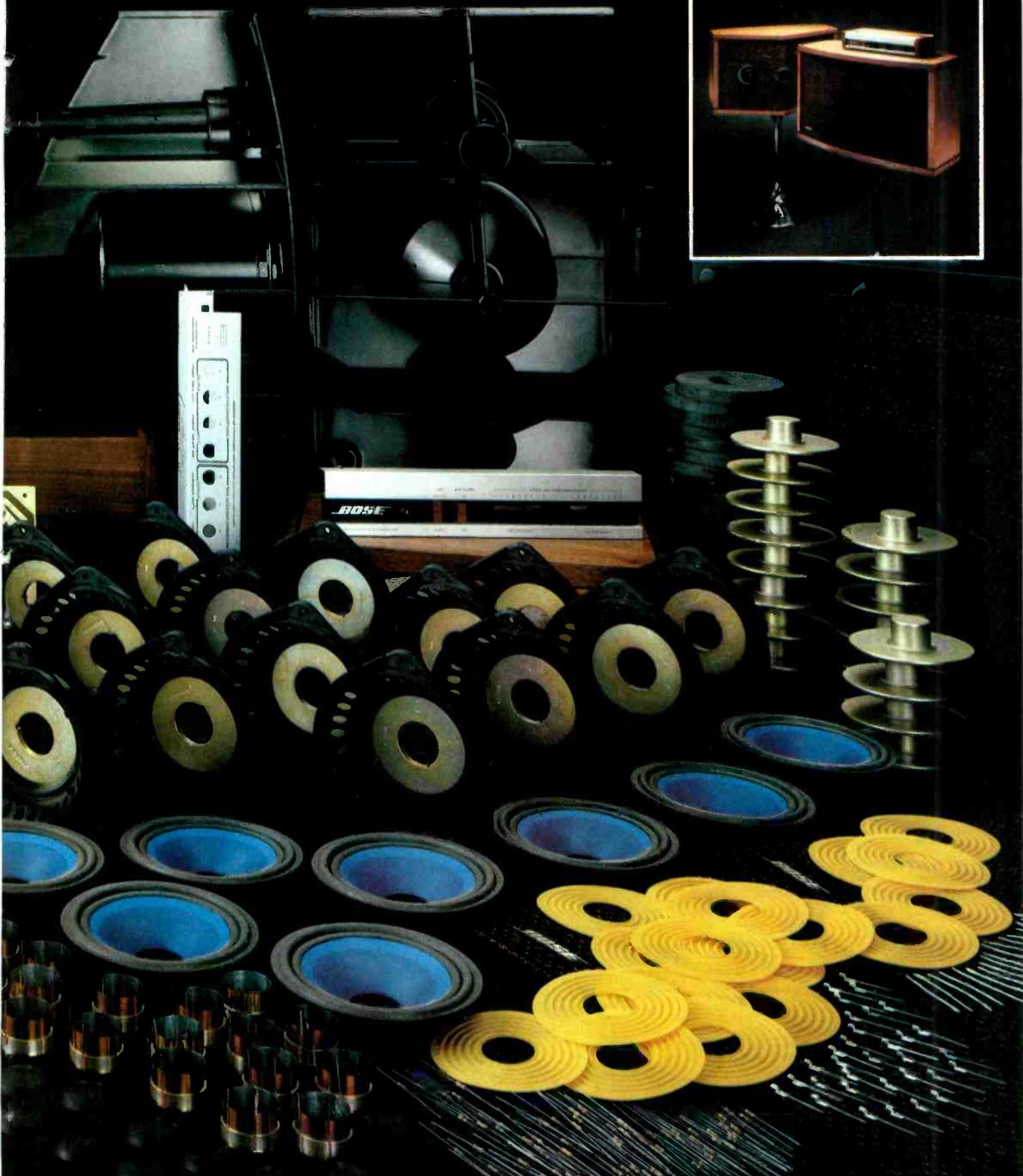
US JVC CORP  
 58-75 Queens Midtown Expressway, Maspeth, New York 11378.

CIRCLE NO. 42 ON READER SERVICE CARD

**We submit: the Bose® 901®  
Direct/Reflecting® Speaker  
System provides more  
value in concepts, materials  
and performance than any  
other speaker system.**



**The components of a single pair  
of Bose 901 Direct/Reflecting® loudspeakers.**



**BOSE**<sup>®</sup>  
Better sound through research.

CIRCLE NO. 6 ON READER SERVICE CARD

# The continuing story of TDK sound achievement.

## Parts Eight and Nine.



*Parts Eight and Nine*, the two sides of the TDK shell, are not merely well matched. They are mirror images. TDK engineers knew that unless every part of the TDK cassette mechanism was encased in a perfect, unchanging world, the total effort to create perfect sound would be lost.

To achieve the perfect mirror image, a test cassette was cast in solid metal. With it, TDK engineers determined the delicate interrelationships between parts.

They found eight key points of contact between tape and shell. Whenever the sides were not perfectly parallel, to a micron, there was phase shift and sensitivity loss. A difference of more than a few microns could affect the sound as well as damage the tape.

To avoid structural problems, TDK engineers chose a very special plastic. High impact styrene. It performs impressively in tem-



TDK cassette  
tape-to-head interface area.

perature extremes and holds its shape under stress. Then a metal die was designed to cast the shell. The die alone has 428 separate parts for superb quality control.

Before a TDK shell design is approved for mass production, it's checked in thermostatic chambers to an accuracy of  $\pm 1^\circ\text{C}$ . Its image magnified 5 to 20 times on a 600 millimeter screen.

Surface roughness is checked on a graph enlarged 100 to 1,000 times. To be sure there's no variance, the two shell halves are precision molded from matching dies and kept side by side until they are precisely mated by five computer-torqued screws. There is no room for error in a TDK cassette. Even the TDK label is made of a special paper.

Looking through today's

larger TDK window, you'll have a perfect view of tape movement and direction. It's the direction TDK has set for cassettes. Total performance depending not merely on the tape but the design and interplay of every component part. With TDK, music will continue to be the sum of its parts. And that's quite an achievement.



 **TDK**  
The Amazing Music Machine.

CIRCLE NO. 39 ON READER SERVICE CARD

# New Products latest audio equipment and accessories



## Denon Introduces Three Moving-coil Phono Cartridges

□ The new Denon 300 series of moving-coil phono cartridges—for which the company has a variety of signal-voltage step-up devices available—includes three models all using a single-point suspension system with a low-mass, cross-shaped coil bobbin and a samarium-cobalt, high-flux magnetic structure. The most modestly priced unit is the DL-301 (shown), which is rated for a frequency response of 20 to 60,000 Hz with channel separation of 28 dB at 1,000 Hz. Its weight is 4.7 grams; recommended tracking force is 1.2 grams. The stylus has an elliptical 14 x 7-mil tip on a tapered cantilever. Nominal output voltage is 0.2 mV at 5 cm/sec and 1,000 Hz. Price: \$150.

*Circle 120 on reader service card*

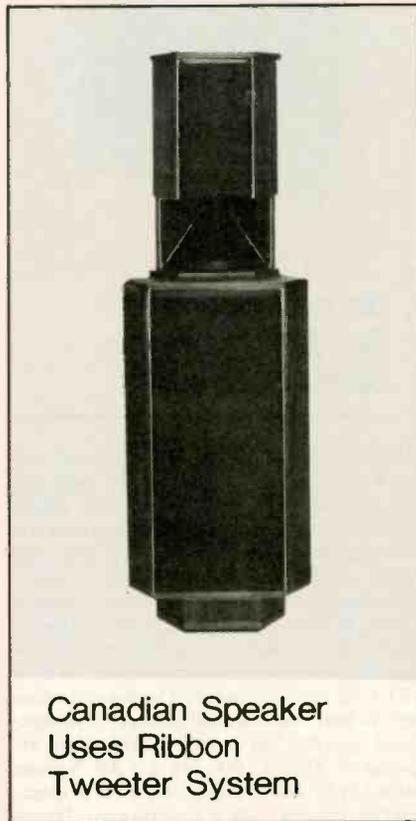


## Kenwood Turntable With Separate Tone-arm Motor

□ Kenwood's KD-1600 semi-automatic, belt-drive turntable has an independent tone-arm motor for reduced drag and more accurate rotation speeds. The two-speed unit's straight low-mass tone arm is driven by a geared a.c. motor. The tone-arm pivot is a single-point gimbal-suspension type with precision bearings and a heavy, die-cast frame. The cabinet base is molded

from an anti-resonance resin claimed to reduce acoustic feedback. The 12-inch die-cast aluminum-alloy platter is driven by a four-pole synchronous motor; wow and flutter is less than 0.07 per cent (DIN) and rumble less than -65 dB (DIN-weighted). The effective tone-arm length is 8<sup>7</sup>/<sub>8</sub> inches. Dimensions are 17<sup>1</sup>/<sub>4</sub> x 5<sup>1</sup>/<sub>8</sub> x 14<sup>5</sup>/<sub>8</sub> inches. Price: \$135.

*Circle 121 on reader service card*



## Canadian Speaker Uses Ribbon Tweeter System

□ The CR 610 from Jumetite Laboratories Ltd. is a modular two-way speaker system with a crossover frequency of 600 Hz. The treble module of this corner-mounted unit contains a ribbon speaker driving a vertical horn facing a reflector. The reflector directs the sound into the listening area and controls the dispersion pattern. Low frequencies are provided by two 10-inch woofers in an acoustic-suspension arrangement. Frequency range is given as 34 to 18,000 Hz, impedance as 8 ohms. The unit generates an 89-dB sound-pressure level measured at 1 meter with a 1-watt input. It can handle at least 75 watts peak input above 600 Hz and 200 watts transient input below 600 Hz. System height is 66 inches; required floor space in a corner is a 15<sup>1</sup>/<sub>4</sub>-inch square. Price: \$1,590 in oiled walnut; \$2,010 in rosewood. Jumetite Laboratories Ltd., Dept. SR, 1300 Richards Street, Vancouver, B.C. V6B 3G6, Canada.

*Circle 122 on reader service card*



## Radio Shack Tuner For TV Sound

□ The Realistic TV-20 is said to provide a wide-range, low-distortion source of TV sound for playback through an audio system or for tape recording. An output-level control matches the TV-20's output to that of other signal sources, and a fine-tuning knob allows precise channel tuning. Antenna input jacks accept either 300- or 75-ohm lead-ins. The unit tunes channels 2 through 13 with a signal-to-noise ratio of 60 dB. Distortion is less than 0.5 per cent; image-rejection ratio, 58 dB; AM suppression, 46 dB. Dimensions are 2<sup>3</sup>/<sub>4</sub> x 6<sup>1</sup>/<sub>4</sub> x 6<sup>1</sup>/<sub>2</sub> inches. Price: \$79.95.

*Circle 123 on reader service card*



## Heathkit's Electronic Variable Crossover

□ The AD-1702 electronic variable-crossover kit permits the addition of a second amplifier and subwoofer to a stereo system. The unit has six selectable crossover frequencies—40, 60, 80, 100, 125, and 150 Hz—and switchable crossover slopes of either 6 or 18 dB per octave. A switchable infrasonic filter removes frequencies below 15 Hz. Besides subwoofer applications, the AD-1702 can also be used to bi-amplify a speaker system because the crossover frequencies can be scaled up to 6,000 Hz. The unit fits standard 19-inch racks and measures 1<sup>3</sup>/<sub>4</sub> x 19<sup>1</sup>/<sub>2</sub> x 13 inches. Frequency response is given as 20 to 20,000 Hz with total harmonic distortion of less than 0.01 per cent. Transient intermodulation distortion is less than 0.03 per cent. Signal-to-noise ratio is 80 dB, separation 60 dB. Price: \$179.95.

*Circle 124 on reader service card*

*(Continued overleaf)*

Empire's EDR.9  
The Phono Cartridge  
Designed for Today's  
Audiophile Recordings



Direct-to-Disc and digital recording have added a fantastic new dimension to the listening experience. Greater dynamic range, detail, stereo imaging, lower distortion and increased signal-to-noise ratio are just a few of the phrases used to describe the advantages of these new technologies.

In order to capture all the benefits of these recordings, you should have a phono cartridge specifically designed to reproduce every bit of information with utmost precision and clarity and the least amount of record wear.

The Empire EDR.9 is that cartridge. Although just recently introduced, it is already being hailed as a breakthrough by audiophiles, not only in the U.S., but in such foreign markets as Japan, Germany, England, France, Switzerland and Sweden.

At \$200, the EDR.9 is expensive, but then again, so are your records.

For more detailed information and test reports, write to:

Empire Scientific Corporation  
1055 Stewart Avenue  
Garden City, New York 11530

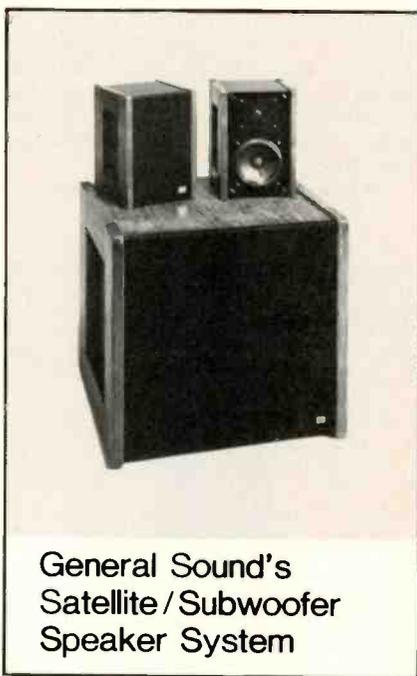
**EMPIRE**



CIRCLE NO. 49 ON READER SERVICE CARD

## New Products

latest audio equipment and accessories



General Sound's  
Satellite/Subwoofer  
Speaker System

□ The General Sound GS-5/GS-10 system's enclosures have mar-proof tops and are accented with solid wood side panels and black grilles. The GS-5 satellites are two-way acoustic-suspension designs with 1-inch soft-dome tweeters and 5/4-inch high-compliance woofers. Each satellite measures 10 x 7 x 7 inches. The GS-10 subwoofer is a tuned-port system with a 10-inch dual-voice-coil sub-bass driver in a 19 x 21 x 18-inch enclosure. The system crossover is built into the subwoofer. The combined system has a rated frequency response of 30 to 22,000 Hz  $\pm$  3 dB. System output is 87 dB sound-pressure level measured at 1 meter with a 1-watt input. Nominal impedance is 6 ohms. Crossover frequencies are 100 and 2,500 Hz; minimum power requirement is 25 watts per channel. Price: \$475 for the complete system.

Circle 125 on reader service card



Nikko Preamplifier  
Uses Field-effect  
Transistors

□ The Nikko Beta 40 preamplifier's signal stages all use field-effect transistors said to ensure lowest possible noise and distortion.

The phono-input jacks are gold plated, and the unit's complete circuitry is mounted on a single circuit board to eliminate long wiring runs. There is a built-in moving-coil-cartridge pre-preamp and adjustable phono capacitance for other cartridges. Switching facilities are available for two tape decks. Total harmonic distortion is 0.005 per cent for the moving-magnet and line-level inputs, 0.01 per cent for the moving-coil input. The moving-magnet input has an 83-dB signal-to-noise ratio. Dimensions of this rack-mountable unit are 19 x 13 x 2 3/4 inches. Price: \$450.

Circle 126 on reader service card



Omnidirectional  
Electrostatic  
Speaker from Cosmos

□ The "Cosmostatic" speaker system contains an array of eleven 6 x 6-inch electrostatic elements placed for uniform dispersion at all frequencies and in all directions. The bass frequencies are handled by four 6 1/2-inch woofers and two 10-inch passive radiators. A 1 1/4-inch "transfer dome" takes over from the woofer system at 1,000 Hz and starts rolling off at 1,500 Hz. The electrostatic drivers are slowly brought in at 1,000 Hz. An internal buffer amplifier supplies the bias for the electrostatic panels and electrically isolates them from the regular system amplifier. Nominal system impedance is 8 ohms; sensitivity is 92 dB sound-pressure level measured at 1 meter with a 1-watt input. Frequency response is given as 25 to 22,000 Hz -5, +3 dB (31 to 22,000 Hz  $\pm$  3 dB). Overall dimensions with the grille hood in place are 21 x 21 x 60 inches. Price: \$3,600 per pair. Cosmos Industries, Inc., Dept. SR, 32-02 Queens Boulevard, Long Island City, N.Y. 11101.

Circle 127 on reader service card



### Audiovisual Systems' New Patch Bay

□ A "patch bay" essentially brings the back panels of all your components up front for ease of connection and reconnection. With the Audiovisual Systems PB289G professional-quality rack-mounting patch bay, all normal connections are made internally with no need for external patch cords. And with one or two patch cords you can also bypass, relocate, or substitute any component. Each cord carries both channels of a stereo signal; the two supplied cords will meet 95 per cent of the usual patching requirements in a recording system. The patch bay has sixteen two-channel gold-plated, color-coded phono input and output jacks on the rear panel and one input/output pair on the front panel. Patching is done with three-conductor plugs and jacks with gold cross-bar contacts. Internal programming switches allow normal system connections. "Multiple" jacks function as built-in Y-connectors to feed a signal to several components simultaneously.

The fully shielded printed-circuit design uses no discrete wiring or active circuitry. An ultra-low-resistance ground plane on the input circuit board prevents ground loops, crosstalk, or radio-frequency interference. The welded steel chassis prevents electromagnetic interference and hum pickup. Price: \$650. Audiovisual Systems, Dept. SR, 725 Lorraine Boulevard, Los Angeles, Calif. 90005.

Circle 128 on reader service card

### New Hayden Book Catalog

□ The Hayden Book Company has issued its 1981 Technical and Professional Catalog. In its sixty-four pages are listed books on computer science, electricity, electronics, engineering, and mathematics, among other subjects. Included is a variety of titles on electronics servicing, radio operation, CB, and (for the audiophile) audio and high fidelity. Price: \$1 postpaid (check or money order only). Hayden Book Company, Inc., Dept. SR, 50 Essex Street, Rochelle Park, N.J. 07662.

NOTICE: All product descriptions and specifications quoted in these columns are based on materials supplied by the manufacturers.

Domestic inflation and fluctuations in the value of the dollar overseas affect the price of merchandise imported into this country. Please be aware that prices quoted in this issue are subject to change.

## This is what Audio Pro set out to do:

Design Memorandum

Re: B2-50 Subwoofer Project.

The goal of the B2-50 project is to make a self-contained subwoofer system with genuine 20Hz low-frequency response practical for home use.

The B2-50 should be compact enough to be used in any listening room and as visually attractive as the best of contemporary furniture. In order to obtain a 20Hz low-end with a system of reasonable size, we will use Audio Pro's proprietary ACE BASS principle. The subwoofer, therefore, will require its own optimally matched, rugged and accurate power amplifier.

B2-50 must successfully integrate with the widest variety of satellite loudspeakers. This will require a continuously variable crossover to control the response of the satellites as well as of the B2-50.

In order to reproduce deep bass information at concert hall listening levels, the subwoofer's output should be substantial (100db SPL minimum without clipping at 20Hz).

In short, despite its reasonable size and price, the B2-50 subwoofer should represent the reference standard for the subwoofer category.



audio pro

For more information and your nearest dealer worldwide  
Call Toll Free: 800-638-0228.  
Maryland: 0-459-3292 Collect.  
Metro D.C.: 459-3292, or write:  
Intersearch, 4720-Q Boston Way,  
Lanham Md. 20801.

## This is what the critics said we did:

"...amazing output, quite incredible for its size, and it gets right down to 20Hz, too.

"...it beats anything of the kind I have yet heard."

HI-FI NEWS & RECORD REVIEW  
DEC. 1979, ENGLAND

"...The B2-50 produces amazing levels of low, low bass — right down to 20Hz and very accurately. We teamed the B2-50 with a number of different speakers and never failed to be stunned by the extra sound we have been missing out on before.

"This is the finest — indeed it might be the *only* subwoofer I have ever heard!"

RALPHE NEILL  
ELECTRONICS TODAY INT'L.  
SYDNEY, AUSTRALIA

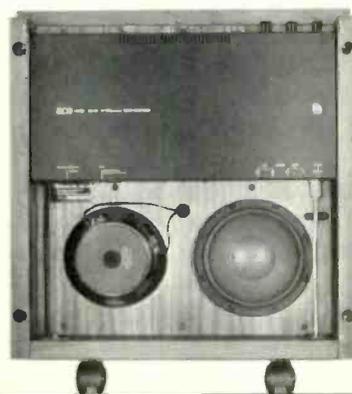
"...greater adaptability than in any other subwoofer we've tested to date ... clean and ultra deep bass, and enough of it to match just about any speaker you want to use the subwoofer with ... its performance can't be bettered by any subwoofer we know of. We recommend it without reservation."

HIGH FIDELITY  
OCT. 1980, U.S.A.  
ALL RIGHTS RESERVED

"...The sound of the subwoofer is magnificent. It just keeps going down and down with absolutely no doubling or audible distortion. We used the subwoofer with more than ten different systems, including ones that had quite good bass response to begin with and, without exception, the sound improved.

"Be warned! If you listen to this speaker you will probably buy it."

STEREO BUYER'S GUIDE  
AUSTRALIAN HI-FI,  
SPEAKERS NO. 9



"When the lights were flamed out we could almost have sworn that we were in the presence of a real live orchestra."

Hcl Rodgers, Pozu ar Electronics.

"The effect strans crecib lity— had I not experienced it I probably would not believe it—the 'miracle' is that it uses only the two normal front speakers..."

Julian Hirsch, Hirsch-Houck Labs.

"...it brings the listener substantially closer to that elusive sonic illusion of being in the presence of a live performance."

Larry Klein, Stereo Review.

"...seems to open a curtain and reveal a deployment of musical forces extending behind, between and beyond the speakers...terrific."

High Fidelity.



C-4000 Control Console

## They're all raving about Sonic Holography.®

Sonic Holography is only the most spectacular achievement of the Carver C-4000. The others are merely extraordinary.

Consider what you actually have in the C-4000:

- A full function stereo preamplifier
- A time-delay system with controllable reverberation mix
- A built-in 50 watt (total) power amplifier for time delay speakers
- The Autocorrelator system that reduces noise up to 8 dB with any source material
- A peak unlimiter/downward expander that nearly doubles dynamic range
- And the Sonic Hologram system that aroused the quotes above.

Please write for the complete test reports, brochures and list of authorized Carver dealers.

Then you can rave all you want about your own C-4000.

# CARVER

CORPORATION

PO Box 664, Woodinville, Washington 98072

# Audio/Video News

By David Ranada

Shown at the Japan Audio Fair (see page 56): Sony's digital Compact Disc player. Note played-time indicator and program selector.



Larry Klein

## COMING: TRUE DIGITAL DISCS

**B**ARRING an electronic or economic disaster, home digital-disc playback will be a reality by the end of next year. Sony and Philips plan to introduce their jointly developed Compact Disc system in the fall of 1982 with a player in the \$400 to \$1,000 range and with discs costing, in terms of playing time, about the same as analog LP records. These plans will go forward whether or not there is an international agreement on a digital-audio disc standard.

What, then, are the Compact Disc's basic specifications? The disc itself is 120 millimeters in diameter (about 4¾ inches) and 1.2 millimeters thick (about 1/20 inch—thinner than a conventional analog disc). On its single playing surface are impressed billions of microscopic pits carrying the digital-audio information. A laser "reads" the disc, so there is no disc wear. The disc is also relatively immune to handling damage thanks to a protective transparent plastic layer over the information-carrying surface. In addition to carrying audio signals, the disc can also provide text information for display on a TV screen, a feature that could be used for program notes, lyrics, and librettos. By doubling the rotation rate of the disc, four-channel sound is possible.

For those already attuned to the new computer vocabulary, the digital-audio signals are sixteen-bit linear quantized with a sampling rate of 44.1 kHz. That's rather complicated to explain in full, but what it means is that the audio specs are quite impressive. Frequency response is flat to within a fraction of a decibel from 20 to 20,000 Hz. Signal-to-noise ratio is greater than 90 dB, as are both dynamic range and channel separation. Harmonic distortion is less than 0.05 per cent. Wow-and-flutter is almost unmeasurable and certainly inaudible. Playing time of the one-sided stereo disc is typically 1 hour, but this can be extended.

Conspicuous by its absence in this catalog of technological achievements is any mention of compatibility with the various videodisc systems. There is none. Sony and Philips have sought to decouple the fate of home digital audio from that of the videodisc because of the present instability of the videodisc market and the advantages of non-compatibility with video (smaller disc

and player size, simplified electronics and optics, and higher reliability among them).

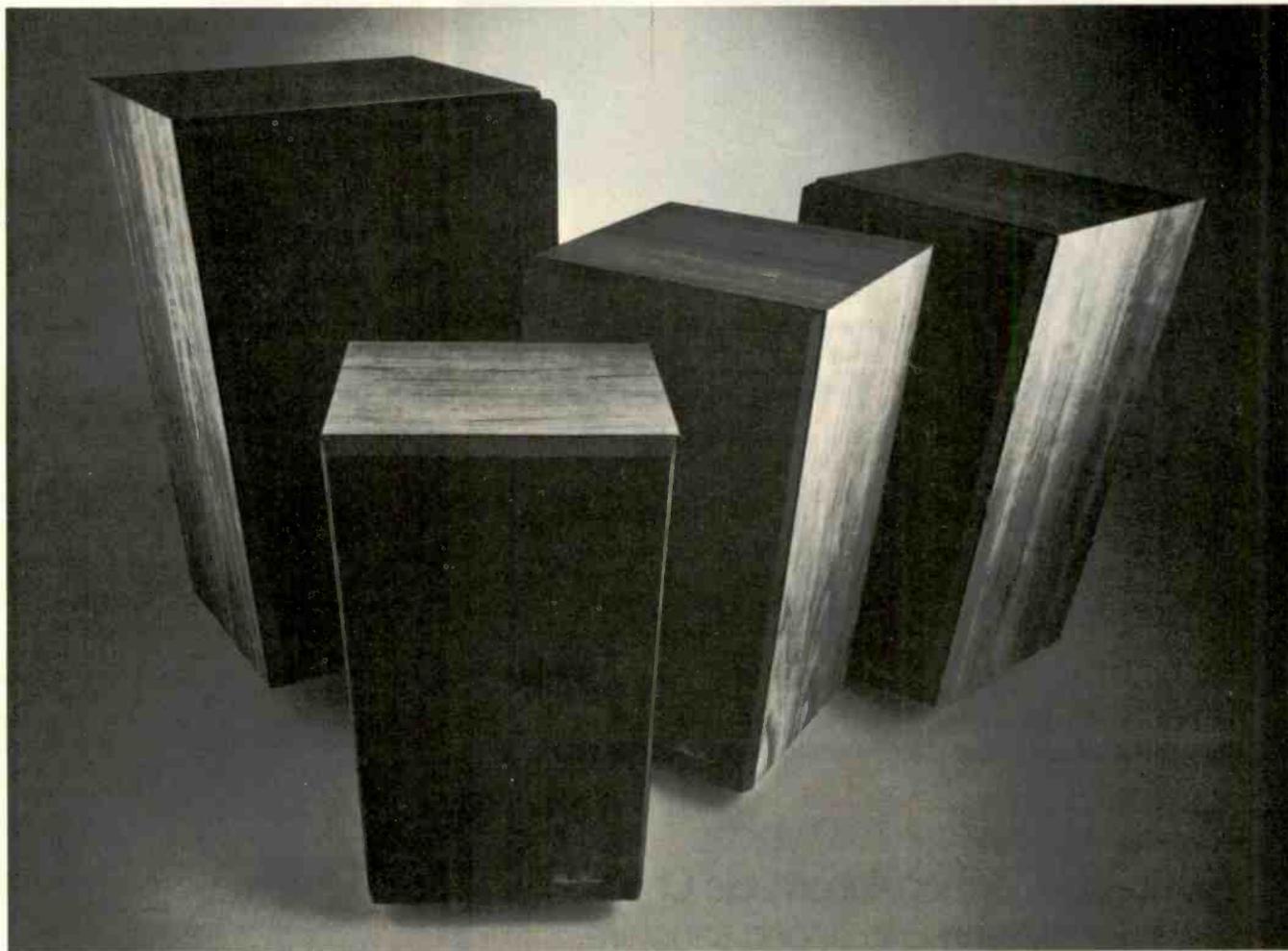
Dr. Toshi Doi, head of Sony's digital-audio project, pointed out at a recent SMPTE (Society of Motion Picture and Television Engineers) conference that IBM has defined world-wide standards for computer "peripherals" (computer tapes, magnetic discs, etc.) not through any cooperative standardization effort but simply through IBM's clout in the marketplace. He told me later that Sony alone cannot do this with digital audio, but that the Sony/Philips alliance hopes to. It is indeed a powerful combination, with substantial influence on hardware (in this case, players and discs) and on software (the music on the discs). Sony has close ties to CBS, while Philips has even closer ties to Polygram, one of the world's largest record conglomerates (incorporating Philips, Deutsche Grammophon, London/Decca, and Polydor, among others). Both CBS/Sony and Polygram have announced that they will release material in the Compact Disc format.

**F**OLLOWERS of the videodisc market know that mass production of laser-read videodiscs has been hampered by low production "yields." Dr. Doi stated that the smaller audio-only disc is far easier to produce than the much larger 12-inch optical videodisc. Apparently many of the defects in the videodisc come from uneven heating of the press "stampers." The smaller molds required by the Compact Disc can be more evenly heated. In addition, a very strong ("robust" in computer lingo) error-correction system also helps increase disc yield by making a defect which would be fatal to an optical videodisc correctable in a digital-audio system.

Design and manufacture of the player itself is also simplified in the audio-only format. The digital decoding and error-correcting circuits use large-scale integrated-circuit "chips," and the laser tracking-servo controls are also in integrated-circuit form. Even the sixteen-bit digital-to-analog converter, one of the most crucial and costly components in a digital-audio system, is a one-chip (!) circuit and there-

(Continued on page 22)

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fore ceases to be the primary factor in player price. That price is instead dominated by the cost of the lens-mirror-servo optical system and of the laser. Sony hopes to use a small, low-cost semiconductor laser (similar in some ways to a LED) instead of a gas-tube helium-neon unit (as used in optical videodisc players).

The Sony/Philips system seems well thought out and stands an excellent chance of becoming at least the *de facto* standard. There are, however, at least three other digital-audio systems in the works. Telefunken's stylus-read fourteen-bit system was described in the June 1980 issue of *STEREO REVIEW*, and JVC's non-grooved capacitance stylus system was demonstrated at last November's Audio Engineering Society convention. Called AHD (audio high-density), the JVC system is compatible with the company's VHD (video high-density) videodisc since the same playing mechanism and control electronics are used. As shown at the convention, a 10 1/2-inch AHD disc carries three (!) channels of sixteen-bit digital audio plus the capability of showing a series of *still* color-TV pictures, a new one appearing every 5 seconds. It remains to be seen whether this last feature is truly useful, considering the high audio potential of real videodiscs.

**T**he third and most surprising entry in the race comes from the U.S. and is the only system so far in which the recording is stationary and only the player's parts move. Its developers hope that this fixed-record player will be the first major creation of DRC-Soundstream, a newly founded company formed by the acquisition of Utah's Soundstream (of digital master-tape fame) by Digital Recording Corp. of Connecticut. In a stock prospectus issued last year the DRC record is described as an optical digital recording and playback system. DRC-Soundstream claims that with their system 40 minutes of stereo digital audio can be fitted into an area less than that of a 3 x 5-inch file card. In their system a photographically produced recording—even one with videodisc-like pits—is scanned by a laser operating through a series of rotating mirrors and lenses. The lens-and-mirror system moves across the face of the fixed record. Some of the claimed advantages include less sensitivity to focusing errors, a sealed playing mechanism, inexpensive software duplication, and the possible ability to record. A 1983 debut is planned.

All the digital-audio home systems proposed so far seem to be capable of providing sound quality superior to that obtained with the most treasured audiophile analog disc or tape systems. But some of the digital systems appear to be more equal than others in versatility, features, player and disc reliability, and cost.

Standardization, *de facto* or negotiated, is a prerequisite for the survival (if not the arrival) of digital playback in the home. We can only hope that digital audio does not fall into a morass of incompatible systems, as videotape and the videodisc have done recently, as quadraphonics did lately. Digital audio now seems to offer two, three, or four information-carrying channels whose audio capabilities come very close to perfection. With such quality within reach it would be a tragedy to fumble. □

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## Audio Q. and A.

By Larry Klein



*Technical Director Klein tries out a prototype 350-watt-per-channel open-reel portable player.*

### Noise Compression

**Q.** I know that a noise-reduction device compresses an audio signal during recording and expands it during subsequent playback. What I don't understand is how such a device produces noise reduction when the compressed signal is expanded back to its original form.

JIM MASTRULL  
Bound Brook, N.J.

**A.** The only noise that can be reduced by any compression/expansion type of noise-reduction system is the noise that intrudes after the audio signal is compressed. The compression process consists of (1) making the loud-level signals softer and (2) making the soft signals louder. We will consider only the soft signals since they are the ones involved with (and that most need) noise-reduction processing. It is important to keep in mind that the signal is compressed before it is recorded. During the recording process the inevitable low-level noise inherent in analog tape recording intrudes on the previously compressed signal for the same reasons—and in the same amount—that it would intrude on a normal (non-compressed) signal.

In playback, the compressed audio signal is expanded back to its original level, which means that the recorded loud signals are made louder and the soft signals are made softer. Since the low-level noise is riding in with the soft signals, it is reduced along with them during the restoration of the original signal levels.

### Turntable Strobes

**Q.** Recently I purchased a strobe disc to check my turntable speed and it has different markings for 50 and 60 Hz. I know the record is going at the same speed whether it's run off a 50-Hz line or a 60-Hz one, so why the different markings?

TIM DRAUGHON  
Montgomery, Ala.

**A.** As a matter of fact, the record (at least in the old days), did not turn at the same speed when a 60-Hz turntable was powered by a 50-Hz a.c. line frequency.

The speed of a synchronous motor depends on the line frequency, and different-size pulleys or bushings must therefore be used on the motor shaft in order to achieve 33 $\frac{1}{3}$  rpm at 50 or 60 Hz.

Today, many turntables, particularly the servo-controlled ones, operate on d.c., and the a.c. line frequency is no longer a speed-controlling factor. However, the neon lamp used with the stroboscopic markings on the turntable's platter almost always operates directly from the a.c. line and therefore flashes on and off at either 100 or 120 Hz, respectively, if the line frequency is 50 or 60 Hz. There are frequently two sets of strobe markings on the platter, each designed to synchronize properly with 50 or 60 Hz. The markings in each set are spaced so as to appear stationary when viewed by a light flashing at the appropriate rate.

When one uses an external strobe disc, the same factors are at work. If you don't have a neon lamp to view the strobe disc with, standard fluorescent lighting will also work. The strobe markings are not distinct when viewed under a standard incandescent bulb because the thermal lag of its filament prevents distinct on/off pulsations.

### Adding Noise Specs

**Q.** Is there a simple technique for deriving the total signal-to-noise ratio (S/N) of a signal-processing chain from the specs of its individual components? I hope to be able to come up with ballpark figures without performing sophisticated tests, perhaps using a rule of thumb.

MARK HAMMER  
Hamilton, Ontario

**A.** Julian Hirsch tells me that if you have a preamplifier and a power amplifier both of which have been rated in accordance with the current IHF standard, you can easily come up with a simple and reasonably valid combined S/N figure (valid, at least, for comparison purposes). That is because the measurements are made under standardized gain conditions (which are fairly close to real-world conditions), so that the reference preamplifier output is 0.5 volt and the power-amplifier output is 1

*(Continued on page 26)*

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watt, with an implicit assumption that the power-amplifier gain can be set so that a 0.5-volt input gives a 1-watt output. If that condition is realizable, the S/N for each component represents its total contribution to the output-signal noise and the two can be added logarithmically.

For example, if the preamp S/N is 70 dB and the power-amplifier S/N is 75 dB, the combined value of the two is about 69 dB. If the difference between the two component S/N figures is greater than 6 dB, the poorer of the two will be degraded by less than 1 dB. Obviously, any changes in the gain settings of either will invalidate the use of IHF S/N ratings for this purpose.

In a more general case, the noise contributions of several components can be combined by referring each to a specific point in the signal path, preferably the input. This requires a knowledge of the noise at the output of each component, and its gain, so that the various noise contributions can be successively referred backward toward the input of the system. Sometimes the equivalent input noise is specified, but this is rare. For a typical home music system, this would (or could) be a laborious process hardly worth the effort. Two factors militate against the use of such a cumbersome procedure: (1) audibility weighting factors must be taken into account for a meaningful total noise assessment, and (2) only listening will ultimately disclose how audible the noise really is (speaker efficiency, room characteristics, ambient noise, etc. can all have a powerful influence on what is really heard).

## Ear Ringing

**Q.** For no apparent reason, I sometimes hear a tone that seems to originate somewhere inside in my head. It appears, I hear it for several minutes, and then it disappears, not to be heard again for months. Can you explain what's happening and advise whether I should do anything about it?

CHARLES PINKHAM  
Aurora, Ohio

**A.** What you've described is called *tinnitus*, and for some people it is not a minor annoyance as in your case but a severe affliction that makes life a torment. Transient cases of ringing in the ears can be brought on by Blue Oyster Cult, Black Sabbath, or sinus congestion. (The last-named is not a rock band, so please don't write asking where their act can be caught.) Various prescription drugs and allergies can also cause tinnitus. In severe cases of tinnitus, I'm told, the noise can approach in subjective volume the sound level of a jet-plane take-off. It is frequently caused by middle-ear disease or tumors of the auditory nerve.

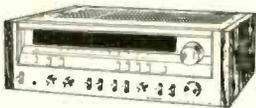
Recent research has shown that masking white noise from an external source will sometimes help chronic tinnitus, at least symptomatically. Apparently the relatively high level of the rushing, hissy white noise obscures the tinnitus but can itself be ignored (or even sometimes enjoyed for its tranquilizing effect). For more information, write to the American Tinnitus Association, P.O. Box 5, Portland, Ore. 97207. □

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original *n.*: that from which a copy, reproduction or translation is made. (*Webster's Collegiate Dictionary*)



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# Tape Talk

By Craig Stark



## New Superword

**Q.** *I've been seeing the new superword "microprocessor" quite a bit lately in "Tape Talk" and elsewhere. For the layman, could you please explain this new technological giant?*

BARTON KING  
Citrus Heights, Calif.

**A.** A microprocessor is simply the highly complex integrated circuit (or "chip," in the vernacular) that performs the computations in a computer or a hand calculator. There are literally thousands of switching transistors in such a chip, together with a certain amount of solid-state "memory" that retains the numerical results.

For example, a typical microprocessor application in a cassette deck would be to optimize the recorder's bias current to eliminate brand-to-brand tape variations within the same basic tape type (ferric, CrO<sub>2</sub>, metal). To do this, the "computer" (microprocessor) would be instructed to turn on a built-in test-tone generator (400 Hz or thereabouts) and to switch the bias successively to perhaps a dozen or more different settings, making a short recording at each level. It would then be instructed ("programmed") to rewind and replay the tape, noting the audio output obtained from each bias setting. It would then "remember" which bias setting corresponded to that specific audio output and would set the bias to that level. The same microprocessor could then go on to do the same kind of thing to optimize the Dolby-level sensitivity and the record equalization of the deck, and it could further be instructed, at the conclusion of all its adjustments, to rewind the tape to the beginning so all the test tones will automatically be erased when you begin recording. Typically, such a procedure takes between 25 and 40 seconds.

Microprocessors are also used to count the number of pauses (blank portions of tape) between selections so that even in high-speed fast-forward or rewind the deck can be "programmed" to play selections in any given order. And since microprocessors thrive on counting 1 + 1 + 1 + 1 . . . , digital tape counters are a natural application for them.

Actually, by *computer* standards, the microprocessor chips incorporated in today's tape decks tend to be relatively simple devices that may already have become obsolete in their original applications. Never mind; that just makes them more economical to incorporate in audio components and no less awesome in what they can do for us.

## Ticks and Pops on Dubs

**Q.** *I want to transfer a number of my LPs to tape and, if possible, to eliminate the disc ticks and pops from the recordings. The KLH-Burwen Transient Noise Eliminator seems suited for the purpose, but I note that one reviewer has said it will not be effective on sources played back on a tape deck because of high-frequency losses in the deck. Is this true?*

WILLIAM L. JONES  
New York, N.Y.

**A.** The kind of tick/pop suppressor you are considering is available from KLH-Burwen, Garrard, SAE, and perhaps others. One aspect of its operation involves detecting the difference between the waveform generated by a record "tick" and that generated by even the fastest kind of natural musical transient. The record tick appears as a "spike" that is much steeper than any musical attack. Having detected the difference, the suppressor can eliminate the excessively sharp attack waveforms (ticks and pops) without touching the musically generated signals.

What many audiophiles do not know is that what makes a sharp noise "spike" is the presence of frequencies far above the audible range. When you dub a record that has clicks and pops on it and compare the original signal with the tape copy, you may not *hear* any difference in the character of each "tick," but it's there all right, and it is detected by circuits in the tick/pop suppressor that have better high-frequency response than your ears do (or your tape recorder does).

A tick/pop suppressor, then, will work if you connect it *before* the signal to be treated reaches the tape recorder, but it will be largely ineffective on LP dubs that have  
*(Continued on page 30)*

# High-Fidelity Performance At Half-Speed! Skeptical?

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(Stereo Review, August 1980)

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already been recorded onto tape. The correct sequence of units in the "tape loop" of an amplifier is: (1) amplifier tape output into tick/pop suppressor input, (2) tick/pop suppressor output into tape-recorder input, and (3) tape-recorder output back into amplifier tape input. If the sequence is reversed, the tick/pop suppressor will lose the very ultrasonic information it needs in order to do its job.

## Eight-track Repairs?

**Q.** I have a number of eight-track cartridges that have jammed and a number more whose splices have come apart. Is there anywhere I can get them repaired?

JOHN J. POPSON JR.  
Olyphant, Pa.

**A.** While I do not personally know of any such eight-track repair services, I seem to recall seeing, from time to time, brief ads for one or more of them in the "Classified" section of this magazine and corresponding sections of other audio publications. I suggest you keep an eye out for such ads, which appear sporadically.

## Cassette Crosstalk

**Q.** On a number of prerecorded cassettes I can hear the program from side two backwards on both channels when I'm trying to listen to side one. If my deck's head alignment were off, surely I'd hear the problem only in the right channel, but it appears in both and with several different decks I have played these same tapes on. What's wrong?

MICHAEL A. STEINBERG  
Syracuse, N.Y.

**A.** In order to save time, it is customary in duplicating prerecorded cassettes to record all four tracks (left and right channels for both sides) simultaneously using a four-channel record head. (Similar heads are found in some home cassette decks that play or record bidirectionally—that is, without turning the cassette over.) If the shielding in the four-channel duplicating head is poor, some of the "backwards-recorded" material from side two can be induced into the head gaps intended for side one and so get recorded along with the intended side-one material, if at a somewhat lower level. You're quite right that the right channel is most prone to this phenomenon since, in the cassette format, the left channel occupies the edge tracks for both sides, with both right channels toward the center of the tape.

It is conceivable—though most improbable—that all the decks on which you have played the offending tapes are bi-directional decks using four-channel heads and that the normal switching mechanism that is supposed to short out any pickup by the playback head gaps from the second side has failed. In such a case there could be a "bleed-through" traceable to your equipment. Since you have tried several decks, however, the odds against this are astronomical, and I can only suggest that you return the tapes as defective. □



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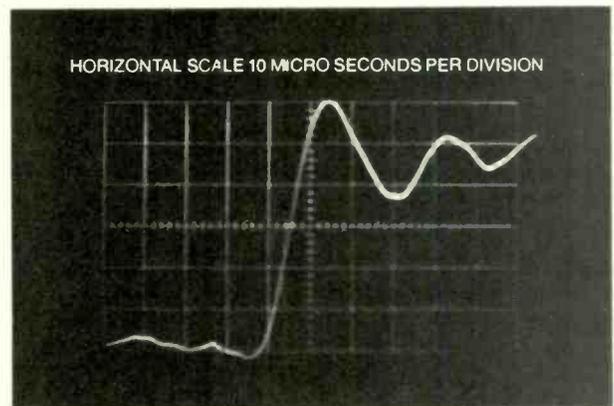
The 980LZS features the famous Stereohedron™ stylus and a lightweight samarium cobalt super magnet. The output can be connected either into the moving coil input of a modern receiver's preamps or can be used with a prepreamp, whose output is fed into the conventional phono input.

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Actual unretouched oscilloscope photograph showing rise time of 980LZS using CBS STR112 record.



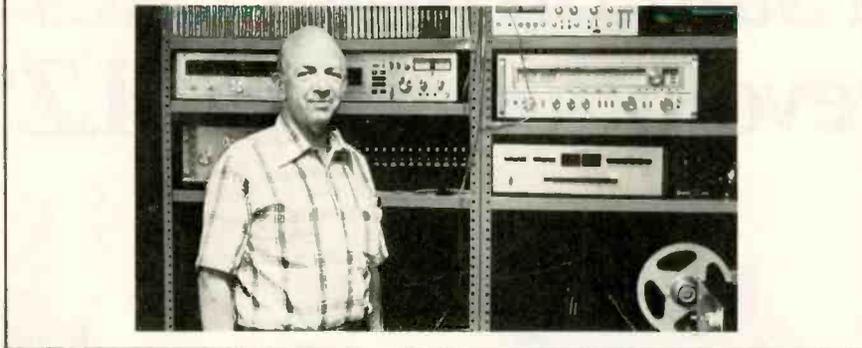
## STANTON

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CIRCLE NO. 44 ON READER SERVICE CARD

# Technical Talk

By Julian D. Hirsch



## ● Hi-Fi Is Getting Better (Part 3) ●

**L**AST September and November I discussed in this column some of the ways in which hi-fi has been improving over the years, trying to put in perspective some of the *real* improvements as compared with those that are illusory or of little significance. Although I dealt with most types of audio components used in the home, I did not cover loudspeakers, feeling that they deserved separate treatment.

An incentive to talk about loudspeakers was recently provided by a reader who wrote to tell me that he bought a pair of loudspeakers about seven years ago on the basis of a review in these pages (plus his own listening judgment) to replace a pair of much older but still serviceable systems. At the time, he felt that the new ones represented a worthwhile improvement over the old speakers, and his opinion has not changed.

Even though my correspondent is not at all dissatisfied with his seven-year-old speakers, he wonders how they would compare with some of the more recent speakers that have received highly favorable reviews from me. In other words, he wants to know if there have been advances in speaker technology comparable to those that have taken place with other types of components, and to what extent new test techniques have made it possible to refine speaker performance beyond that which was possible in the past.

First of all, to the best of my knowledge there have been *no* fundamental advances in loudspeaker design in the past twenty-

five years or more (I would consider the development of the acoustic-suspension speaker by Edgar Villchur in 1954 to be the latest "basic" improvement in the field). Otherwise, the fundamentals of every presently available speaker design were quite well understood many decades ago, and certainly the basic laws of physics have not changed! There have, of course, been many technological advances, but they have generally been in the development of new materials and manufacturing techniques, as well as some dramatic new measurement and analysis techniques made possible by the availability of computers and lasers.

Though perhaps not really fundamental, the definitive mathematical analysis of vented speaker systems by the Australian A. N. Thiele a decade ago has made it relatively easy to design woofers having almost any desired set of performance qualities, within certain constraints and trade-offs. Prior to Thiele's work, the old bass-reflex enclosure and its variants had fallen into deserved disfavor because of their bass performance, which often earned them the descriptive label "boom box." The acoustic-suspension speaker, properly executed, was far superior to the ported systems that had preceded it, but that is no longer necessarily the case today. There are a number of astonishingly good small ported systems (and some not so small) that owe their fine performance to the use of Thiele's low-frequency-design criteria.

Otherwise, the various versions of electrostatic speakers, plasma-discharge speak-

ers, and other exotic types may be engineering advances over their predecessors, but they hardly constitute *fundamental* advances in the speaker art. The horn configuration will probably never be replaced as a high-efficiency acoustic transformer, and over the years there have been numerous improvements in horn materials and flare design that result in improved dispersion and less coloration from internal resonances. There can therefore be no doubt that many of today's horn drivers sound better than yesterday's, but their advantages are more likely to be appreciated in professional applications where high efficiency is often of prime importance. Incidentally, the quality of some of the horns I have heard recently would probably make them quite acceptable even to those critical listeners who still look down on horns as inherently low-fi devices.

**D**O NOT mean to strike an uncompromisingly negative note in this short review of speaker progress. Quite the reverse, in fact: today's speakers are, in general, far superior to most of their predecessors. This is due in part to the previously mentioned computer design and analysis techniques that provide insight into the dynamic events occurring in and around the drivers, their enclosures, and the room—thus making it possible to minimize many audible problems.

There has been no lack of exotic materials used in speaker construction, principally for cones and surrounds. At one time each

*(Continued on page 36)*

## Tested This Month

Koss K/4DS Digital Delay System • Celestion Ditton 130 Speaker System  
Thorens TD 160 Super Turntable • Akai AM-U06 Amplifier and AT-V04 Tuner  
Astatic MF 200 Phono Cartridge

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manufacturer had his own secret formula for the slurry that was eventually formed into paper cones. Once a combination of elements had been found that met the designers' goals, it was likely to be guarded with the same dedication as (and perhaps with greater success than) the formula for Coca-Cola or the internal structure of a nuclear weapon.

More recently there has been a movement away from paper as a cone material. Various plastics (Bextrene, polypropylene, resin-impregnated cloth, and many others) share that function with an assortment of metal-sandwich and honeycomb structures. Tweeter diaphragms are not necessarily the simple hemispheres they may seem to be; subtle changes in the shape of the dome and in its surround can have a profound effect on both response and dispersion.

With all these new developments, is it reasonable to expect that some sort of "breakthrough" will give us a speaker that will sound dramatically more "real" or "natural" than those which have preceded it? I'm afraid not. Certainly not unless there is a fundamental advance in our understanding of the hearing process and the complex inter-relationship of speaker char-

acteristics, room environments, and recording techniques. Although there are still any number of different theories as to what particular properties of a speaker's acoustic output determine the subtle nuances of its sound character, sophisticated modern design methods enable competent engineers to create speakers that come very close to meeting their particular goals.

Nevertheless, anyone who really *listens* to speakers at all knows full well that every one sounds different in some way—including some of those whose reproduction "accuracy" can be demonstrated in a number of ways. On the other hand, I am constantly impressed by how *similar* the better speakers—at all price levels—sound to each other. In their more subtle characteristics they do sound different, but these differences can only be heard when you listen very critically, and this often requires ignoring the musical content of the program. (As a matter of fact, they are likely to be heard when comparing left and right speakers of the same type simply because of the way the room affects each.)

To many people, however, these very subtle differences are of overwhelming importance, and they are sometimes willing to

pay a high price for speakers that have the particular sound they are seeking. Luckily for most of us, 99 per cent of that special subjective sound quality—whatever it is—is usually available at a small fraction of the price in some other model or brand.

My correspondent also asked whether it is valid to compare test reports on speakers reviewed years apart. That is, I think, a bit risky, both in respect to the measured performance and the reviewer's reactions to what he hears. A reviewer's subjective standards inevitably evolve along with the equipment he tests, and, in addition, the objective test standards have changed considerably in recent years. However, since the purely electronic components have at best a secondary effect on a system's sound quality, there is much less risk in assuming that an amplifier or a tuner that was judged good years ago is still good (you might keep this in mind when you have a chance to buy a used component in good working condition). I am aware that I risk inciting a furious response from those who feel that the amplifier is a *major* contributor to the final sound, but to that I can only reply nonsense!—and reserve the subject for another day. □

## Equipment Test Reports

By Hirsch-Houck Laboratories



Koss K/4DS Digital Delay System

**A**LTHOUGH the potential contribution of a good time-delay device to the "realism" of reproduced sound is well accepted, the models available so far have been quite expensive, and this has certainly inhibited their acceptance in the audiophile market. The required second stereo power amplifier

and two additional speakers usually bring the cost to at least \$1,000, and only the most dedicated audiophiles are willing to invest that sum in a signal-enhancement device, no matter how effective it might be.

The new Koss K/4DS digital system has reduced that cost rather dramati-

cally. For about half the price of most other delay setups, the K/4DS provides a flexible time-delay unit with a built-in two-channel power amplifier (rated at 15 watts into 8 ohms or 20 watts into 4 ohms) and a pair of small two-way speaker systems—plus all in-

(Continued on page 38)

# THE REALIZATION OF GREAT EXPECTATIONS.

## THE SANSUI "Z" SERIES.

Music lovers expect uncommon products from Sansui. And Sansui delivers. The Sansui "Z" Series of synthesized digital receivers are designed and built with a loving logic that can be seen, touched and heard. Take the Sansui 5900Z, a reasonably priced receiver with every important feature you could possibly want for the heart of your high fidelity system.

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You can't mistune a Sansui synthesized digital receiver. Not even a little. Press the up/down tuning buttons. The digital circuitry ensures that every station received is automatically locked in for lowest possible distortion, with its frequency indicated both on a digital readout and by an LED indicator along an analog type dial.

### TOUCH VOLUME CONTROL & LED PEAK POWER LEVEL INDICATOR

The Sansui 5900Z uses a pair of touch-buttons to adjust the listening level. Relative volume control setting is indicated on a fluorescent display. Actual peak power amplifier output is shown by 14-segment LED indicators.

### 12 PRESET STATIONS

To make FM and AM tuning still easier, up

to 12 user-selected stations may be "stored" in the 5900Z's memory circuits for instant recall. The last station received will be remembered when the tuner is turned on again; and memories are kept "live" even during a power outage.

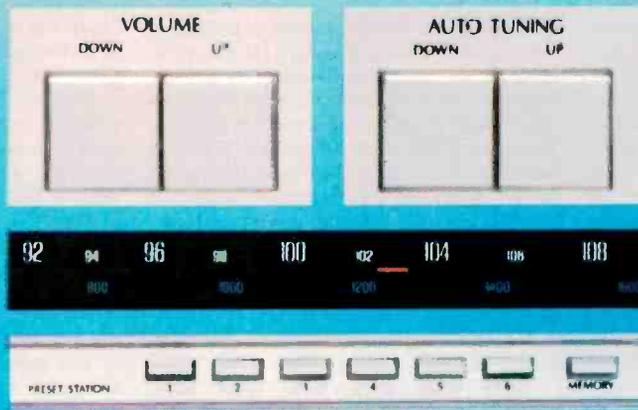
### DC-SERVO AMP FOR DEPENDABLE POWER

The leader in DC technology, Sansui uses a servo-controlled amplifier circuit in all "Z" receivers to eliminate unwanted ultra-low frequencies — like record warps — while maintaining the advantages of direct-coupled circuitry in their amplifier sections. The 5900Z delivers 7.5 watts/channel, min. RMS, both channels into 8 ohms, from 20-20,000Hz, with no more than 0.03% THD.

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terconnecting cables. In exchange for the bargain price the user sacrifices a slight amount of operating convenience but little in the way of sonic performance.

The all-black Koss K/4DS is designed to connect either to the output of a preamplifier (which may require Y-connectors) or to the speaker outputs of the power amplifier. The latter is the simplest and preferred connection, since the K/4DS is furnished with a dual cable assembly that connects to the amplifier's speaker terminals and has its own speaker terminals for the front speakers as well as for the delayed-program speakers. (These latter should be installed at the sides of the room or in the rear.) There are also line-level output jacks for driving an external power amplifier with the delayed signals if that is preferred.

The basic operating controls of the K/4DS are two LOUDSPEAKERS knobs; the SELECTOR has positions for FOURTH DIMENSION (normal listening with time delay), STEREO ONLY (with the rear speakers turned off), and HEADPHONES ONLY (which silences all speakers). The DIMENSION control is dual clutch-coupled (for independent control of the rear-channel levels) and adjusts the volume of the delayed program from the rear speakers relative to the front-speaker volume.

Initially, the Koss system is set up with the DIMENSION control set at minimum and the selector at STEREO ONLY. The regular system volume control is set for the loudest level one expects to use, and a small knob (marked GAIN SET) at the left of the panel is adjusted until a yellow LED above it begins to flash on program peaks; it is then backed off slightly. The selector is next set to FOURTH DIMENSION, and DIMENSION is turned up until one just becomes aware of the output of the delayed-channel speakers (it is usually desirable to back this control off slightly from that point also, since one should never be consciously aware of the presence of the delayed signals with any time-delay system). Now the parameters of the time delay and reverberation for different-size simulated environments can be se-

lected by the ENVIRONMENT SELECTOR control. Its four positions are marked CLUB, THEATER, CONCERT HALL, and AUDITORIUM, and these introduce successively longer primary time delays which are recirculated and combined in the delayed outputs.

A separate group of controls at the right side of the panel is used only for headphone listening. The headphone volume at the two front-panel jacks is set by the STEREOPHONE LEVEL knob, and the amount of delayed program mixed in with the direct program is set by the STEREOPHONES DIMENSION knob. Pressing the momentary-contact button marked COMPARATOR removes the delayed signals from the headphone outputs so that the listener can appreciate its contribution (a similar comparison is possible with loudspeakers by selecting STEREO ONLY).

The remaining controls are the pushbutton power switch and a small knob marked EQ. The latter boosts the bass output about 3 dB in the 40- to 60-Hz range and reduces it below 40 Hz. No specifications are supplied for the K/4DS or its speakers other than the nominal power ratings of the amplifier. The speakers (K/2S) are two-way systems with a 3 1/2-inch "woofer" and a 2 1/4-inch cone tweeter. The Koss K/4DS is 16 1/2 inches wide, 9 1/2 inches deep, and 4 inches high (an optional rack-mounting kit is available). Each of the wood-grain vinyl-covered speakers is 12 inches high, 7 1/4 inches wide, and 5 inches deep. The main unit weighs 12 1/2 pounds and each speaker weighs 6 1/4 pounds. Price: \$459.

● **Laboratory Measurements.** Laboratory measurements on time-delay systems, as on most signal-processing devices, contribute little toward one's appreciation of their subjective qualities. In fact, most conventional measurements are not practicable, given the nature of the circuits used in a time-delay device. So far as the time-delay section of the K/4DS is concerned, we limited ourselves to measuring the primary delay times for the four settings of the ENVIRONMENT SELECTOR and examining the echo density of the recirculated signal (this is closely re-

lated to the "naturalness" of the final sound). The output-noise level of the device was measured, as was its frequency response, at the line-level outputs that would be used to drive an external amplifier and at the speaker outputs as well. Overload levels were determined, and the power-vs.-distortion characteristics of the built-in amplifier were measured. However, most of the evaluation process consisted of several hours of critical listening.

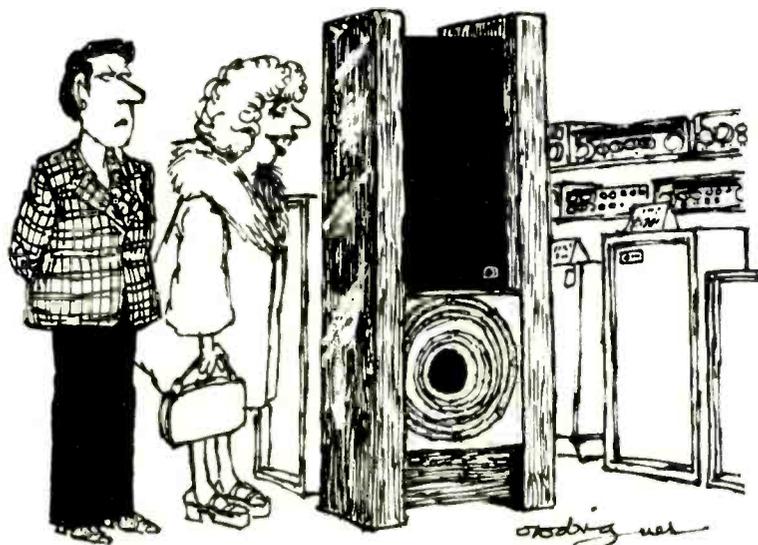
Driving the Koss K/4DS with four-cycle bursts of 1,000 Hz, we measured the time delays between input and output signals. The primary delay was 12 milliseconds (ms) for CLUB, 20 ms for THEATER, 32 ms for CONCERT HALL, and 42 ms for AUDITORIUM. It did not appear from our oscilloscope display that there were additional (secondary) delay times within the system, although there were numerous lower-amplitude bursts that we took to be products of the recirculation process within the unit. The signals in the two output channels were completely noncoherent (even when only one input was driven there were noncoherent outputs from both channels).

The frequency response of the delayed outputs did not vary significantly with ENVIRONMENT SELECTOR settings except for minor differences at the low-frequency end due to the "comb effect" that results from mixing differently delayed components. The most striking feature of the frequency response was its rapid and dramatic high-frequency rolloff—beginning at about 1,000 Hz and with a slope of something like 20 dB per octave. The EQ switch boosted the response between 45 and 150 Hz by about 3 dB, but rolled it off steeply below 45 Hz.

Both the GAIN SET and DIMENSION controls affect the system gain. With both controls at maximum, an input of only 2 millivolts was needed at 1,000 Hz for a 1-watt output. With the IHF standard input level of 0.5 volt, we set the GAIN SET control as per instructions (just below the point where the LED glowed) and adjusted DIMENSION for a 1-watt output into an 8-ohm load. The A-weighted noise in the output was then 64 dB below 1 watt.

The action of the GAIN SET control was unusual: the sine-wave output signal changed abruptly to a triangle wave when the LED came on, and further increases in input level had no effect on the output level or distortion. For amplifier distortion measurements we set the input at a level 2 dB less than that needed to cause the LED to glow, at which point the waveform appeared to be sinusoidal. The DIMENSION control was used to adjust the output power for distortion measurements. In the mid-range, the distortion was typically 0.5 to 0.8 per cent at powers up to the rated 15 watts into 8 ohms or 20 watts into 4 ohms. The clipping levels were 18.3 watts into 8 ohms and 23 watts into 4 ohms. At 1,000 Hz the distortion was typically about 1 per cent up to 15 watts and 2 per cent at 20 watts. These measurements include distortion generated within the time-delay circuits as well as in the amplifier section.

● **Comment.** We installed the Koss K/4DS in a music system in such a way that we  
(Continued on page 40)



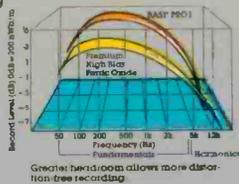
"Yes, Madam, 'New Lemon Pledge' would be just fine."

# The Tape Guide

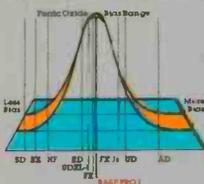
**Professional·I.**  
The one tape that stands up when you crank it up.



Premium ferric oxide tapes have more headroom which allows higher maximum recording levels (MRL). Among all premium ferric oxides PRO I has the best MRL for loud recordings. Uniform maghemite particles provide increased headroom for very accurate and loud recordings with virtually no distortion. In the fundamental music range (20Hz-5kHz) PRO I can be



recorded louder and driven harder than even high bias tapes. PRO I is the internationally accepted reference tape, whose bias point is specifically matched to the Type I/normal/ferric position on today's high quality cassette decks.



PRO I is designed to be compatible with the normal bias setting of those cassette decks than any other ferric tape.

**Professional·II.**  
The world's quietest tape puts nothing between you and your music.

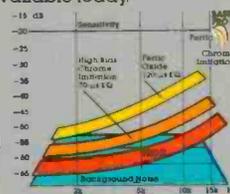


High bias tapes consistently provide wider frequency response and less tape noise (hiss or background noise) than any other tape type. Among premium high bias tapes PRO II is in a class by itself. It is the second generation chromium dioxide tape with superb frequency response and outstanding sensitivity in the critical (10kHz-20kHz) high frequency range. It also has the lowest background noise of any other competitive tape available today.



The pure chromium dioxide particles in the PRO II, unlike ferric oxide particles, are homogeneously striped and uniformly sized to give this tape superior performance.

PRO II will capture the many subtle harmonics of the most demanding recordings and play them back with the reality and presence of a live performance. PRO II is the tape for the Type II/chrome/high bias position that comes closest to Metal tape performance for half the price.

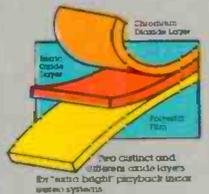


PRO II has the best high frequency sensitivity and the least background noise of any high bias tape.

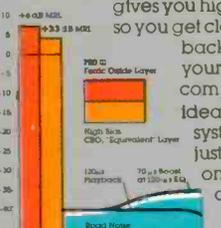
**Professional·III.**  
The only car tape that eliminates the car.



Ferrichrome tapes combine the benefits of chromium dioxide and ferric oxide tapes for superior performance in car stereos. The top layer is pure chromium dioxide for unsurpassed highs and low background noise. The bottom layer is ferric oxide for superior lows and great middle frequencies. And it also gives you higher recording levels, so you get clearer, louder playback without cranking up your volume control to compensate. PRO III is the ideal tape for car stereo systems and performs just as well in the home on the Type III/ferrichrome position.



Two contact and adhesive oxide layers for "extra bright" playback linear system systems.



PRO III provides a higher maximum recording level (MRL) than high bias tapes, and effectively boosts the highs to overcome road and car noise.

**GUARANTEE OF A LIFETIME**

"The guarantee of a lifetime." All BASF tape cassettes come with a lifetime guarantee that covers everything. Should any BASF cassette ever fail—for any reason—simply return it to BASF for a free replacement.



Patented "Jam-Proof" Security Mechanism (SM)™ All BASF tape cassettes come with our exclusive SM—Security Mechanism. Two precision arms actually "guide" the tape in a smooth, exact and consistent track, so that winding is always even, no matter how often the cassette is played. SM puts an end to tape jamming.



Crosby Drive, Bedford, Massachusetts 01730

CIRCLE NO. 9 ON READER SERVICE CARD

could drive its own speakers from its amplifier or drive a different set of small speakers from an external power amplifier connected to the line outputs of the K/4DS. Having seen how even a slight glow of the GAIN SET LED corresponded to severe third-harmonic distortion in the outputs, we listened carefully to the delayed channels with the front signals turned off as we adjusted the input signal level. There was no doubt that setting the GAIN SET so that the light flashed on program peaks, as instructed, resulted in a harsh and unpleasant sound on those peaks. We preferred to modify the procedure somewhat, setting the control so that the light came on only at levels that corresponded to nearly full power output from the 70-watt amplifier we were using. Thus, the K/4DS was never driven to the point of audible distortion. The penalty for this was a slight increase in noise (hiss) in the rear speakers, but this was audible only with the front signals turned off or no program coming in. We found this preferable to the distortion resulting from the slightest overload of the internal circuits. We also chose to use the EQ feature, although we could never hear any difference from it with the tiny speakers used for the delay channels. It should minimize the possibility of infrasonic overload of the speakers (and perhaps the amplifier in the K/4DS), which have very limited low-frequency capability.

The subjective effect of the delay was good on music of all kinds. It sounded much like some of the more expensive systems we

have used, although it did not appear to have as many primary time delays and perhaps not as much echo density from the recirculation process (this tended to impart an unnatural "bwoinggg" to voices and record ticks and pops). As always, the key to successful use of a time-delay accessory is to keep the level of the delayed sound below the point of conscious audibility. With the system operating correctly, switching to STEREO ONLY resulted in the now-familiar "collapse" of the sound to the front of the room, a phenomenon guaranteed to turn the most skeptical into time-delay enthusiasts.

When we used the headphone outputs of the K/4DS, the combination of direct and delayed signals made a moderate improvement in the apparent spaciousness of the sound. However, the effect is not in any way comparable to that obtained with speakers.

We were pleasantly surprised to find that the limited high-frequency response of the delayed signals did not degrade the final results in any obvious way. We still think that the delayed program should have a full-range frequency response—at least 2 or 3 octaves wider than we measured in this unit—but it seems that most of the benefits of time-delay enhancement can be achieved with a relatively narrow band of middle frequencies. The tiny K/2S speakers seemed well suited to the power and frequency range of the driving signals. However, it should be realized that the subjective inaudibility of delayed signals in a time-delay enhancement system is due largely to psy-

choacoustic factors, and one should be prepared to drive the rear speakers with perhaps half the power used in the front speakers. This limits the optimum use of the Koss K/4DS (at least with its own amplifier and speakers) to systems of fairly low power, although we had no difficulty using it with our external 70-watt amplifier.

The installation instructions for the Koss K/4DS advise against placing it too close to a tuner or receiver, since there is a possibility that radiation of harmonics of the digital switching frequencies in the delay circuits could affect the noise level of the tuner. To provide a test case, we placed the K/4DS directly on an FM/AM tuner; the background noise of the AM tuner was increased, but it was never audible on any listenable station. There was no effect whatever on FM performance.

In the final analysis, it is clear that the Koss K/4DS, whatever its technical shortcomings, is a more than adequate, fully versatile time-delay system. In addition, it is so much less expensive than competitive products (especially considering that it is a complete system) that we see no reason why anyone with a reasonably good music system should not be able to enjoy the benefits of time-delay enhancement. Any weaknesses in the design or execution of the K/4DS become secondary to the fact that it works—and very well indeed—at a most reasonable price.

Circle 140 on reader service card



Celestion  
Ditton 130  
Speaker System

**C**ELESTION's Ditton 130 is the lowest priced of a group of three new speakers from that well-known British manufacturer. It uses a newly designed tweeter—the HF1001—whose 1-inch dome has visco-

elastic damping for control of high-frequency-resonance breakup modes. The new tweeter has higher efficiency and greater power-handling ability than its predecessors by virtue of a two-layer voice coil and a

magnetic-circuit design that focuses the field in the voice-coil gap.

The Ditton 130 is a compact, two-way system whose acoustic-suspension woofer  
(Continued on page 42)

# CAMEL

Where a man belongs.



Camel Lights. Low tar. Camel taste.

9 mg tar.

9 mg. "tar", 0.8 mg. nicotine av. per cigarette by FTC method.

Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.

(located close to and in a vertical line with the tweeter) has an effective diameter of 6 inches (nominally an 8-inch speaker). The crossover frequency is 2,300 Hz, with cutoff slopes of 12 dB per octave for the woofer and 18 dB per octave for the tweeter. There are no user-adjustable controls.

The nominal impedance of the Ditton 130 is 8 ohms, and its frequency response is rated at 75 to 20,000 Hz  $\pm$  3 dB. Its maximum rated power with program material is 50 watts, and a 1-watt input produces an 87.5-dB sound-pressure level at a 1-meter distance.

The walnut-finish vinyl-clad wooden cabinet has an all-black grille cloth retained by plastic fasteners, and the panel behind the

The high-frequency directivity of the tweeter could be seen readily in the response curves from the left and right speakers, since the microphone was on the axis of one and about 30 degrees off the axis of the other. The two curves began to diverge at frequencies above 5,000 Hz, with a growing separation above 10,000 Hz. In subjective terms, the beaming of the highs was not significant, but it was measurably somewhat greater than we have seen recently.

A small woofer must inevitably have more distortion than a larger one (all else being equal) at very low frequencies and/or high power inputs, since its cone excursion is correspondingly greater. At a 1-watt input, the distortion of the Ditton 130 was un-

modes of speaker cones, including the use of computer processing to generate three-dimensional displays that show vividly how the cone flexes and otherwise misbehaves under certain conditions. (This should not be confused with the computer-derived displays of acoustic response and decay characteristics that have been used with great effectiveness by several speaker manufacturers.) The Celestion method involves scanning the cone with a laser beam and processing the reflected light; it is capable of resolving cone displacements comparable to the wavelength of the laser light.

We mention this measurement technique not because it has necessarily been used in the development of the drivers in the new Celestion speakers (we have no information on that), but rather to show that Celestion engineers are able to determine with great accuracy exactly what is happening in a driver or a complete system under different operating conditions. It would be a fair assumption that they also know what constitutes a good speaker and when they have created one.

That assumption is impressively confirmed in listening to the Celestion Ditton 130. If one ignores its size and simply listens to it or makes comparisons with other speakers, the results are both surprising and gratifying. We compared it with several other fine speakers priced up to seven times higher than the Ditton 130. Naturally, the larger speakers had superior output and distortion characteristics in the low bass, but that was not always apparent in their sound, since most program material has little energy in the range below 70 Hz or so. Otherwise, it was sometimes very difficult to decide which speaker was playing. There were differences between all of them, but the Ditton 130 sounds close enough to many to be a near "twin" sonically speaking.

Much to our surprise, it was not possible to say unequivocally that *any* of the other speakers sounded "better" than the Ditton 130 (frankly, we are not sure what "better" means when one is listening to speakers above a certain quality level). When there was a distinct difference in sound between two speakers, any individual might express a preference for one or the other, but more often than not the difference was just not very important.

This does not mean that this diminutive, moderate-price speaker is the *equal* of larger systems selling for many times its price. Its power-handling ability is limited by the laws of physics. If room-shaking sound levels are your preference, this is not the speaker to use (although it can play at a very healthy volume, and do so with only a few watts of drive from an inexpensive receiver). We tried to push the Ditton 130 to its limits with a 200-watt amplifier and had no difficulty in doing so. However, unlike many lesser speakers, when the Ditton 130 is driven to high levels it does not get "mushy" and give advance warning of excessive input. Instead, it just gets louder—always sounding clean—until suddenly the woofer reaches its limits. That produces a sharp "snap" or "click" that cannot be ignored; backing down slightly on the volume control restores the inherently clean sound of the speaker. (Continued on page 44)



grille is finished in flat black. The cabinet dimensions are 19 inches high, 10 inches wide, and 9 inches deep (in the vertical position); the speaker can also be used horizontally. The speaker weighs 17 pounds. A chrome-finish metal stand is available for floor mounting the speaker, raising it 14 inches above the floor. Price: \$200 each (sold in pairs); the stands, \$75 per pair.

● **Laboratory Measurements.** The reverberant-field frequency-response curves of the individual speakers were averaged, corrected for known room-absorption characteristics, and spliced to a close-miked woofer-response curve. The composite frequency response was exceptionally smooth and flat over the full range of the speaker, with no "bumps" or "holes" greater than a couple of decibels (which is within the uncertainty range of the measurement method).

The frequency response was flat within  $\pm$  1.5 dB from 200 to 10,000 Hz, and the output rose at higher frequencies to a maximum of +3.5 dB at 15,000 Hz (it was still above the midrange level at 20,000 Hz). The woofer had its maximum output between 100 and 140 Hz, falling at 12 dB per octave below 100 Hz. With the average midrange output level as a reference, the speaker output was within  $\pm$  3.5 dB from 60 to 20,000 Hz, easily meeting the published rating and representing very fine performance for a speaker of this size.

der 1.5 per cent down to about 70 Hz, rising to just over 5 per cent at 40 Hz. This amount of bass distortion is negligible—in fact, it can be considered excellent. However, "pushing" the speaker with a 10-watt input resulted in a distortion characteristic that increased linearly with decreasing frequency, from about 1.5 per cent at 100 Hz to almost 15 per cent at 40 Hz.

The measured sensitivity of the Ditton 130 was slightly higher than rated and near the upper end of the range for an acoustic-suspension system. An input of 2.83 volts of random noise in an octave band centered at 1,000 Hz (nominally 1 watt) produced an 89-dB sound-pressure level at 1 meter. The speaker impedance was 8 ohms at 20 Hz, rose to about 25 ohms at the bass-resonance frequency of 80 Hz, and dropped to 8 ohms between 140 and 250 Hz. Normally, this would justify the Ditton 130's impedance rating of 8 ohms. However, after rising again to about 30 ohms at 2,000 Hz, the impedance dropped to a minimum of 5 ohms between 5,000 and 11,000 Hz. In itself, this is of minor importance, but should one parallel two pairs of these speakers the amplifier would "see" a load of only 2.5 ohms at 10,000 Hz or so, and not all amplifiers react kindly to such stress.

● **Comment.** Celestion has done considerable pioneering work in the use of laser interferometry for measuring the vibration

# HIGH PERFORMANCE HIGH BIAS.



## AMPEX GM II HIGH BIAS TAPE.

When you're recording music that's rich in high frequencies, you need a high performance tape. Ampex GM II high bias cassettes. They retain and release every note and nuance. Especially those found in highly amplified electronic music.

GM II's high performance begins with the magnetic particle. The ones we use are smaller, permit higher volumetric loading and greater uniformity of dispersion on the tape surface. This produces a more consistent energy, increased output sensitivity, and a substantial reduction in the third harmonic distortion level. Our unique oxide formulation and new processing techniques extend the high end while they lower the noise floor (-62.8dB @ 333Hz). And to make certain that tape-to-

head contact is precise, we use our exclusive Ferrosheen™ calendaring process to give the tape an ultrasmooth, glossy surface.

GM II's True-Track™ cassette mechanism is an audio achievement in and of itself. Every aspect, from the fore and aft guide system to the computer-torqued cassette housing screws, says high performance. Then every Ampex cassette must pass our stringent quality control standards.

GM II high bias, high performance tape. Use it next time you're recording a passage that's rich in high frequencies. You'll hear what a difference it can make when your high bias tape delivers high performance.

For complete information and specifications on all Ampex premium tapes, write us for a copy of our Full Line Brochure.

**AMPEX**  
*The Tape of the Stars*

Ampex Corporation, Magnetic Tape Division, 401 Broadway, Redwood City, CA 94063 415/367-3888

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We did not damage the speaker by driving it to such high levels, but undoubtedly it could be destroyed if regularly pushed beyond its limits. It takes a large amplifier, used incautiously, to do this, and if the manufacturer's power recommendations are followed we doubt that any trouble will result. If a very powerful amplifier (say, 100 watts or more) is used, we would suggest fusing the speakers (consult the manu-

facturer for suggestions on appropriate fuse ratings).

The Celestion Ditton 130 is priced to compete with a number of other fine speakers, including some of those with which we compared it in our tests. The fact that its size and weight permit it either to be placed on the smallest bookshelf or to be used as an attractive floor-standing speaker (on its optional stand or an equivalent) is another

considerable advantage of this system. As our A-B tests showed, it can hold its own against many far more expensive speakers if the program does not exceed the Ditton 130's low-frequency or power limitations. Personal preference aside, we have no hesitancy in placing the Ditton 130 among the finest speakers in its price range.

*Circle 141 on reader service card*

## Thorens TD 160 Super Turntable



**T**HE Thorens TD 160 Super is one of the few high-quality turntables available without a tone arm. It is almost identical to its maker's Model TD 160 MkII (which comes with a Thorens TP 16 MkII tone arm) but instead uses an interchangeable tone-arm mounting board that is available predrilled for ADC, Stax, Grace, or Infinity Black Widow arms. The board is also available drilled for an SME or with the SME arm factory-installed. The Super version has a heavier platter and a thicker platter bearing than the MkII version, as well as a specially damped floating chassis and a heavy, resonance-damping rubber mat. It is also mounted on an unusually solid wooden base (including a bottom cover), which is made of 3/4-inch particle board. The TD 160 Super comes with a clear plastic cover whose spring-loaded hinges keep it open at any angle.

The cast-zinc platter of the Thorens TD 160 Super is formed in two pieces: a remov-

able outer section rests on the inner platter, which is driven through a belt from a sixteen-pole synchronous motor. According to the manufacturer, the platter of the Super is machined to closer tolerances than that of the MkII version. The performance specifications of the two are essentially identical, the chief difference being the slightly lower rumble rating of the Super: -72 dB (DIN) versus -70 dB for the MkII.

The Thorens TD 160 Super is a plain, functional unit, with its aluminum motorboard mounted rigidly on a black wooden base. The platter (which weighs about 7 pounds) is mounted on a rigid subchassis together with the tone arm, and the entire platter/arm system is suspended as a unit from the motorboard on damped springs. This isolates it from the motor, which is mounted rigidly on the main motorboard and base, and from vibration conducted through the base.

The turntable speeds of 33 1/3 or 45 rpm

are selected by the single control knob, which also turns the motor on when it is moved in either direction from its center, OFF position. The speed is changed mechanically by shifting the belt to different pulley diameters. Since the speeds are fixed and are determined only by the power-line frequency, there is no need for any indicator such as a stroboscope (the rotation of the platter is prima-facie evidence that the turntable is on).

The Thorens TD 160 Super is 17 inches wide, 14 1/4 inches deep, and 6 3/4 inches high with its cover closed. It weighs about 24 pounds. Price: \$395.

● **Laboratory Measurements.** The TD 160 Super was supplied to us for testing with an SME Series III arm and Shure V-15 Type IV cartridge. We found that the diameter of the turntable spindle was apparently at the high end of its tolerance, since every record

*(Continued on page 46)*

## Lux Tuner/Amplifiers



**R-3055**—55 watts per channel, minimum  
RMS into 8 ohms, both channels driven from 20–20,000  
Hz with no more than 0.05% Total Harmonic Distortion.

# Sound thinking is... *DUO- $\beta$* and intelligent tuning.

Sound is all we think of. Exquisite sound, rich and full from top to bottom. With the kind of sophistication that simplifies, so everything about Lux/Tuner/Amplifiers is functional... designed for a purpose.

Great sound starts with super-stable, DC amplification for low inherent distortion, high dynamic range and wide bandwidth. Then, with Lux's exclusive duo-Beta circuitry, distortion is taken below audibility...almost unmeasurable.



**R-3030**—30 watts per channel, minimum  
RMS into 8 ohms, both channels driven from  
20–20,000 Hz with no more than 0.05%  
Total Harmonic Distortion.

We've eliminated the flat amp stage which reduces phase distortion even further, and designed the tone controls into the power amplifier section. Finally, a subsonic filter removes the last traces of audible rumble and other low frequency noise.

Superior sound also depends on pinpoint center tuning. Lux's intelligent tuning systems find—and hold—that elusive center. Mistuning is a thing of the past.

Lux's new, Flash Tuning System\* is an array

of LEDs which point the direction to tune, automatically changing into a signal strength indicator at the exact center tuning point.

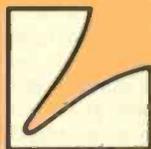


**R-3045**—45 watts per channel, minimum  
RMS into 8 ohms, both channels driven from  
20–20,000 Hz with no more than 0.05%  
Total Harmonic Distortion.

Another system, Closed Loop Locked (CLL) Acculock, provides an electro-mechanical lock at the exact center tuning point. You can do it blindfolded. The Acculock system includes variable sensitivity and a lock defeat for every tuning circumstance.

Lux's Tuner/Amplifiers: R-3030, R-3045 and R-3055 incorporate duo-Beta circuitry and Flash Tuning. R-3055 includes CLL Acculock as well. Both the R-3045 and R-3055 have provision for MC cartridge, with variable input impedance and equalizer gain...automatically.

Every Lux Tuner/Amplifier is built with a host of features...the expected and the exclusive. But the definitive test is performance. Superb sound, simply achieved. Listen at your Lux dealer. Lux Tuner/Amplifiers ...better because they're built with sound thinking. \*Patent Pending



Ultimate Fidelity Stereo Components

# LUX Audio of America, Ltd.

Reflecting Tomorrow's Technology in Today's System

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we played was a slight force-fit on the spindle. This tends to minimize any possible eccentricity that might occur with an oversize record hole and a nominal or undersize spindle; it may well have been a part of the turntable's design.

The platter reached its correct speed within about 2 seconds after being turned on. Both speeds were exact, within our  $\pm 0.1$  per cent measurement limits, and they did not shift in the slightest with line-voltage changes from 95 to 135 volts.

The flutter, measured with a CBS BTR-150 test record, was 0.045 per cent weighted rms and  $\pm 0.07$  per cent weighted peak (CCIR). The flutter spectrum showed no peaks or emphasized bands but decreased smoothly in amplitude with increasing frequency. The unweighted rumble was a relatively low  $-38$  dB, with a slight peak visible on the spectrum analyzer at about 20 Hz and with the same falling energy distribution that we saw in the flutter measure-

ment. The ARII weighted rumble was  $-57$  dB, although the concentration of rumble around 20 Hz permits us to infer that the DIN-B weighting curve (which we did not use) would have resulted in a much better figure—probably even lower than Thorens' rating of  $-72$  dB.

Our previous experience with Thorens turntables has shown that they are consistently excellent in their isolation from vibration conducted through the mounting bases. However, because of the stiffness of its suspension, the TD 160 Super was barely up to the average of belt-driven turntables in this respect. All in all, we would rate its acoustic isolation as comparable to that of a good direct-drive turntable.

● **Comment.** Convenient as it may be to have automatic operating features on a record player, the ultimate simplicity of a basic belt-driven turntable powered by a line-operated synchronous motor and used with a

good tone arm outpoints any combination of automatic features in long-term satisfaction for the user. It is also more likely to appeal to those supercritical phonophiles who claim to be able to hear the differences between turntables and to whom *any* automatic record player is likely to be unacceptable. Certainly the possibility of using the tone arm of one's choice is a powerful advantage for a basic turntable such as the Thorens TD 160 Super.

Although some of its measurements (weighted rumble and base isolation) are merely good and do not therefore merit superlatives, we found the TD 160 Super to be a thoroughly satisfying record player. With it, one can enjoy recorded music without augmentation (or distraction) from assorted multicolored displays and elaborate controls that at best do only what any reasonably careful operator can do by hand.

Circle 142 on reader service card



Akai AM-U06 Amplifier and AT-V04 Tuner

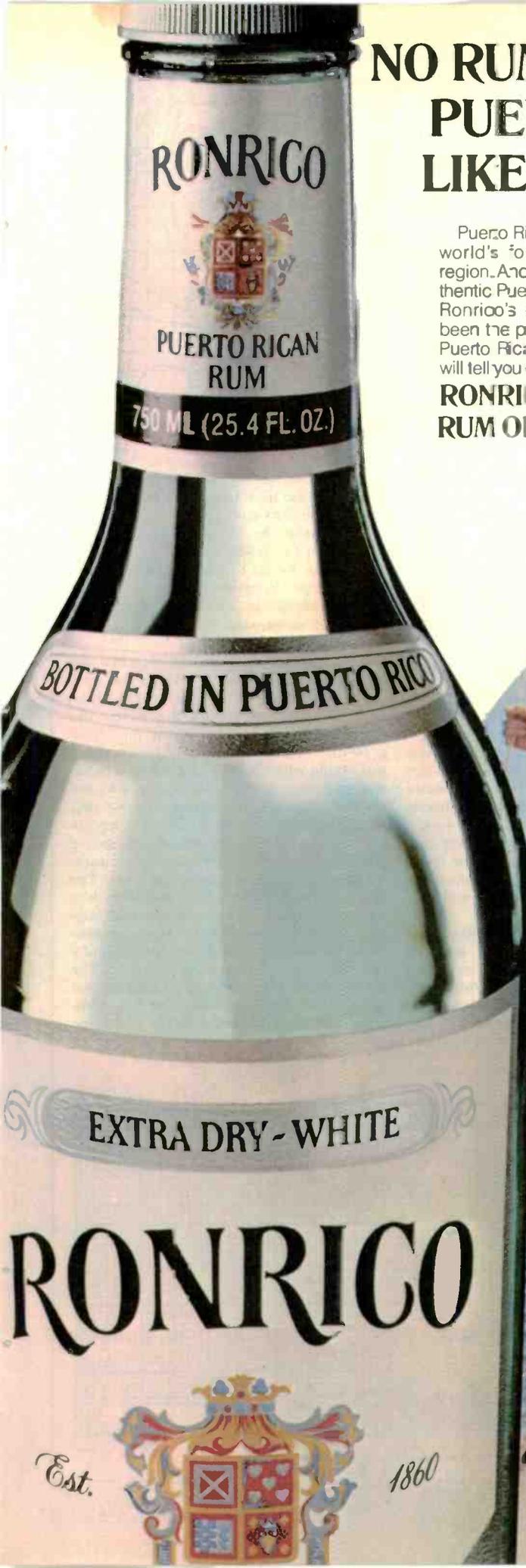
**T**HE Akai Model AM-U06 amplifier and AT-V04 AM/FM tuner are companion pieces closely matching each other in size and appearance. The amplifier, which is rated to deliver 68 watts per channel to 8-ohm loads from 20 to 20,000 Hz with no more than 0.008 per cent distortion, features d.c.-coupled amplification stages and a pulse-type power supply that is lighter, smaller, and cooler than a conventional power supply of the same rating.

The AM-U06 amplifier has bass, mid-range, and treble tone controls, three set-

tings of loudness compensation, and both infrasonic and high-frequency filters. The signal sources for the amplifier stages and the tape-recording outputs are separately selectable, and one of the two phono inputs has three different input resistances as well as a built-in head amplifier for moving-coil cartridges (all selectable from the front panel). Dual fluorescent-bar displays show the instantaneous power outputs of the two channels, and a peak-hold feature retains the highest peaks on the display for about 1 second. A "clipping" LED flashes when ei-

ther channel is driven beyond its linear limits. The power displays, clipping indicator, and a slider-type volume control occupy a central portion of the front panel, all of them framed by an escutcheon.

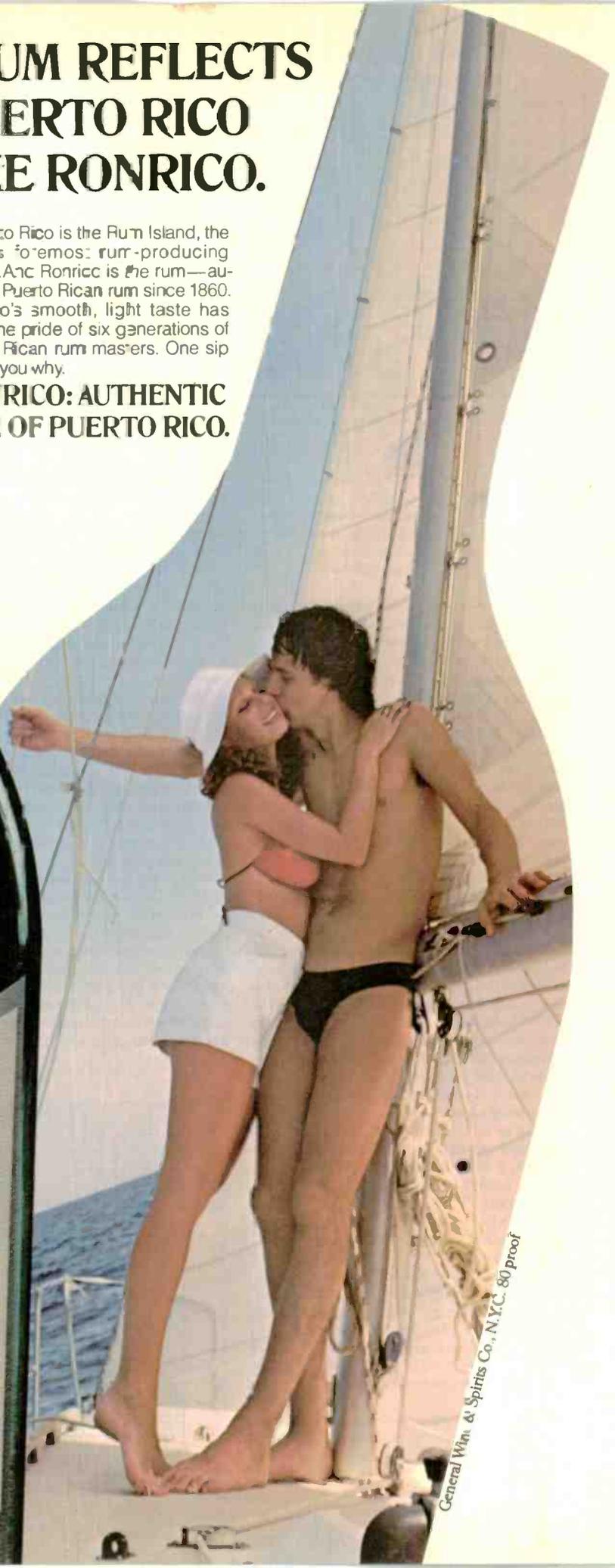
The AT-V04 tuner has a similar escutcheon that frames a digital frequency display whose half-inch blue-green numerals can be read easily from a considerable distance. Above the numerals is a horizontal row of red LEDs that shows relative signal strength for both AM and FM, a STEREO (Continued on page 48)



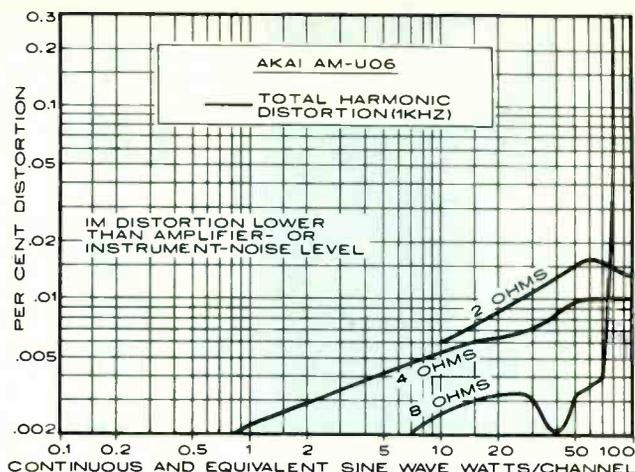
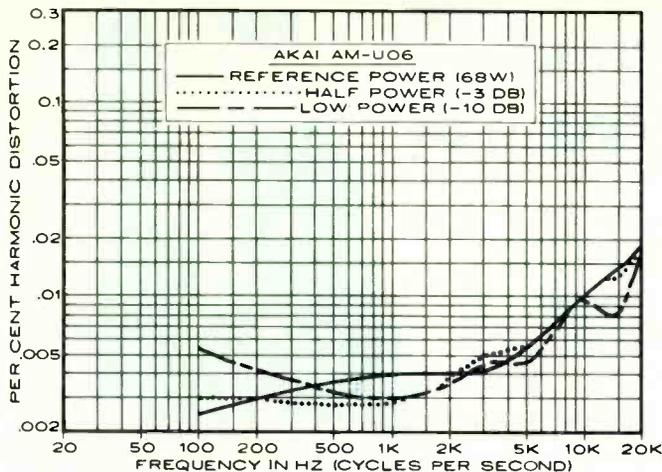
# NO RUM REFLECTS PUERTO RICO LIKE RONRICO.

Puerto Rico is the Rum Island, the world's foremost rum-producing region. And Ronrico is the rum—authentic Puerto Rican rum since 1860. Ronrico's smooth, light taste has been the pride of six generations of Puerto Rican rum masters. One sip will tell you why.

**RONRICO: AUTHENTIC  
RUM OF PUERTO RICO.**



General Wine & Spirits Co., N.Y.C. 80 proof



light, and a three-light FM channel-center tuning display. The central green light glows when an FM station is tuned correctly, and any mistuning lights a red arrow that points to the tuning direction (up or down in frequency) that will result in correct tuning.

Like many synthesizing tuners, the Akai AT-V04 has a scanning mode of tuning controlled by a horizontal bar pivoted at its middle. Touching either end of the bar, even momentarily, causes scanning in the indicated direction until a signal stronger than the tuner's muting threshold is reached; this causes the tuner to stop scanning. Unlike the other digital tuners we have seen, however, the AT-V04 also has a tuning knob. When the tuner is scanning, or set to a preset frequency, a touch on the tuning knob stops scanning and changes the tuner to manual control (indicated by a light above the knob). In manual, it is handled much like an ordinary analog tuner.

The frequencies of up to seven FM and seven AM stations can be stored in the digital memory, from which they can be recalled by a touch on one of the seven PRESET buttons on the panel. The tuner circuits take 2 to 3 seconds to switch from one station to another. Similar buttons select AM or FM bands and FM muting (with a choice of a fixed threshold or a variable level set by a knob in the rear. The muting does not operate in AM reception when tuning manually, but it is effective in scanning or selecting a preset frequency.

Also in the rear of the tuner are LOCAL/DIST(ant) switches for both AM and FM reception, a hinged AM ferrite-rod antenna, and an output-level adjustment for the audio outputs. There is a compartment for three AA-size 1.5-volt dry cells that maintain the tuner's preset memories when power is removed.

The Akai AM-U06 amplifier is approximately 17 $\frac{1}{4}$  inches wide, 12 $\frac{1}{8}$  inches deep, and 4 $\frac{1}{8}$  inches high. The tuner is the same width but is 13 $\frac{1}{8}$  inches deep and 3 $\frac{1}{8}$  inches high. The amplifier weighs about 18 $\frac{1}{4}$  pounds and the tuner 12 pounds. Price: AM-U06, \$350; AT-V04, \$280.

● **Laboratory Measurements.** The two units were measured separately but were operated together for listening tests.

**Amplifier:** The top of the AM-U06 amplifier (above the heat-sink fins) became quite warm during the 1-hour preconditioning period, but the rest of the amplifier was no more than slightly warm. The heat is carried from the encapsulated hybrid-IC output stages to the internally located radiating fins through a sealed heat-transfer system containing Freon or a similar refrigerant. This gives the designers considerable latitude in the internal layout of the amplifier section.

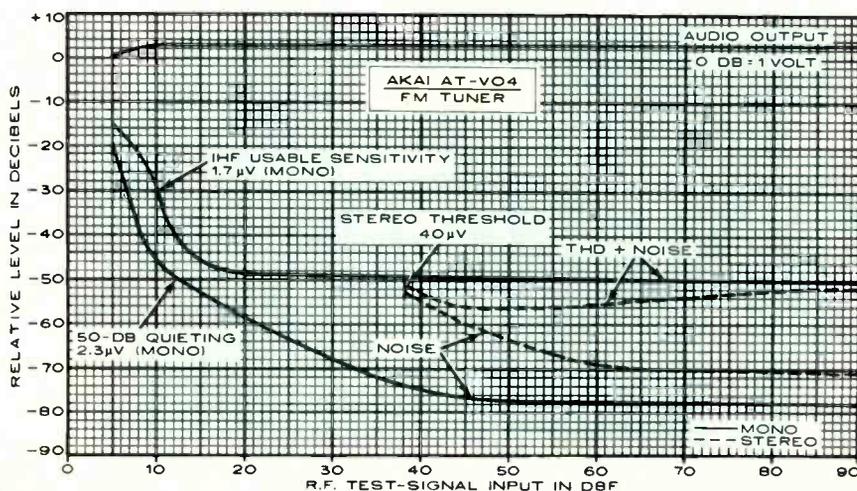
The outputs clipped at about 81 watts per channel when driving 8-ohm loads at 1,000 Hz. The 4-ohm clipping power was 107 watts per channel, and even when driving 2-ohm loads (for which the amplifier is not rated) the clipping output was 120 watts per channel. The IHF clipping headroom was 0.74 and 1.72 dB for 8- and 4-ohm loads, respectively. The dynamic power output at clipping into 8-, 4-, and 2-ohm loads was 84, 139, and 156 watts per channel for an IHF dynamic headroom of 0.92 and 2.86 dB into the 8- and 4-ohm loads.

The amplifier distortion was difficult to measure under most conditions, particularly below 100 Hz where it was typically less than 0.001 per cent. Over most of the audio range, at any power output up to the rated 68 watts, the distortion was well under 0.005 per cent, and it climbed to about

0.015 per cent at 20,000 Hz. The 1,000-Hz distortion rose from less than 0.001 per cent at power outputs up to several watts (where it was masked by noise and therefore not measurable) to 0.004 per cent at 70 watts into 8-ohm loads. Lower load impedances increased the distortion slightly to 0.01 per cent in the 50- to 100-watt range into 4 ohms and to between 0.01 and 0.015 per cent into 2 ohms.

The amplifier's slew factor exceeded our measurement limit of 25, and its rise time was 5 microseconds. The IHF overload-recovery measurement showed a barely detectable 5-microsecond recovery time from a 10-dB transient overload. The amplifier was stable with all loads, including a 3-microfarad capacitor in parallel with a 4-ohm resistor, although attempting to drive that load with a full-power 10,000-Hz square wave activated the amplifier's protective circuits and shut it down (recovery is automatic when the condition is removed). The IHF intermodulation (IM) distortion was measured with equal-amplitude input signals at 19,000 and 20,000 Hz; their combined peak value was equivalent to that of a full-rated-power sine-wave signal. The third-order IM distortion at 18,000 Hz was at -70 dB (0.03 per cent), with a fifth-order component at 17,000 Hz visible on

(Continued on page 50)



Come to where the flavor is.  
Come to Marlboro Country.



Marlboro Red or Longhorn 100's  
you get a lot to like.

Warning: The Surgeon General Has Determined  
That Cigarette Smoking Is Dangerous to Your Health.

17 mg "tar," 1.1 mg nicotine av. per cigarette, FTC Report Dec. 79

the spectrum analyzer at  $-90$  dB (0.003 per cent). There was no detectable component at 1,000 Hz down to the measurement "floor" of  $-100$  dB (0.001 per cent).

The high-level input sensitivity for a reference output of 1 watt was 20 millivolts, and the phono sensitivity was 0.37 millivolt (for a moving-magnet cartridge; no measurements were made through the moving-coil-cartridge head amplifier). The respective A-weighted noise levels were 74 and 72 dB below 1 watt, and the phono input overloaded at 350 millivolts input (1,000 Hz). The overload level at 20 and 20,000 Hz (each referred to an equivalent 1,000-Hz input level) was, respectively, 350 and 145 millivolts. The phono input impedance could not be modeled as a simple parallel combination of a resistance and capacitance, but at 1,000 Hz it measured 50,000 ohms (or 33,000 and 100,000 ohms at the corresponding settings of the phono-impedance switch on the front panel). The RIAA equalization was accurate within  $\pm 0.5$  dB from 20 to 20,000 Hz. When measured through the inductance of typical phono cartridges, it varied by about 1 dB over most of the high-frequency range, but with some high-inductance cartridges it dropped off fairly rapidly above 15,000 Hz.

The tone controls had a moderate but adequate range. The filters had gradual 6-dB-per-octave slopes, with their  $-3$ -dB frequencies being 33 and 7,500 Hz. The selectable loudness compensation (which boosted both low and high frequencies) could be set for almost any desired degree of compensation at usable volume-control settings. The fluorescent power indicators were calibrated too vaguely to do more than show a rough order of magnitude of the amplifier outputs, but the peak-hold feature made it possible to see even brief program peaks.

**Tuner:** The IHF usable sensitivity (mono) of the Akai AT-V04 tuner was 10.8 dBf (1.7 microvolts, or  $\mu$ V). Its stereo sensitivity was determined by the switching

threshold, which was a rather high 38 dBf (40  $\mu$ V). Because of the high switching level, any receivable stereo signal would have a signal-to-noise ratio in excess of 54 dB, as well as low distortion. The tuner's 50-dB quieting sensitivity was 12.8 dBf (2.3  $\mu$ V) in mono.

Its signal-to-noise ratio at a 65-dBf (1,000  $\mu$ V) input was 77 dB in mono and 70 dB in stereo. The distortion at that input level was 0.45 per cent in mono but only 0.19 per cent in stereo. These measurements were made with the tuner frequency set by its indicator lights. A slight improvement in mono distortion could be gained by tuning for minimal distortion, but this is not practicable when receiving a broadcast signal. The IHF IM distortion was measured with equal-amplitude modulating signals (at 14,000 and 15,000 Hz) whose peak level was equivalent to 100 per cent modulation. The third-order distortion products at 13,000 and 16,000 Hz were 47 dB below the individual tone levels, and the difference-tone intermodulation at 1,000 Hz was 53 dB below 100 per cent modulation at that frequency. Another pair of spurious tones appeared at 4,000 and 5,000 Hz with levels of  $-63$  and  $-67$  dB, respectively.

The stereo frequency response was down 1.5 dB at 30 Hz and rose to  $+0.7$  dB at 15,000 Hz. The 19-kHz pilot carrier in the output was suppressed to  $-70$  dB. Channel separation reached a maximum of 47 dB at 400 Hz, falling to 28 dB at 30 Hz and to 26 dB at 15,000 Hz. The tuner's capture ratio was 1.7 dB at 65 dBf input, and its AM rejection was a good 72 dB at that level. The image rejection was also good at 83 dB, and the alternate- and adjacent-channel selectivity readings were, respectively, 72 and 8 dB. The fixed muting threshold was about 35 dBf (30  $\mu$ V), and the variable threshold could be set between approximately 20 and 40 dBf (6 to 60  $\mu$ V). The AM tuner's frequency response rolled off to  $-6$  dB at 40 and 1,700 Hz referenced to 400 Hz.

● **Comment.** The Akai AM-U06 amplifier operated without any unwanted effects such as switching transients or other noises. We used it only with moving-magnet phono cartridges and tuner inputs; the moving-coil input was not evaluated. The "clipping" light was a really useful guide to the amplifier's actual power capabilities, and we found that as long as the clipping light did not flash the sonic results were superb (and it is powerful enough for most listening rooms even with low-efficiency speakers). The separate selection of tape-recording and listening outputs, though not unique to this Akai model, is one of the more useful features of the amplifier, which impressed us overall with its versatility as well as its outstanding performance.

The tuner also handled well and sounded excellent (as with most good tuners, its sound reflects the limitations of the broadcast program rather than its own). The "digital" tuning system seems to behave much like a conventional analog tuning system with the addition of the preset memory and scanning features. When the tuning knob is turned, the frequency changes smoothly and continuously rather than in discrete steps as with most synthesizing tuners. The actual frequency is displayed only in 50-kHz steps, however. In the scanning mode, the effective tuning rate appeared to be similar to the maximum manual rate, suggesting that the knob operates through the scanning circuit's control voltage rather than directly.

These Akai components form a well-matched pair, both aesthetically and operationally. Their silver-colored aluminum panels and controls present a handsome appearance (they are also available in black). The amplifier is moderately powered but has exceedingly low distortion and above-average flexibility; the tuner measurements show it to be a good all-around performer.

Circle 143 on reader service card



## Astatic MF 200 Phono Cartridge

**A**LTHOUGH the Astatic Corporation has been manufacturing phono cartridges for at least fifty years, its name may be unfamiliar to many audiophiles. Until recently the company has been known principally as

a manufacturer of low-cost piezoelectric (crystal and ceramic) cartridges for mass-market record players sold under many brand names.

Astatic has now entered the component

hi-fi area with a line of four magnetic cartridges manufactured in Japan to their specifications and bearing prices ranging from \$80 to \$267.50. They all use the same basic construction and operating principle, which Astatic calls "Moving Flux" (MF). The pivoted end of the stylus cantilever carries a small square magnet that is placed very close to the shaped cores of the coil assemblies. The magnet is moved by the stylus as it follows the groove modulations, and a varying amount of flux is thus passed through the coil cores.

The cartridge specifications suggest that the MF design is more efficient than that of most moving-iron or moving-magnet cartridges. Although the coil inductance is only 90 millihenries (compared to many hundreds of millihenries for most magnetic cartridges), implying a relatively small number of turns of wire in the windings, the rated output is about 3.5 to 4 millivolts. The MF cartridge, even though it uses smaller coils, can generate an output-signal voltage equal

(Continued on page 52)

# AFTER 500 PLAYS OUR HIGH FIDELITY TAPE STILL DELIVERS HIGH FIDELITY.



If your old favorites don't sound as good as they used to, the problem could be your recording tape.

Some tapes show their age more than others. And when a tape ages prematurely, the music on it does too.

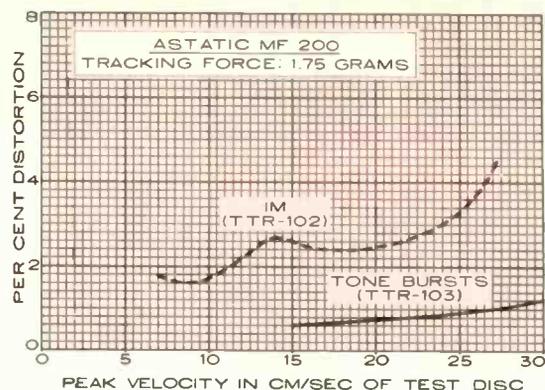
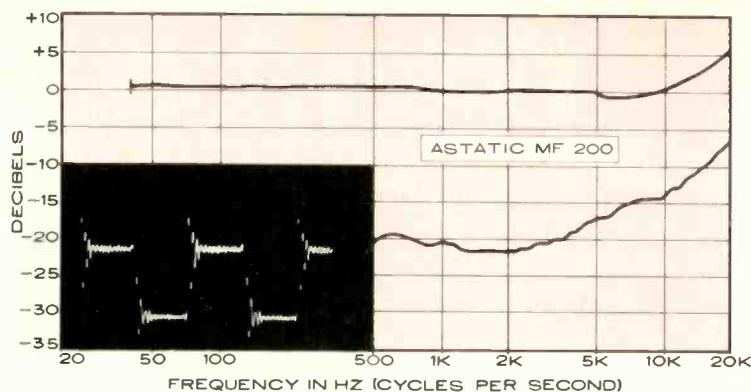
What can happen is, the oxide particles that are bound onto tape loosen and fall off, taking some of your music with them.

At Maxell, we've developed a binding process that helps to prevent this. When oxide particles are bound onto our tape, they stay put. And so does your music.

So even after a Maxell recording is 500 plays old, you'll swear it's not a play over five.



## IT'S WORTH IT.



In the graph at left, the upper curve represents the frequency response of the cartridge. The distance (measured in decibels) between it and the lower curve represents the separation between the two channels (anything above 15 dB is adequate). The inset oscilloscope photo shows the cartridge's response to a recorded 1,000-Hz square wave, which indicates resonances and overall frequency response (see text). At right is the cartridge's response to the intermodulation-distortion (IM) and 10.8-kHz tone-burst test bands of the TTR-102 and TTR-103 test records. These high veloc-

ities provide a severe test of a phono cartridge's performance. The intermodulation-distortion (IM) readings for any given cartridge can vary widely, depending on the particular IM test record used. The actual distortion figure measured is not as important as the maximum recorded-signal groove velocity that the phono cartridge is able to track before a sudden and radical increase in distortion takes place. There are very few commercial phonograph discs that embody musical audio signals whose average recorded groove velocities are much higher than about 15 centimeters per second.

to that of a conventional moving-magnet cartridge, indicating a highly efficient magnetic system. The low inductance also means that the cartridge's frequency response should be relatively independent of external load capacitance.

The two lowest-price models of the Astatic MF series have spherical and elliptical styli, while the two higher-price units have Shibata-type parabolic styli. We tested the next-to-the-top model, the MF 200. Its Shibata stylus is rated to track at 1.75 grams  $\pm$  0.25 gram, and it has a rated frequency response of 10 to 20,000 Hz  $\pm$  2.2 dB (and up to 40,000 Hz with no tolerance specified). The user-replaceable stylus assembly includes a hinged guard. Like all the Astatic MF cartridges, the MF 200 is available factory-installed in a four-pin universal low-mass headshell (as the MF 200H) for an additional \$22.50. The price of the Astatic MF 200 is \$160.

● **Laboratory Measurements.** The Astatic MF 200 was installed in a typical tone arm and was operated at its rated tracking force of 1.75 grams. Preliminary response measurements with various values of load capacitance showed no significant change over a range of 160 to 400 picofarads, so we used 160 pF in parallel with a 47,000-ohm load as the cartridge termination.

The output voltage from the 3.54-cm/sec standard level bands of the CBS STR 100 test record was 3.4 millivolts, with a channel unbalance of 0.7 dB (well within the 1.5-dB specification). In the test arm, the mass of which was not especially low, the highly compliant MF 200 resonated at 9 Hz with an amplitude of 7 to 8 dB. The vertical stylus angle was 22 degrees.

The frequency response was measured with several types of test records, including the CBS STR 100, B&K 2009, and JVC 1005. The results were consistent with all these records. The frequency response of the cartridge was almost perfectly flat up to 10,000 Hz and rose some 5 or 6 dB between that frequency and 20,000 Hz. This sug-

gests that the stylus resonance is above the audio range and relatively undamped. With the JVC 1005 record (which sweeps to 50,000 Hz) we measured a sharp resonant peak of 10 dB amplitude at 30,000 Hz. The output at the record's upper limit was down only 10 dB from the midrange level, and at 40,000 Hz it was down only slightly from the reference midrange output level. The response to the 1,000-Hz square wave of the CBS STR 112 record showed about three cycles of damped ringing (initially at a rather high level) at the 30,000-Hz stylus-resonance frequency, followed by ringing at about 40,000 Hz (which we know to be in the record). The midrange channel separation was about 20 dB, and the separation was a fairly uniform 10 dB from 20,000 to 50,000 Hz.

The tracking distortion of the MF 200 was measured with the Shure TTR-102 and TTR-103 test records. The intermodulation distortion with the TTR-102 was under 2 per cent up to about 11 cm/sec velocity, rising slowly to 4.5 per cent at the record's maximum level of 27 cm/sec. The high-frequency tone-burst distortion with the TTR-103 increased slowly over the 15- to 30-cm/sec range of the record. In neither case was there any evidence of significant mistracking, and the measured distortion levels were typical of other good cartridges we have tested.

Subjective tracking tests were even more impressive. At 1.75 grams, the MF 200 had no difficulty with the high-level tones on any of our test records, including the 100-micrometer level of the German Hi Fi Institute record. Fewer than a handful of cartridges we have tested have been able to play that level without serious mistracking. In view of these test results, it was no surprise to find that the MF 200 was able to track the highest levels of every band on both Shure "Audio Obstacle Course" records (ERA III and ERA IV). There was a trace of hardness on the bell section (level 5) of the ERA IV disc, but not enough to constitute mistracking in our judgment.

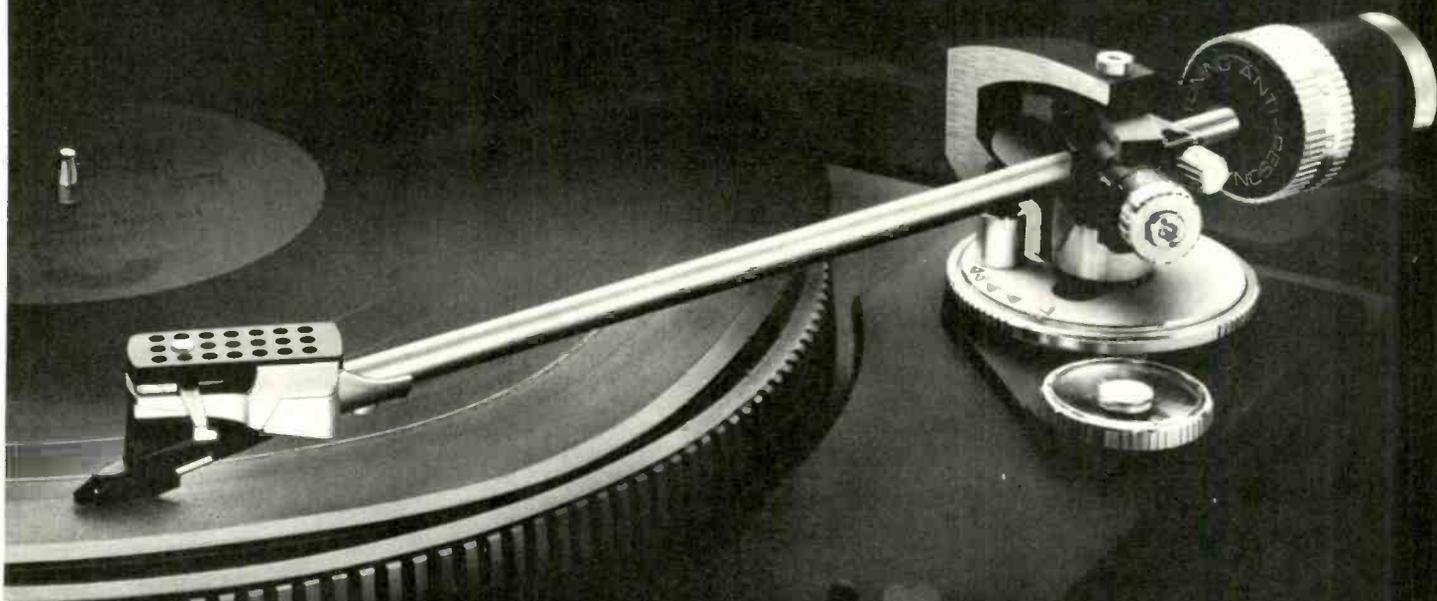
● **Comment.** Astatic, in a brochure on the MF cartridges, likens their sound to that of a good moving-coil (MC) cartridge. The comparison is apt, since the two have much in common despite their different modes of transduction. The low-inductance windings of the MF cartridge make it almost as independent of external loading as any MC cartridge, and its output is higher than any of them, including that of so-called "high-output" types. Most MC cartridges have a rather high-amplitude, undamped stylus resonance somewhat above the audible range. In most cases, this results in a rising response between 10,000 and 20,000 Hz. That is exactly what we found in the MF 200, and for the same reasons. The Shibata stylus gives the MF 200 outstanding high-frequency tracking ability. Its high compliance (rated at  $45 \times 10^{-6}$  cm/dyne) is higher than that of any MC cartridge we can think of, and it is responsible for the excellent low- and middle-frequency tracking ability of this cartridge.

All in all, the MF 200 is an uncommonly fine phono cartridge. A few years ago, it could have been touted as ideal for playing CD-4 quadrasonic records, for its maximum response at 30,000 Hz would have assured solid recovery of the recorded pilot carrier. With stereo records, if you like the "airiness" or definition that results from a rising high-end response, you will surely like the sound of the MF 200. It seems likely that this phenomenon explains much, if not most, of the popularity of moving-coil cartridges, despite their recognized tracking limitations and high cost.

The Astatic MF 200 seems to combine the best of both worlds—the low impedance and excellent high-frequency response of an MC cartridge with the higher output and superior low- and middle-frequency tracking ability of the finest moving-magnet cartridges. It is an auspicious entry into the component hi-fi market for one of the oldest names in audio.

Circle 144 on reader service card

# Test labs now use an extraordinary new instrument to evaluate record playback performance. A warped record.



Magazine test reports are usually based on measurements made with professional equipment and under ideal laboratory conditions. None of which matches the real-life situation you face at home.

Virtually all records manufactured today are warped. And even records that are slightly warped can make conventional tonearm and cartridge combinations (typically 18 grams effective mass) distort badly and even leave the record groove.

The test labs know this, of course, which is why they tried something different with Dual's 8-gram Ultra Low Mass tonearm and cartridge system. They added an innovative test instrument to their scopes and meters.

A badly warped record

The results of this new test are not reported as percentages, decibels or other technical jargon—but in clear and unmistakable language:

"Navigating the worst warps we could find, the Dual/Ortofon combination proved very agile indeed, with nary a mistrack."

*High Fidelity*

"...traced the most severely warped records in our collection, usually so well that we heard nothing wrong." *Stereo Review*

"Even a severe warp that would normally throw the pickup into the

air will usually give no more than a slight 'thump'... and most warps are undetectable by ear."

*Popular Electronics*

"The Dual takes dead aim at the fiend of disc reproduction—the warped record—and response to record warps practically is eliminated at the source." *Stereo*

One test lab, after making the usual measurements, chose to just listen to music as reproduced by ULM.

"There is no way measurements, or mere words can describe the acoustic presence of this record player... highs are crystalline, with a purity we haven't heard before. The bass is so clean that one can hear new sounds from records, such as the harmonic vibration of unplayed strings on the double bass... overall definition and transient response were outstanding."

*HiFi/Stereo Buyers' Guide*

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CIRCLE NO. 8 ON READER SERVICE CARD

## Going on Record

By James  
Goodfriend



### WIN, PLACE, AND SHOW

**I**STRUMENTAL competitions—such as the Tchaikovsky, the Van Cliburn, the Leeds, the Queen Elizabeth—are generally felt to be necessary evils of the musical world. They are, of course, *one* way for highly talented musicians to get attention. But some very fine artists do not win competitions and others do not even enter them. This, in part, has given rise to the theory that there is a certain kind of musician who *does* win competitions and that one winner—there are now almost too many different competitions to name them all—is very much like another. Portrait of a competition-winning pianist: big technique, solid basic musicianship, a fast study, big tone, careful, calculating, unwilling or unable to take chances, objective and impersonal, and ultimately a bore. How much truth is there in this?

There happen to have been released recently, on the new Concours series from Deutsche Grammophon, three programs by competition winners who are all new to records. The discs are excellent showcases, and they offer a small research area for looking into this problem.

In fact, the three pianists here are very different from one another, although they are all young and all obviously talented. Boris Bloch, a Russian pianist apparently in his early thirties, began his studies in Odessa and continued them in Moscow with Tatiana Nicolaieva and Dimitri Bashkirov. He won first prize in the Busoni Piano Competition in September 1978. On his record (DG Concours 2535 006) he plays Beethoven's Op. 10, No. 2, as if driven by an improperly regulated spring motor. But he follows that with some wonderful and idiomatic Rachmaninoff (*Vocalise, Lilacs*, and three *Études Tableaux*) and an atmospheric Busoni *Elegy* No. 4 and concludes with a spectacular demonstration of virtuosity in the Liszt/Busoni Fantasy on Two Themes from Mozart's *Marriage of Figaro*. Bloch has truly astonishing ability to handle huge masses of musical sound, steering and directing the movement like a master pilot. Still an uneven pianist, but impressive.

Steven de Groote was born in 1954 in South Africa and studied with Lamar Crowson, Eduardo del Pueyo, Rudolf Ser-

kin, Seymour Lipkin, and Mieczyslaw Horszowski. He won first prize in the Van Cliburn Competition in 1977 but lost out in public acclaim to the pianist who *didn't* win, Yuri Egorov. It would be unfair to subject him here to another comparison with Egorov. Suffice it to say that on this recording (DG Concours 2535 007) of the Beethoven *Eroica* Variations and Schumann *Études Symphoniques* he shows all the positive attributes of the hypothetical competition winner and some of the negative ones. Certainly he is well schooled and knows exactly what he is about, and certainly he has the basic musicianship and seemingly limitless technique. But I find him calculating and artificial, a first-rate problem-solving mentality. Impressive but uninteresting.

David Lively (of whom, as opposed to the others, I had heard *nothing* before), is an Ohioan, born in 1953. He studied, on scholarship from the French government, at the École Normale de Musique under Jules Gentil. He was an award winner in the Tchaikovsky Competition, the Queen Elizabeth, and the Marguerite Long, but he is billed on his record (DG Concours 2535 009) as first-prize winner of the Dino Ciani Competition in Milan. He plays Ravel's *Le Tombeau de Couperin* and Stravinsky's *Tango, Piano Rag Music*, and *Three Scenes from "Petrouchka."* To my perhaps prejudiced ears, he sounds like the sort of pianist who does not enter competitions. His musicianship is instinctive and individual rather than learned. Everything he plays (on this record at least) exhibits the greatest naturalness, and his technical proficiency, while equal to the music, seems never to be on display. He is obviously music—rather than audience-oriented. His playing has a personal warmth that might seem to be beside the point with Ravel and Stravinsky, but it works quite well and leads me to believe that I would probably enjoy hearing him in almost anything. Unstartling perhaps, but satisfying.

**S**o much for this small-scale investigation. Should anyone care to draw generalities about contest winners from these specifics, he has my best wishes. I'm not planning to. □

# INTRODUCING A CASSETTE DECK WITH A MIND OF ITS OWN.

AKAI proudly announces the GX-F95. The future of recorded history. A 21st century cassette deck for the audiophile who can't wait.



Add now, the 3-head performance and reliability of our exclusive Super GX Combo head, whose glass and crystal ferrite construction adds up to over 17 years of virtually

wear-free performance — guaranteed.\*\* Fantastic. Within seconds after popping in a cassette, this incredible computerized sound machine will have accurately determined bias, equalization, sensitivity tuning and more — automatically. For virtually any tape on the market.

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You'll also find sensor light full-logic solenoid controls, and switchable 24-section/2-color bar meters with peak hold.

Remarkable as the GX-F95 is, it's only one of 11 superb AKAI cassette decks — two of which offer reversing record and playback capabilities.

All metal-capable, the line includes models from \$189.95 to \$1,195.00, with plenty of stops in between.

And the specs on the GX-F95 are equally impressive.

So if you're in the market for a great sounding cassette deck, look no further than AKAI.

Frequency response with metal tape is an amazing 25-21,000 hertz. And Signal-to-Noise with metal tape is 62dB (Dolby<sup>®</sup> on improves up to 10dB, above 5000 hertz). Harmonic Distortion, less than .06%.

Including the brand-new GX-F95 with its computerized brain. Maybe the most intelligent thing we've ever done.

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The mind-boggling GX-F95 is only one of 11 superb cassette decks AKAI has to offer. All metal-capable.

# AKAI

YOU NEVER HEARD IT SO GOOD

# Subway Lines and Stations

# NEW PRODUCTS AT THE TOKYO AUDIO FAIR

By Peter Mitchell

**I**N mid-October of each year heavy traffic jams form on the principal avenue eastbound from the Ginza district in Tokyo as hundreds of manufacturers and about 200,000 visitors head for the Harumi International Fair Grounds on a peninsula in Tokyo Bay. Their goals: (1) the Japan Electronics Show, an industrial trade show displaying the latest developments in electronic components and assemblies (computers, integrated circuits, controls, solar panels, laboratory test gear, TV equipment for studio and home); and (2) the All-Japan Audio Fair, open to the general public, where Japan's audiophiles and the world's press get to see and hear the newest audio components and systems.

Since the early 1970s Japan has led the world in the manufacture of hi-fi electronics. But this dominance is now being threatened by rising wages, skyrocketing shipping costs, and shifting currency-exchange rates. The Japanese and others are finding it increasingly cost-effective to do electronics manufacturing elsewhere: in Korea, Taiwan, Hong Kong, Mexico, Europe—and even the U.S.

Nevertheless, Japan continues to be the world's leading supplier of high-quality audio and video electronics and is likely to remain so for at least a few more years. And many of the Japanese manufacturers prefer to introduce their new product designs first in Tokyo and to market them in Japan for a few months before exporting them. So the Tokyo Audio Fair (and the adjacent Japan Electronics Show) provide an excellent preview not only of the new products that will appear here during the coming year, but also of the developing trends that will influence product design for the next few years.

**S**OME of the new products seen at the Tokyo Audio Fair in October 1980 were scheduled for introduction to U.S. dealers at the January 1981 Consumer Electronics Show in Las Vegas and will likely be appearing in your neighborhood hi-fi salon this spring and summer. Others will make their American debut at the June CES in Chicago and will start showing up in stores sometime next fall or winter. Finally, some of the products shown in Tokyo were clearly prototypes and not scheduled for manufacturing until 1982 or later. Some, indeed, will never be marketed at all, the prototypes having been made only to demonstrate a manufacturer's technological prowess or to act as a trial balloon to test consumer interest.

A further cautionary note: in some cases the versions of these products ex-

Additional text and photos by Larry Klein.

ported to North America will have different model numbers than the versions exhibited in Tokyo. In other cases they will even have different brand names, for many Japanese manufacturers make "private-label" versions of their products for sale by other companies. Audiophile visitors to Japan encounter one more element of potential confusion: on the Japanese market some of the major manufacturers employ brand names that differ from those used on their exports to the U.S.: for instance, Diatone (Mitsubishi), Otto (Sanyo), Lo-D (Hitachi), Aurex (Toshiba), Victor (JVC), Trio (Kenwood), and National (Panasonic). In this report we've already made these "translations" for you.

In some cases we've also listed the Japanese retail price (converted directly from yen to dollars at roughly 200 to 1) to help you place the product in its proper cost perspective even though, when it reaches U.S. stores, it will probably have a price different from the one in Tokyo because of the economic variables of shipping, distribution, and competitive pressures. In some cases, especially with those products that are sold in large volumes at discount prices (color TVs and 35mm cameras, for example), U.S. prices are actually lower than those in Japanese stores. But with most products they are higher, and very specialized products (such as moving-coil cartridges) typically cost 50 to 100 per cent more at retail in the U.S. than in Japan.

UNLIKE U.S. hi-fi shows, which are usually staged in hotels with each exhibitor in a separate room or suite, the Audio Fair is held in two huge exhibit halls. To provide a measure of acoustic isolation, each exhibitor displays his wares in a room-size booth—except for the seventeen largest manufacturers, each of which sets up an enclosed exhibit area about as large as a small house, subdivided into rooms and corridors. This year the largest demonstration room in each such exhibit typically housed a playback from digital master tapes or a *live* rock concert, the signal also being fed to ranks of cassette decks and headphones encircling the outside of the demo room. Thus the passing audiophile was tempted into conducting his own "hands-on" demo by making a sample recording of the music on one of the cassette decks, comparing the playback versus the input signal using the headphones, and then entering the exhibit room to hear the source signal directly. Which somehow makes it appropriate to begin this Tokyo Report with...

## Cassette Decks

Cassette recorders accounted for the largest number of new-product entries at the show and were the central focus of attention at many of the exhibits. Technical improvements were most notable in three areas:

● **Tape-transport Refinements:** One of the traditional advantages of open-reel recorders was that the design engineer had plenty of room to add refinements such as separate record and play heads, precision tape guides to prevent the tape from weaving, dual-capstan drives, idler wheels, and swinging spring-loaded arms to absorb variations in supply tension and ensure a smooth tape flow over the heads. One by one, designers have figured out ways of incorporating these features into cassette transports, and this year Denon, Teac, and Kenwood introduced decks containing a tape-tension arm that bears on the tape at a spot between the erase head and the record/play head, automatically compensating for variations in tape tension due to friction in the cassette pack. Kenwood's version of this idea is called "auto back tension," while Denon's is the "tape-tension servo system" and is included in all three of the company's new three-head models (DR-F1 to DR-F3, \$300 to \$400). Evidently the first deck with this feature was the Teac A-770, introduced in the U.S. last summer.

With these and other improvements, the rated wow-and-flutter figure of new cassette decks is reaching levels previously unheard of. Sony's exhibit included a clever demonstration in which control signals from a tape played on a new TC-K777 deck were used to drive the axes of an X-Y chart recorder to make a cartoon drawing that could then be compared with another drawing in which jitter corresponding to 0.1 per cent flutter had been introduced. From the difference in clarity of the two drawings one could infer that the flutter of the new cassette deck was probably even lower than its 0.025 per cent weighted-rms rating. The transport was a closed-loop dual-capstan design with quartz-locked direct-drive motors. Pioneer's new CT-970 (\$560) employs another dual-capstan system with direct-drive motors regulated by a phase-locked-loop servo to achieve a rated 0.023 per cent wrms. And JVC has a new series of "pulse servo" quartz-locked direct-drive transports rated at only 0.021 per cent wrms in the models DD-5 (\$300) and DD-7 (\$450) and at only 0.019 per cent in the DD-9 (\$630).

● **Metal-tape Performance:** Tests of the various "metal-ready" cassette decks marketed in recent years have indeed demonstrated the expected 5- to 10-dB improve-

ment in headroom at high frequencies, but in most the undistorted headroom at low and middle frequencies has been no better with metal-particle tapes than with conventional ferric and chrome-equivalent oxide formulations. Indeed, in many decks the signal-to-noise ratio (S/N) measured at 333 Hz has proved to be 1 to 2 dB worse with metal tapes than with oxide tapes because of saturation and eddy-current losses in the heads. So in many of this year's new decks considerable attention has been paid to the development of new heads capable of exploiting fully the dynamic range inherent in metal tapes. Thus Akai's new cassette recorders, from the GX-F15 (\$250) to the GX-F80 (\$500), feature the high-current "twin-field Super GX" head; Kenwood's R880 employs an "amorphous" head with increased magnetic saturation density and much-reduced eddy-current losses; and Pioneer's new CT-970 (\$560) and CT-770 (\$390) feature a recently developed "ribbon Sendust" head whose laminations are four to five times thinner than those in conventional Sendust heads, virtually eliminating eddy-current losses at audio frequencies and yielding a saturation flux density of nearly 10,000 gauss. The practical benefits of this include a 5-dB reduction in the amount of bias required for optimum performance, a 3- to 5-dB increase in undistorted headroom at both low and high frequencies, and a significant reduction in high-frequency hiss. All in all, a group of obviously significant developments for this product category.

● **Noise Reduction:** As direct-to-disc, digitally mastered, and dbx-encoded records became common, the maximum signal-to-noise ratio of 65 dB or so that is available from cassette decks with Dolby-B noise reduction no longer seemed adequate. Manufacturers concluded that the time was ripe for an improvement in the useful dynamic range of cassette recorders. Of course, if any one engineer

is able to devise a way to accomplish a desired objective, other engineers can dream up three other ways of achieving the same goal, and cassette-deck shoppers are now going to have a wide variety of noise-reduction options to choose

from and be confused by. The "High-Com" circuit,

which had previously been marketed by Nakamichi, will also be available in the Aiwa HR-7 noise-reduction unit. Sanyo's "Super-D" 2:1 compander is now available in three models (NRA-5500, 3300, and 2200) for connection to any cassette deck, and it may be marketed by Fisher as well as Sanyo. Toshiba has its own 2:1 companding noise-reduction system, called ADRES (Automatic Dynamic Range Expansion System), available in an add-on outboard unit and built into several Toshiba cassette



# TOKYO ...

decks such as the PC-X88AD (\$500). In addition, Toshiba has introduced a line of ADRES-encoded discs and prerecorded cassettes.

Of course, the Sanyo and Toshiba 2:1 companders are incompatible with each other and with the earliest and best-known 2:1 system designed for consumer use, the dbx II. The dbx circuits are available in several noise-reduction units from dbx, in a plug-in module which connects to Teac's "professional" C-1 and C-2 cassette decks, and built into the Teac A-550RX deck (\$550). This year three more manufacturers are joining the dbx bandwagon: Yamaha with two recorders containing dbx II circuitry (the K-1d and K-9), Marantz with two (SD9000dbx and SD6000dbx), and Technics with two (the RS-M270x and RS-240x). As a bonus, the Technics recorders include switching to permit the built-in dbx circuits to be used for decoding dbx-encoded discs as well as to record and play tapes.

Just two weeks before the Tokyo Audio Fair, Dolby Laboratories publicly announced the development of the Dolby C noise-reduction circuit. At least three manufacturers (Mitsubishi, Hitachi, Nakamichi) had prototype Dolby C equipment at the show, and at least ten others are working on theirs. Whereas the well-known Dolby B circuit operates at frequencies above 500 Hz and provides a maximum of 10 dB of noise reduction, Dolby C is effective above 150 Hz and yields up to 20 dB of noise reduction. We heard one demonstration recording made with Dolby C and it sounded splendid, with no trace of hiss-pumping or other side effects. If you want to hear it for yourself, you'll have to be patient; though a trickle of tape recorders equipped with Dolby C may appear by late spring or summer, they probably won't be available in retail stores in large quantities until next fall.

Incidentally, none of these wide-range noise-reduction systems are expected to replace Dolby B or make it obsolete. Dolby B is the accepted standard for cassette noise reduction and is likely to remain so, especially in low- and medium-price cassette decks. The more complex and costly Dolby C, dbx, or other systems will be confined mainly to recorders retailing for \$400 and up, and in most cases such recorders will have a front-panel switch to select either Dolby B (for compatibility) or the new C circuit. A Dolby-C recorded tape played with Dolby-B decoding will have the same sound quality as undecoded Dolby-B tape.

In view of the quick and enthusiastic acceptance of Dolby C by the Japanese manufacturers, it is interesting to note the virtual absence of Dolby HX headroom-extension circuits. In the dozens of new cassette decks on display at the show, we found only three equipped with Dolby HX: the Teac C-3x (\$600), the Aiwa F600 (\$350), and the



Yamaha's clean-looking new K-1d cassette deck contains both Dolby B and dbx noise-reduction circuitry.

Pioneer CT-570 (\$270). One manufacturer explained why: The major cassette-deck designers are interested in *fundamental* improvements in the cassette medium, and innovations such as metal-particle tape and noise-reduction systems meet this desire. Dolby HX, on the other hand, is viewed by many Japanese manufacturers as basically an economical compromise: a way of obtaining increased high-frequency headroom (like that provided by metal tapes) with less costly ferric-oxide cassettes. In this manufacturer's view, audiophiles interested in making the finest recordings should be willing to pay for metal tape, high-performance noise-reduction systems, refined tape transports, etc. Therefore, Dolby HX will be provided only in some medium-price cassette decks intended for "non-perfectionists" who seek good performance at low cost. (This view isn't universally held, of course; witness the lines of HX-equipped cassette decks from Harman Kardon and NAD. But it appears to explain the general lack of enthusiasm for HX.)

What else is new in cassette decks? Microprocessors that record test tones on the tape and automatically adjust the deck's parameters to match the tape are becoming increasingly common in medium-cost as well as top-of-the-line machines. Examples include Aiwa's F77M "Compubrain," Hitachi's D3300M with ATRS (automatic tape-response search), JVC's mid-price KD-A66 with BEST (bias-equalization-sensitivity tuning), the Pioneer CT-970 and CT-770 with Auto BLE (bias, level, equalization), and Nakamichi's \$3,800 1000ZXL with ABE (head azimuth, bias, level, equalization), the last said to yield a response accuracy of  $\pm 0.5$  dB from 20 to 20,000 Hz. The next level of automation presumably is a deck that adjusts its own recording level so that you can make completely unattended recordings—and sure enough, the Technics RS-M51 is equipped with an "auto rec sensor" which monitors the incoming signal levels for 7 seconds and adjusts the recording level to suit.

And, for people who think that cassettes are too large, Sony and Otto (Sanyo) introduced metal-particle microcassettes, and Sanyo exhibited a miniaturized stereo microcassette deck to use them, featuring an

IC logic-control transport, Dolby B noise reduction with Dolby HX headroom extension, switching for normal and metal tape, LED metering, and respectable hi-fi specs at a tape speed of  $1\frac{1}{2}$  inch per second.

## Amplifiers

While many of this year's amplifiers are basically refinements of last year's designs, some new trends are visible:

### ● Ultra-low-distortion Output Stages:

More and more manufacturers are adopting dynamic-bias output circuits to eliminate the last vestiges of crossover distortion; these are variously known as non-switching, pseudo-class-A, or synchro-bias circuits and yield rated distortion levels of only a few thousandths of a per cent. Sanyo has encapsulated its dynamic-bias circuit components into an inexpensive module, as has Pioneer, making it easier to incorporate this design in moderate-cost amplifiers. JVC's refinement, called "pure NFB," involves using "dual lead" phase compensation of the feedback to yield increased negative feedback for suppression of high-frequency distortion without increasing the risk of ultrasonic instability. These designs may (or may not) effect a subtle improvement in the reproduction of very-low-level sonic details; mainly, they provide a dramatic reduction in the measured distortion at ultrasonic frequencies. Sony's TA-N900 Esprit 200-watt mono power amplifier (\$1,250) has been designed with a "no negative feedback" MOSFET output stage employing "distortion-compensating circuits." Among its other sophisticated design aspects is the use of a pulse-locked power supply and a fan-cooled heat-pipe arrangement.

Sansui's new amplifiers feature the company's "super feed-forward" circuit, and Denon's exhibit also included a demonstration of how feed-forward can operate to cancel an amplifier's residual distortion completely. Pioneer introduced a new Z1 series of "black-box" components employing a "super linear" circuit module whose internal nonlinearities are so precisely canceled that no feedback of any kind is needed to keep distortion low; models in the series include the C-Z1 preamp (\$2,000), H-Z1

head amp for moving-coil cartridges (\$1,200), and M-Z1 monophonic 60-watt power amp (\$1,500 per channel).

● **Speaker-lead Compensation:** Amplifier designers have discovered that loudspeakers don't behave like test resistors; they have impedances that are "reactive" (leading to large variations in the ratio of output current to voltage) and are often nonlinear as the woofer's voice coil moves in and out of the speaker magnet's gap. Denon's exhibit at the Audio Fair included a demonstration showing how a new circuit in its PMA-540 amplifier (unfortunately described only in Japanese) substantially improves its ability to drive reactive speaker impedances with reduced distortion. Toshiba's SB-77 (100 watts per channel, \$850) and SB-66 (70 watts per channel, \$350) integrated amplifiers include a "clean drive" circuit in which a third wire is connected from the speaker terminals to a feedback input on the amplifier, thus enclosing the resistance of the speaker cables in the amplifier's feedback circuit.

A similar feature appeared in the NAD 3140 integrated amp, and Kenwood's "Sigma drive" seems to be another embodiment of the same idea, as shown in the new Kenwood L-08M mono power amplifier (170 watts, \$750 per channel). Of course, the problems these circuits address can be eliminated with any amplifier by providing an essentially zero-resistance connection between the amplifier and the speaker; simply make the speaker cables as short as possible and use heavy-gauge stranded wires (14 or 12 gauge, for example, instead of the usual 18 or 20).

Easily the most visually striking new amplifier at the show was the Yamaha B-6 power amp, a compact black truncated pyramid rated at 200 watts per channel at 0.003 per cent THD and called the "X amp." Its operation is based on the designs of the Carver Magnetic Field power amplifier, with an efficient power supply whose voltages vary dynamically in accordance with the demands of the musical signal. The X-amp circuitry is also used in the new Yamaha A-6 100-watt-per-channel integrated amplifier selling in Japan for about \$330.

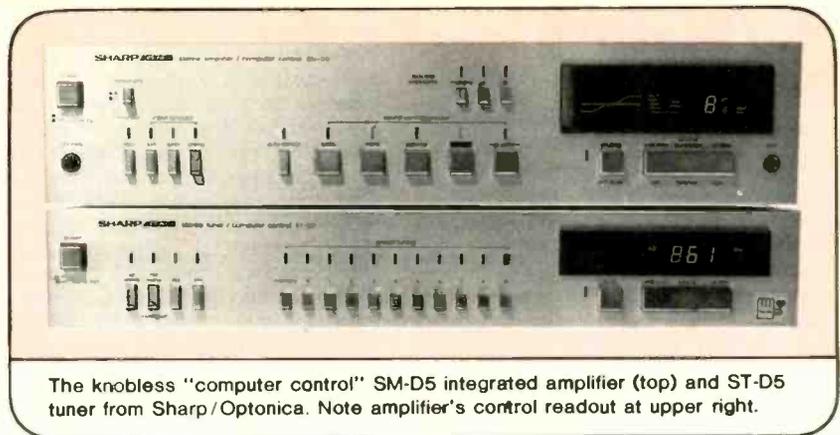
Just for the record, the most expensive products on display at the Audio Fair were two top-of-the-line units from Technics: the SE-A1 class-A power amplifier rated at 350

watts per channel (one million yen, or about \$5,000) and the companion SU-A2 preamp with a forest of knobs, switches, and slider controls (1.5 million yen, about \$7,500).

## Tuners

Today's FM tuners are so good (and so much better than the signals most radio stations are broadcasting) that further dramatic improvements are difficult to envision. The principal development in this year's new models is the continuing spread of digital frequency-synthesis tuning circuits into a wider spectrum of models at all but the very lowest price levels, thanks to declining prices of the specialized ICs needed for true digital tuning. Some refinements in performance are evident in the new tuners; for example, the Technics ST-S8 digital tuner (\$500) employs direct coupling between the detector stage and the stereo multiplex decoder, yielding a full 60 dB of stereo separation from 20 to 1,000 Hz and better than 45 dB up to 10,000 Hz. And Sony's ST-J75 uses a proprietary "direct comparator" IC that is said to improve the S/N in stereo to 86 dB.

Pioneer's exhibit included an explanation and demonstration of stereo AM, but since the FCC quickly tabled last spring's initial approval of a standard system for stereo AM broadcasting in the U.S. it may be another year or two before such broadcasts are common.



The knobless "computer control" SM-D5 integrated amplifier (top) and ST-D5 tuner from Sharp/Optonica. Note amplifier's control readout at upper right.

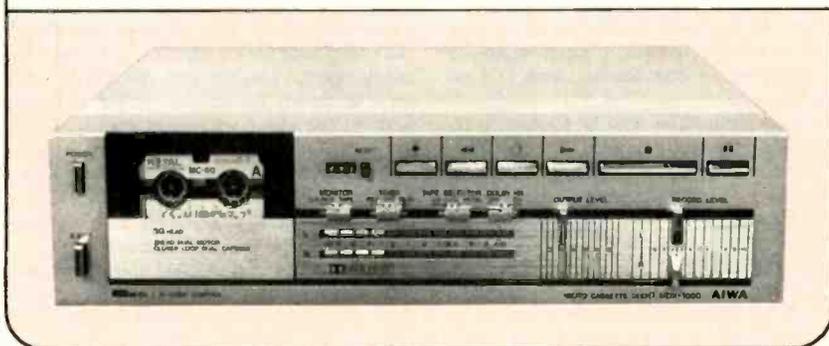
## Phono Cartridges

Among the phono cartridges, most of the design attention seemed to have been focused at the expensive end of the spectrum. Both Onkyo and Yamaha were showing new moving-coil models, and Sony's XL-55 MC cartridge (\$300) employs a figure-eight coil (for increased output, avoiding the iron core used in some designs) plus a stylus cantilever which is a composite of aluminum, beryllium, and carbon fiber to obtain the desired combination of light weight, stiffness, and damping of unwanted vibrations. Sony also has a diamond-cantilever model—the XL-88D. Nagaoka's MP-11E/B moving-magnet pickup uses a diamond tip embedded in a boron shank for reduced tip mass, while the Nagaoka JT-R111/D ribbon-transducer cartridge (\$1,000) uses an all-diamond cantilever with a ruby coil housing and a 99.99 per cent pure gold ribbon.

The high-frequency tracking ability of a phono pickup depends on the inertia of the vibrating stylus assembly, and this is expressed in terms of its "effective tip mass." A decade ago a tip mass of 1 milligram was considered excellent, but in recent years pickups have appeared with effective tip masses of less than 0.5 mg and one or two as low as 0.2 mg. Denon's new DL-305 MC pickup has a rated tip mass of 0.17 mg, but at the Audio Fair they were displaying a prototype of a new model rated at a remarkable 0.096 mg! And Denon is not alone: the Technics 100C Mk3 MC cartridge is rated at just 0.098 mg, implying that with these pickups high-frequency tracking will be limited only by the ability of the stylus tip to fit into the tiny high-frequency groove modulations. The overall weight of the MC cartridges seems to be coming down also.

Technically the most intriguing new cartridge was the Kenwood L-X5 with its companion L-X6 preamp: it is a photoelectric cartridge whose operation is optical rather than magnetic. In the L-X5 a pair of tiny lights are mounted at the usual 45-degree groove-modulation angles to shine on light-sensitive detectors. Each light beam is half-obstructed by a vane mounted on the stylus assembly, and as the stylus vibrates in response to the groove modulations the vanes are moved in or out of the light path, thus generating a varying output from the light-

Aiwa's sophisticated MDX-1000 microcassette deck has three heads, closed-loop dual-capstan drive, Dolby circuitry—and can record on metal tape.



# TOKYO ...

sensitive detectors which is then amplified. It remains to be seen whether this experimental cartridge will reach the retail marketplace and whether it will turn out to have any audible advantages over magnetic designs (other than its natural freedom from induced hum). Incidentally, this is just the latest version of a long line of such cartridges dating back to Philco's beam-of-light model of the late 1940s.

## Turntables

The most obvious trend in turntables is the continuing spread of designs with straight-line (radial) tracking tone arms aided by optical sensors and IC control circuitry. JVC's entry, for example, is the LE-5, an efficient-looking unit with a low-mass arm and direct-drive platter (\$300). The exhibit included a cutaway version showing the array of electronic circuitry used to control the platter rotation and the arm's motion. Its operating controls are a group of slim pushbuttons that barely protrude from the front edge of the chassis, lending the unit a particularly sleek, uncluttered look.

Pioneer's lineup of turntables includes its second straight-line-tracking model, the PL-L5 (\$500). (Pioneer's first SLT turntable is being marketed in the U.S. as the Phase Linear 8000.) Instead of the usual belt-and-pulley or worm-gear drive to move the arm back and forth on its straight track, the Pioneer PL-L5 employs a linear magnetic-induction system that apparently moves the arm without making mechanical contact with it.

In addition to linear-tracking models, most manufacturers continue to introduce lines of turntables with conventional pivoted tone arms. In these turntables the principal trend appears to be a progressive lowering of the rated wow-and-flutter figure, an interesting engineering accomplishment even though the values attained are far below the threshold of audibility. For instance, the Technics SL-QL1 (\$400) is rated at a mere 0.012 per cent wrms, as is the Pioneer PL-50 (also \$400); Pioneer's top-of-the-line PL-70 (\$750) with its "stable hanging rotor" motor system is rated at only 0.009 per cent wrms. Of course, the "peak weighted" values of flutter, which may correlate better with what the ear observes, would be two or three times higher, and in any case these measurements must be indirectly inferred since we know of no test record with values this low.

Sony continues to make its remarkable "Biotracer" tone arm (in which the effective arm resonance and tracking force are controlled by miniature feedback servo motors) available in turntables at progressively lower prices, such as the PS-X600 and PS-X55S (under \$300). Kenwood's turntable exhibit featured the "Plane Drive" said to eliminate totally the cogging (torque pulsations) which is a prime cause of infrasonic

rumble in older direct-drive systems. Hitachi exhibited its TU-1000 (\$1,250) with a flutter rating of only 0.006 per cent wrms, plus exceptionally thorough damping to suppress vibrations and acoustic feedback. Last year Lux drew a lot of attention with its PD-555 "vacuum disc stabilizer" turntable with a porous platter connected to a vacuum pump; you place a record on the platter and switch on the pump, which sucks out the air beneath the platter so that atmospheric pressure clamps the disc solidly to the platter, thus damping out any unwanted vibrations in the record itself. Lux has now developed a less expensive version, the PD-300 (under \$1,000), in which the motor-driven vacuum pump is replaced by a one-stroke manual vacuum pump operated by the user. JVC also showed a sleek—and expensive—vacuum-stabilized record player. Technics demonstrated four lower-price ultra-compact linear-tracking turntables based on their successful SL-10 model. And a final note: the straight tone arm, popularized by Germany's Dual over the past half-dozen years, is now coming into vogue in Japan.

## Accessories and Systems

Shirt-pocket cassette players (and lightweight headphones) are being produced in abundant variety, some with FM tuning circuits and a few capable of recording as well as playback. Headsets with built-in FM radios are not a new idea, but Sony showed one with a true digital frequency-synthesis tuner as part of its headband. Sanyo's shirt-pocket stereo player is even smaller than usual since it accepts stereo microcassettes instead of standard cassettes. A quick headphone listening test with a prerecorded tape revealed a frequency response extending to about 9,000 Hz. The hiss, wow, and flutter were unobtrusive. Audio-Technica's "Eskimo" line of lightweight headphones offers a broad choice of brightly colored ear muffs.

The latest bit of hi-fi component jargon is "compo," meaning a system of components made by a single manufacturer and sold as a package, either stacked in a rack or enclosed in a single chassis. Sony, Pioneer, and other major manufacturers each had several compos at assorted price levels, but easily the most unusual example in this category was the Mitsubishi X-10 Setup Compo consisting of the company's LT-5V vertically standing direct-drive turntable with straight-line-tracking tone arm plus a cassette deck, AM/FM tuner, and stereo amplifier mounted in its base. Sony and Aiwa are among the manufacturers offering "stereo receiver decks," with a programmable cassette deck, tuner, and amplifier combined in one chassis with full remote control.

For the audiophile who is especially interested in off-the-air taping, Pioneer offers the RX-70 and RX-50 tuner/decks combining a full-logic, solenoid-operated, metal-ready cassette deck and a digital frequency-synthesis tuner in one chassis with a built-in digital timer for programmed recording. Sharp's "Succeed D5" compo rack is a full set of components designed to be controlled and programmed by a home



The shirt-pocket-size, metal-ready RD-XP1 microcassette player from Sanyo (Otto).

computer, and until you get your computer the required control signals can be produced by an accessory wireless-remote-control module. The system's amplifier has a digital readout to display the volume-control setting (for example, "-22 dB") plus illuminated displays showing the balance and tone-control settings graphically. Sharp/Optonica was also showing a home computer performing an automated mix-down from four cassette decks onto one.

## Digital and Video

These two categories fall together because digital audio recording depends so heavily on video-derived technology for its execution. Among the strongest drawing cards for Japanese audiophiles at the Tokyo Audio Fair were the demonstrations of the Philips/Sony Compact Digital Disc (CD) players. As you probably know, all of the so-called "digital" records currently available in shops are conventional analog discs derived from digitally recorded master tapes. The technical problems involved in making a true digital record which stays in digitally encoded form until you play it at home have just about all been solved, and the remaining major obstacle is to get manufacturers of players and records to agree on a standard format. A player is useless without records, and record manufacturers are unwilling to make a dozen different versions of every record to fit differing players; ideally there should be just one worldwide standard format (or at worst not more than two or three) for digital records.

The prospect for digital standardization was given a big boost last summer when Sony abandoned its own digital-disc system and joined forces with Philips to refine and

promote the Compact Disc as the standard system. At the Fair both Sony and Philips were demonstrating their CD players to attentive crowds with a variety of classical, pop, and jazz recordings already produced in digital form. The CD digital records are only about 4¾ inches in diameter and are played by a little solid-state optical laser, so they are virtually immune to such common record-playing problems as dust, wear, and acoustic feedback (see David Ranada's "Audio/Video News" column on page 20 in this issue for technical details).

If the CD player does come to be adopted as the universal standard format for digital records, other Japanese manufacturers will be ready: Pioneer, Toshiba, Hitachi, and Sharp showed prototypes or working versions of their laser-read digital-disc players, some of which did not follow the Compact Disc format. When will you be able to buy one—and the digital records to go with it? Current guessing is that by mid-1982 either the CD system will have been adopted by international agreement as the standard or, if not, enough manufacturers will have agreed to market CD players that it will become the standard *de facto*. Enough record manufacturers will then agree to manufacture CD records so as to make purchase of the players worthwhile. (Even then, it will of course take quite a while to produce a large enough *variety* of digital records to compete seriously with the available array of analog discs; it is unlikely that your present turntable will be technologically unemployable until very late in the decade.)

Of course it is still possible that the CD system *won't* become the principal standard for digital audio discs, since proponents of other systems remain convinced of their own machines' virtues. For instance, any of the three (shortly to be) available kinds of

videodisc players can be used to play full-size (12-inch) digital-audio discs simply by adding an outboard adaptor to decode the signals. Pioneer has successfully demonstrated its optical-disc video player with a Model 2014 digital decoding adaptor, with impressive-sounding results, and Toshiba and Mitsubishi had similar systems on display at the Tokyo Fair. Toshiba also showed a hybrid: a 12-inch optical-disc player with built-in PCM decoding circuits instead of video circuits; they also suggested adoption of the 12-inch optical disc as the Type I digital standard and the 4¾-inch Compact Disc as the Type II digital standard format. Meanwhile, JVC and Matsushita are marketing a non-optical videodisc system called VHD (Video High Density) and a digital-audio version of the same player called AHD; Yamaha's exhibit included a large AHD digital-audio disc display. The standards battle is far from over.

In the area of consumer digital tape recording, a standard has already been adopted for adaptors which convert audio signals into digital and then into pseudo-video form for recording on ordinary videocassette decks. Such adaptors were displayed by Aiwa, Hitachi, JVC, Toshiba, Sanyo, Alpine, Mitsubishi, and Sharp/Optonica; their only problem is cost—\$3,000 to \$6,000. The next step is to combine the converter circuitry and the recorder into a single self-contained unit, to be known as a PCM stereo tape deck. Pioneer showed one using a Beta-format tape transport, while Sharp and Technics exhibited versions with VHS transports. In the Technics unit the array of over one hundred ICs required for the record/play converter circuit has been replaced by a handful of LSIs (large-scale integrated circuits); this may help to bring the system's price down, though it's unlikely

to become competitive with analog tape recorders for consumer use in the foreseeable future. Alpine showed a compact PCM deck using a special small cartridge made by Funai. And rumor has it that negotiations are afoot to resurrect the Elcaset format for home PCM use.

In video perhaps the largest uncertainty is which (if any) of three proposed videodisc formats will become dominant, the optical (Magnavision, Laserdisc), SelectaVision, or VHD system. At the Audio Fair and Japan Electronics Show optical videodisc players were shown by Pioneer, Sanyo, Sansui, Kenwood, and Mitsubishi, but Mitsubishi was also showing a VHD player and Toshiba, hedging its bets, exhibited prototype players in *all three* videodisc formats. Sansui pointed out that its optical-disc exhibit does *not* reflect any commitment to a specific format; rather, it represents Sansui's interest in being ready to make a digital-audio disc player as soon as standards appear. Sansui showed side-by-side the bulky laser (and associated power-supply) electronics used in the first-generation optical-disc players and the very compact and efficient diode laser which will be used in future digital-audio and videodisc systems.

Toshiba showed a slim monochrome *shirt-pocket* TV with a 2-inch-diagonal liquid-crystal-display (LCD) flat screen instead of a picture tube. Not as small but very attractive is Sony's tiny three-inch Trinitron color TV, surprisingly detailed for its size (Model KV4P, \$500). For videophiles on the move Sony has a very compact Betamax videocassette deck (playback only) mounted together with a small (5-inch?) Trinitron color TV ideal for use in a van, in the back seat of a limousine, or for alternate-shift long-haul truckers.

In a slightly more conventional vein, Sony and Matsushita (Panasonic) were showing new videocassette decks of the Beta and VHS types, respectively, both with excellent picture quality and the most refined special-effects processing we've seen, including slow motion at various speeds with absolutely no trace of horizontal noise bars. And Sony was showing their new "Profeel" monitors with picture tubes (from 5 to 23 inches) having such excellent performance that some of Sony's competitors were using them to demonstrate the quality of their video players and computer-information terminals.

## Last Words

If we have touched upon items that interest you, *please* don't write to us asking when and where you can buy them; we don't know. Watch for announcements in our "New Products" columns or write to the manufacturer's U.S. office. Who knows—if enough people write inquiring about a product they might even decide to bring something into this country which otherwise would have been left in Japan, where audiophiles and videophiles have a noticeably broader range of specialized products and accessories to choose from than we do here. □



Optical videodisc players from Kenwood (above) and Sanyo (below)

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# DIGITAL AUDIO: A PRIMER

**N**ow that a home digital-audio playback system is on its way, it's high time that market-wise audiophiles learned the basics of digital audio so they won't be confused or bamboozled by advertising copy or product brochures. The fundamental principles of digital sound are really quite simple—easier to understand, in fact,

than other, more familiar aspects of audio, such as, for example, stereo FM. This short primer is meant to give the reader a confident feel for those principles and will therefore ignore the frills—such digital-audio esoterica as DAC monotonicity,  $\sin X/X$  compensation, phase-compensated filters, floating-point encoding, and dither signals.

**D**IGITAL audio can perhaps best be explained through an analogy. Suppose a cabinetmaker friend of yours wants to make a duplicate of an ornate table you own. You could lend him the original table (corresponding to live music) or perhaps give him a scale drawing (an analog recording) from which he could make his copy. The first method might be both risky and impractical; the second would require highly accomplished drawing skills. A third method would be to send him a "digital recording"—a sheet of paper on which is written a list of detailed measurements of the original table. As long as he knows exactly which measurement applies to which part of the table, the degree of fidelity with which the table can be reproduced depends solely on (1) the accuracy of the measurements you send and (2) how well your friend can duplicate them using his own tools. Likewise, the fidelity of a digital-audio system depends only on (1) the accuracy and precision of the measurements made on the original audio waveform and (2) the ability of the playback equipment to turn those numbers back into a varying audio voltage.

The analogy points up another important aspect of the digital process: its immunity from error. If your cabinetmaker friend lives two thousand miles away, the chances that the original table will arrive undamaged (distorted) are low. Distortion is also difficult to avoid in even the most carefully drawn scale representation. And even if a perfect scale drawing were to arrive intact at its destination, it still might have been folded, spindled, or otherwise mutilated. If irreparable damage has been sustained by the drawing (read "record grooves"), there goes any chance of exact duplication.

But digital recording is quite immune to these types of signal degradation: as long as the measurement numbers on the list can be

read at all, a duplicate table can be made. Your friend can even "regenerate" a damaged copy of the list by recopying it by hand. And you could yourself make the list even more immune to damage by sending several copies of it on the same sheet of paper. In this way, even if much of the sheet were to be destroyed there would be enough surviving "redundant" data to ensure proper completion of the table.

Digital audio similarly has a resistance to error. A digital-audio recording contains not only the original waveform measurements but also error-detection and -correction data. These data enable the digital playback system to tell whether the original measurements have been damaged and how to correct the errors using redundant data placed in the recording.

So far, so good—but you're right: Beethoven's Fifth is not like a table (although I've heard some pretty wooden performances of it). How are measurements made on an audio signal so that one can safely say that it is recorded with fidelity? And how are those measurements translated back into an audio signal so that it is (almost) indistinguishable from the original? The answers are: (1) through the very high *rate* of the conversion of the audio signal to and from numerical measurements, and (2) through the accuracy and precision of the measurements themselves. In other words, digital audio operates very fast and very carefully. These two aspects of the process relate to the two most fundamental operations in digital audio: *sampling* and *quantization*. To discuss these we'll have to complicate our analogy and dive just a bit deeper into digital theory.

## Sampling

Let us say that the table to be copied has a rather ornate top, the edge of which consists of a compound "pie-crust" curve. And if you look closely at the table edge, you'll see various narrow undulations, some put there by the original maker's tools, others produced by wood grain, cuts, or scratches. Greatly magnified, a section of it might look like this:



This same curve might also be an audio waveform as displayed on an oscilloscope screen. In this interpretation, time runs from left to right and the height of the curve represents the audio voltage at any instant. High frequencies (the narrow peaks) are undulations that occupy short time periods; low frequencies take longer and appear wider. If we want someone to reproduce this tracing, what kind of measurements should be made and sent?

One simple measurement method is called sampling. To sample the table edge you would make a series of *regularly spaced* horizontal measurements (samples) of the distance of the table edge from some baseline (such as a line down the center of the table). Your friend would then take your measurements, plot them out on a piece of wood using the exact same horizontal spacing as you did, and cut along the resulting plot. In audio, you'd measure the audio voltage at regular intervals. On playback, a circuit would generate the same voltages, with the same spacing in time, as are specified by the list of measurements.

What is the *minimum spacing* between

By David Ranada

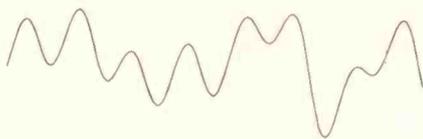
measurements that will make it possible to capture all the fine detail in the original table edge (or waveform)? You can get an intuitive feel for the answer by considering the following. If the narrowest undulation of the table edge is  $1/64$ -inch wide and measurements were taken every  $1/4$  inch, you'd miss all the fine details between the  $1/4$ -inch samples. The table might, in fact, have a deep but narrow  $1/64$ -inch cut which was straddled by two  $1/4$ -inch samples. And if one of the  $1/4$ -inch measurements landed right in the cut, your friend would end up with a gouge at least  $1/4$ -inch wide on his table edge, for he has no way of knowing from the list of measurements you supplied that the cut was originally only  $1/64$ -inch wide. In digital audio, samples that are too widely spaced also lead to incorrect waveform reconstruction. To avoid this, you might take as many closely spaced samples as possible, but this would create billions of measurements, not all of them necessary. Fortunately, there is a simple way to determine how frequently you need to take samples.

**T**HE mathematical model of the waveform sampling process says that the spacing between the samples must be at most no more than one-half the length of the narrowest table-edge undulation you want to record (which is to say that the narrowest wiggle of interest must receive at least two measurements). Translated into audio terms, the sampling must take place at least twice as frequently as the highest frequency you wish to record. If the audio waveform includes a 20,000-Hz signal, samples of it must be made at least 40,000 times per second. If the sampling rate is too low, an original high-frequency waveform (the  $1/64$ -inch cut) would come out in replay as an unwanted low-frequency signal (the  $1/4$ -inch gouge). This is called "aliasing" distortion, because the spurious low-frequency signals thus produced are to the originals as a false identity, or "alias," is to a real person.

Two things must be done to eliminate aliasing. First, the sampling rate must be at least twice the highest frequency you wish to sample (this is called the Nyquist frequency). Second, frequencies above the Nyquist frequency must be eliminated from the signal entering the sampling process. In digital audio this is performed by a very sharp-cutoff low-pass (high-frequency-cut) filter, which is named, sensibly enough, an *anti-aliasing filter*. Such a filter is generally the first circuit an audio signal encounters as it enters a digital-audio recorder. (The cabinetmaker's equivalent might be a machine that rounds off sharp corners by a sanding process.)

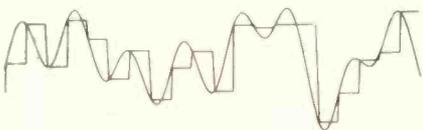
The sampling rate should also be as low as possible so that the number of measurements is kept down to a practical level. In order to preserve the digital-audio system's frequency response out to 20,000 Hz, the sampling rate chosen in today's digital recorders is above 40,000 Hz. The anti-aliasing filters are designed to cut out frequen-

cies above 20,000 Hz. The sampled output from the filter is a smoothed version of the original, all the ultrasonic frequencies having been removed (it's okay—you can't hear them):

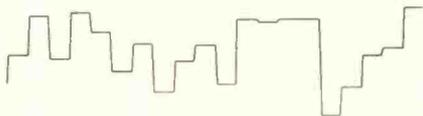


It is this waveform that is considered to be the "original signal" to be copied by the digital recording process.

Now, the circuits that are used to measure the samples need a little time to do so. Therefore, a device that is called a *sample-and-hold circuit* (S/H) "freezes" the audio voltage at the instant of sampling, holds it there while the measurement is made, and at the next sampling time freezes the audio signal again. Here is the S/H output overlaid on the filtered original signal:



The S/H output alone is fed to the measurement circuits:



If every step so far has been done correctly (no too-high frequencies, samples regularly spaced, audio signal precisely frozen), in theory no degradation of the original signal has occurred; it has merely been transformed into something suitable for electronic measurement. But the measurement process, even if it is done perfectly, does introduce some errors, and we should look a little closer to see what they are.

## Quantization

The second fundamental principle of digital recording, "quantization," refers to the generation of a number during the measurement process. To quantize the table-edge waveform, at each sampling point you'd use a ruler to measure the distance in inches between the table edge and a reference line

drawn down the center of the table. During this process, you must round off the measurement to the nearest marking on the ruler. If the ruler has marks spaced only every  $1/2$  inch, then the set of measurements will be to the nearest  $1/2$  inch. Obviously, if the table edge has bumps and dips that are only  $1/8$ -inch high,  $1/2$ -inch resolution is not sufficient to "record" the table accurately.

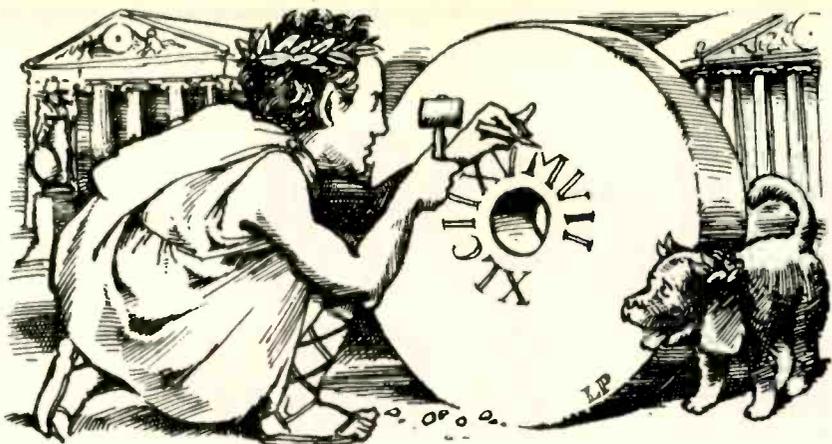
With an audio signal, what is quantized is the voltage of the audio signal at the sampling instant (specifically, the voltage frozen at the sampling point by the S/H). A circuit called an analog-to-digital converter (ADC) compares the audio voltage with the electronic equivalent of a ruler and generates the electronic code number which most closely represents the input voltage.

On playback, a digital-audio system will retrieve the numbers from the recording medium (digital tape or disc) and feed them into another specialized circuit called a digital-to-analog converter (D/A or DAC). This circuit generates an output voltage corresponding to the code numbers using the same voltage/number relationship as the original ADC.

The ruler-marking problem we encountered above with the table also exists in digital audio. How fine must the quantization steps (voltage levels) be before high fidelity can be achieved? If the audio signal had meaningful undulations of 1 millivolt (one thousandth of a volt) and the ADC could only distinguish changes of 1 volt, there'd be a problem. However, unlike the case of the sampling-rate problem (simply sample at a rate twice that of the highest frequency), there is no easy answer here.

The difference between the recorded number and the actual value you would get if the ruler had infinitely finely spaced markings is a signal error. In the case of the table, your friend would end up with an edge which closely, but not exactly, matched the original. The audio equivalents of such differences between input and output are noise and distortion. This quantizing noise can be minimized by using more closely spaced markings on your electronic "ruler," but there are ramifications to this: First, increasing the resolution (the fineness of the changes the system can distinguish) also increases the length of the number generated (think of 3 inches as opposed to, say, 3.025 inches), making compact storage of the numbers more difficult. Second, with digital audio it becomes increasingly difficult for electronic reasons to make extreme-





ly fine markings on the "ruler" so that accuracy does not suffer. Nonetheless, that is what we must do, for only an increase in the resolution will decrease the amount of noise and distortion generated by the record/playback system in digital audio.

The resolution of a digital-audio system is measured in "bits," each bit being a power of 2. Thus a sixteen-bit digital-audio system divides the voltage range being used into  $2^{16}$  (65,536) discrete levels, each one identified by a sixteen-place binary number ("binary" meaning made up only of 0s and 1s). The theoretically best signal-to-noise ratio obtainable with such a system is 98.08 dB, each bit adding about 6 dB to a digital-audio system's noise performance (equivalent to a doubling of the number of markings per inch). A slightly lower performance level is obtained in practice owing to inaccuracies in the ADC/DAC system and noise added by the S/H and filter stages.

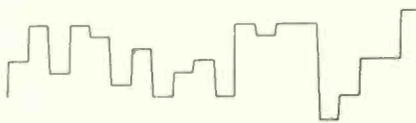
## Signal Reconstruction

We've been mostly concerned with recording up till now. With playback, however, additional problems arise. A major one concerns the numerical data as it comes off the digital tape or disc; another has to do with the DAC-regenerated signal.

Numbers do not come off a digital tape or disc at a steady rate, yet the accuracy of the digital process depends on the regularity of the spacing of the samples in both recording and playback. In the table analogy, it's as if the cabinetmaker had someone reading back the list of measurements to him somewhat haltingly and not exactly when he needs them, with the result that the plotted horizontal spacings come out unevenly. Such deviations from regularity would be perceived in audio either as noise, distortion, or wow and flutter. Eliminating this problem is easy if a kind of "scratch pad" is used on which a backlog of the numbers is stored. Numbers can be removed from the scratch pad at a regular rate regardless of how irregularly they are entered on it. As long as the pad does not become full or empty, wow, flutter, and other timing-related distortions can be eliminated. And this is just what is done with a digital-audio system; the scratch pad is made of electronic digital memory circuits (such as those used in computers), and the timing of the

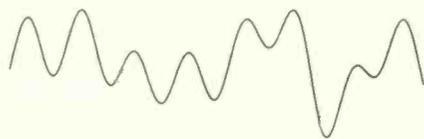
release of the numbers is regulated by a crystal oscillator (as in digital watches).

The output of a DAC receiving the regularly timed numbers looks like this:



You will note that it looks very similar to the S/H waveform in the "Sampling" section above, except that some of the levels have been changed slightly. This is because the quantization process has rounded off the S/H levels to the nearest quantization level. This vividly shows how distortion and noise arise from quantization. These traces, however, are of a four-bit quantization system with a 25.8-dB signal-to-noise ratio at best. A sixteen-bit system would have much better performance.

If you analyzed this waveform mathematically, you'd find that it contains a copy of the original waveform (within the accuracy and precision of the quantization process) plus a lot of extraneous high-frequency components. Fortunately, these components are related to the original signal in a special way: they all lie above the Nyquist frequency. Another very sharp filter is necessary to remove frequencies above the Nyquist frequency; this time it is called an *output-smoothing filter*. Its output looks like this:



In our table-edge analogy, this filter would again be some sort of machine that fills in small holes and rounds off sharp edges.

If you took the difference between the output-smoothing filter's output and the original signal, you'd be left with only the noise and distortion products:



Although you can't tell by looking, this noise and distortion is about 25 dB lower

than the original signal level—exactly as predicted for a four-bit system.

## Electronics

Engineer readers may be surprised at the lack of attention that has been given to binary numbers and other related aspects of digital audio. The simple fact is that binary numbers have little to do with the fundamental concepts of sampling and quantization. The numbers generated by the digital-audio process could just as well be Roman numerals chiseled into marble, although recording and playback of such a "solid-state" digital recording would be rather impractical.

"Digital" does, however, have a very specific meaning in electronics: it is a system that utilizes pulses to signify binary numbers. What makes binary numbers so advantageous for digital audio is that a binary number is composed of only 0s and 1s—corresponding to an open or a closed switch, respectively. And it happens that transistors make excellent electronically controlled switches; it is easier to turn a transistor into a switch than into an amplifier. So integrated circuits containing hundreds or thousands of interconnected transistor switches can cheaply and reliably perform the necessary digital operations in a digital-audio system. Integrated circuits have, in short, made digital audio practical for home use.

The official name for the digital process described here is "linear pulse-code modulation (PCM)"—*linear* because the quantization levels are always equally spaced; PCM because a numerical *code* made up of *pulses* is *modulated* by the audio signal. And it should be added that there are also other, less common ways to digitize audio (delta modulation, for example).

## A Review

To recap, digital audio is based on the concepts of *sampling* and *quantization*. A signal entering the system is first filtered to remove any extraneous high-frequency information (by the *anti-aliasing filter*); then it is sampled at precisely regular intervals (by the *sample-and-hold circuit*), and the samples are measured (*quantized*) by an *analog-to-digital converter*. The numbers generated by the ADC are stored on disc or tape. On playback, the numbers from the disc or tape are regularly fed into a *digital-to-analog converter*, resulting in a squared-off signal containing the original signal degraded by quantization errors. The DAC output is then fed through an *output-smoothing filter* to retrieve the original input waveform (minus the extraneous high-frequency information).

Frequency response is flat for a digital-audio system up to the Nyquist frequency. A high signal-to-noise ratio is the result of high resolution in the quantization. Wow-and-flutter is eliminated by precise control of signal timings. Freedom from error comes from the numerical, discrete nature of the process, a process which lends itself to self-correction and repeated copying with no degradation in signal quality. You need not build that table. □

# AARON COPLAND

The American composer is eighty

By Eric Salzman

**A**ARON COPLAND is eighty and so, in a very real way, is American music. Oh, sure, before Copland there were Billings and Stephen Foster and hymn tunes, minstrel shows, spirituals, a few ragtimes, *The Black Crook*, and even the first twenty-five years of Charles Ives. But it is in this century and in the lifetime of Aaron Copland that American music came to maturity. This is not entirely coincidental, since Aaron Copland had a great deal to do with that growing up.

Nowadays Copland views that world of music, of which he was so long a vital part, from the wooded slopes of the Hudson highlands north of New York City. At eighty, he is strong, straight, genial, courtly, charming, aristocratic, with only a distant touch of his native Brooklyn in his voice. He looks like a cross between an Old Testament patriarch and some gentle, lyrical bird of prey, but his voice is merry and his style is simple and sincere.

"I feel like a lucky fellow. I spent my life doing what I wanted; I wrote my music and I got it played. You have to have some good luck in this world."

Is it that simple? Copland has a way of taking things—in life as well as in music—down to basics, to the simple verities.

"How does it feel to be eighty? I'll tell you when I get there." The birthday is, at the time of our talking, still a few days away, and we are settling down of

a fall afternoon in the key room of the Copland abode—a striking, autumnal, lived-in library/music-room with windows and woods on three sides and a distant view of the Hudson off to the west. "You stick at it. It ain't so bad." Wind and clouds come whipping in from the northwest off the river, bringing a swirl of movement to trees, clouds, and leaves. Suddenly, the sun comes out and it begins to rain all at the same time. "Should be a rainbow somewhere." He laughs that particular infectious Copland laugh.

"I bought this house twenty years ago because of this room. I looked at it and I said to myself, 'A composer could write music in this room.'" He had just told me the same thing as we came into the room a few minutes earlier. Sometimes he forgets that he has just said something and repeats himself. It is virtually the only sign of age. Things that happened forty and even sixty years ago, however, are crystalline.

"When I first thought of studying with Nadia Boulanger, I hesitated. You know why? Because I couldn't think of any famous composer who had studied with a woman. Can you imagine that? Well, I was twenty-one years old and barely out of Brooklyn. And here I was in Paris in the Twenties. Of course we didn't *know* it was going to be 'Paris in the Twenties,' but that's what it turned out to be.

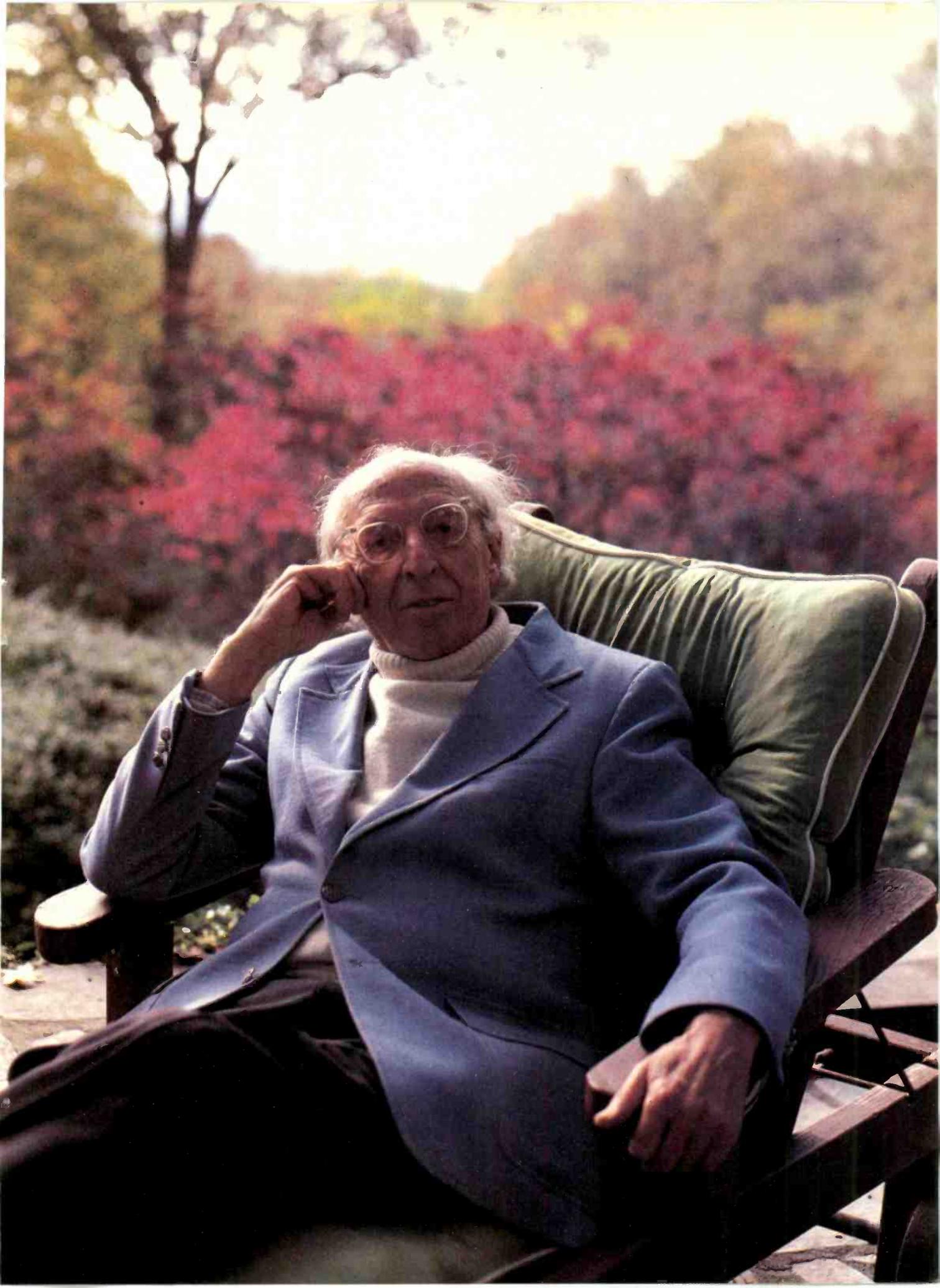
"The books say I went to Paris to

study with Boulanger, but of course I had no idea of that. Still, I can't imagine what my life and career and music would have been without her. She took me to Koussevitzky, who had just been invited to Boston. And Koussevitzky said to me, 'You will write a symphony for organ and orchestra and Nadia Boulanger will play the organ and I will conduct.' I had never written a note for orchestra. But Nadia said, 'You can do it,' and that ended the discussion. And of course it happened just the way Koussevitzky said it would.

"I don't know what my life would have been like without Koussevitzky and Boulanger. Yes, that's her picture. That's Koussevitzky. That's Carl Rugles in front of that schoolhouse he lived in. That's my old friend [critic, teacher, writer] Harold Clurman. He's dead now. We roomed together in Paris for three years."

He turns from the pictures over the fireplace. "I've been here for twenty years. It was this room that sold me on the place. When I saw it, I said to myself, 'A composer could write music in this room.'"

**T**HE mood, like the weather, is autumnal—not because Copland is forgetful or even because he is eighty, but because we both know that precious little music has actually been written in this room. Copland is hardly inactive in musical life, and he leaves his Westchester



"Quite simply, he was *the* American composer to the larger public and he took that office, from the very first, as a trust."

sanctuary all the time to conduct. He is in demand as a conductor of his own music—especially this four-score birthday year. There are other things—an autobiography in the works, perhaps—but there has been no new music for some time.

Copland's explanation is characteristically simple. "I don't have any ideas. Either you get ideas or you don't. If you don't have ideas, there's nothing to work with. Maybe I'll have an idea tomorrow. One always lives in hope."

**B**UT whether or not he ever writes another note, what he has already accomplished is unshakable. From that early Organ Symphony to the modernistic and jazz-inspired pieces of the Twenties to the simpler, more accessible dance, theater, and film scores of the Thirties and Forties to the surprising, serious, serial pieces of the Fifties and Sixties, there is a tremendous range to Copland's work, a refusal to be pigeonholed. This is all the more extraordinary when you realize that he is the man who invented (and then turned away from) "the Copland style," the ultra-successful, still-persistent, "Americana" musical style that has galloped across a thousand concert halls, ten thousand movie screens, millions of TV tubes—sometimes with Copland's name attached, rather more often not.

"Of course we *wanted* to create an American style. First of all there was the example of Ives. I remember opening the mail one day and there was a package with his *114 Songs*. Written, composed, printed, and sent around free by Ives himself. France had something to do with it. When I studied there, I realized that the German Romantic style that was in vogue in America was not the only possibility. The French had their own style. Why couldn't we have one in America too? And then there were jazz and pops, which sounded 'American' in a way the whole world appreciated. Why not an 'American' concert music?"

How does it feel to have created a style that is, or has become, so often ripped off and so generically American that many people recognize it without

being able to identify its source? "I'm innocent, I'm innocent!" That very special, hearty Copland laugh ensues. "But, of course, I feel both flattered and annoyed."

It might seem obvious to a younger observer that Copland's Americana—the radical simplification of his music in the Thirties, the desire to reach out to a wider public, the use of folk or folk-like material—are connected not with a desire to "go commercial" but with the political and intellectual movements of those days. But Copland's description of the process is even simpler. "Music comes from musical ideas. You have an idea, you write it down. I always had a book of ideas and sketches. If a commission comes, you look at the book and find something appropriate. It was all purely musical." His explanation for his more difficult or introverted pieces is the same—that's the way the ideas came to him. "I never felt a dichotomy. It all came out of me." Somehow, like his music, the explanation is simple, convincing, quite full enough.

## THE MUSIC OF AARON COPLAND: A SELECTED DISCOGRAPHY

- *Appalachian Spring (Suite); Billy the Kid (Ballet Suite); Rodeo; El Salón México.* New York Philharmonic, Leonard Bernstein cond. COLUMBIA MG 30071 two discs.
- *Connotations for Orchestra; In-scape.* New York Philharmonic, Leonard Bernstein cond. COLUMBIA MS 7431.
- *Fanfare for the Common Man; A Lincoln Portrait* (with Charles Ives' *Three Places*). Adlai Stevenson (narrator); Philadelphia Orchestra, Eugene Ormandy cond. COLUMBIA MS 6684.
- *Old American Songs; Concerto for Clarinet and Orchestra.* William Warfield (baritone); Benny Goodman (clarinet); Columbia Symphony Orchestra, Aaron Copland cond. COLUMBIA MS 6497.
- *Our Town (Suite); Quiet City; Outdoor Overture; Two Pieces for String Orchestra.* London Symphony Orchestra, Aaron Copland cond. COLUMBIA MS 7375.
- *Piano Music (complete solo piano works).* Leo Smit (piano). COLUMBIA MS 35901 two discs.
- *Symphony No. 3.* New York Philharmonic, Leonard Bernstein cond. COLUMBIA MS 6954.

The woods of Westchester County, only forty or fifty miles north of Copland's birthplace on Washington Avenue, Brooklyn, seem like another world. But it should not be thought that the present squalor of that part of old Brooklyn has anything to do with its turn-of-the-century estate. Washington Avenue was often described as the most beautiful street in the United States, and even today traces of its former splendor can be observed. Copland's family, immigrants from Russia, did not live with the wealthy nabobs of Clinton Hill, but a bit further up—across the tracks, one might say—where Copland's father owned a department store. But it was a reasonably successful business, and the Copland family was not poor.

**I**T was a large family, and in it there were, as far as I know, no musicians, no artists of any kind. I was lucky—that word again—"to be the youngest of five. Everyone was away during the day except one of my sisters, who gave me my first piano lessons."

Later he studied with one Leopold Wolfsohn and then with Rubin Goldmark (nephew of the Goldmark who wrote *The Queen of Sheba* and the *Rustic Wedding* Symphony). He was too young for World War I (and, later, too old for World War II) but just the right age to become the first to choose Nadia Boulanger as his institute of higher education. By 1925, his Organ Symphony and his jazzy *Music for the Theater* had been heard, and the Piano Concerto was shortly to follow. The Boston and New York papers had already lambasted him; his career was launched.

It is easy to forget now that Copland was regarded in those days as a wild-eyed radical or, in his own words, as a "wild-guy modernist." The Boston critic Philip Hale—he was a real heavy in American musical journalism—said, "If this Concerto shows the present condition of Mr. Copland's musical mind, he is on the wrong track . . . little to attract, little to admire, much to repel . . . a shocking lack of taste or proportion." The other critics were less polite: "a jazz dance hall next door to a poultry yard"; "harsh, vociferous, lurid, defiant." Copland claims to have been able to take all this in his stride—bad reviews were even more of a badge of honor then than now—but his parents were upset. "The New York Times pays these fellows," his father told him. "They must know something."

Ironically enough, Copland's later turn to a simpler and more direct style was also attacked, particularly by younger musicians and colleagues who

accused him of "selling out," of "going commercial." But, in spite of Copland's current disclaimers, there is no doubt that the notion of reaching a wide public, disdaining elitism and avant-gardism, was in the air, part of the social and intellectual currents of the times. And no one realized the goals of that period better than Copland.

**B**UT Copland never gave up the "serious" side of his art. When his Piano Sonata appeared in 1940, critics again complained, this time about its seriousness; the musical materials are drawn from the popular Copland but the form and expression are serious and abstract. Still later, with the Quartet for Piano and Strings, *Inscape* (commissioned by the New York Philharmonic), and the Piano Fantasy, his return to an abstract, serious style and his incorporation of serial and twelve-tone elements astonished and dismayed the critics still further. Stravinsky's much-vaunted turn toward serialism and twelve-tone music was actually anticipated and undoubtedly affected by Copland!

Stravinsky was, of course, himself an influence on Copland, but it is one of those little ironies of history that the American Stravinsky was influenced by Copland also—in more than one work and in more than one way. And, of course, there is a whole host of younger composers—Lukas Foss, Leonard Bernstein, Irving Fine, Arthur Berger, and others—who were directly influenced by Copland. There was a period when half of the new music in America showed some kind of Copland touch, and, even today, when that influence is presumably at a low ebb, more than a trace of it can still be detected. One of the most interesting areas of influence is in pop music, particularly in Sixties-style folk rock. (I can illustrate this with a little story: When my friend and collaborator Michael Sahl was studying with Copland at Tanglewood in 1952 he wrote an art song, *Prothalamion*, in a style that was heavily influenced by the older composer. A few years later singer Judy Collins recorded the song—without a note changed—as an only slightly arty folk-rock song.)

**C**OPLAND'S creative work and stylistic influence would be accomplishment enough for anyone, but that wasn't the end of it for him. Early success somehow carried with it a sense of responsibility, a kind of moral commitment that, in the quietest and least ostentatious way, he never shirked. Quite simply, he was *the* American composer to the larger public and he took that office, from the very first, as a trust.



His star ascended so quickly and remained so fixed in the musical firmament that he became the natural leader and spokesman for a generation and more of American composers. "I was lucky," he keeps saying, as if modesty—it is a genuine humility—will keep away the wrath of the gods. Copland, who hardly had to "pay his dues" in the usual sense, paid them in another way. He has been this country's leading spokesman for new music and creative talent in music for most of his life. He has gone to bat for his colleagues, for young talent, and for new music tirelessly, year after year. The "lucky one" (with Gershwin, the most popular composer of his generation) took on the role of missionary and emissary. He founded concert series and festivals. He obtained funding—for other people's music, not necessarily his own. He founded the American Composers Alliance and then helped get ASCAP on its feet. He lent his name and served on more boards and for more good causes than any ten other musicians.

His writings about music include a whole series of articles, some of them in very public places, calling attention to new music and to the newest and youngest talents from Latin as well as North America. Unlike many American composers of the older and middle generations, he has never experienced the necessity (or inclination) to be a music professor, but as founding father

of the Tanglewood composition department—a genial presence, a stimulator and discoverer of talent as much as a traditional, formal professor—he has helped a generation and more of American composers find its way. When Copland was needed, when only the Copland name, reputation, or force of personality would suffice for a good cause, for a recommendation, to raise money, to organize some concert, publication, or recording, to get the attention of the media, the critics, or even the public, Copland was always there. He was there when he was needed in the mainstream—don't forget his marvelous *Rodeo* with Agnes DeMille—and he was there when he was needed by the avant-garde—with *Appalachian Spring* he and Martha Graham made "modern" American dance a force the whole world had to reckon with.

He is invited to conduct his own music rather often these days, and he likes doing it. "Great fun. The pay is good and all you have to do is wave your arms. The musicians do all the work and everyone seems to like it. Much easier than composing. You know, I would have pursued it sooner, but Koussevitzky would always shake his finger at me and say, 'You must not waste time conducting; you must stay home and compose.' I thought many times I would like to try, but I didn't really begin until Koussevitzky died. Anyway, by now I'm pretty comfortable with it."

He has conducted other people's music, but it is mostly his own that is in demand. He likes to play some of the lesser-known works—the *Orchestral Variations*, the *Short Symphony*, *Inscape*, *Statements*, the *Nonet*—along with the great popular favorites.

All told—if, indeed, the tabulation is final—he did not write a great deal. And yet, within this apparently limited output (there are hardly three dozen major works altogether) there is contained a whole history of modern American music: from the familiar to the far-out, from the simple to the complex, from jazzy and folky to twelve-toned, from a few early, tentative steps to a full-blown maturity that, however various and encompassing in style, hardly ever varied in quality or interest over almost half a century.

**T**HE wind, the clouds, the rain have come and gone and it is once again a brilliant fall Westchester day, the sun streaking across the Hudson in a late-afternoon, leaf-glowing display. "I never felt a dichotomy," Copland says—and again the genial laugh. "It all came out of me." Yes. Simple, convincing, and quite enough. □

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# Stereo Review's Record of the Year Awards for 1980

in recognition of significant contributions  
to the arts of music and recording  
during the 1980 publishing year

**T**his issue of February 1981 marks the fourteenth consecutive year of STEREO REVIEW's selection of the outstanding records of the year. It is not easy to make such a selection. Despite the financial problems that seem to plague the recording industry, new recording is rampant and the actual number of releases each year is staggering. No individual can possibly hear everything—even once. And so news about outstanding records in any given field seems to filter down from those who are specialists in that field, and the rest of us then, somehow, manage to hear at least those outstanding discs. Deciding, finally, whether these apples are better than those oranges is always a tricky business, but the variations from year to year in the kinds of music that get the awards seem to indicate that some very real comparative evaluation has preceded the voting.

The voting, as I take pains to say almost every year, is based totally on what we perceive as quality and real contribution to the body of recorded music. The quality of recorded sound is an element in this, as is the quality of performance, but it would be inaccurate to say that we are not also influenced by the quality of the music itself. One thing, however, plays no part in the selection: commercial success. Theoretically the latter should be its own reward, but in actual practice there are honors heaped upon those records that have little more to recommend them than that they have sold well. Our awards will not be among them. Neither will we honor

commercial failure. We are interested only in artistic success.

The awards this year, I am happy to say, are all over the musical map. It is nice to see such polar opposites as the Clash and Pink Floyd each end up with a gold plaque. There are a couple of very new artists (Lacy J. Dalton and Willie Nile) who will certainly go on to even greater public success, and at least one, Rosemary Clooney, who comes back center stage after a long absence. In the classical field, 1980 seems very much to have been an operatic year, with no less than five complete operas among the winners, three of them anything but standard operatic fare.

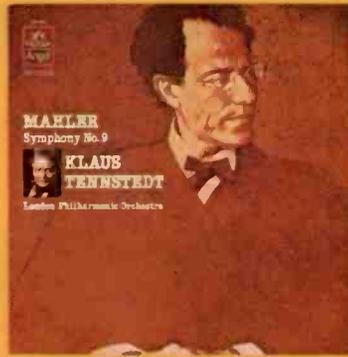
And 1980 was also the year in which digital recording techniques set an unmistakable stamp on the market, one that promises to be even more prominent in the future. The Debussy *Images* was Angel's first digital recording to be released in this country, and Mozart's *Magic Flute* was Deutsche Grammophon's first. They presage a flood of repertoire recorded with the new techniques, and if the musical values to come match those of these two releases it will be a happy time for us all.

The record business has had more than its share of problems in the past year, but in terms of the quality of many of the records released, at least, it was a year of considerable accomplishment. Our awards show only the peak of a sizable mountain of achievement. Those responsible for it have good reason to be proud of their work.

James Goodfriend, *Music Editor*



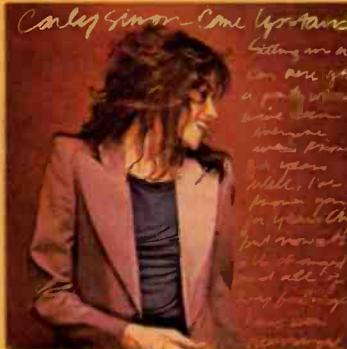
THE CLASH: *London Calling*. EPIC E2 36328.



MAHLER: *Symphony No. 9* (London Philharmonic, Klaus Tennstedt cond.). ANGEL SZB-3899.



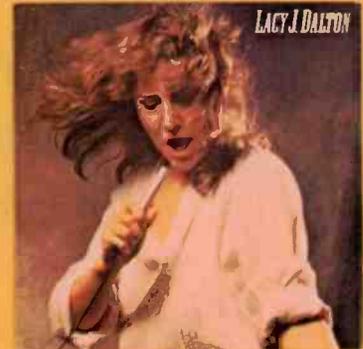
RUGGLES: *The Complete Music* (Judith Blegen, Gerard Schwarz, Leonard Raver, others; Buffalo Philharmonic, Michael Tilson Thomas cond.). CBS M2 34591.



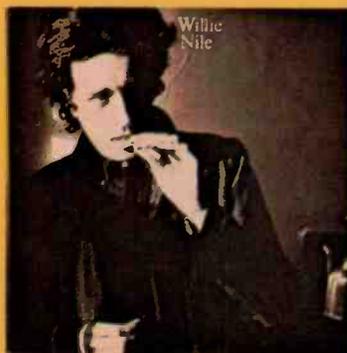
CARLY SIMON: *Come Upstairs*. WARNER BROS. BSK 3443.



PINK FLOYD: *The Wall*. COLUMBIA PC2 36183.



LACY J. DALTON. COLUMBIA JC 36322.



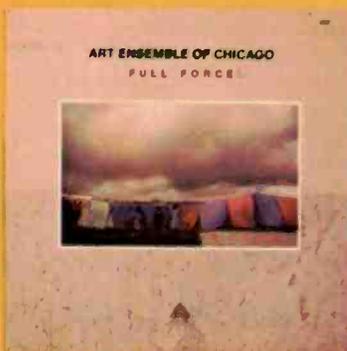
WILLIE NILE. ARISTA AB 4260.



MOZART: *Symphonies Nos. 18-27* (Academy of Ancient Music; Jaap Schroeder, Christopher Hogwood cond.). L'OISEAU-LYRE D169D3.



JANÁČEK: *The Makropulos Case* (Elisabeth Söderström, others; Vienna Philharmonic, Charles Mackerras cond.). LONDON OSA 12116.



ART ENSEMBLE OF CHICAGO: *Full Force*. ECM ECM-1-1167.



DEBUSSY: *Images; Prélude à l'Après-Midi d'un Faune* (London Symphony, André Previn cond.). ANGEL DS-37674.



MOZART: *The Magic Flute* (Edith Mathis, José van Dam, others; German Opera Chorus; Berlin Philharmonic, Herbert von Karajan cond.). DEUTSCHE GRAMMOPHON 2741 001.

# Record of the Year Awards for 1980

SELECTED BY THE EDITORIAL STAFF AND CRITICS  
FOR THE READERS OF STEREO REVIEW

Certificate of Merit  
awarded to

**Aaron Copland**

for his outstanding contributions  
to the quality of American musical life



## Honorable Mentions

JOAN ARMATRADING: *Me Myself I*. A&M SP-4809.

C. P. E. BACH: *The Four Hamburg Symphonies* (English Chamber Orchestra, Raymond Leppard cond.). PHILIPS 9502 013.

GEORGE BENSON: *Give Me the Night*. WARNER BROS. HS 3453.

BERG: *Lulu* (Teresa Stratas, Yvonne Minton, Kenneth Riegel, others; Paris Opera Orchestra, Pierre Boulez cond.). DEUTSCHE GRAMMOPHON 2711 024.

ROSEMARY CLOONEY: *Sings the Lyrics of Ira Gershwin*. CONCORD JAZZ CJ-112.

MILES DAVIS: *Circle in the Round*. COLUMBIA KC2 36278.

DEBUSSY: *Pelléas et Mélisande* (Richard Stillwell, Frederica von Stade, others; German Opera Chorus; Berlin Philharmonic, Herbert von Karajan cond.). ANGEL SZCX-3885.

DELIBES: *Coppélia* (Rotterdam Philharmonic, David Zinman cond.). PHILIPS 6769 035.

HINDEMITH: *Mathis der Maler* (Dietrich Fischer-Dieskau, James King, others; Bavarian Radio Chorus and Orchestra, Rafael Kubelik cond.). ANGEL SZCX-3869.

BILLY JOEL: *Glass Houses*. COLUMBIA FC 36384.

LISZT: *Concert Etudes; Réminiscences de Don Juan* (Jorge Bolet, piano). L'OISEAU-LYRE DSLO 41.

MAHLER: *Songs of a Wayfarer; Rückert Songs; others* (Frederica von Stade, mezzo-soprano; London Philharmonic, Andrew Davis cond.). CBS M 35863.

MOZART: *Piano Concertos Nos. 8 and 22* (English Chamber Orchestra; Murray Perahia, piano and cond.). CBS M 35869.

MUSICA RISERVATA OF LONDON: *A Concert of Early Music* (Jantina Noorman, mezzo-soprano; Michael Morrow cond.). VANGUARD VSD-71223.

BERNADETTE PETERS. MCA MCA-3230.

TOM PETTY AND THE HEARTBREAKERS: *Damn the Torpedoes*. BACKSTREET/MCA MCA-5105.

THE POLICE: *Reggatta de Blanc*. A&M SP-4792.

PRETENDERS. SIRE SRK 6083.

PROFESSOR LONGHAIR: *Crawfish Fiesta*. ALLIGATOR SL 4718.

SCHOENBERG: *Gurrelieder* (James McCracken, Jessye Norman, others; Tanglewood Festival Chorus; Boston Symphony, Seiji Ozawa cond.). PHILIPS 6769 038.

THE SOUND OF TRUMPETS (New York Trumpet Ensemble; Y Chamber Symphony of New York; Gerard Schwarz, trumpet and cond.). DELOS D/DMS 3001.

SQUEEZE: *Argybargy*. A&M SP-4802.

TONIO K.: *Amerika*. ARISTA AB 4271.

ZELENKA: *Six Trio Sonatas* (Heinz Holliger, Maurice Bourgue, oboes; others). DEUTSCHE GRAMMOPHON ARCHIV 2708 027.

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# STEREO REVIEW'S SELECTION OF RECORDINGS OF SPECIAL MERIT

## BEST OF THE MONTH



### • The Seriocomic Country Rock of Bobby Bare •

As at least half the world must know by now, the best country music has a definite literary quality. The country rock of Bobby Bare in his new Columbia album "Drunk and Crazy," mostly written by Shel Silverstein, has that—and it is also the funniest record I've heard in years. I don't usually recommend buying comedy albums because, nine times out of ten, you'll enjoy hearing them only once, but this is different; it's a *funny* album. Its zany stories are set to real music, sung in Bare's outlandish but friendly style, and played by some boys who enjoy bouncing off each other instrumentally as much as Bare enjoys the punch lines.

The Bare/Silverstein team is basically anti-hypocrisy in a good-old-boy mode. It says the irreverent things that most people think, yet it doesn't really put anybody down—at least not anybody you and I give a damn about. Indeed, the narrator of these unlikely tales more often than not is satirizing himself. Bare has fleshed out the album with songs by other writers with similar tendencies, notably Bob McDill, and another normally more serious even than that, R. C. Bannon, who came up with the line "I've never gone to bed with an ugly woman/But I've sure woke up with a few." I guess my favorite of the batch is Silverstein's *Gotta Get Rid of This Band*, which will surely resonate with anyone who's ever been in a band. The lead guitarist eats natural foods and never takes a bath, the boys on bass and drums have taken to wearing make-up and holding hands, the steel player is a "honey-talking pretty boy . . . and the girls don't realize that

*I'm the star."* But most memorable is the piano player "who's been known to do some dope." The nonplussed Bare says, as only he can, "Sometimes he's just too damned stoned to help me reach the stand."

The jokes generally work on more than one level, so the band is of course also a microcosm of a larger social order—or disorder. This is true of other Silverstein concoctions as well. *Food Blues* finds cyclamates, cholesterol,

is a lament in advance for at least one way of life that will disappear when petroleum does. In *If That Ain't Love*, both funny and savage, our (good old) boy lists a number of terrible things he's done to his little woman—because he loves her, he says, but really because she's taken up with another old boy. While you're laughing on the outside you may be getting a chill on the inside, considering the ramifications of subjecting a certain kind of fragile male ego to the ravages of Modern Times.

There is that kind of tension in most of Silverstein's writing, and it usually manages to make you think about what is happening to all of us in addition to making you laugh. In the past Silverstein has tried singing (read squeaking) himself, but in Bare he has found a nearly perfect mouthpiece because the same kind of tension seems to run through him also. Bare is, one suspects, both a hell-raiser and a social critic. He knows both worlds, and so he gets the inflections right.

There are a few straight songs, too, and they're good ones. *Appaloosa Rider*, by George M. Jones, is the kind of thing lesser talents might have written a whole movie about; spendthrift of imagery, it talks about "Choctaw hair and eyes of blue/They'd call me Baby 'n' I was six-foot-two and looked lonesome." Guy Clark's excellent *Desperados Waiting for a Train* is taken a little faster than Jerry Jeff Walker took it and holds up beautifully. Bare's timing, on everything in sight, is really what makes the whole thing work. In addition to having a fine and honest baritone voice, the man is a natural story-

**BOBBY BARE:** *Drunk and Crazy*. Bobby Bare (vocals, guitar); the Pulleybone (vocals and instrumentals); other musicians. *Drunk and Crazy; Food Blues; The World's Last Truck Drivin' Man; I Can Almost See Houston from Here; If That Ain't Love; Rock and Roll Hotel; Song of the South; Appaloosa Rider; Bathroom Tissue Paper Letter; Willie Jones; Gotta Get Rid of This Band; Drinkin' and Druggin' and Watchin' TV; Your Credit Card Won't Get You into Heaven; I've Never Gone to Bed with an Ugly Woman; Desperados Waiting for a Train.* COLUMBIA JC 36785 \$7.98, © JCT 36785 \$7.98, © JCA 36785 \$7.98.

nitrites, red dye, and/or sodium in everything on the menu, leaving only alcoholic beverages apparently safe for consumption. *The World's Last Truck Drivin' Man*, while satirizing the fashion for apocalyptic titles and headlines,

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"... says the irreverent things most people think, yet doesn't really put anybody down."

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Bobby Bare  
(Photo courtesy Columbia Records)

teller. He and Silverstein together actually manage to remind me of Mark Twain, and they are among those who help keep me what passes for sane these days.

And finally, though I'm as leery as the next guy about judging an album by its cover photo, I have to admit that this one makes me feel every bit as good about Bobby Bare as his music does. Wearing a straw hat that sports one of those new J. R. Ewing fur-feathers-and-whatnot hatbands, a cigarette in one hand and a beer in the other, he's piloting Doreen, the World's Last Truck Stop Waitress, across the dance floor flashing a smile of totally innocent merriment. He's quite obviously neither drunk nor crazy, but he sure looks like he knows something we'd all like to.

—Noel Coppage

## Ravel: Razor-sharp Performances in a Blockbuster Digital Recording from RCA

**E**DUARDO MATA's new disc containing performances of Ravel's *Boléro*, *Rapsodie Espagnole*, and *Alborada del Gracioso* with the Dallas Symphony is the first digital recording I've heard from RCA that I would put in a class with the sonic blockbusters that

have come my way from Telarc and Varèse Sarabande. And it's not the *Boléro* side that does the trick either, overpowering as it is in the final pages. Sonophiles should start with the *Alborada del Gracioso* on the second side and savor to the full what can happen, given superb stereo localization, with the string pizzicato writing at the opening, not to mention the wonderful small-percussion detail in the middle section. The same holds for the many wonderfully hushed and mysteriously sonorous pages of the *Rapsodie Espagnole*: there is sheer magic here in the way Ravel's Iberian evocations spring to vivid aural life.

The exquisite, uncanny clarity of detail in the softest passages of the music makes all the more effective the tremendous orchestral outbursts that characterize both the *Alborada* and the *Rapsodie*. Fair warning: your playback equipment had better be in top working order—and your neighbors forgiving—for this one. Everything, in short, works, thanks not least to the excellent recording locale—the Cliff Temple Baptist Church—which I hope RCA will adopt as its permanent venue for future sessions in Dallas.

Of course, all this technical brilliance would go for nought were it not for the razor-sharp performances Eduardo Mata has elicited from his players. One might question only the somewhat fast tempo adopted for *Boléro*; I prefer the pacing Ravel used in his own recording, one that gives the music more of an elemental, even ritual feeling. That little cavil aside, I find this to be the finest achievement so far in RCA's Dallas Symphony series. In a

better-run world it would have preceded the villainously overmiked Bartók *Concerto for Orchestra* that was RCA's late-1979 digital debut.

—David Hall

**RAVEL: *Boléro*; *Rapsodie Espagnole*; *Alborada del Gracioso*.** Dallas Symphony Orchestra, Eduardo Mata cond. RCA ● ARC1-3686 \$11.98, © ARK1-3686 \$8.96.

## Aretha Franklin: The Queen in Soul Back in Peak Form With a Knockout Album

**D**URING her twenty years as a recording artist, Aretha Franklin has built up a cadre of loyal followers who regard her with a reverence comparable to that enjoyed by Muhammad Ali before his recent fall from grace. They know her to be a true champion and understand that on those occasions when she performs at less than peak form, it is best simply to hold on for a while; she's bound to come up with another knockout.

Her new album, "Aretha," is just that kind of knockout. It caps a period that has seen her make a gradual but steady return to the unalloyed excellence that marked her career from 1967 to 1973 when she conveyed the spirit and fire-baptized passion of black mu-

Aretha Franklin



Eduardo Mata



sic more effectively than any other living vocal artist.

In some respects the album seems like something of a fresh start, though it also represents a return to some familiar territory. It is, quite notably, her first on the Arista label. Aretha was practically ushered out of church and straight into a Columbia recording studio in 1960 by John Hammond, but her sojourn at Columbia proved disappointing after several years, and in 1967 she moved on to Atlantic. There, stripped of the slick trappings that had characterized her work at CBS, she went back to singing as she had in church—and zoomed right to the top. All her biggest records were made at Atlantic, which remained her label for thirteen years. The move to Arista is therefore a major change, but it is eased by the presence of a familiar support cast. Half this set was produced by Arif Mardin, with whom she has worked successfully in the past. The other half was produced by Chuck Jackson, who also contributed several songs and co-wrote one of the best selections, *Together Again*, with Aretha. Jackson, also a prime shaper of the career of Natalie Cole, is simply a natural with Aretha, and one must wonder why it took them so long to get together. This release also marks the reunion of Aretha with Cissy Houston and the Sweet Inspirations, who have previously fused their voices into a stunning vocal orchestra on many of her finest recordings.

The blend of these carefully weighed ingredients has resulted in some marvelous music. Aretha has fervently stamped each song with her indelible mark, from the old Otis Redding hit

*Can't Turn You Loose* to possibly the most outstanding track here, Kenny Loggins and Michael McDonald's *What a Fool Believes*. It has been said that the highest compliment for a composer is to have Aretha sing his song. That certainly seems to be the case here; it is difficult to imagine any of the music's being given a better chance to electrify the listener. —Phyl Garland

**ARETHA FRANKLIN:** *Aretha*. Aretha Franklin (vocals); vocal and instrumental accompaniment. *United Together; School Days; Whatever It Is; Together Again; Take Me with You; What a Fool Believes; Come to Me; Can't Turn You Loose; Love Me Forever*. ARISTA AL 9538 \$8.98, © ACT 9538 \$8.98, © A8T 9538 \$8.98.

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## Fischer-Dieskau's New Schubert *Winterreise*: The One to Have

GERMAN lieder come to us (or should, at least) in the German language, and for that rather obvious reason they have always lagged in popularity behind German symphonic and chamber music (and, for quite different reasons, German opera) in the non-German-speaking world. Fortunately, we have always had a small handful of lieder singers able to transcend the language barrier and appeal to an interna-

tional audience, and the most remarkable of these has been baritone Dietrich Fischer-Dieskau.

There are those, to be sure, who do not like the quality of Fischer-Dieskau's voice, who say that he sings too much for his own (and our) good, or who judge that he is vocally past his prime. I think he is still the best lieder singer of our time and that his new recording of the *Winterreise* for Deutsche Grammophon puts all doubts to rout. It is a devastating musical experience, recreating Romantic *Angst* in its most extraordinary, most affecting form.

Even to a confirmed lover of Schubert, the *Winterreise* is always a challenging experience. The twenty-four songs in the cycle rest on the very bottom line of Romantic pessimism and anguish both in their poetry and in Schubert's deeply felt and highly original settings. There is, however, no Expressionist neuroticism; the anguish is always expressed in terms of lyricism and form. There is no narrative either, only succeeding moments of ever-intensifying despair. Except for an occasional flash of ironic giddiness, the mood is consistently somber. "Slow," "rather slow," "very slow," "not too fast," "moderate" are the tempo markings for song after song; even the few faster ones are not exactly lighthearted. Little wonder that many a fine singer has come a cropper from time to time over all this despair.

And yet there is nothing in *this* reading of *Winterreise* that is anything less than absorbing. Musically, poetically, dramatically—and vocally!—there is a tension, a depth of expression, a power, and a dark beauty that never falter. This is a magician's as well as a musician's performance—a kind of spell-binding fascination with the inner journeys of loneliness and alienation. The performers, like the creators, have transcended parlor Romanticism and take us into that realm where intense, unbearable emotion is transformed into gripping art.

Fischer-Dieskau has recorded *Winterreise* before, with pianist Gerald Moore. Without going into detailed comparisons, I would say that the new set is fully comparable with the old, more mature in conception, and enhanced by the superb playing of Daniel Barenboim—not an "accompanist," but a full partner in this music making. Included are some interesting essays, full texts, and translations. For now, at least, the *Winterreise* to have.

—Eric Salzman

**SCHUBERT:** *Winterreise*. Dietrich Fischer-Dieskau (baritone); Daniel Barenboim (piano). DEUTSCHE GRAMMOPHON 2707 118 two discs \$19.96, © 3301 237 \$9.98.

Dietrich Fischer-Dieskau and Daniel Barenboim



# Popular Music Briefs



Braxos Films

**A**RHOOLIE Records, the world's number-one label specializing in blues, traditional jazz, rockabilly, old-time country, and other kinds of American folk music, has just published its twentieth-anniversary catalog. It lists a variety of records ranging from Austrian folk music to zydeco, the dance music of French-speaking Black Creoles from southwest Louisiana, and includes such artists as Clifton Chenier, Bukka White, Big Mama Thornton, the Mad-

dox Brothers and Rose, and the Strange Creek Singers. A section on Chicano music of the U.S.-Mexican border features such performers as Flaco Jimenez and Lydia (La Gloria de Texas) Mendoza. Also offered are films, photographs, and T-shirts. Send \$1 to Arhoolie Records, 10341 San Pablo Avenue, El Cerrito, Calif. 94530, for the catalog and the latest issue of the *Down Home Music Newsletter*. (The Glory of Texas entertains us above.) □

**A**CTIVE in the movement to rehabilitate San Francisco's sagging cable-car system is singer **Tony Bennett**. Why? Well, his heart's really in it. According to the fanzine *Tony Bennett Sings*, it is the ambition of every Bennett fan all over the world to hear Tony sing *I Left My Heart in San Francisco* in person at the Fairmont Hotel on Nob Hill. □

**T**HE American Film Institute has selected **Fred Astaire**, eighty-one, to receive its prestigious Lifetime Achiev-

ment Award. The award will be presented in Los Angeles in late February or early March, and the ceremonies will be televised over CBS. Astaire's success as a dancer, particularly in his films with Ginger Rogers, obscured his importance as a vocalist, and only in recent years has he been recognized as one of the greatest of American popular singers. Songs he introduced include *Cheek to Cheek*, *One for My Baby, Night and Day*, *That's Entertainment*, *They Can't Take That Away from Me*, *Dancing in the Dark*, *Oh, Lady Be Good*, and *Fascinating*

*Rhythm*. He sings these and twenty-four others on a three-disc survey of his career, "The Astaire Story" (DRG Archive DARC-3-1102). Astaire has won nine Emmy awards, and in 1949 he received an Academy Award for raising the standards of the movie musical. Maybe he ought to do it again. □

**John Fogerty** is back in the Asylum studio working on a follow-up to his 1975 solo debut. The driving force behind

the much loved Creedence Clearwater Revival, for a time in the early Seventies the pre-eminent American rock band, Fogerty's rockabilly updatings presaged elements of the New Wave. Fogerty did deliver a second album, "Hoodooed," to Asylum last year, but it was rejected as not being commercial enough.

In a related indignity, Creedence's old record label, Fantasy, has apparently run out of ways to repackage their old hits (Fogerty once joked that the

**Stiv Bators**, former lead singer with Sire Records' Dead Boys, will make his acting debut in John Waters' forthcoming extravaganza *Polyester*. (Waters is the director responsible for such midnight-cult-show favorites as *Pink Flamingos* and *Female Trouble*, and his trash sensibility has been a seminal punk influence.)

The film, which introduces a new process called Odorama (stereo for the nose?), stars Waters regulars Divine, Edith Massey, and Mink Stole. It also marks the return to the screen of Fifties heart-throb and sometime recording star (*Young Love*) **Tab Hunter**. Expect an April release and—barring an act of God—an X rating. □

Bators (center) and the Boys.



Sire Records

next step was an album called "Creedence Clearwater in E," to be followed by "In A," etc.), having released instead an unremarkable live set (culled from the group's 1970 Albert Hall performance) at a remarkable \$5.98. □

**F**ORMER Sex Pistol **Johnny Rotten**, who reverted to his given name, John Lydon, when he found it difficult to get his checks cashed, has had a change of heart. After a pub brawl resulting in a prison sentence (appeal pending) the genial crooner announced he was Rotten once more. The reason? To avoid confusion with younger brother **Jimmy Lydon**, lead singer with the 4 Be 2's. □

**F**ranks **Sinatra's** recording sessions from 1939 to 1980 are listed with location, date, songs, arranger, and other pertinent details in *The Sinatra Sessions*, by Scott Sayers Jr. and Ed O'Brien. The book,

softbound and 125 pages long, also contains detailed lists of Sinatra's movies and those singles and albums that reached the charts of *Billboard* and *Cashbox*. It is available from the Sinatra Society of America, P.O. Box 10512, Dallas, Texas 75207, for \$8.95 plus \$1 postage and handling. □

**T**HOSE who have never seen the **Clash** live and wonder what all the fuss is about may be pleased to hear that the group's film, *Rude Boy* (which had limited American distribution), is now available on videotape in the initial release from MGM/CBS Home Video. The Clash has more or less disavowed the rambling semi-documentary, and no record company has yet picked up the soundtrack. Nevertheless, the performance footage at least is genuinely exciting, and the film as a whole gives us a feel for the seething ferment of the English punk scene at its inception. Other rock items available

on MGM/CBS videocassette include concert tapes by the Electric Light Orchestra and James Taylor, as well as Elvis Presley's finest screen moment, *Jailhouse Rock*. □



Columbia Records

**F**OOTNOTED: **Nina Hagen**, East German emigrée turned punkette and the star of Columbia's first commercially released ten-inch LP in almost twenty years, recently made the cover of *Mad* magazine—Ger-

man edition, *aber natürlich* (whataya mean you didn't know there was one?). . . . **Roger Daltrey** turned down the opportunity to replace David Bowie in the Broadway hit *The Elephant Man* because of "conflicts in the Who's recording schedule." . . . **Vince Vance and the Vallants'** new single is *Nuke Iran*, sung to the tune of Gene Chandler's r-&-b classic *Duke of Earl*. Ironically enough, the Vallants' first single, *Bomb Iran*, one of 1980's few major regional hits, was set to the tune of the Beach Boys' venerable oldie *Barbara Ann*—which, it turns out, was written by Fred Fassert, a gentleman of Iranian descent. . . . And Virgin Books (England) has just published an 86-page volume of photos titled **Rock Stars in Their Underpants**. Among the celebrities briefly seen are the Pretenders' Chrissie Hynde, Rod Stewart, Steve Jones, Boomtown Rat Bob Geldof, and Ted Nugent. Sorry, voyeurs, an American publication date has not yet been announced. □

## Disc and Tape Reviews

By CHRIS ALBERTSON • IRV COHN • NOEL COPPAGE • PHYL GARLAND  
PAUL KRESH • PETER REILLY • STEVE SIMELS • JOEL VANCE

Ⓢ = stereo cassette

Ⓛ = digital-master recording

Ⓛ = quadraphonic disc

Ⓢ = eight-track stereo cartridge

Ⓛ = direct-to-disc

Ⓛ = monophonic recording

The first listing is the one reviewed; other formats, if available, follow.

**BOBBY BARE:** *Drunk and Crazy* (see **Best of the Month**, page 74)

**KURTIS BLOW.** Kurtis Blow (vocals); instrumental accompaniment. *Rappin' Blow (Part 2); The Breaks; Way Out West; Throughout Your Years*; and three others. MERCURY SRM-1-3854 \$7.98, Ⓢ MCR4-1-3854 \$7.98, Ⓢ MC8-1-3854 \$7.98.

Performance: **Clever**  
Recording: **Satisfactory**

Since I believe that it is the music, far more than the words, that really counts in a song, I have not taken warmly to "rap" records, which feature rhythmically chanted words against a skeletal music background and seem to go on forever. But when I flipped this disc by new rap star Kurtis Blow onto my turntable—surprise! I was delighted.

What distinguishes Blow is that his words are really clever, from the mucho macho cadences of *Rappin' Blow* to a rhymed story about a rap showdown *Way Out West*. Furthermore, the musical background to his raps is fleshed out rather than merely sketched in. He makes one false move here, though. On the last two tracks, he tries to *sing*. His rapping voice is reso-

nant and appealing, but he should avoid singing at all costs, for he sounds like a struggling amateur, and not a very good one at that. But as long as he sticks to his rap, he's bound to do just fine. P.G.

**CAPTAIN & TENNILLE:** *Keeping Our Love Warm*. Toni Tennille (vocals); Daryl Dragon (keyboards); instrumental accompaniment. *But I Think It's a Dream; Don't Forget Me; Your Good Thing; Gentle Stranger; Song for My Father*; and four others. CASABLANCA NBLP 7250 \$7.98, Ⓢ NBL5 7250 \$7.98, Ⓢ NBL8 7250 \$7.98.

Performance: **Lethargic**  
Recording: **Good**

As the new hostess of one of those TV salons where celebrities appear to admire and celebrate each other (with an occasional encouraging word for us huddled masses), Toni Tennille seems launched on another successful career. In the nick of time, I'd say, after listening to her latest release with her husband, Daryl Dragon. They're still hummin' and pickin' and croonin' Nytol. Though they probably think of themselves as "mellow," I think "lethargic" would be more like it. P.R.

**CAPTAIN BEEFHEART AND THE MAGIC BAND:** *Doc at the Radar Station*. Captain Beefheart and the Magic Band (vocals and instrumentals). *Sue Egypt; Hot Head; Ashtray Heart; Run Paint Run Run; Sheriff of Hong Kong*; and seven others. VIRGIN VA 13148 \$7.98, Ⓢ CS 13148 \$7.98.

Performance: **Child's play**  
Recording: **Very good**

Captain Beefheart—Don Van Vliet—has generally been dismissed as a zany or canonized as a seer. He is neither, although he is a free spirit. His imagination is childish in the best sense; his verbal images, word associations, and emotional responses to the bewildering, silly "adult" world help dismiss it without seriously dealing with its pain. Van Vliet's lyrics are consistently literate and entertaining, but the music supporting them is amateur. Varying from a kind of blues shuffle to free-form jazz, it is unfocused and meandering, which is exactly what Van Vliet wants. He has personally picked all the members of his Magic Band since the late Sixties, taking people who may or may not be musicians and training them.

(Continued overleaf)

Van Vliet has a vocal facility that would probably make him financially secure in more commercial music. He can howl the blues like few other people on this earth; he is a marvelous actor in performance and absolutely charming offstage. This latest album certainly isn't his commercial breakthrough, but in it I hear the voice of Candide, the irrepressible survivor. May his garden flourish.

J.V.

#### RECORDING OF SPECIAL MERIT

**HARRY CHAPIN:** *Sequel*. Harry Chapin (vocals, guitar); vocal and instrumental accompaniment. *Sequel: I Miss America; Story of a Life; Remember When the Mu-*

*sic: Up on the Shelf; Salt and Pepper;* and four others. BOARDWALK FW 36872 \$8.98, © FWT 36872 \$8.98, ® FWA 36872 \$8.98.

Performance: **With-it**  
Recording: **Good**

This is easily the best album Harry Chapin has ever made. I know, he's made some real dogs in the past, usually by letting sentimentality ripen to the mushy state, but he's hung in there and finally got it right. There is passion here, and literacy—and Harry's passion for literacy no doubt is what has kept him plugging away. "By God," he seems to say with this album, "the troubadour will not perish from the earth." Liter-

ally he says, "Now sometimes words can serve me well/And sometimes words can go to hell/For all that they do." The album starts with a sequel to his first hit, *Taxi*, that reprises just enough of that song's melody and quickly establishes that today's Harry Chapin is not going to tell gushy stories about raggedy losers. The gist of how Chapin still feels about the importance of music being about something—"We believed in things and so we'd sing"—is articulated in *Remember When the Music*, which ends side one and is reprised, full-length, at the end of side two with a whole "nother set of lyrics. It is not only a summation of what this album is about but a challenge to us to care about something. And the mature Chapin makes his case with dignity and a touch of class.

N.C.

#### RECORDING OF SPECIAL MERIT

**RAY CHARLES:** *Brother Ray's At It Again!* Ray Charles (vocals, piano); vocal and instrumental accompaniment. *Compared to What; Anyway You Want To; Don't You Love Me Anymore?; A Poor Man's Song; Now That We've Found Each Other;* and three others. ATLANTIC/CROSS-OVER SD 19281 \$7.98, © CS 19281 \$7.98.

Performance: **Exquisite**  
Recording: **Excellent**

Ah, perfection! It isn't that Ray Charles is getting better; in fact, he is just holding his own. But that only means that he was, is, and still continues to be the best. No one else can touch him at what he does. He is a master of pop music who shows no trace of fatigue or boredom as he enters his fourth decade of performing. There isn't a single major (or minor) black or white pop/rock singer who doesn't owe something to Charles in phrasing, attack, sensuality, or intimacy with the audience.

The highlights of this particular recital are *Don't You Love Me Anymore?*, a Carole Bayer Sager ballad that Charles raises to a near-religious pathos; Robbie Robertson's *Ophelia*, on which Charles maintains an exquisite balance between mischievous fun and sympathy for the fellow in the song, who's looking for his lost floozie; Charles' own *Questions*, a secular text he delivers with the fervor of a sermon; and *A Poor Man's Song*, on which his performance harks all the way back to the great Bert Williams' *Nobody*. Brother Ray is indeed at it again, praise the Lord!

J.V.

#### RECORDING OF SPECIAL MERIT

**LINDA CLIFFORD:** *I'm Yours*. Linda Clifford (vocals); vocal and instrumental accompaniment. *I Had a Talk with My Man; It Don't Hurt No More; If You Let Me; I'm Yours;* and three others. RSO RS-1-3087 \$7.98, © CT-1-3087 \$7.98, ® 8T-1-3087 \$7.98.

Performance: **An event**  
Recording: **Wonderful**

Dancin' Lady Clifford is apparently gonna stick it out. Hearing her new album's kick-off, *Shoot Your Best Shot*, and the smartly bouncing *It Don't Hurt No More* will make you forget that disco is supposed to have

(Continued on page 84)

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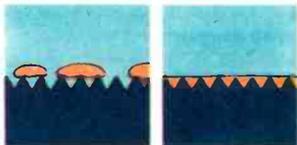
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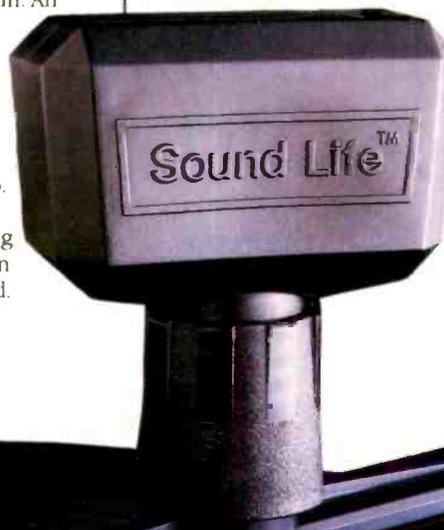
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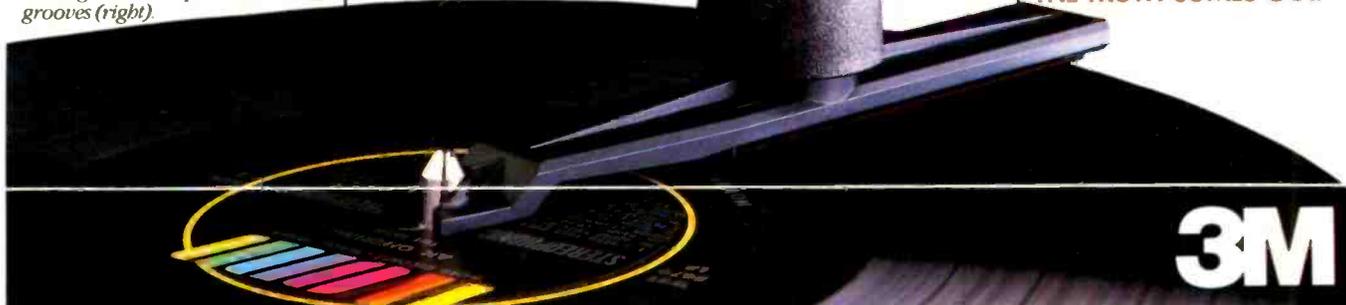
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THESE guys could almost be a comedy team. They're the right kind of visual mismatch: Donald Fagen, thirty-two, is dark, angular, all nervous energy from his close-cropped hair to his classy two-tone shoes; Walter Becker, thirty-one, sports shoulder-length-plus hair and a scraggly mustache and beard, and his Nikes are propped up on the coffee table. All they seem to have in common is a tendency to chain-smoke and a certain pallor that Becker proudly identifies as "cabaret grey." They talk like a comedy team too, Fagen in quiet New Yorkese, Becker in an all-American good-guy radio voice. They finish each other's sentences, contradict each other, wisecrack at every opportunity. But we're not at some Borscht Belt beanery, we're up on the forty-second floor of New York's snazzy Park Lane Hotel, and these guys are better known as Steely Dan, the shadowy pair responsible for some of the most devious pop hits of the Seventies. Their seventh album, "Gaucho," is about to be released. "We're the wave of the future," says Becker. "You wish," says Fagen.

Becker and Fagen developed their comic timing over more than a decade as musical collaborators. They met in the mid-Sixties at Bard College (commemorated in *My Old School* on their second album, "Countdown to Ecstasy"), where they played jazz and rock in a number of bands, one of which included *Saturday Night Live's* Chevy Chase on drums. Out of college, they toured for two years in Jay & the Americans' back-up band. They were already writing songs together, and producer Gary Katz, impressed with their material, got them jobs as staff songwriters with ABC/Dunhill in Los Angeles, where they lived until they moved back to New York to make "Gaucho."

THEIR early songs, Becker told *Musician* magazine, were "structurally suitable for framing," but, as a current associate puts it, they were "too sick" for ABC acts like the Grass Roots and Three Dog Night. The pair did write a soundtrack for an extraordinarily obscure Richard Pryor film, *You Got to Walk It Like You Talk It*, and landed a song on a Katz-produced album by Thomas Jefferson Kaye, but they weren't making much headway. Eventually Katz, who is still their producer, suggested that Becker and Fagen form a group themselves if they wanted their songs recorded. The result was Steely Dan, named after a dildo in William Burroughs' *Naked Lunch*.

On their 1972 debut album, "Can't Buy a Thrill," Steely Dan was a sextet; on the next two LPs, "Countdown to Ecstasy" and "Pretzel Logic," they were billed as a quintet, but they'd begun to get substantial support from studio musicians. When lead guitarist Jeff Baxter quit in 1974 to join (and revitalize) the Doobie Brothers, Becker and Fagen retreated to the studio for all practical (and recording) purposes but retained the Steely Dan moniker.

For the foreseeable future, Steely Dan consists of Fagen on vocals and occasional keyboards, Becker on occasional guitar or

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bass, and whatever assortment of studio players best serves the songs. Becker and Fagen see themselves primarily as composers; they're fond of disparaging their own instrumental abilities. "The B band is me and Donald," Becker says, as Fagen nods in agreement. "The A band is anyone else—professionals. I prefer to have someone else play bass—I know who's better than me—unless all else fails." "I'd rather have someone else play bass too," says Fagen deadpan. "And I generally prefer a different keyboard player than myself." Apparently they won't be touring any time soon.

When Becker and Fagen set out to record a song now, they make a piano-and-voice demo, have it copied for sheet music, and teach it to session players, rehearsing in the studio so they can start taping as soon as the musicians are ready. The three-year gap between the multi-platinum "Aja" and "Gaucho" has enhanced the pair's reputation as persnickity perfectionists: haunting the studios, sending player after player through their songs like white mice through mazes, spending hundreds of hours and thousands of dollars in search of the perfect take, endlessly tinkering, endlessly dissatisfied.

**D**ESPITE the time and effort involved, Steely Dan's albums come out ultra-smooth, music that goes down as easy as B&B over ice. And the glossy sound ("You get what you pay for," says Fagen) hides the fact that Steely Dan is one of pop's most ambitious outfits. Their ambition is a far cry from the usual rock-star ego gratification; all Becker and Fagen want is to concoct perfect pop songs—perfect, that is, by their unique standards. From the beginning, Steely Dan has specialized in a brilliant and peculiar variety of subterfuge: writing breezy pop tunes that happen to conceal all sorts of crafty delights among the hooks. They outwit anything that looks like a pop convention, then carefully cover their tracks to make the most eccentric songs sound like nonchalant amusements.

But it's more complicated than that. In Steely Dan's best songs, the lyrics tell only a tiny bit of the story, leaving the listener to figure out the rest; puns and other wordplay are optional extras. The melodies, or parts of them, tend to stick in the ear. The harmonies follow traditional rules (of the highly sophisticated jazz tradition) only to exploit every possible loophole; the rhythms swing and may offer a few loopholes of their own. And the performances, no matter how many takes it takes, are casually flawless. These songs exist, therefore, only as recordings; there's no way to reproduce them live.

**S**INCE their early singles successes—*Do It Again* and *Reeling In the Years*—Steely Dan's songs have become increasingly intricate—and increasingly slick. The new "Gaucho" album at first seems to be nothing more than thirty-eight minutes of easy-going entertainment. But for all its seeming innocence, it contains some of the densest pop ever written. On the surface, the album couldn't sound more relaxed; all seven songs glide along at languid medium tempos with lots of rich vocal harmonies for cushioning. Most of the lyrics are fairly easy to make out; they're about favorite Becker/Fagen subjects—failing romance, drugs, revelation and transformation.

Perhaps the best way to savor the songs on "Gaucho" is to try to second-guess them; imagine you're a session musician trying to latch onto the groove of a new Becker/Fagen song. If you tap your foot or hum your own solo along with the album, you'll feel the songs slipping out from under you, going their own way. The rhythm may be steady, but it's not regular. The harmony is sweet but sneaky; melody lines keep taking odd tangents. Even after many listenings, the songs are still unpredictable.

The title cut, for instance, is neat but befuddling. It opens with a gospelly piano and saxophone lick that solidly establishes one four-square rhythm. When the vocal comes

in, however, the rhythm follows the lyrics, stopping and starting and meandering along; the sax lick was just a decoy. "Where that sax is, on that site had been erected many things," Becker says. "Various piano things, things more thematically integrated with the rest of the song. Although it seems like an obvious conclusion, that sax took months to arrive at. As for the verses, it's really a very simple thing. If you ever listen to the most primitive blues, there is no twelve-bar blues. There's thirteen-bar blues, thirteen-and-a-half-bar blues, they'll throw in an extra beat of 'ahh-ha, hammmm,' and that's really what *Gaucho* does. Just use a little space where you have something to say, and if you don't have something to say, just skip right ahead to the next thing."

"Although that song is extremely angular rhythmically, it's very comfortable-sounding," Fagen adds. "I don't think it's awkward. Generally, if there's something that just doesn't make sense musically, we'll change it. It's a matter of taste. We stay away from anything where the musical effect is basically to shock; I don't like harsh, nasty-sounding things just for some kind of cultural shock or political statement."

The other songs on "Gaucho" have different quirks: the elaborately nested harmonies in *Babylon Sisters*, the serpentine melody of *Glamour Profession*, the not-exactly-a-blues guitar and Raymond Chandleresque lyrics of *My Rival*, and the solo work and horn arrangements throughout. Somehow, Becker and Fagen get studio players, whose normal output consists of clichés, to play inspired solos on their songs. Part of the reason is that the songs don't fit the clichés, part is that Becker and Fagen can afford to wait for the perfect solo, and part must be what they tell the musicians they want. "We prefer a basically melodic solo which follows traditional ways of improvising," Fagen says. "Showing off isn't the point of a solo. A lot of current styles of soloing have no idea of space—they fill every space with notes."

**T**HE sound Becker and Fagen invented for Steely Dan has been imitated far and wide, although it's rarely applied to such well-written songs. "Gaucho" repays careful listening ("You're not gonna hear the sperm-whale noise right off," Becker jokes), yet, at the same time, it does everything in its power to *discourage* careful listening. The richness of sound is designed to seduce you before you get a chance to examine it, and it's too smooth a ride to pass up. But big things often come in small paradoxes, so it is just possible that the Fagen/Becker undercurrent will become the Wave of the Future.

—Jon Pareles

**STEELY DAN: *Gaucho*.** Steely Dan (vocals and instrumentals); vocal and instrumental accompaniment. *Babylon Sisters*; *Hey Nineteen*; *Glamour Profession*; *Gaucho*; *Time Out of Mind*; *My Rival*; *Third World Man*. MCA MCA-6102 \$9.98, © MCAC-6102 \$9.98, © MCAT-6102 \$9.98.

dissolved into the mainstream. And *Red Light*—hard-hitting power disco at its best—was one of last year's dance hits.

But Clifford has more up her sleeve than just a reminder that disco still has a place. She turns on the soul and wrings the heck out of the solid blues ballad *I Had a Talk with My Man*, then finds a totally different timbre, gorgeously womanly, for *I Want to Get Away with You*, and segues into an intimate sultriness for *I'm Yours*. Producer Isaac Hayes suits each mood with a just-right setting. Altogether, this is a wonderful album and a giant step forward for one of the best voices to emerge from disco. *Brava!* I.C.

**BRUCE COCKBURN: *Humans*.** Bruce Cockburn (vocals, guitar); instrumental accompaniment. *Grim Travellers; Rumours of Glory; More Not More; You Get Bigger as You Go; What About the Bond*; and five others. MILLENNIUM BXL1-7752 \$7.98, © BXX1-7752 \$7.98, © BXS1-7752 \$7.98.

Performance: **Good**  
Recording: **Clean**

Bruce Cockburn reminds me of Tim Hardin, Van Morrison, Warren Zevon, and a few other people, although he doesn't actually *sound* like anyone else. He has, especially in this album, one foot in folk and one in jazz, both several feet off the ground. The album obviously regards words as important, yet the lyrics usually are so oblique that only Cockburn himself knows what he has in mind—and sometimes I'm not so

sure he does either. This is not a condemnation, exactly; I'm glad to see somebody try to reach beyond himself and even beyond words, and at times here, particularly in *What About the Bond* and *Tokyo*, the audience gets the picture, the same one Cockburn gets. But some of this is like collegiate poetry, seemingly designed to impress rather than communicate.

Nevertheless, I have high hopes for this young Canadian. He has a very appealing voice that is distinctive without being at all quirky, and anyone this interested in getting something said—and this intelligent about it—will eventually get through to us. His melodies are not tuneful, usually not linear, but they are musical, and his backing is spare and tasteful. When he learns how to give us more concrete reference points in his songs, he might really be something. N.C.

**DIRE STRAITS: *Making Movies*.** Dire Straits (vocals and instrumentals); Roy Bittan (keyboards). *Tunnel of Love; Romeo and Juliet; Skateaway; Expresso Love*; and three others. WARNER BROS. BSK 3840 \$7.98, © M5 3840 \$7.98, © M8 3840 \$7.98.

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

To my ears, Dire Straits has never sounded better than on this latest album: the production is big, gutsy, and dramatic, and Mark Knopfler's voice and guitar finally have all the muscle that comes across in his live performances. The problem is that producer

Jimmy Iovine seems to have convinced Knopfler that he's something of an English Springsteen. And so, instead of the atmospheric, understated, and funky bits of reportage that used to be his stock in trade, Knopfler is now dealing in wildly inflated boardwalk romances that are superficially impressive but essentially ring false—or at least seem secondhand. One gets the feeling that he hasn't lived this stuff; he's merely listened to other people's songs. And, while Roy Bittan's keyboards fit in so perfectly that one wonders why the Straits has been strictly a guitar band all this time, his Asbury Park flourishes do much to emphasize the inauthentic quality of the Straits' new music. I'd still pay money to see these guys work out (Knopfler really is a dazzling guitar stylist), and I hope their next producer records them as sympathetically. But the movies they're making here are more Thirties MGM than Eighties Scorsese, and I doubt that was their intention. S.S.

**THE DOOBIE BROTHERS: *One Step Closer*.** The Doobie Brothers (vocals and instrumentals); other musicians. *Dedicate This Heart; Real Love; One Step Closer; Thank You Love; No Stoppin' Us Now*; and four others. WARNER BROS. HS 3452 \$8.98, © W5 3452 \$8.98, © W8 3452 \$8.98.

Performance: **Silicon soul**  
Recording: **Excellent**

Now, about that title: you may be closer, boys, closer to *something*, but what we've  
(Continued on page 88)

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# Two from the House of Cash

**D**YNASTY: "A race or succession of kings, of the same line or family; the continued lordship of a race of rulers." In music there have been innumerable family acts and examples of talent breeding true, but there have been only two truly awesome musical dynasties I know of. One, of course, was the Bachs. The other is not only alive and well right now but embraces at once nearly the whole history of country music and a good deal of its—and perhaps

needed in his early days. She and daughter June helped Johnny through his hard times with pills, and June later married him. Johnny for a time roomed with, and has several times since helped, Waylon Jennings, and the list of other people he's helped is some kind of c-&-w Who's Who: Kris Kristofferson, Larry Gatlin, Carl Perkins, the Statler Brothers, . . .

Then there's the family per se. On the Cash side, there's daughter Roseanne, who

and Carlene married the redoubtable rock producer-performer Nick Lowe. The House of Cash, therefore, is in a position to do some powerful begetting.

Meanwhile, it seems, as I said, almost providentially fitting that Cash should mark his election to the Hall of Fame with "Rockabilly Blues." After all, who invented rockabilly? Practically everyone at Sam Phillips' Sun records: Elvis Presley, Jerry Lee Lewis, Carl Perkins, Roy Orbison, Charlie Rich, and Johnny Cash as the name performers, Jack Clement (later to become Waylon's brother-in-law, to show how interrelated this can get) as producer and sometime performer, and, of course, Phillips himself. They invented it collectively, but in performing it they were staunch individualists, and Cash somehow seemed the most individual of all. He wasn't the white boy with a black voice Phillips had been looking for; Elvis was that. Johnny's first hero had been Ernest Tubb, and perhaps the second biggest influence on him was Hank Snow. He apparently took himself to be stone country all the way, and yet those primitive early Sun records transcended the genre without becoming alienated from it. Country fans liked Johnny Cash, and people who *hated* country music liked Johnny Cash. It's been that way ever since.

"Do it your own way," he said last year in acknowledging his Hall of Fame election by the Country Music Association, then added a few gentle words about the importance of rebels not kowtowing to the establishment. I was reminded of how he gently declined to sing the poor-baiting *Welfare Cadillac* when President Richard Nixon requested it at the White House performance and sang *What Is Truth* instead. Since 1968 or so, when June settled him down, Cash has been a church-goer and family man and community-pillar type, but he has never stopped singing about the working man or looking after rebels like Kristofferson and Waylon and Billy Joe Shaver. I think it was a sense of his identification with those outside the establishment that made young rebels at the front edge of the Baby Boom regard Cash's way with rockabilly as special.

**T**HE new album, of course, is more than just rockabilly. It keeps intact the spirit of the Sun approach and takes advantage of the smoothness Cash honed up during the Sixties, when his troupe included Maybelle, Anita, Helen, and June Carter, Carl Perkins, the Statlers, and, of course, the Tennessee Three. It also holds onto a couple of the Sun names; Cash's long-time associate W. S. Holland does some drumming, and Jack Clement plays some guitar and dobro. "Rockabilly Blues" is polished but straightforward. It doesn't exactly recapitulate the late Luther Perkins' tick-tack guitar sound or Marshall Grant's slapping stand-up bass, and the songs aren't as spare and simplistic as *I Walk the Line*, yet it somehow suggests that all these ghosts are still *active*, many of them romping happily about in the natural echoes and reverberations of Cash's huge baritone voice.



Darryl Pitt/Retna

## Johnny Cash: "Rockabilly Blues"

rock's—apparent future. It is called the House of Cash, and its titular head is called Johnny, the newest member of the Country Music Hall of Fame and—as luck or maybe Providence would have it—the maker of a terrific new Columbia album called "Rockabilly Blues."

Johnny Cash didn't mean it that way, but this release is a good argument for the divine right of dynasties. But then, so is much of the rest of the network of kith and kin that surrounds Cash. The House of Cash, of course, is actually a blending of two bloodlines, the second one a seminal force in American music named Carter. But the lines of succession are rather complicated in this dynasty. It gets even more complicated when you consider that the Cash-Carter "family" includes not only blood kin but a host of talented adoptees. Mother Maybelle Carter, for example, helped the nearly starving Chet Atkins get the exposure he

learned the ropes singing in the chorus in her daddy's troupe in the Sixties; she weighed in with a very impressive debut album last year and is about to release her second one. But she does not have Carter blood, being the daughter of Johnny's first wife, Vivian Liberto. On the Carter side, there's Carlene, June's daughter, who does not have Cash blood; rather, she incorporates a *third* strain, her father being Carl Smith, June's ex. All Carl did in his day was sell more than fifteen million records—hard, honest country ones. I believe he is still the third-biggest country record seller of all time, after Eddy Arnold and Webb Pierce, unless recent sales have put Johnny Cash himself into that list. Then there are the sons-in-law: Roseanne married the extremely talented songwriter-singer Rodney Crowell (whose *Till I Can Gain Control Again* may in time be considered a classic and who may go on to write other classics),

The songs themselves make up what is maybe the strongest collection with a rockabilly spirit that's possible nowadays. Included are one each by the sons-in-law, two by Shaver, one by Steve Goodman and John Prine, one by Kristofferson, and four by Cash himself. One of the last, *W-O-M-A-N*, has a gimmick-and-novelty weakness in the lyrics, but its tune sure does give the instrumentalists a good time; the others are as varied as the styles of the rockabilly inventors were, and every single one of them is a keeper.

Cash has, of course, made a string of pretty good albums in the last few years. His voice now is, if anything, richer than ever; it has more tones and more texture than it did in the Sun days, and it stays on key better. Cash took piano and finger-picking lessons after he was forty, and he is still interested in learning, still interested in helping rebels, and, as "Rockabilly Blues" resoundingly reaffirms, still interested in making music his own way. He sounds so good here, at age forty-eight, that I can't help believing that a lot of the impact the House of Cash dynasty has on the future will come from the Old Man himself.

—Noel Coppage

**JOHNNY CASH: *Rockabilly Blues*.** Johnny Cash (vocals, guitar); Pete Wade (guitar); Terry McMillan (harmonica); W. S. Holland (drums); Joe Osborn (bass); other musicians. *Cold Lonesome Morning; Without Love; W-O-M-A-N; The Cowboy Who Started the Fight; The Twentieth Century Is Almost Over; Rockabilly Blues (Texas 1955); The Last Time; She's a Go-er; It Ain't Nothing New Babe; One-Way Rider.* COLUMBIA JC 36779 \$7.98, © JCT 36779 \$7.98, © JCA 36779 \$7.98.

**C**ARLENE CARTER seems to have reconciled her rocking, rebellious spirit with her country roots in her third and best album, the new "Musical Shapes." Those are *some* roots, and they show in the album in several places, most prominently in the loving renditions she gives *Ring of Fire*—written by her mother, June Carter, and Merle Kilgore and made famous by her stepfather, Johnny Cash—and *Foggy Mountain Top*, an original Carter Family tune her grandmother Maybelle Carter helped create. At the same time, Carlene's own writing has surrendered not a whit of the tough worldliness she has shown before on stage and on record, only this time she has made it believable and tuneful. Moreover, the album was produced by her husband (and the House of Cash's new international rock figure), Nick Lowe.

Not that labels matter all that much when it's a good album. You can still say that Carlene carries the Carter tradition into rock, but here it's an informed kind of rock, informed and perhaps tempered by all those Carter genes and traditions and maybe some influence from the Cash side of the household as well. Like Johnny Cash (and perhaps like her mama; June is a

spunky woman, and in the Maybelle and the Carter Sisters days she was the cut-up of the bunch) she is able to seem rebellious and traditional at the same time. Her first two albums seemed almost designed to cut a cord of some sort. This one suggests that something has happened to her similar to what happened to me and several other people I know: the ability to appreciate country music grows after you escape the geography where they force-feed it to you.

the finale, *Too Proud*, is subtler structurally than anything else she has done, rock or country. It doesn't do all that much itself, but it suggests currents and forces in Carlene Carter the songwriter that we observers of rock and country had not anticipated.

The quality of the voice was of course never in doubt from her first recording. It is not stylish in the sense that Maybelle's was or Johnny's or June's or her father Carl Smith's is; its identifying marks are subtler.

Barry Schultz/Reina



## Carlene Carter: "Musical Shapes"

In addition to the aforementioned almost reverent ways Carter draws upon her roots, the new album contains a dandy put-on country duet with Dave Edmunds, Richard Dobson's *Baby Ride Easy* (He: "If I drove a truck . . ."; She: "If I were a waitress . . ."), that both shows a liking for country music and pokes gentle fun at it. But then her own *I'm So Cool* does a similar sort of thing, rock-style, in this case Carlene seeming both to like and to poke fun at herself.

Her writing in general is coming along quite nicely; most of her new songs here are impressive. *Bandit of Love*, vaguely country-rock, is a quick character sketch of the kind of outlaw a liberated woman meets on the road. Yet, for all its sketchiness, the way she sings the refrain, "He cannot be trusted with love," has a haunting quality. *Appalachian Eyes* (a ballad with a real tune in the rock format) and *Too Bad About Sandy* are, if anything, even more impressive, and

It reminds you that the closer you get to purity, the less you find of what we call "style." But you'll get the hang of picking out those marks after a few listens, if you haven't got it already. "Musical Shapes" is, to date, the most rewarding vehicle with which to do that. The Carter Family not only survives branching out into rock; in Carlene's case, it clearly flourishes.

—Noel Coppage

**CARLENE CARTER: *Musical Shapes*.** Carlene Carter (vocals, piano); Dave Edmunds (guitar, vocals); Nick Lowe (bass); other musicians. *Cry; Madness; Baby Ride Easy; Bandit of Love; I'm So Cool; Appalachian Eyes; Ring of Fire; Too Bad About Sandy; Foggy Mountain Top; That Very First Kiss; Too Drunk (To Remember); Too Proud.* WARNER BROS. BSK 3465 \$7.98, © M5 3465 \$7.98, © M8 3465 \$7.98.

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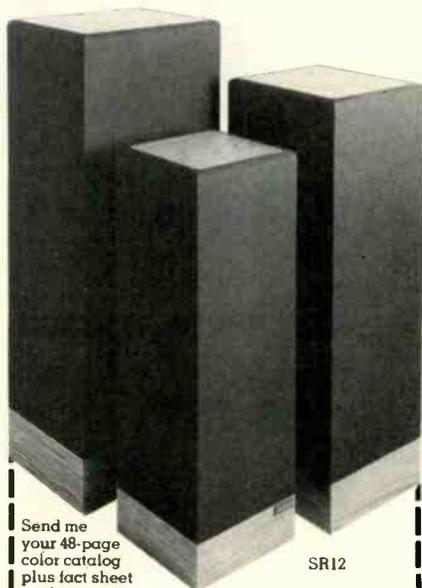
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got here is skating, not stepping. There's no way you can step on something this slick without breaking your neck. What the Doobies seem closer to in this outing, if one must choose any one thing, is r-&-b. That the irony of this doesn't gross out the multitudes is one of the small tragedies of our time. I don't care if you are too young to have loved Clyde McPhatter or the Five Satins or two or three groups named after birds or automobiles; it should be apparent that *soul* is what makes r-&-b, not high-tech means to high-gloss ends. I don't get the feeling, listening to this, that anyone involved cares about anything except technical precision. To paraphrase Jerry Ford, if Sam Cooke were alive he'd be spinning in his grave. *N.C.*

**ARETHA FRANKLIN: *Aretha*** (see Best of the Month, page 76)

## RECORDING OF SPECIAL MERIT

**LEON HUFF: *Here to Create Music***. Leon Huff (piano); vocal and instrumental accompaniment. *No Greater Love; Tight Money; Your Body Won't Move if You Can't Feel the Groove; Tasty*; and four others. PHILADELPHIA INTERNATIONAL JZ 36758 \$7.98, © JZT 36758 \$7.98.

Performance: **Broad, rich soul**  
Recording: **Good**

Leon Huff is so well known as a songwriter and producer for Philadelphia International Records, the highly successful firm he and Kenny Gamble founded in 1971, that it seems strange that this release is his first on that label as a performing artist. As a writer/producer Huff has been impressively prolific, and he seems to have awesomely sharp commercial instincts. Gamble and Huff have produced a remarkably consistent string of hits with a stable of soul artists including Billy Paul, MFSB, Harold Melvin and the Blue Notes, the O'Jays, and Teddy Pendergrass. Many of those hits could be dismissed as "soul Muzak," so I approached Huff's record with little enthusiasm, expecting only more of the same. I was surprised and pleased to discover that he has striven here for a broader, richer musical texture than on the records he has produced for other artists. He has a gift for blending the strains of black popular music, such as blues and basic jazz, without losing their distinctive individual character.

The opener—*Your Body Won't Move if You Can't Feel the Groove*—is one of the few tracks on the album to employ vocals, but these are secondary to the tasteful, vaguely Caribbean percussive effects, which give the music an airy feeling. Huff flirts even more blatantly with island rhythms in the equally pleasing *Latin Spirit*. The selection that will probably attract the most attention is *No Greater Love*, with its romantic melody and big string arrangement, because Stevie Wonder contributes some lovely harmonica filigree that perfectly complements Jean Carn's warblings. But the album is at its best when Huff settles into some plain, old-fashioned, honky-tonk piano thumping on *I Ain't Jivin', I'm Jammin'* and *Low Down, Hard Times Blues*. These tracks are quintessential soul music, and Huff's performances inspire respect for his talent and artistic integrity. *P.G.*

## RECORDING OF SPECIAL MERIT

**THE INMATES: *Shot in the Dark***. The Inmates (vocals and instrumentals). (*I Thought I Heard a Heartbeat; Tell Me What's Wrong; So Much in Love; Stop It Baby; Waiting Game; Feelin' Good*; and five others. POLYDOR PD-1-6302 \$7.98, © CT-1-6302 \$7.98.

Performance: **Great fun**  
Recording: **Authentic**

When last heard, the Inmates were a rousing hard-edged r-&-b band, an almost total throwback to the kind of group you might have caught, had you been lucky enough to be English, at the Marquee Club in 1965. On their second album, the blues purism has given way to something of a Sixties pop approach, closer to "December's Children" than to "John Mayall's Bluesbreakers," and as a result "Shot in the Dark" is perhaps even more delightful than the Inmates' debut effort. The cover songs here tell the story: the Music Machine's proto-punk classic *Talk Talk* is done up as perfectly as *Dirty Water* was last time out, and *So Much in Love*, an extremely obscure Jagger/Richards beauty (whose recorded pedigree is unknown to me), is even better. Sure, it's all shallow and derivative, but, in the words of the Undertones, it's never too late to enjoy dumb entertainment. Without a doubt, this is the best party record of the season. *S.S.*

**THE JACKSONS: *Triumph***. The Jacksons (vocals); vocal and instrumental accompaniment. *Can You Feel It; Lovely One; Your Ways; Everybody; Time Waits for No One*; and four others. EPIC FE 36424 \$8.98, © FET 36424 \$8.98, © FEA 36424 \$8.98.

Performance: **Bouncy**  
Recording: **Good**

Like all prodigies, the Jacksons, once known as the Jackson Five, have had to grow up, sacrificing to time the cuteness and novelty that made them the youngest sex symbols in the business back in 1969. Now they're trying to make it as adults. They came up with an impressive array of hits on their first album for Epic, "Destiny," but, though generally pleasing, this latest one does not reach the same high level. Most of the songs are punched out with the youthful more-bounce-to-the-ounce that is the Jacksons' hallmark, but they generally lack the substance and staying power of fully mature work. And while it is admirable of Michael Jackson to share the honors as lead vocalist with brothers Marlon, Randy, and Jackie, their voices lack the strength of his. Yet there are bright moments here, and Randy, the youngest Jackson, displays talent as a writer on *Give It Up* (a collaboration with Michael) and *Time Waits for No One* (co-written with Jackie). As a whole, though, this set will appeal primarily to those who are already Jackson fans. *P.G.*

**JERRY LEE LEWIS: *Killer Country***. Jerry Lee Lewis (vocals, piano); vocal and instrumental accompaniment. *Folsom Prison Blues; I'd Do It All Again; Too Weak to Fight; Late Night Lovin' Man; Thirty-nine and Holding*, and five others. ELEKTRA 6E- (Continued on page 90)

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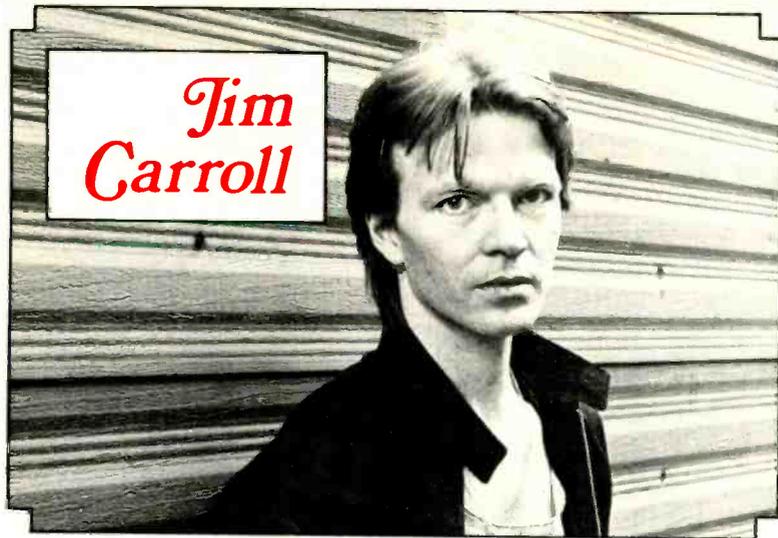
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Performance: **Half-power**  
Recording: **Very good**

Jerry Lee Lewis is always a lot of fun, even when, as here, he's pretty much just going through the motions. *I'd Do It All Again* and *Thirty-nine and Holding* are routine country songs that, like many others today, derive from vaudeville material (such as *The Face on the Barroom Floor*) but temper the original sentimentality with humor and ham acting, at both of which Lewis excels. He is at his insinuating best here with the politely bawdy humor of *Too Weak to Fight*, but the choice of *Over the Rainbow* (!) was a disastrous mistake, and *Mama, This One's for You* is pure manure.

Lewis moves through all the material here, good and bad, with professional ease, but he doesn't seem really comfortable and gives no more than the minimally necessary energy. Better material makes him roar and soar, but that only seems to happen every third or fourth album. So we'll have to wait a bit longer before Jerry Lee feels free enough to be outlandishly frisky again—but don't worry, it *will* happen. *J.V.*

**KENNY LOGGINS: *Alive*.** Kenny Loggins (vocals, guitar); vocal and instrumental accompaniment. *Whenever I Call You Friend; Wait a Little While; Why Do People Lie; What a Fool Believes; Junkanoo Holiday; I'm Alright; Celebrate Me Home; This Is It*; and ten others. COLUMBIA C2X 36738 two discs \$9.98, © CTX 36738 \$9.98, © CAX 36738 \$9.98.

Performance: **Hits and misses**  
Recording: **Very good remote**

*This long live album*—besides annoying me with an abundance of crowd noise—has reinforced my notion that Kenny Loggins has a folk musician's equipment and a jazz musician's ambition. That is not to say he should go on forever about the house at Pooh Corner, but the kind of thing he tries more and more nowadays increasingly obscures the nice tones his voice has when the song isn't so convoluted. As a writer (usually a collaborator with someone else), he does come up with a blockbuster of a convolution now and then—*Whenever I Call You Friend, What a Fool Believes*, and others here—but it seems to be a case of fear or famine. An awful lot of this stuff is as tuneless as it is contrived, and Loggins' interest in words seems to have just about petered out altogether. The live setting here probably exacerbates his tendency to get athletic with the vocals, and he frequently oversings the hell out of every note in sight—reaching into a falsetto almost as silly as Barry Gibb's, reaching the other way for glottal noises, reaching for effect instead of just singing. I wound up feeling I'd been acted at rather than sung to. The better songs are still worth a listen, but mostly the album is a venture into excess. *N.C.*

**BARRY MANN.** Barry Mann (vocals, piano); Carole King (vocals); instrumental and vocal accompaniment. *You're the Only One; Brown-Eyed Woman; Slow Motion; Up from the Streets; So Hot; We're Over*; and four others. CASABLANCA NBLP 7228

(Continued on page 92)

**JIM CARROLL** works in a fairly circumscribed and generally unfashionable idiom. The very idea of rock-and-roll as Poetry is pretty much a dead issue, and yet Carroll, like Bob Dylan, Jim Morrison, and Patti Smith before him, attempts to take the diction of serious poetry (by way of the French Symbolists and the Fifties Beats), mate it to the diction of traditional rock-and-roll, and then come up with an appropriately neon-lit musical style to go along with it. It's a Sixties concept, to be sure, and the irony is that Carroll, like Smith in 1975, is going to be taken as modernist (New Wave, if you must) simply because his stuff doesn't sound like what's on the radio these days. Nevertheless, his "Catholic Boy" is an extremely impressive debut album, flawed and pretentious at times, but also genuinely ambitious, gripping, and believable.

Lyrical, you've heard a lot of this before. Carroll deals with Catholic guilt, drugs, redemptive sex, life and death on the wild side, Rimbaud—in short, the whole Bohemian shopping list. The reasons he gets away with it are twofold. First, he's lived it. Unlike Bob, Jim, and Patti, middle-class kids who merely read about it, Carroll has spent most of his thirty years on the streets battling what must have been a truly epic heroin addiction. Second, and more important, he's a gifted writer. A book of his poetry was nominated for a Pulitzer when he was a mere nineteen, and his autobiographical account of his teenage years, *The Basketball Diaries*, is a scary, mordantly funny odyssey along the dark underbelly of the Sixties, a virtuoso performance that ought to be must reading for those who still tend to romanticize the counterculture. In short, Carroll is an Authentic Voice.

"Catholic Boy" is fairly familiar sounding musically as well, but here too Carroll manages to transcend mere pastiche with a blistering authority. His band, despite a number of obvious reference points (the early Stones, the Velvets, even the Ramones, to name but a few), is among the most accomplished hard-rock outfits now working, and at their absolute limits—*Wicked Gravity*, or *I Want the Angel*—they

manage a majestic, darkly menacing wall of sound that connects with classic rock-and-roll archetypes. Carroll, for his part, is the perfect front man for this kind of sophisticated clatter; on a strictly technical level, of course, he can barely sing at all, but his street-punk *recitativo* is remarkably expressive (and, compared with his models, refreshingly unmannered).

**T**HE album's most arresting track is *People Who Died*, and it neatly sums up the conflicting, contradictory impulses that power Carroll's work. An offhand listing of various friends of his who, for whatever reasons, bought it at an early age, the song is simultaneously poignant (Carroll genuinely misses his departed comrades and is appalled by the waste involved) and oddly celebratory: its gospel-derived choruses in the traditional "rock-anthem" manner are so exhilarating that it soon becomes apparent that he *admires* their "romantic" exits, viewing his own survival as a kind of artistic failure. Nothing I know of in the history of rock-and-roll has quite prepared us for this insider's perspective on the "live fast, die young, make a good-looking corpse" brand of adolescent bravado. It's a brutally honest, rather chilling performance.

The rest of the album has its share of lapses (*Crow*, for example, is a fairly sophomoric tribute to Ms. Smith, and *Three Sisters* gets a bit arch about being sexually knowing), but there's no use pretending that Carroll isn't a genuine talent, or that he and his magnificent band haven't made, in "Catholic Boy," some of the most impressive rock of this young decade.

—Steve Simels

**THE JIM CARROLL BAND: *Catholic Boy*.** Jim Carroll (vocals); Brian Linsley (guitar); Steve Linsley (bass); Terrell Winn (guitar); Wayne Woods (drums); other musicians. *Wicked Gravity; Three Sisters; Day and Night; Nothing Is True; People Who Died; City Drops into the Night; Crow; It's Too Late; I Want the Angel; Catholic Boy*. ATCO SD 38-132 \$7.98, © CS 38-132 \$7.98, © TP 38-132 \$7.98.

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

Barry Mann and Cynthia Weil made up one of the heavy-hitter songwriting teams in the Fifties/Sixties. Along with the Gerry Goffin/Carole King and Jeff Barry/Ellie Greenwich teams, they operated out of the Brill Building in New York, then the address of Tin Pan Alley. Mann is in his late forties now, and he is still a skilled songsmith and performer. That his new material is more in the night-club line should be no surprise—Neil Sedaka, another contemporary, has moved in the same direction. Carole King duets with Mann here on *You're the Only One* and *Slow Motion*, and Cynthia Weil is listed as executive producer, so the album is something of a class reunion. Nothing in it is surprising, but most of it is solid and enjoyable. *J.V.*

**JONI MITCHELL: *Shadows and Light*.** Joni Mitchell (vocals, guitar); vocal and instrumental accompaniment. *In France They Kiss on Main Street; Edith and the Kingpin; Coyote; Goodbye Pork Pie Hat; The Dry Cleaner from Des Moines; Woodstock; Amelia; Hejira; Black Crow; Dreamland;* and nine others. ASYLUM BB-704 two discs \$13.98, © BC5-704 \$13.98, © BT8-704 \$13.98.

Performance: **Joni jazz**  
Recording: **Good remote**

Joni Mitchell was quoted as saying her work would never be the same after her collaboration with Charles Mingus. Some of us are wondering whether there will be more work of any sort; it's been a long time since "Mingus," and this double-size live album of "old" material seems mostly a showcase for the ensemble she put together for it. Actually, her work hasn't been "the same" since "The Hissing of Summer Lawns," wherein a sort of sound aesthetic started to shove the folk-song muse out of the spotlight. Most of the songs in this collection come from that album and later, although there are a few other things here, such as *Woodstock* and a guest shot by the Persuasions (Joni, by the way, does not sound very persuasive imitating Frankie Lymon).

The instrumentalists seem to be what makes this album distinct from those that introduced the various songs. Yet the arrangements aren't all that distinct; often what you have is Michael Brecker playing pretty close to the old Tom Scott lines on the sax and Jaco Pastorius, of course, playing a more active bass than anyone else did behind her. And, oh, yes, Joni plays an electric guitar instead of an acoustic one. There are some nice sounds, and it is a decent-enough product to put on the market, I suppose, but nothing is redefined, no great revelations occur. I assume that what she's really up to is either taking time off or working on a blockbuster. If you want a live Joni album, "Miles of Aisles" is a more interesting one. *N.C.*

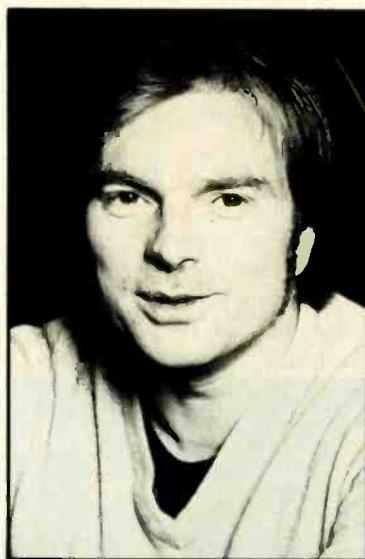
**VAN MORRISON: *Common One*.** Van Morrison (vocals); instrumental accompaniment. *Haunts of Ancient Peace; Summertime in England; Satisfied; When Heart Is Open;* and two others. WARNER

BROS. BSK 3462 \$7.98, © M5 3462 \$7.98, © M8 3462 \$7.98.

Performance: **Mystic moods**  
Recording: **Very good**

What Van Morrison apparently tried for here, and sometimes achieved, was a kind of pastoral mysticism. As usual, he derives content largely from style—there is nothing much of significance in the words if you take them literally—but this time he takes the method further than ever before. Two pieces, *Summertime in England* and *When Heart Is Open*, run longer than fifteen minutes, and the others meander and chant and doodle about for quite some time too.

*Summertime* is a sort of stream-of-consciousness outpouring that puts a slow-moving cascade of pictures in your head. But what it and most of the others suggest more



VAN MORRISON  
*Spiritual qualities beyond words*

strongly is a kind of preaching; they remind me, in fact, of the chant-like pitch a Baptist preacher makes when the invitation hymn is being sung and the attention is turned to getting people "saved." I used to think in church that it was a sort of body-count situation with the preacher's ego the main thing on the line. Morrison, let me quickly say, does not convey that attitude. He has just incorporated something from the form: phrases are repeated in nonlinear fashion not for their meaning per se but for their cadence and its contribution to the mood, which is the main thing. *Summertime* has upwards of three hundred words, perhaps a record, and it mostly seems ad-libbed. "It ain't why," Morrison says, "it just is." That seems to be the gist of the verbal part of the message. But most of the message, for all the album's wordiness, is nonverbal, and a lot depends on the mood you bring to it. I don't recommend this as a party record, but in private it can take on spiritual qualities in ways its own words can't describe. *N.C.*

**ROBERT PALMER: *Clues*.** Robert Palmer (vocals, guitar, bass, percussion); instrumental accompaniment. *Looking for Clues; Not a Second Time; Johnny and Mary; I Dream of Wires;* and four others. ISLAND

ILPS 9595 \$7.98, © M5 9595 \$7.98, © M8 9595 \$7.98.

Performance: **Good**  
Recording: **Good**

I'm undecided about Robert Palmer's music; he's good, but I'm not clear about what he is trying to do. *Looking for Clues* and his hit single *Johnny and Mary* are about people who can't find themselves, and Palmer's performances of them are as meandering as the characters. *Sulky Girl* is more focused, but it reminds me too much of the Stones' *Stupid Girl* (though Palmer's song isn't as vicious). Palmer's version of Gary Numan's *I Dream of Wires* is better than the author's (Numan plays keyboards on it here), but then Palmer can sing and Numan can't. Palmer and Numan co-wrote the closing cut, *Found You Now*, which lurches about without landing anywhere.

Most surprising, though, is Palmer's cover of the Beatles' *Not a Second Time*. This contains an extra verse by Palmer that I find makes the song fuller, and I prefer his version to the Fab Four's original. As a matter of fact, I enjoy a lot of Palmer's work, but I would like more, er, *clues* about what he's up to. *J.V.*

#### RECORDING OF SPECIAL MERIT

**ALAN PARSONS PROJECT: *The Turn of a Friendly Card*.** Alan Parsons Project (vocals and instrumentals). *May Be a Price to Pay; I Don't Wanna Go Home; The Gold Bug; Nothing Left to Lose;* and five others. ARISTA AL 9518 \$8.98, © ATC 9518 \$8.98, © AT8 9518 \$8.98.

Performance: **Electro-pop magic**  
Recording: **Simply sensational**

If, like me, you still have a soft spot for the symphonic sound of the Moody Blues, then you'll have a lot of fun with this latest album from the Alan Parsons Project. It's vastly more accessible than "Eve," the previous release by this "group"—essentially Parsons and Eric Woolfson, who write and produce the material—and harks back to their enormously successful "Pyramid." It is crammed full of delicious music, fascinating and somewhat surreal lyrics, and multi-layered productions of the sort we used to call "trippy."

The album's highlight is a group of five connected tracks on side two, totaling sixteen minutes, that opens and closes with the haunting title song, *The Turn of a Friendly Card*. The theme of gambling is carried through the rock-accented, up-tempo *Snake Eyes*—which has vocals by Chris Rainbow and a Billy Joel kind of energy, and which is, overall, the best cut on the album—and two lush instrumentals, *The Ace of Swords* and *Nothing Left to Lose*. The production piles layer upon layer of music in Parsons' familiar style. The reprise of the title song at the end suggests a movie-soundtrack close, but it never quite becomes either hysterical or sappy.

It might be charged that this music is all effect, that it lacks spontaneity, soul, emotion. But Parsons and Woolfson are not balladeers or rockers, and they don't try to be. They are craftsmen, and if you like the genre they work in, you'll like this album. *I.C.*

(Continued on page 96)

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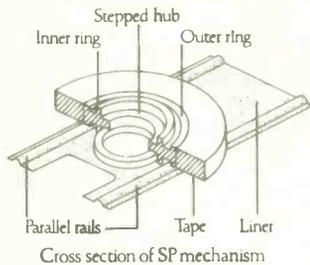
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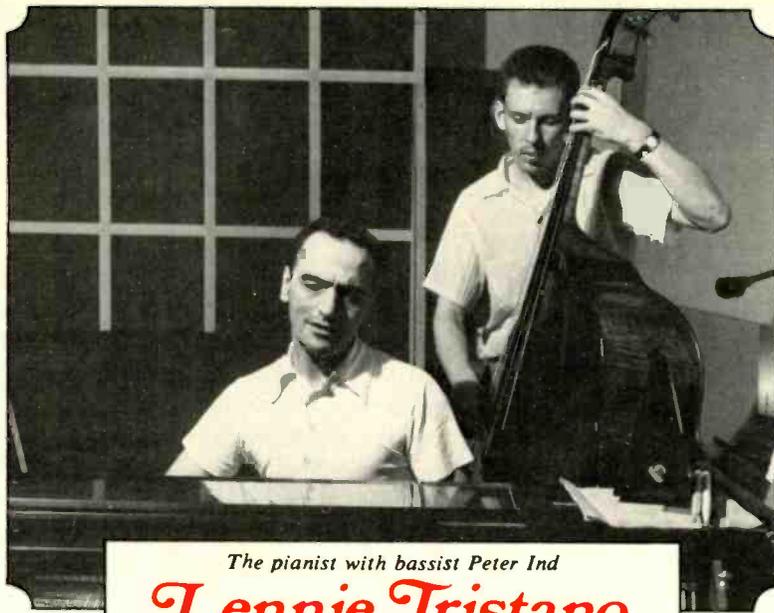
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Robert Parent

The pianist with bassist Peter Ind

## Lennie Tristano

**L**ENNIE TRISTANO died in 1978, and although this composer, pianist, and jazz innovator left behind an influence that may well be felt for as long as jazz is played, he left relatively few recordings. The dearth of issued Tristano material heightens the significance of "Live at Birdland," an album recently released by Jazz Records, the company Tristano founded in 1951. It contains four 1945 solos and five 1949 quintet selections that to my knowledge have never previously been issued.

The first time I heard a Tristano recording, back in 1948, a memorable part of the experience was Billy Bauer's guitar, which seemed to be a natural extension of Tristano's piano. It still does as I listen to these quintet selections—the first two of which, *Remember* and *Pennies*, start off with a minute or so of sound so poor that it beggars description. But then the sound suddenly improves and becomes quite listenable. (The reason, the notes explain, is that the first parts were missing from the original tape and were reinstated using a miserable wire-recorder copy of that tape.)

Another caveat: although the album gives Tristano credit for composing all the tunes—including the fine, if less interesting, solos—his *Pennies* is in fact really *Pennies from Heaven*, his *Remember* is *I'll Remember April*, his *Glad Am I* is *Yesterdays*, and so on. I cannot imagine Lennie Tristano claiming credit for these and the other standards on this album, so I presume that whoever produced it either had cotton in his/her/their ears or was trying to pull a fast one.

**I**N January 1979, some of Lennie Tristano's friends, fans, colleagues, and pupils gathered in New York City's Town Hall to pay tribute to his memory. The entire concert has now been issued on a five-disc Jazz Records set, but I think it would have been more effectively condensed into a single LP.

Tristano obviously failed to transfer his own high degree of musicality and keen sense of direction to such students as Liz Gorrill, whose pedestrian piano playing, shrieks, and warbles take up far too much time here, or flutist Fran Canisius, who also veils ineptitude in a thin cloak of avant-garde pretensions. Pianist Virg Dzurinko does have a bit of talent, as she demonstrates on three selections, including *Stella by Coincidence*—which is, by no coincidence, *Stella by Starlight*. Renaming standards seems to be common practice among Tristano cultists.

Three tracks by pianist Lloyd Lifton and bassist Murray Wall provide the set's first glimmer of professionalism. Three songs by Sheila Jordan might have been a great asset to this set if they had been recorded properly; as it is, her vocals sound way off in the distance and all we can enjoy are the instrumental passages, which are played by a fine trio under the leadership of pianist Harold Danko and feature excellent work by bassist Cameron Brown. Guitarist Larry Meyer plays an amplified instrument, and quite well, on his two solo selections, but he too is a victim of an erratic, unbalanced recording setup. The recording engineer, Lenny Popkin, is also one of the performers, and he seems more at home with a tenor saxophone than at a mixing console. Popkin leads a trio with bass and drums in four selections that bear repeated listening, especially his somber, beautifully costumed and masked version of *You Don't Know What Love Is*.

One side of the set is devoted to a three-part *Suite for Lennie* written and performed by pianist Sal Mosca, one of Tristano's most interesting pupils in recent years, and that is followed by two good solo flute efforts by Nomi Rosen and then by *Confluence*, a splendid collaboration between Rosen and pianist Connie Crothers.

The concert's peak is reached with three tunes performed by tenor saxophonist Warne Marsh, one of Tristano's most cele-

brated associates, with the wonderful Eddie Gomez on bass and Peter Scattaretico on drums. Marsh is magnificent, the warmth of his current tone contrasting interestingly with that heard on the 1949 Birdland session, and Gomez gets a chance to shine on *I Should Care*. Unfortunately, this peak is followed, on the last record of the set, by a long, deadly, downward plunge, which is not redeemed by a concluding solo by the album's biggest name, drummer Max Roach. His seven-minute solo was actually recorded the day after the concert—because, the notes mysteriously state—he and Roy Eldridge (who had been scheduled to appear with the Jimmy Ryan All-Stars) "both suffered injuries before the concert." You figure it out.

**T**HERE'S nothing wrong with this tribute that a little more professionalism couldn't have fixed. The intentions were certainly good, and adoration of Tristano and his music was much in evidence, but to really enjoy this whole program, I guess—judging by the reaction of the audience—you had to be there.  
—Chris Albertson

**LENNIE TRISTANO: Live at Birdland 1949.** Lennie Tristano (piano); Warne Marsh (tenor saxophone); Billy Bauer (guitar); Arnold Fishkin (bass); Jess Morton (drums). *Remember; Pennies; Foolish Things; Indiana; I'm No Good Without You.* Lennie Tristano (piano). *Glad Am I; This Is Called Love; Blame Me; I Found My Baby.* JAZZ RECORDS JR-1 \$8 (from Jazz Records, P.O. Box 23071, Hollis, N.Y. 11423).

**LENNIE TRISTANO MEMORIAL CONCERT.** Liz Gorrill (piano, vocals). *Inspiration; There Will Never Be Another Lennie; King of Bongo Bong; This Crazy Feeling; All of Me; Paradise Found.* Fran Canisius (flute). *Lennie; Out of Line.* Fran Canisius (flute); Liz Gorrill (piano). *Changes; Sound Poem.* Lloyd Lifton (piano); Murray Wall (bass). *Flamingo; What's New; Stella by Starlight.* Sheila Jordan (vocals); Harold Danko (piano); Cameron Brown (bass); Lou Grassi (drums). *You'd Be So Nice to Come Home To; Yesterdays; Confirmation.* Virg Dzurinko (piano). *You Do Know What Love Is; Stella by Coincidence; Who Knows.* Larry Meyer (guitar). *Tristano; As Summer Falls, Winter Springs.* Lenny Popkin (tenor saxophone); Peter Scattaretico (drums); Stan Fortuna (bass). *Ablution; You Don't Know What Love Is; Two Not One; Lennie's Pennies/East Thirty-second Street.* Sal Mosca (piano). *Suite for Lennie.* Nomi Rosen (flute). *Among Friends; Lennie's Pennies.* Nomi Rosen (flute); Connie Crothers (piano). *Confluence.* Warne Marsh (tenor saxophone); Eddie Gomez (bass); Peter Scattaretico (drums). *I Love You; Trilog; I Should Care.* Lynn Anderson (vocals). *There Will Never Be Another You; How Deep Is the Ocean; Embraceable You; Day by Day; I'll Never Stop Loving You; Take One.* Max Roach (drums). *Oobala Babala.* JAZZ RECORDS JR-3 five discs \$25 (from Jazz Records, P.O. Box 23071, Hollis, N.Y. 11423).

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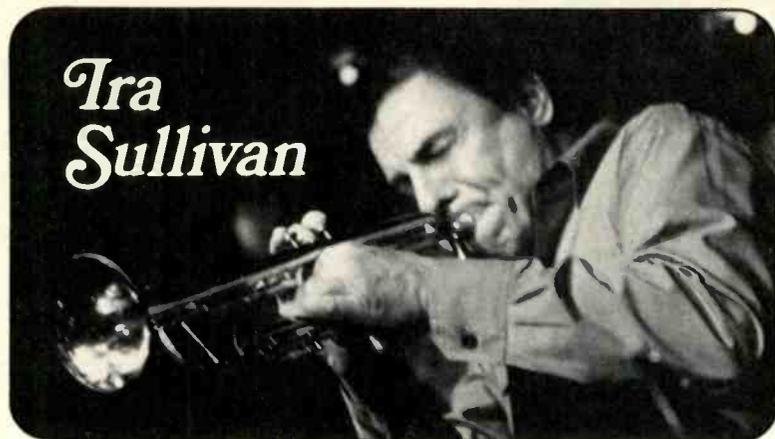
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**T**HE way some writers carry on about multi-instrumentalist Ira Sullivan, you would think he was the Greta Garbo of jazz. Well, he *has* made himself scarce, sticking more or less to Chicago and (since 1963) Miami, with only two trips, twenty-four years apart, to New York in almost fifty years. And he *does* have the kind of talent that belongs in the limelight. I always thought Sullivan was good at what he did, but I was inclined to be a bit more reserved in my enthusiasm than my colleagues; some of them seemed to stop just this side of advocating sainthood. Then came "The Incredible Ira Sullivan" on that burgeoning little Stash label, and I am almost ready to dash off a letter to the Vatican.

With solid support from a rhythm section consisting of the estimable Hank Jones, Eddie Gomez, and Duffy Jackson (whose bassist father, "Chubby," added considerable drive to the most famous of the Herman Herds), Sullivan gives us one virtuoso performance after another. It is not often that a musician can play both trumpet and saxophone with such skill, and when he employs a multiple-track technique to play them simultaneously, he doesn't overdo it, as Dan Morgenstern points out in his excellent and

thorough liner notes. I have always been somewhat skeptical about the wisdom of having a musician play against a recording of his own performance; that sort of thing does preclude interaction, a vital ingredient. But Sullivan's subtle approach is effective more often than not. In fact, this is one of the most delightful albums of recent date, and I won't take up valuable space by pointing out highlights, because you ought to hear the whole thing for yourself. I must, however, mention the wonderful work of Eddie Gomez on *Satin Doll*, and the magnificent fire generated by Sullivan's trumpet on *Bernie's Tune*, and the great way Hank Jones . . . No, I must stop here or I'll go on for pages. If you're asking, the answer is yes—I have joined the Ira Sullivan fan club. —Chris Albertson

**IRA SULLIVAN: *The Incredible Ira Sullivan*.** Ira Sullivan (trumpet, flugelhorn, flute, alto and tenor saxophones, afuche cabasa); Hank Jones (piano); Eddie Gomez (bass); Duffy Jackson (drums). *Lonely Moments; Satin Doll; Bernie's Tune; Our Delight; Kim's Lament; On the Seventh Day; Can't Get Out of This Mood*. STASH ST-208 \$7.98.

**PEACHES & HERB: *Worth the Wait*.** Peaches & Herb (vocals); vocal and instrumental accompaniment. *Fun Time; One Child of Love; All-Night Celebration*; and five others. POLYDOR PD-1-6298 \$8.98, © CT-1-6298 \$8.98, © 8T-1-6298 \$8.98.

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

I was disappointed in Peaches & Herb's last album because I was expecting it to contain at least one song comparable to the memorable *Reunited*. There's no new *Reunited* on "Worth the Wait" either, but I've come to accept that they'll be lucky ever to equal that exceptionally fine song during the rest of their career. On this release they adeptly handle a sufficiently broad range of material to ensure satisfaction. Tops among the slower numbers are *Surrender* and *One Child of Love*, which is a strange blend of soul and country. On the up-tempo side, *Fun Time*, *Hearsay*, and *Lovely Dovey* (Girl

and Guy) are winners. Everything else goes down without making a big splash. P.G.

**THE POLICE: *Zenyatta Mondatta*.** The Police (vocals and instrumentals). *Don't Stand So Close; Driven to Tears; Canary in a Coalmine; Voices Inside My Head; Bombs Away*; and six others. A&M SP-4831 \$7.98, © CS-4831 \$7.98, © 8T-4831 \$7.98.

Performance: **Junior slump**  
Recording: **Fine**

Sooner or later it happens to every band, however talented or well intentioned: caught with an album due and little or nothing to say. This time it's happened to the Police. Apparently they've been so busy touring out-of-the-way markets (such as India) and coming to grips with the pressures of their sudden worldwide success that their songwriting has suffered. This third album from the group is padded, thinly produced,

and rushed sounding—though chances are it will, ironically, be the one that finally breaks in America.

Only the British and American singles from this album (*Don't Stand So Close* and *De Do Do Do*, respectively) have the sensuous instrumental interplay, melodic grace, and lyrical smarts we have come to expect from the Police. The rest is merely sound effects and aimless riffing. Granted, there are precious few groups, New Wave or otherwise, that can tread water this skillfully, but from these guys one wants something a little more . . . er, arresting. S.S.

#### RECORDING OF SPECIAL MERIT

**ROCKPILE: *Seconds of Pleasure*.** Rockpile (vocals and instrumentals). *Teacher Teacher; If Sugar Was As Sweet As You; Heart; Now and Always; A Knife and a Fork*; and seven others. COLUMBIA JC 36886 \$7.98, © JCT 36886 \$7.98, © JCA 36886 \$7.98.

Performance: **Con brio**  
Recording: **Good**

"Well, it's about time," was my first reaction. Although these guys have been thinly disguising their group efforts as Nick Lowe or Dave Edmunds solo albums for ages, it's nice, finally, to have them on vinyl as an official ensemble. What's even nicer is that "Seconds of Pleasure" is every bit as entertaining as the Nick and Dave projects that preceded it. The musical mix, of course, remains the same as usual: a little blues, a little country, a little r-&-b, a little humorous schlock, and a little pop heaven. The songs are all short, to the point, and wear their historical antecedents on their sleeve. The album as a whole is almost miraculously spontaneous sounding. And that, I think, is what really makes Rockpile different from any other traditionalist band working: their immaculate professionalism completely conceals itself. In fact, these lads probably are what their boosters have claimed, the best mainstream rockers in the world. While nothing they do is earthshakingly meaningful in the Springsteen/Clash sense, neither do they traffic in pretension. Especially noteworthy here are the lovely *Teacher Teacher*, Chuck Berry's autumnal *Oh What a Thrill*, and the hilarious *A Knife and a Fork*, but everything on this wonderful album repays repeated listening. S.S.

**SUPERTRAMP: *Paris*.** Supertramp (vocals and instrumentals). *School; Ain't Nobody but Me; The Logical Song; Bloody Well Right; Breakfast in America; From Now On; Dreamer; Rudy*; and eight others. A&M SP-6702 two discs \$12.98, © CS-6702 \$12.98, © 8T-6702 \$12.98.

Performance: **Sound effects**  
Recording: **Good**

Supertramp may sound vaguely at times like a poor man's Queen, but what this live-from-Paris album really reminds me of is Chicago. That is, instead of music the band plays a series of sound effects. These are pitched at a younger crowd than Chicago's, and part of what pitches them that way is Supertramp's songs: advertising jingles with less urgent (and less memorable) words substituted. When I close my eyes, I see Ronald McDonald cavorting around an array of hard, orange, plastic objects be-

tween my speakers. (Certain science-fiction writers warned us there'd be times like this.) Instrumentally, the band could be interesting, having a lurking lyrical quality about it, but the vocals are such a gimmicked-up sequence of squeaks, squawks, and grunts that they seem to be coming from electronic toys. There's a certain catchiness to it all, but I get enough of that sort of thing from TV commercials. Modern times don't *have* to be like this. N.C.

**RECORDING OF SPECIAL MERIT**

**TALKING HEADS: *Remain in Light*.** Talking Heads (vocals and instrumentals); other musicians. *The Great Curve; Crosseyed and Painless; Born Under Punches (The Heat Goes On); Houses in Motion; Once in a Lifetime;* and three others. SIRE SRK 6095 \$7.98, © M5S 6095 \$7.98, © M8S 6095 \$7.98.

Performance: **Extraordinary**  
Recording: **Excellent**

From its very inception Talking Heads has dealt, at least in part, in a white collage of rhythmic ideas out of black funk: soul music for people in their fourth year of analysis. They have always owed more, instrumentally, to Booker T. and the M.G.'s than to, say, the Velvet Underground. Their last album, "Fear of Music," was particularly explicit in that regard, and this new one pushes their funk obsession even further. Head's honcho David Byrne and producer Brian Eno apparently spent the last year immersing themselves in current African pop, and the songs on "Remain in Light" are as a result mostly a collection of extremely static funk grooves overlaid with as many decorative percussive effects (usually electronic in nature) as they can possibly manage. There's no use pretending this isn't excellent music; the way they suggest melodies over the most skeletal of harmonic underpinnings is quite extraordinary, and for all the electronic nature of the sounds they're making, this stuff has a remarkably hand-tooled quality. In some ways, in fact, it's the warmest, most human record they've ever made.

At the same time, I'm not exactly comfortable with it. Apart from the usual lyrical failures (the guilty white liberalism of *Listening Wind* and the embarrassing lit-major recitation that is *Seen and Not Seen* are as pretentious as Byrne's earlier recorded anxiety attacks), I tend to think this new approach is something of a cul-de-sac. Dance music for art students and ethnomusicologists is all well and good, I suppose, and I respect the band for attempting to stretch my ears. But while I'm no expert on the African origins of this stuff, I think it's safe to say that black pop in the rest of the world (the work of Sam Cooke or Bob Marley, for instance) has never been about rhythm *exclusively*, and the overall effect of the Heads' love affair with the tribal pulse is depressingly inward. In fact, it now seems to me that the Heads are verging on middle Pink Floyd territory; the logical next step is sound effects, listless drones, and birds chirping in the night. "Remain in Light" is an often arresting effort, but if the band's next album turns out to be a totally self-indulgent turn-off, I won't be exactly surprised. S.S.

**JAZZ**



**DAVE BRUBECK QUARTET: *Tritonis*.** The Dave Brubeck Quartet (instrumentals). *Like Someone in Love; Brother, Can You Spare a Dime?; Mr. Fats;* and three others. CONCORD JAZZ CJ-129 \$7.98.

Performance: **Stimulating**  
Recording: **Excellent**

The economy being what it is, the 1932 hit *Brother, Can You Spare a Dime?* has again become relevant (though a dime will hardly do it any more), and the rendition it gets here is as up-to-date as the latest rise in the consumer-price index. Jerry Bergonzi approaches the saxophone from an earthier angle than the late Paul Desmond did, but his Coltrane-inspired work mixes well with Dave Brubeck's hammer piano style on *Brother*, stomps *à la mode* on *Mr. Fats*, and is stunningly articulate on the well-known ballad *Like Someone in Love*. Brubeck's son Chris plays excellent bass on all but one track, *Lord, Lord*, a somber piece that has him switching to bass trombone, and drummer Randy Jones provides good support throughout. C.A.

**RECORDING OF SPECIAL MERIT**

**AL GREY/WILD BILL DAVIS: *Key Bone*.** Al Grey (trombone); Wild Bill Davis (organ); Eddie "Cleanhead" Vinson (vocals, alto saxophone); Floyd Smith (guitar); Chris Columbus (drums). *Over and Under; Alimony Blues; Right and Mellow; Person to Person; Open Wider, Please;* and four others. CLASSIC JAZZ CJ 103 \$7.98.

Performance: **Intimate**  
Recording: **Good**

Trombonist Al Grey came up through the ranks of the big bands. A perpetuator of the plunger style pioneered by such men as Joe "Tricky Sam" Nanton and Quentin Jackson, Grey is a fine teammate for organist Wild Bill Davis, his co-leader on this 1972 French session. Also helping to make this the appealing combo date that it is are blues singer/saxophonist Eddie "Cleanhead" Vinson, guitarist Floyd Smith, one of the first jazz musicians to look for and find an electric outlet, and drummer Chris Columbus, who spent part of the Forties with Davis in Louis Jordan's Tympany Five. With that kind of crew, you'd hardly expect anything less than good, and you won't be disappointed here. Vinson's vocals on *Person to Person* and *Alimony Blues*, perfectly complemented by Grey's witty trombone, are reason enough to add this album to your collection, but there are a lot more gems in "Key Bone." Get it. C.A.

**HANK JONES: *I Remember You*.** Hank Jones (piano); George Duvivier (bass);

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Morgan, who was shot to death in a New York club nine years ago, found idiomatic barriers silly and unfortunate. "There are no natural barriers," he told an interviewer. "It's all music. It's either hip or it ain't." This album is still hip. C.A.

**RECORDING OF SPECIAL MERIT**

**MARSHAL ROYAL: *Royal Blue*.** Marshal Royal (alto saxophone); Monty Alexander (piano); Cal Collins (guitar); Ray Brown (bass); Jimmie Smith (drums). *Mean to Me; Avalon; Teach Me Tonight; Things Ain't What They Used to Be*; and five others. CONCORD JAZZ CJ-125 \$7.98.

Performance: **In the groove**  
Recording: **Excellent**

Swinging (in the musical sense of the term) soon becomes second nature to any musician who has spent as much time (some two decades) in a Count Basie band as saxophonist Marshal Royal has. What Royal honed to perfection with Basie he applies to nine quintet tracks on "Royal Blue," his second Concord Jazz album as a leader. Three of the tracks are Ellington tunes, not only reminding us that Royal made periodic appearances with Duke, but also illustrating how thin a wall of style separated Royal and the late Johnny Hodges. The support here is impeccable. Pianist Monty Alexander and guitarist Cal Collins contribute some fine solo work to proceedings that stay airy, bouncy, and immensely soulful throughout. C.A.

**ZOOT SIMS: *Passion Flower—Zoot Sims Plays Duke Ellington*.** Zoot Sims (tenor saxophone); instrumental accompaniment. *In a Mellow Tone; I Got It Bad and That Ain't Good; Black Butterfly; Passion Flower; Bojangles*; and four others. PABLO TODAY 2312-120 \$8.98, © K10-120 \$8.98.

Performance: **Fitting tribute**  
Recording: **Very good**

Judging by the number of albums appearing under his name in the past two or three years, saxophonist Zoot Sims is currently enjoying renewed popularity. That is great for him, of course, but it also speaks well for the ability of jazz to survive the onslaught of pop-oriented producers and defectors, for Sims has never lowered his jazz standards. In "Passion Flower," recorded in 1979-1980 and released late last year, Sims pays glowing tribute to Duke Ellington with nine body-moving selections, five of which have been arranged for big band by veteran swing man Benny Carter. The arrangements are effectively unobtrusive, like good film music, a medium Carter is well versed in. The back-up score serves a vital function, but only to underline the action up front. In this case the action is Sims' deep-throated, sensuous tenor, the perfect voice for Ellington's music.

Sims' voice is even more compelling on the four quartet tracks that make up side two of this tribute, and here we also get a wonderful earful of Jimmie Rowles' delicate piano, flavored with Dukish spice for the occasion. Producer Norman Granz has released a whole series of tributes to Ellington by Pablo's various artists. They are all worth acquiring if good, no-frills jazz is what makes your ears perk up. C.A.

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# Classical Discs and Tapes



Children's Television Workshop

LAST season the Israeli-born superstar violinist **Itzhak Perlman** made a cameo appearance as a singer: in a Live from Lincoln Center telecast with the New York Philharmonic he sang the role of the Jailor in a scene from *Tosca* with Luciano Pavarotti. This season he is playing straight man to a bunch of Muppets on the popular PBS children's show *Sesame Street*.

Perlman, who was disabled by polio at the age of four, says he had several reasons for going on *Sesame Street*. "First, I think it is very important for children to be confronted with disabilities and to know that they are a part of life. Second, *Sesame Street* is a great program. I've watched it practically from the beginning with my four children, the oldest of whom is eleven. Third, one of my goals in life was to make music with **Oscar the Grouch**."

Perlman's *Sesame Street* debut took place last November 24 in the first program of the show's twelfth season. He performed a duet for violin and tuba with a new Muppet char-

acter, Telly Monster. With Oscar the Grouch, Perlman played J. S. Blech's Double Sonata for Violin, Vacuum Cleaner, Policeman's Whistle, Fire Engine Siren, Jackhammer, Automobile Horn, Elephant Jumping into Swimming Pool, and Nose. Asked to comment on his colleague's performance, Perlman said, "Of the various instruments he played, I thought Oscar was best with the jackhammer. It seemed to capture the essential Grouch. You have to understand, Oscar is not just a virtuoso, he's got soul."

Perlman will play on a number of other *Sesame Street* episodes throughout the season. "After that it's strictly back to serious music," he says, denying any other television ambitions beyond his regular appearances as violin soloist with symphony orchestras. "The singing thing with Pavarotti was something I did just because Zubin Mehta dared me to. I was on camera so briefly that if you blinked you would have missed me. But apparently everybody I know was watching."

As for his serious work, Perlman is now an exclusive Angel/EMI recording artist. For that label he has just made digital recordings of the Prokofiev Violin Concertos Nos. 1 and 2 with **Gennady Rozhdestvensky** and the BBC Symphony Orchestra and an album of trio sonatas by members of the Bach family with violinist **Pinchas Zukerman**, pianist **Samuel Sanders**, and cellist **Timothy Eddy**. Also awaiting release is a second jazz album with **André Previn**. For 1982 release, Perlman is due to record Bach unaccompanied violin music and, with pianist **Vladimir Ashkenazy** and cellist **Lynn Harrell**, all the Beethoven piano trios. If his new friend Oscar wants to record with him, he will have to be patient. —W.L.

A MUCH-ADMIRED survey of contemporary music, *Twentieth-Century Music: The Sense Behind the Sound* by Joan Peyser, has just been brought out in paperback by Schirmer Books. We thought you'd like to know what composer Luciano Berio said of it: "Delicate and intelligent feminine hands on the hot body of modern music. What a delight!" □

IN somewhat the same way as James Galway and Jean-Pierre Rampal have been doing with the flute (if with a rather different musical viewpoint), the *Swiss oboist* **Heinz Holliger** is making Americans aware of the oboe as a solo instrument. "The oboe is not a solo instrument in America," says Holliger, "largely because the previous generation of American

oboists conspired against it. They did not want to be soloists themselves and they did not want others to be. And they didn't know the repertoire. Two or three concertos, maybe, for auditions. That's all."

Holliger, who performs concertos and chamber music on both oboe and English horn, knows the repertoire and is busy recording it, mostly for Philips. "I have enough repertoire for three lifetimes," he says. Some of it he has written himself, some he has commissioned from contemporary composers. But most of it, he admits, stems from the seventeenth and early eighteenth centuries when wind instruments were in greatest favor. There is a large temporal gap between the Baroque works and the contemporary, broken only by the Mozart concerto and quartet, the Richard Strauss concerto, and a few others. "I blame American oboists," says Holliger, "that there are no concertos by



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some of the great composers of our century. Bartók was here, starving. Prokofiev was here for a time. Schoenberg was here teaching harmony to beginning students. But no American oboist ever commissioned a work from them. They would have been happy to write one."

Whomever one blames, the lack of such concertos is a serious one. The repertoire needs big works, and one at least seems to have disappeared. "Beethoven wrote an oboe concerto, about the same time as the Second Piano Concerto. The Morgan Library (in New York City) has the sketches for it, but it once existed in full. Diabelli had a copy of it. But I have searched the world for it ten years in vain." —J.G.

**T**ALENT runs in some families; in others it gallops. Pinchas Zukerman, one of the world's foremost violinists, is also making a reputation for himself as a conductor. His wife **Eugenia Zukerman**, in addition to being the mother of their two children, is a flutist, and she performs as soloist in a recent CBS Masterworks album of flute concertos conducted by her husband.

Mrs. Zukerman, who also writes, has just published her first novel, *Deceptive Cadence* (Viking). The author certainly knows the music world from the inside, but the book is a rather cliché-ridden look at the life of a successful concert pianist and never rises above the level of soap opera. Still, it might make

Richard Sutor/ICM Artists



a pretty good TV movie, and Mrs. Zukerman does a better job at the typewriter than most writers could with the flute.

The book inspired extravagant jacket blurbs contributed by a couple of other musicians who also perform at the typewriter keyboard. Sample from composer Ned Rorem: "Eugenia Zukerman's prose is no less professionally rich and slick than her flute playing: gilded and terrifying in the high register, breathy and carnal in the low." —W.L.

**B**RAZILIAN pianist **João Carlos Martins**, who recorded Bach's *Well Tempered Clavier* for Connoisseur Society and the Book-of-the-Month Club in 1965, had a brilliant career going when, in 1967, he suffered what seemed to be a small accident while playing soccer. A pebble that lodged in his elbow eventually almost paralyzed his right arm, hand, and fingers, and Martins, forced to cancel virtually half his engagements

even after an operation, gave up the piano.

But the competitive spirit doesn't die so easily. Watching a piano recital on television some years later, Martins decided that he could play better than that and went into training. In 1978 he started concertizing again, and now he will pick up his recording career with a set of digital recordings for the Arabesque label. Of what? Nothing less than the complete keyboard works of J. S. Bach,

eighteen discs, the Partitas to be issued this month and the set to be complete by 1985, the tercentenary of the composer's birth. Mr. Martins does not think small.

What did he do in that time when he was *not* playing the piano? He went to work for a bank, became a director, opened a construction firm, promoted boxing matches, and made himself rich. No, he does not think small, whatever the sphere. —J.G.

Thomas Tyburaki



**A**T a recent autographing session at a Sam Goody store in New York, tenor **Placido Domingo** sang for his public. Since the Metropolitan's 1980-1981 season had not yet opened because of union-contract disputes, Domingo thought fans must be starved for the sound of opera. He sang "Core 'ngrato" and arias from Puccini's *Tosca* and *Girl of the Golden West* accompanied by

Joan Dorneman of the Met, ending his minirecital by accompanying himself on *Granada*.

Although other artists have performed at "in-store signings" (Igor Kipnis played the harpsichord at Peaches in Indianapolis, and Lona Boyd played the guitar at the Sound Warehouse in Austin, Texas), so far as we know Domingo is the first singer to turn a sign-in into a gig. □

## Disc and Tape Reviews

By RICHARD FREED • DAVID HALL • GEORGE JELLINEK • PAUL KRESH  
STODDARD LINCOLN • ERIC SALZMAN

© = stereo cassette

Ⓢ = eight-track stereo cartridge

Ⓛ = digital-master recording

Ⓛ = direct-to-disc

□ = quadrasonic disc

Ⓜ = monophonic recording

The first listing is the one reviewed; other formats, if available, follow.

**J. S. BACH: Sonatas for Viola da Gamba and Harpsichord (BWV 1027-1029).** Catharina Meints (viola da gamba); Doris Ornstein (harpsichord). GASPARO GS-212 \$7.98.

Performance: **Graceful**  
Recording: **Good**

**J. S. BACH: Sonatas for Viola da Gamba and Harpsichord (BWV 1027-1029).** János Starker (cello); Zuzana Růžičková (harpsichord). SUPRAPHON 1111 2485 \$9.98 (from

Qualiton Records, Ltd., 39-28 Crescent Street, Long Island City, N.Y. 11101).

Performance: **Splendid**  
Recording: **Sensitive**

Although music written for the viola da gamba *can* be played on the cello, there are certain differences between the instruments. Most obvious is the gamba's lighter and clearer tone, a result of its light construction, its use of frets, and a technique that favors open strings. The tone of the cel-

lo, in contrast, is richer, and its players favor a vibrato. In composing these gamba sonatas, Bach, ever conscious of his medium, wrote long, sinuous lines that demand a type of articulation more easily produced by the gamba than the cello. In short, the sonatas are perfectly suited to the gamba musically and technically, and a competent player of that instrument can toss them off with ease. A cellist, on the other hand, must work diligently on both technique and interpretation in order to satisfy the musical re-

quirements of the sonatas, but if any of this effort is apparent to the listener the grace and elegance of Bach's music are undone.

On the Gasparo disc, Catharina Meints has the advantage of playing the appropriate instrument, and she plays it beautifully. Her clear articulation never destroys Bach's incredibly long phrases, and her ornamentation adds just the right sparkle. Although Doris Ornstein plays the harpsichord cleanly, she does not pick up her colleague's articulation. Her choice of subdued registration and the recording engineer's preference for the gamba result in an imbalance between the two instruments.

János Starker, addressing the same sonatas on the cello, must be given credit for

trast to the tortured complexity of the musical expression. Yet somehow the combination seems to work. Berg's writing is so rich in precise detail that the challenge to the performer is to render it all faithfully; a great deal of additional interpretive fuss is not necessarily necessary. Boulez is spectacularly faithful, and his fidelity is not merely abstract but built on an overwhelming attentiveness to orchestral sound.

Not the least attraction of this recording is the singing. Judith Blegen sings Lulu's *Lied* with an easy naturalness that is remarkable, and Jessye Norman's performance of *Der Wein* is rich and warm. The music speaks—and sings—throughout with clarity and grace.

E.S.



touch in her *Ständchen*. Elsewhere, however, she resorts to operatic declamations and abrupt dynamic changes (*Gestillte Sehnsucht*, *Botschaft*) or employs deadeningly slow tempos (*Von Ewiger Liebe*, *Immer Leiser Wird Mein Schlummer*). It is a pity, for this disc contains some of Brahms' greatest songs, but they are more sensitively and expertly served by Elly Ameling (Philips 9500 398) and Christa Ludwig (Seraphim 60034 and imported EMI 063-02015). The piano and viola contributions are first-rate.

G.J.

**DALLAPICCOLA: *Divertimento in Quattro Esercizi; Cinque Canti***. Anna Carol Dudley (soprano, in *Divertimento*); Tom Buckner (tenor, in *Canti*); the Arch Ensemble, Robert Hughes cond. ***Rencsvals***. Tom Buckner (tenor); Marvin Tartak (piano). ***Quattro Liriche di Antonio Machado***. Anna Carol Dudley (soprano); Marvin Tartak (piano). 1750 ARCH S-1782 \$7.98.

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

The building at 1750 Arch Street, Berkeley, California, is the home of the 1750 Arch Concerts, the Arch Ensemble, and 1750 Arch Records, all well known for their commitment to new music, particularly in its most recent American manifestations. This record is actually not typical of 1750 Arch at all, but it shows their range. It contains four lyric song cycles by the late Italian composer Luigi Dallapiccola (1904-1975)—early diatonic settings of medieval Italian poetry and three later groups with increasing doses of lyric twelve-tonery.

Tom Buckner, the founder/director/guru of all these Arch activities, does not have what anyone would describe as a beautiful tenor voice. But he projects this music with such ease, conviction, and clarity (including, by the way, an untransposed set written for baritone) that one is tempted to conclude that his is in fact the right kind of voice for it. Something like the same comment might be made about Anna Carol Dudley, although she is vocally much more of a singer singer. The instrumental ensemble, led by composer/conductor Robert Hughes, a Dallapiccola pupil, is excellent. Texts, fair translations, and perceptive (if slightly inaccurate) notes by Hughes are provided. The recorded sound is a bit boxy, but don't let that stop you. If you have trouble finding 1750 Arch records, you might write to them directly. Ask for their catalog; it's almost a map of what is going on in new music, not just out West but in the U.S. as a whole.

E.S.

**DEBUSSY: *Nocturnes; Jeux***. Women's Voices of the Collegium Musicum Amstelodamense; Concertgebouw Orchestra, Amsterdam, Bernard Haitink cond. PHILIPS 9500 674 \$9.98, © 7300 769 \$9.98.

Performance: **Fastidious**  
Recording: **Luscious**

Competition is both plentiful and stiff among recorded versions of Debussy's *Nocturnes*. Not only is stylistic preference involved in a choice, but taste in acoustics as well. Do you want a Boulezian dry-point treatment in a fairly taut ambiance, or do you revel in the great washes of color favored by a Stokowski?

producing a light, clear sound and playing with a technical ease that fits the music beautifully. But surely he could have offered more ornamentation—or at least played what Bach indicated. What Zuzana Růžičková's playing lacks in articulation is made up for in rhythmic drive. Thanks to her boldness and to the engineering, the balance between the instruments is excellent. The musical web is heard strand for strand, so even without the ornamentation one actually hears more Bach on the Supraphon disc than on the Gasparo.

S.L.

#### RECORDING OF SPECIAL MERIT

**BERG: *Lulu Suite; Der Wein***. Judith Blegen (soprano, in *Lulu*); Jessye Norman (soprano, in *Der Wein*); New York Philharmonic Orchestra, Pierre Boulez cond. CBS M 35849 \$8.98, © MT 35849 \$8.98.

Performance: **Clarity plus**  
Recording: **Excellent**

When Boulez conducts Berg, the directness of the conductor's approach stands in con-

**BRAHMS: *Lieder***. Von *Ewiger Liebe; Therese; Botschaft; Der Tod, Das Ist die Kühle Nacht; Immer Leiser Wird Mein Schlummer; Meine Liebe Ist Grün; Gestillte Sehnsucht; Geistliches Wiegenlied; O Komme, Holde Sommernacht; Wie Melodien Zieht Es Mir; Die Mainacht; Ständchen*. Jessye Norman (mezzo-soprano); Geoffrey Parsons (piano); Ulrich von Wrochem (viola). PHILIPS 9500 785 \$9.98, © 7300 859 \$9.98.

Performance: **Lovely voice, but . . .**  
Recording: **Very good**

Whether billed as a soprano or (as on this occasion) a mezzo, Jessye Norman produces tones of such creamy richness that listening to them is in itself a treat. Such a voice is particularly suited to the music of Brahms, where autumnal hues abound, and there are moments here that give much pleasure. But a luscious voice cannot always hide interpretive shortcomings. Miss Norman strikes a properly devotional mood in her admirably sung *Geistliches Wiegenlied* and proves that she can provide the light

The warm and spacious acoustic of Amsterdam's Concertgebouw definitely works in favor of the colorist interpreter, and Bernard Haitink takes advantage of this with great care and taste, achieving lovely results in *Nuages* and *Sirènes*. I particularly enjoyed the true offstage sound of the wordless women's choir in the latter. I wish, however, that the microphone setup had been changed for *Fêtes* to achieve more clarity of texture in the full-orchestra section of the processional.

Debussy's quasi-cinematic "tennis ballet" *Jeux* poses special rhythmic and textural challenges, and here a "dry-point" approach can work wonders if it is combined with enough flexibility of phrasing to capture the music's mercurial aspect; just how well it can work is illustrated in a 1959 recording of the piece conducted by Debussy's friend D.-E. Ingelbrecht (Angel 35678, mono). The execution here under Haitink is marvelous in detail and coloration, but the mercurial element remains elusive. Philips' sonics, however, are luscious. *D.H.*

**HANDEL: *Jephtha*.** Anthony Rolfe-Johnson (tenor), Jephtha; Margaret Marshall (soprano), Iphis; Alfreda Hodgson (contralto), Storgè; Paul Esswood (alto), Hamor; Christopher Keyte (baritone), Zebul; Emma Kirkby (soprano), Angel; Southend Boys' Choir; Academy and Chorus of St. Martin-in-the-Fields, Neville Marriner cond. ARGO D181D4 four discs \$39.92, © K181K43 \$39.92.

Performance: **Excellent**  
Recording: **Dry**

Here is a thoroughly professional performance of Handel's dramatic oratorio *Jephtha* which, while not terribly exciting or nearly as dramatic as Handel's music itself, still comes off handsomely. The lion's share of credit must go to the chorus and orchestra. The choral sequence that closes the second act, "How dark, O Lord, are thy decrees," is without doubt one of Handel's most inspired movements, and the sinister orchestral throbbing and choral portrayal of hushed awe are beautifully captured here as the forces move through a grim fugue and the final stark cries of "What ever is, is right." *Jephtha* is particularly rich in its choral writing, and Neville Marriner's readings of these passages are superb.

The finest solo singing here, and the best characterization, is that of Margaret Marshall as Iphis, the innocent victim of Jephtha's rash vow. Marshall's voice is just right for the part in its purity and openness. She almost stands aloof from the action, neither grieving nor lamenting but simply accepting her fate. Her final avowal, "Farewell, ye limpid springs and floods," is heart-rending. Hamor, her Don Ottavio-like lover, is also cast perfectly: Paul Esswood, in particularly fine voice here, is a natural for the role.

Anthony Rolfe-Johnson's Jephtha is more problematical. He begins rather weakly in his character's initial swaggering pride, but as the drama tightens he seems more at home in the role. His reading of "Deeper and deeper still" is eloquent, and his "Waft her, angels, through the skies" is very well sung. His rich tenor goes through a great variety of coloration, which, however, seems to result more from vocal necessity than interpretive intention. Alfreda

Hodgson's Storgè is technically excellent, but her rage is far too polite; Handel wrote two of his most ferocious arias for Storgè, "Scenes of horror" and "Let other creatures die." Hodgson seems not to realize that *Jephtha* is 90 per cent opera—"oratorio" is a word to be forgotten in this case. Finally, Christopher Keyte's Zebul is dignified, and Emma Kirkby sounds remarkably like a boy soprano, which is not inappropriate for an angel. All in all, this is a good reading of *Jephtha*. Perhaps it would have been a better one if Handel had called it an "opera," not an "oratorio." *S.L.*

**HARRIS: *Concerto for Piano and Strings*.** Johana Harris (piano); Orchestra of the 1960 International String Congress, Roy Harris cond. *Symphony for Band* ("West Point"); *Cimarron, Symphonic Overture*. UCLA Wind Ensemble, James Westbrook cond. VARÈSE SARABANDE VC 81100 \$8.98.

Performance: **Authoritative concerto**  
Recording: **Pretty good**

This is the second release in what is apparently to be an extended series issued by Varèse Sarabande in co-operation with the Roy Harris Archive at California State University, Los Angeles. It is, like all this company's archival material, thoughtfully documented and very handsomely presented. On the front cover is a reproduction of John Steuart Curry's *Oklahoma Land Rush*, painted in 1938, the year of Harris' masterpiece, the Third Symphony; on the back is a 1941 photograph of Harris with his Lincoln Zephyr convertible against a prairie background. What is especially valuable on the disc itself is the concerto, with both the composer and his wife participating. The work is an arrangement Harris made, perhaps for the occasion on which it was recorded (the International String Congress in 1960), of his Piano Quintet, composed at the end of 1936. The performance is expert as well as authentic, and certainly well enough recorded, but it can only remind us that the quintet in its original form has been long unrepresented in the catalog.

The *Symphony for Band* (not included in Harris' cycle of numbered symphonies), written for the West Point sesquicentennial in 1952, incorporates some folk material and bugle-call motifs, with a dancelike fugal finale capped by a "devotional" coda. *Cimarron*, Harris' first composition for band, came eleven years earlier and is both more tight-knit and fresher in its materials, evoking the event and the spirit represented in the Curry painting. I don't think it is just because I share Harris' Oklahoma roots that I would like to hear a more polished presentation of this piece, which strikes me as a significant item for initiation into the American concert-band repertoire. The performances here are earnest and respectable, but not on the level similar ensembles in Rochester, Ann Arbor, and Ithaca have led us to expect. *R.F.*

**RECORDING OF SPECIAL MERIT**

**HAYDN: *L'Incontro Improvviso*.** Claes H. Ahnsjö (tenor), Ali; Linda Zoghby (soprano), Rezia; Margaret Marshall (soprano), Balkis; Della Jones (soprano), Dar-

(Continued on page 107)

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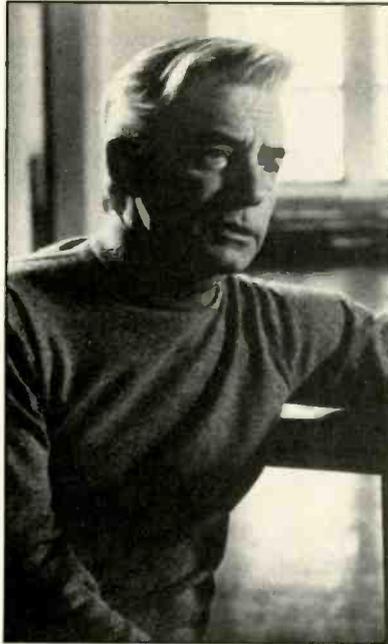
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## Karajan's Festive New "Aida"

**B**ACK in 1959, Herbert von Karajan recorded his first *Aida* in Vienna, an early stereo set that has remained among the most imposing versions of the opera to date. It was strongly cast with seasoned interpreters—Tebaldi, Bergonzi, Simionato, MacNeil—and brilliantly recorded, though not without some of the technical eccentricities that were characteristic of stereo's early stages. Now, twenty years later, Karajan has returned to the scene of his earlier triumph, this time with a cast of equally prominent but far less seasoned *Aida* interpreters, and he has succeeded in guiding them to another brilliant realization of this grandest of grand operas.

Grandeur, indeed, is the quality that best describes this new Angel version. We know the marvelous human qualities with which Verdi endowed this work and which explain its eternal bloom as compared with the faded riches of other "grand operas" that were its contemporaries. But *Aida* must not be deprived of its splendors, and the triumph of Karajan's vision—which was realized on stage in Salzburg immediately after this recording, and with virtually the same cast—lies in his capturing the spectacular dimensions of this opera on records. This is *his* show. As he has often done in the recent past, but rarely with such success, he has taken three principals, none experienced in his or her role or even ideally fitted for it, and has managed to make them the pillars of his monumental Egyptian miracle.

Nature destined neither Mirella Freni

nor José Carreras for glory in this particular opera. Anyone with a historical perspective, familiar with the way Rethberg or Milanov (or, for that matter, Caballé in Angel's competitive S-3815) executed the arching phrase that culminates in the high C in "*O patria mia*," will agree that what we get from Miss Freni is only a neat and musically compromise. Hers is simply not an "Aida voice," but that does not mean that she cannot sing sweetly and phrase with great expressiveness, as she certainly demonstrates in the final scene. José Carreras, too, can be melting in music suitable for his lyrical gifts—the part of Radamès has many such moments—and he is ready to give his all even when those gifts are severely taxed. I am no more convinced that Agnes Baltsa would be a totally successful Amneris in the theater—her timbre simply lacks the weight that characterized such predecessors as Stignani, Simionato, or Cossotto. But here, guided by a great conductorial alchemist and his engineering adjuncts, she is just about perfect in all her scenes, and more need not be said.

Piero Cappuccilli, an experienced Amosro, seems to sing his role with an extra degree of refinement on this occasion. His flowing legato and sensitive dynamics make his "*Ma tu. Re, tu signore possente*" into, for once, a true entreaty. In the Nile Scene his duet with Aida gets off to an unusually slow start, but just at the point where we begin to lose patience with Karajan ("*Su, dunque! sorgete!*"), the scene virtually explodes with tension and we realize that the slow initial pacing was part of a superbly calculated design. (Just the same, Karajan's tempos are frequently slow, though well this side of eccentricity.)

Both basses are excellent: the rich sonority of Ruggero Raimondi effectively contrasts with the light, baritone timbre of José van Dam. And what can illustrate the powers of the Salzburg Svengali more eloquently than his ability to persuade Katia Ricciarelli—who could conceivably have been a better Aida than Mirella Freni—to be content with the bit part of the Priestess? Of course, she does it beautifully, and we should be grateful that the engineers did not place her too far off stage out of some misguided zeal for realism.

**T**HIS is a festive *Aida* indeed, with magnificent climaxes and a Triumphant Scene worthy of its name. There have been too many good recorded *Aidas*—some cast far more realistically—to allow me to give this set an unqualified preference, but it is certainly a most desirable one to have.

—George Jellinek

**VERDI: *Aida*.** Mirella Freni (soprano), Aida; José Carreras (tenor), Radamès; Agnes Baltsa (mezzo-soprano), Amneris; Piero Cappuccilli (baritone), Amosro; Ruggero Raimondi (bass), Ramfis; José van Dam (bass), the King; Katia Ricciarelli (soprano), Priestess; Thomas Moser (tenor), a Messenger. Vienna State Opera Chorus; Vienna Philharmonic Orchestra, Herbert von Karajan cond. ANGEL SZCX-3888 three discs \$27.94.

dane; Domenico Trimarchi (baritone), Osmin; Benjamin Luxon (baritone), Calandro; Jonathan Prescott (bass), Sultan; others. Lausanne Chamber Orchestra, Antal Dorati cond. PHILIPS 6769 040 three discs \$29.94.

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

After some adventures with pirates, a high-born lady is reunited with her lover in a Sultan's palace, where they are both being held prisoner. They plot their escape with some friendly accomplices, are caught and threatened with death, but are pardoned by the magnanimous ruler; all gather for a joyous finale. Isn't this the familiar plot of Mozart's *The Abduction from the Seraglio* (1782)? Yes, but it also describes Haydn's *L'Incontro Improvviso* (1775), which, in turn, lifted its plot ingredients from Gluck's *Le Rencontre Imprévu* (1764). Turkish matters and musical motives were extremely popular in Central Europe in those days, for the military might of the Ottoman Empire was no longer a threat.

Like all Haydn operas, *L'Incontro Improvviso* was relegated to oblivion until recent times, and we can give our thanks again to Philips Records and the Radio Suisse Romande for rescuing it in a first-class performance. I only wish I could hail it as a forgotten masterpiece. But, as with other Haydn operatic resuscitations (except possibly *Orlando Paladino*), the many impressive parts of *L'Incontro Improvviso* do not add up to a successful whole.

By now the virtues and failings of Haydn's operatic art are quite familiar. There is the witty and colorful orchestration, as inventive as that of any of the Haydn symphonies of the period (Nos. 51 to 65, approximately). The vocal writing is no less expert and quite ornate, suggesting that a number of highly gifted singers were at Haydn's disposal at Esterháza. There are more examples of good ensemble writing here than in the previously recorded *Armida*, and the finale of Act II is quite exceptional. But the arias are again frequently overlong, and, of course, Haydn lacked the Mozartian genius to enliven a stilted and lifeless libretto. Nonetheless, attention should be called to some brilliant individual numbers in the lengthy score: a gorgeous terzetto for three sopranos (No. 12) worthy of *Così Fan Tutte*, Dardane's aria "*Ho promesso*" (No. 26), and both arias of Rezia, particularly "*Or vicina a te*" (No. 29) with its marvelous orchestral background.

The Lausanne Chamber Orchestra again proves to be an outstanding ensemble, and Antal Dorati, who also performs the continuo part, obviously revels in the marvels of Haydn's scoring, displaying its vigor, wit, and transparency with loving care. Most of the singers have appeared in Dorati's Haydn opera cycle before, and here again they perform laudably. Linda Zoghby copes with Rezia's demanding music more than capably, if not with supreme abandon, and Claes Ahnsjö displays his graceful style in a taxing part that calls for a high D-natural in one of the arias. The two baritones reveal ordinary voices but expert gifts for comedy—Domenico Trimarchi in particular is very clever with his patter song. In smaller roles, Margaret Marshall and Della Jones are excellent. (Miss Jones is identified as a

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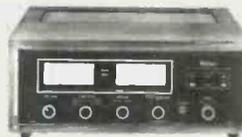
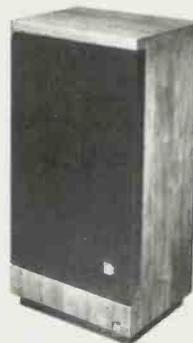
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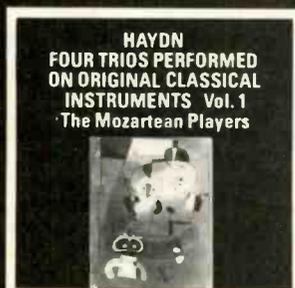
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mezzo, but she sounds like a topnotch soprano to me.) Special praise is due for the care expended on the recitatives, and the recorded sound is marvelous. *G.J.*

### RECORDING OF SPECIAL MERIT

**LALO: Cello Concerto in D Minor. SAINT-SAËNS: Cello Concerto No. 1, in A Minor, Op. 33.** Yo-Yo Ma (cello); Orchestre National de France, Lorin Maazel cond. CBS © IM 35848 \$14.98, © HMT 35848 \$14.98.

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

Yo-Yo Ma's first concerto recording is an eloquent validation of his firm position, at the age of twenty-five, in the front rank of today's cellists. The word "elegant" seems to have become a little overworked of late, but it is the one that best sums up his playing. His tone is warm and lustrous, his intonation exactly right, his phrasing noble and unfussy (even in his savoring of the slow introduction to the Lalo finale), his feeling for the character of each of these works complete. There is high polish, too, in the fastidious partnership provided by the orchestra under Lorin Maazel, and the lucid, well-balanced recording is one of the most impressive yet in the CBS digital series (in this case recorded with the Sony system). This release is so enjoyable that it seems almost churlish to note that in this same well-explored coupling, and for less than half the price of this record, two of Ma's senior colleagues bring a little more individuality to their playing and benefit from somewhat more enlivening contributions on the part of their respective conductors. One is the aristocratic Pierre Fournier, whose DG Privilege reissue (2535 157), with Jean Martinon conducting, includes Bruch's *Kol Nidrei* as well as the two concertos; the other is the more intensely expressive André Navarra, who is well matched with the fiery conducting of Charles Munch on Musical Heritage Society MHS 3023. But aficionados of the cello will surely want to add this new recording as well. *R.F.*

### RECORDING OF SPECIAL MERIT

**MOZART: Piano Concerto No. 20, in D Minor (K. 466); Piano Concerto No. 22, in E-flat Major (K. 482).** Emanuel Ax (piano); Dallas Symphony Orchestra, Eduardo Mata cond. RCA ARL1-3457 \$8.98, © ARK1-3457 \$8.98.

Performance: **Fiery and fluent**  
Recording: **Bright and clear**

The most popular of the Mozart piano concertos, No. 20, is paired here with another from the same period that until recently has received less attention on records than it deserves. Emanuel Ax and Eduardo Mata deliver a fiery reading of the D Minor that fully justifies their use of the virtuosic Hummel cadenza for the final movement (Beethoven's is used in the first). Except for an overly spread tone on the part of the solo trumpet in the impish interjections at the very end, the orchestral support is exemplary in balance and rhythmic vitality.

The E-flat Major Concerto has long been a special favorite of mine, not only because

of its musical substance—in the slow movement especially—but also because of the marvelous woodwind scoring (clarinets appear here for the first time in any of the piano concertos). Nimbleness and fluency of line mark Ax's keyboard work in No. 22, and his cadenzas for the elaborate first movement and folk-like finale show a fine musical intelligence at work. All told, this disc gave me a most enjoyable sixty-plus minutes of listening, enhanced by crystal clear yet amply warm sonics. *D.H.*

**RAVEL: Boléro; Rapsodie Espagnole; Alborada del Gracioso** (see Best of the Month, page 76)

**ROREM: Serenade on Five English Poems for Mezzo-soprano, Violin, Viola, and Piano. STARER: Quartet for Piano and Strings.** Elaine Bonazzi (mezzo-soprano, in Rorem); Cantilena Chamber Players. GRENADILLA GS-1031 \$7.95.

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

Ned Rorem's *Serenade* (1975) is a charming lyric setting of poems by Fletcher, Shakespeare, Tennyson, Hopkins, and Campian, and it is effectively sung here by Elaine Bonazzi. The texts are framed by instrumental solos beautifully played by excellent musicians—Edna Michell (violin), Harry Zaratzian (viola), and Frank Glazer (piano)—and the recording is well made. The fourth instrumentalist of the Cantilena Chamber Players, cellist Stephen Kates, joins his colleagues for a pleasant reading of Robert Starer's eclectic piano quartet (1977). *E.S.*

**SAINT-SAËNS: Cello Concerto No. 1, in A Minor, Op. 33** (see LALO)

### RECORDING OF SPECIAL MERIT

**SCHUBERT: Sonatas for Violin and Piano, Op. 137: No. 1, in D Major (D. 384); No. 2, in A Minor (D. 385); No. 3, in G Minor (D. 408).** Jaap Schröder (violin); Christopher Hogwood (fortepiano). L'OISEAU-LYRE DSLO 565 \$9.98.

Performance: **Outstanding**  
Recording: **Excellent**

**SCHUBERT: Sonatas for Violin and Piano, Op. 137: No. 1, in D Major (D. 384); No. 2, in A Minor (D. 385); No. 3, in G Minor (D. 408).** Bohuslav Matoušek (violin); Petr Adamec (piano). SUPRAPHON 1111 2619 G \$9.98 (from Qualiton Records, Ltd., 39-28 Crescent Street, Long Island City, N.Y. 11101).

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

L'Oiseau-Lyre actually labels these works "sonatas." While there is ample justification for so calling them (Schubert himself did), Schubert's publisher's designation, which is otherwise in general use, was "sonatas," and this discrepancy may lead to some confusion among collectors regarding what is on the disc. The record, in any event, is marvelous. Christopher Hogwood plays a fortepiano made by Georg Haschka in about 1825, and the sound of the instrument adds a good deal more than just charm to these performances, which are ex-

tremely stylish, affectionate, and communicative. There has been no recording of these three works in the last quarter-century to efface the memory of the wonderful old mono set by Johanna Martzy and Jean Antonietti (originally on Angel, subsequently on Mace), but this one is a match for it interpretively and, of course, surpasses it in terms of sonics and authenticity. The three sonatas themselves are as lovable as ever and here seem a good deal more substantial than they have generally been regarded. The sound is excellent, and so are the Dutch pressings. (A word of warning: of the three copies of the record we checked, two were missing the annotations, which should be on a separate sheet inside the album cover.)

The performances by the Czech duo on Supraphon are the same ones, recorded by Nippon Columbia in Tokyo, that have been circulating for a year or so on Denon OX-7141-ND together with the Duo in A Major, Op. 162 (D. 574). They are extremely sympathetic and very well recorded but no more truly competitive with the Schröder/Hogwood disc than any of the other current versions—perhaps somewhat less so, in fact, than that of Arthur Grumiaux and Paul Crossley, who take a rather miniaturist view of these works but play with real elegance (Philips 9500 394). **R.F.**

**SCHUBERT: Winterreise** (see Best of the Month, page 77)

**STARER: Quartet for Piano and Strings** (see ROREM)

**VIVALDI: The Four Seasons, Op. 8, Nos. 1-4.** Elmar Oliveira (violin); Los Angeles Chamber Orchestra, Gerard Schwarz cond. DELOS D/DMS 3007 \$17.98.

Performance: **Powerful**  
Recording: **Superb**

**VIVALDI: The Four Seasons, Op. 8, Nos. 1-4.** Iona Brown (violin); Academy of St. Martin-in-the-Fields, Iona Brown cond. PHILIPS 9500 717 \$9.98, © 7300 809 \$9.98.

Performance: **Superb**  
Recording: **Excellent**

These two recordings of Vivaldi's *Four Seasons* have much in common: both display technical perfection, virtuosity, and vigor, and both feature modern instruments played according to twentieth-century performance practice. Elmar Oliveira and Gerard Schwarz bring out the gruffness of Vivaldi's vivid portrayals: the storms really rage, the fox is chased with a vengeance, and the drunkard rushes to his death. Iona Brown dwells more on the lyrical aspects of the music, with a delicious sense of the capricious. The dynamics are beautifully worked out, and Brown is not afraid of using tempo variation as an expressive device—her drunk hovers on the brink before making his final plunge. Although the sound of the Delos disc is superb, the players do not produce the rich palette of sonorities offered by the Academy of St. Martin-in-the-Fields; the murmuring fountains of *Spring* and the sleep of *Autumn* in the latter's recording are unearthly sensual experiences. **S.L.**

(Continued on page 111)

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## New Music: "Uptown" and "Downtown"

*Uptowner Tobias Picker,  
right, and downtowner  
Ingram Marshall, below.*



EVER wonder where the *young* composers of new music are? After a long period of ferment and experimentation in which serial strict constructionists and free-form libertarians squared off against each other, things seem to have settled down in the late Seventies and a whole new set (no pun intended) of alignments seem to have developed. Now, instead of outstanding individuals, we have "scenes." It is almost easier to describe the new scenes in terms of sociology rather than music, but then (as some critics and musical sociologists have long been fond of pointing out), music and society do affect one another.

Two fairly recent recordings neatly epitomize the situation: Tobias Picker's collection of chamber music on CRI and Ingram Marshall's *The Fragility Cycles* on his own Ibu label. Both represent the work of talented, creative individuals who presumably function in the same society, yet their music comes out of and represents the profound cultural split between "uptown" and "downtown."

Tobias Picker is, in any context, Mr. Uptown. Born in New York City in 1954, he is a product of the most prestigious bastions of culture: Manhattan School of Music, the Juilliard School, Columbia and Princeton Universities. His teachers—Elliott Carter,

Milton Babbitt, and Charles Wuorinen—perfectly embody his musical ancestry. He has won more prizes than you can shake a baton at; this particular recording was, and I quote, "made possible by grants from the Martha Baird Rockefeller Fund for Music, Inc.; the Alice M. Ditson Fund of Columbia University; the Joe and Emily Love Foundation, Inc.; the American Choral Foundation; the Renée and Theodore Weiler Foundation; the Kanter-Plant Foundation; the Joseph Love Foundation"—plus another five individually named private patrons. The performing talent is some of the best in the country specializing in new music.

I wouldn't want to say for sure that Tobias Picker and his circle have never heard of Ingram Marshall (let alone heard any of his music), and I could not be certain that Ingram Marshall and his crowd have never heard or heard of Tobias Picker. But such is quite possibly the case. Marshall is a "downtown" composer. His particular downtown happens to be in San Francisco, but he is equally at home in, say, New York's downtown scene, where the music on his record was recorded at the loft of fellow composer Charlemagne Palestine. Marshall himself is the performer; he plays the synthesizer and the Balinese flute, uses his voice, transforms the live sounds and mixes

them with prerecorded tape. The recording is self-produced, self-marketed, and self-distributed from Marshall's base of operations in San Francisco.

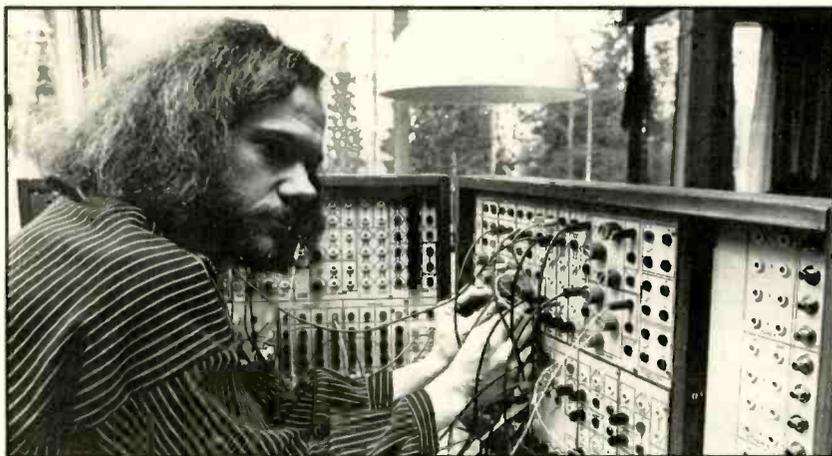
Now, it should not be thought from the foregoing that Tobias Picker is some kind of tremendous new-music success and that Ingram Marshall is a struggling unknown. On the contrary: the audience for Marshall's music is probably quite a bit larger than that for Picker's. The reason is that Marshall belongs to an active scene that is national or even international in scope; he performs often in New York as well as California, and he gets around to new-music festivals across the country and in Europe. *The Fragility Cycles* has been performed—as he points out—"in churches, art museums and galleries, ancient Houses of Nobility, school auditoriums, lofts, monumental public buildings—rarely in a concert hall." His ear for sonority, his particular mix of harmonic and tonal elements, his use of found musical objects (an old Sibelius recording, cowbells), plus a certain evocative air of mystery, the sense of a close encounter with something strange, all combine to give his music a good deal of appeal. It is genuinely liked, often by people who do not especially care for most new music. And his record can be found in the sort of "underground" downtown record store that carries New Wave rock and such. A lot of people are doing their own records these days.

IF Marshall's music is warm, dreamy, evocative, turned toward the East, Picker's work is directly in the Western mainstream—post-expressionism, European influences, American serialism, and all that. Picker's combination of talent and distinguished mainstream sponsorship has earned him the kind of support that, naturally, requires him to keep writing the kind of music he does. He seems immensely talented, inventive, even passionate, yet compelled to hide his light under a bushel, to strew his gems in a basket of rusty nails and heavy pieces of old stone. Marshall does not expect to get Picker's kind of support or feel any necessity to haul that kind of baggage around, but, of course, his own music and musical life are equally defined and circumscribed by the places where he functions. Picker is more "serious," more masterpiece-conscious; Marshall is more immediately appealing, more contemporary in some ways. But for me both these releases, different as they are, reflect too much the transiency of the passing scene(s).

—Eric Salzman

**PICKER:** *Rhapsody*. Benjamin Hudson (violin); Tobias Picker (piano). *When Soft Voices Die*. Ursula Oppens (piano). *Sextet No. 3*. Speculum Musicae, Joseph Passaro cond. *Romance*. Linda Quan (violin); Aleck Karis (piano). COMPOSERS RECORDINGS, INC. SD 427 \$7.95.

**MARSHALL:** *The Fragility Cycles*. Ingram Marshall (synthesizer, gambuh, voice). IBU \$7.98 (\$7 by mail from Ibu Records, 504 Cole Street, San Francisco, Calif. 94117).



Jim Bengtson

## RECORDING OF SPECIAL MERIT

## AMERICAN MUSIC FOR STRINGS.

Barber: *Serenade for String Orchestra*, Op. 1. Fine: *Serious Song*. Carter: *Elegy*. Diamond: *Rounds for String Orchestra*. Los Angeles Chamber Orchestra, Gerard Schwarz cond. NONESUCH © D-79002 \$11.98.

Performance: **Elegant and vital**  
Recording: **Top-drawer**

This is an admirable collection of attractive music, and it's digitally mastered too. Pen-sively lyrical and elegantly dance-like elements are contrasted in the *Serenade for String Orchestra*, which Samuel Barber composed in 1929 while still in his teens. Irving Fine's *Serious Song* (1955), here recorded for the third time, remains one of his most eloquent musical statements. Elliott Carter's early *Elegy* (1943) is, in its quiet simplicity, worlds removed from the hermetic complexities of his post-1950s work. Why David Diamond's stunning *Rounds for String Orchestra* (1944) has had to wait more than twenty-five years for a first stereo recording baffles me utterly. It is a masterpiece of its kind and here gets a wonderfully taut and invigorating performance by the twenty-four Los Angeles Chamber Orchestra players under Gerard Schwarz's baton. The other works, too, are played with suavity and expressive vitality. The room ambience is perhaps a trifle dry, but the digital tape mastering and flawless pressing make for a pleasing clarity of sound at the lowest reaches of the dynamic range. *D.H.*

**BORIS BLOCH: Piano Recital** (see *Going on Record*, page 54)

## RECORDING OF SPECIAL MERIT

PLACIDO DOMINGO: *Music of My Country (Zarzuela Arias)*. Moreno-Torroba: *Luisa Fernanda: De este apacible rincón. La Chulapona: Tienes razón amigo. Soriano: El Guitarrico: Serenata. Soutullo y Vert: La Leyenda del Beso: Hecho de un rayo de luna. El Último Romántico: Bella enamorada. Serrano: Los de Aragón: Cuantas veces solo. El Trust de los Tenorios: Jota. Vives: Doña Francisquita: Por el humo. Guerrero: El Huésped del Sevillano: Canto a la Espada. Luna: La Pícaro Molinera: Paxarin, tu que vuelas. Placido Domingo (tenor); Orquesta Sinfónica de Barcelona, Louis A. Garcia Navarro cond. LONDON OS 26434 \$9.98.*

Performance: **Outstanding**  
Recording: **Excellent**

"You can't imagine what the zarzuela means to me," Placido Domingo is quoted in the liner notes of this record. "It is in my heart, my blood." And well it might be. The tenor's parents were outstanding zarzuela performers and with their own company traveled through Latin America. Placido began making appearances on stage with them in early childhood because "there is usually a part for a child in a zarzuela." Gerald Fitzgerald's liner notes are unusually informative thanks to extensive quotes from the tenor. We even learn about the plots of the various zarzuelas from



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Schubert Quintet in C Major

ARTHUR GRUMIAUX: aristocratic style

ALMOST any performance or recording of Schubert's String Quintet in C Major, the last of his great chamber-music masterpieces, qualifies as an Event, at least to some degree, by virtue of both the music's intrinsic magnitude and the affectionate commitment it has always inspired on the part of musicians who undertake to perform it. That commitment, indeed, has been not only affectionate but downright mystical, and it has been celebrated in a fascinating variety of interpretive approaches, ranging from the most darkly impassioned to the most weightlessly delicate and chaste, from the grandly rhetorical to the almost painfully intimate. For the last two years or so, my preferred recording has been the superb one by the Melos Quartet of Stuttgart, with Mstislav Rostropovich as second cellist, on Deutsche Grammophon 2530 980; now Philips has issued a new one that is perhaps equally appealing and whose conspicuously different approach makes it appear more like a complement than a challenge. The performers are the great Belgian violinist Arthur Grumiaux and a group of associates with whom he frequently performs and records chamber music.

Grumiaux may not be the only celebrated violinist who holds the title of baron, but in his case it is an appropriate confirmation of what has always been an elegant aristocratic style, and that style serves Schubert's urgently expressive music as effectively as Igor Markevitch's similarly aristocratic conducting does the urgently expressive symphonies of Tchaikovsky. Grumiaux's approach is in no sense aloof or uninvolved but magnificently musical, with no gratuitous

gestures or interpretive overlay to get in Schubert's way. While the Melos and Rostropovich are intensely expressive, savoring every sigh and heartbeat as it were, Grumiaux and his associates see the work in a more patrician frame, focusing more on its serenity and consolatory quality. Theirs is a more luminous view, less weighty, perhaps, and drawn to proportions somewhat less grand. It is fitting that the big exposition repeat in the first movement is *not* taken here, for, welcome as it is in the Melos/Rostropovich performance, it would be out of place in this one with its easily flowing momentum. The tempos are just about ideal in all four movements, and so is the balance among the five instruments, while the phrasing of every theme and motif is as natural, unfussy, and thoroughly Schubertian as could be. The scherzo is somewhat less driven than in many other performances, but neither it nor the finale is in any way lacking in vigor, and both show more clearly than ever their strong relationship to the two preceding movements.

If pressed to choose a single recording from among those currently available, I would probably stay with the Melos/Rostropovich, but no one who loves this work should be without either, for each reflects different but similarly valuable insights.

—Richard Freed

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*ra Molinera*), from jealous musings (*La Leyenda del Beso*) to fiery exhortations (*Canto a la Espada*). It is varied enough to be played through in one sitting. I, for one, find the program irresistible. G.J.

STEVEN DE GROOTE: *Piano Recital* (see *Going on Record*, page 54)

DAVID LIVELY: *Piano Recital* (see *Going on Record*, page 54)

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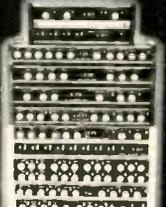


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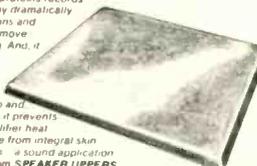
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READER SERVICE NO	ADVERTISER	PAGE NUMBER
1	ADC (Audio-Dynamics Corp.)	85
	Akai America, Ltd.	55
	Allison Acoustics	28
2	Ampex Corp.	43
46	Arabesque/Caedmon Records	108
3	Audio-Matic Electronics	109
	Audio Pro	19
	Audio-Technica U.S., Inc.	26
	Austin, Nichols Distilling Co.	82
	Bang & Olufsen	22
9	BASF	39
	Robert C. Bosch	91
5	Bose Corporation	Cover 3
6	Bose Corporation	14, 15
	Carver Corporation	20
7	Consumers Company	98
8	Crown International	54
	Denon America, Inc.	27
12	Discount Music Club	25
13	Discount Sound	26
14	Discwasher	4
	Dual	53
	Electro-Voice, Inc.	24
49	Empire Scientific Corp.	18
	47th Street Photo	105
	Fuji Photo Film, USA	89
	Harmon Kardon, Inc.	8, 9
16	Hi-Fi Buys	98
	Illinois Audio	30
18	International Hi-Fi Dist.	98
48	International Record & Tape Club	105
	Jack Daniel's	111
19	Jensen/Automotive Div.	7
20	J & R Music World	112
	Koss Corporation	Cover 4
22	Lux Audio of America, Ltd.	45
	3M Company	81
24	3M Company	22
	Marlboro	49
25	Maxell Corp. of America	51
26	McIntosh Laboratory, Inc.	107
	MXR Innovations, Inc.	84
	Nakamichi Corp.	29
	Ohm Acoustics Corp.	101
28	Omnisonix, Ltd.	82
	Phase Linear	21
30	Polk Audio	23
	Radio Shack	2
	R. J. Reynolds/Camel	41
	Ron Rico Rum	47
	Sansui Electronics Corp.	37
50	Shure Brothers	80
36	Sonic Research	10
51	Sony Corporation	93
37	Sound Machine	98
45	Soundcraftsmen	12
	Southern Comfort	70
	Speakerlab	88
44	Stanton	31
38	Stereo Corp. of America	97
	Stereo Discounters	109
	Tamron Industries, Inc.	106
39	TDK Electronics	16
40	Technics by Panasonic	11
	Time-Life Records	33-35
41	Top Discount Audio	101
	U.S. JVC Corp.	13
43	U.S. Pioneer-Laser Disc	Cover 2, 1
	United Audio	91
47	Wisconsin Discount Stereo	107



ELAINE BONAZZI: dazzling

*Weill's "Silverlake"*

**E**VERYONE who counted in the German Theater met together for the last time. And everyone knew this. The atmosphere there can hardly be described. It was the last day of the greatest decade of German culture in the twentieth century. The Nazis' barracking and yelling were somewhat disturbing. But in spite of that it was a great evening, certainly the most impressive theatrical evening I have ever been present at."

That is how Hans Rothe, a relatively minor figure in German theater, later recalled the world premiere in Leipzig on February 18, 1933, of *Der Silbersee*, a play by the then immensely popular, hugely prolific Expressionist playwright Georg Kaiser with an extensive score by Kurt Weill. Hitler had been appointed chancellor of Germany eighteen days before the opening, and nine days after it the Reichstag fire provided him with an excuse to suspend all civil liberties. Further performances of the critically acclaimed *Der Silbersee* were forbidden, and all other works by Weill—long a thorn in the side of the Nazis—as well as Kaiser were banned. On March 20 Weill and his wife, Lotte Lenya, fled Germany just ahead of the Gestapo. *Der Silbersee* was the last score he composed in Germany—and it never again received a complete performance.

Last year, however, the New York City Opera mounted a production of *Silverlake*, an adaptation devised by Hugh Wheeler and Lys Simonette and directed by Harold Prince, and now Nonesuch has released a galvanic new digital recording produced by Eric Salzman. Although purists may object to the very substantial changes and cuts in the book and lyrics (besides, of course, those necessitated simply by the translation into English), nearly all of Weill's music for the play has been preserved, plus bits from some of his other nearly forgotten scores. As heard on the recording, this "re-creation" is almost a complete success. It has a sweep and power that will grab you from the moment you set the stylus down in the opening track. Though the music is not as immediately "accessible" as some of Weill's other work, notably that for his famous col-

laborations with Bertolt Brecht, *Silverlake* is a striking theater piece with a nervous, edgy mood, gallows-humor sophistication, and a really demonic energy.

Briefly, *Silverlake* tells the story of a policeman who is wracked with guilt after shooting a man for stealing a pineapple; he wins a lottery and futilely attempts to make amends to the crippled thief, who does not even recognize him, and he is blackmailed and betrayed by two aristocrats. Eventually both the policeman and the cripple return to the shantytown by the mystical Silverlake where it all began: joined by a young girl, they vow to create a new and better life for themselves. *Der Silbersee* was subtitled "A Winter's Tale," and adapter Wheeler applies this description to his version also, explaining that it is "a fanciful, quasi-magical story told, to amuse and scare, at a cottage fireside on a chilly December evening."

**I**n the recording, Joel Grey is nothing short of stunning as the tortured, Chaplinesque Officer Olim. Elaine Bonazzi is equally dazzling as the wily, scheming Frau von Luber—who in this version is given the famous *Ballad of Caesar's Death* originally allotted to the young girl, Fennimore. Elizabeth Hynes is charming as Fennimore, and William Neill is convincingly full of fire and outrage as Severin, the wounded man. Conductor Julius Rudel's handling of the chorus and orchestra are beyond reproach, as is the sensitive, seamless production. The digital sound is immaculate.

*Silverlake* is a valuable addition to the recorded legacy of Kurt Weill, who looks more and more like one of this century's most important composers. The next project might be a comprehensive survey of his American theater scores. Anybody else remember *Firebrand of Florence*?

—Peter Reilly

**WEILL: *Silverlake*.** Joel Grey, Officer Olim; William Neill, Severin; Elizabeth Hynes, Fennimore; Elaine Bonazzi, Frau von Luber; others. New York City Opera Chorus and Orchestra, Julius Rudel cond. NONESUCH • DB-79003 two discs \$23.96.

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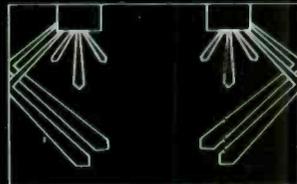
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The Bose 301 system is the least expensive way for you to enjoy the legendary spaciousness of our 901™ Direct/Reflecting® speaker. Experience it at your authorized Bose dealer.



The tweeters in a 301 speaker pair are angled for a more lifelike balance of reflected and direct sound.



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