

Stereo Review

NOVEMBER 1985 · \$1.95

LAB TESTS: THE NEW \$300 CD PLAYERS

SPECIAL TEST REPORT
POLK'S SDA-SRS
SPEAKER
SYSTEM

ALSO TESTED
PROTON D540
INTEGRATED
AMPLIFIER

CELESTION
DL8 SPEAKERS

TANDBERG
TCA 3008A
PREAMPLIFIER



LOUISVILLE KY 40201

MR DAVID M CAVANAUGH
PO BOX 2037
11*UG

*****3-DIGIT 402
430492 CVA B2037D97 541J DEC85





Teac.  HiFi in the extreme.

The Teac PD-300 Compact Disc Player won't add anything to your music.

No hiss. No pops.

No wow. No flutter.

Which means nothing comes through but the music, pure and clear.

Random memory programming lets you choose the selections you want to hear in the order you want to hear them. You can repeat, edit, search, and seek with the touch of a finger.

When music is your passion, listen to Teac—made purely for music.

TEAC

CIRCLE NO. 21 ON READER SERVICE CARD

by Christie Barter and Gordon Sell

COMPACT DISC CHANGER

Pioneer is introducing an "affordable" Compact Disc player with a magazine that can hold six CD's. Up to thirty-two tracks from the six discs can be programmed for play in any order. The unit will have several repeat-play options and a full-function remote control. The inexpensive magazines are designed to double as CD storage boxes.

NEW CD CONCEPT FROM DELOS

In an effort to give Compact Disc buyers their money's worth, Delos Records is about to launch a new "Concert Length" series of CD's offering the maximum playing time of seventy-plus minutes. One of the first releases will feature the London Symphony under Gerard Schwarz in an all-Beethoven program consisting of one of the overtures, the Piano Concerto No. 4 with Carol Rosenberger as soloist, and the Symphony No. 5. . . . Delos has also announced that it is abandoning the LP as a format for classical music. All new classical titles will be released on Compact Discs only.

TOPS IN POP

The publishers of *Billboard*, the record-industry trade weekly, have just come up with *The Billboard Book of Number One Hits*, compiled by rock journalist Fred Bronson. It begins with (*We're Gonna*) *Rock Around the Clock* by Bill Haley and the Comets, which went to No. 1 on *Billboard's* singles chart on July 9, 1955—a date (and an event) many fans see as the beginning of the rock era.

Since then there have been over six hundred No. 1 chart singles, and this new history of hits gives a complete account of them all up to the 605th, USA for Africa's *We Are the World*, which went to the top of the Hot 100 in April. Phone orders for the book can be placed by calling the publisher, Watson-Guptill, at 1-201-363-5679. The price is \$14.95.

TECH NOTES

Fujitsu Ten and Toyota have cooperated to develop an acoustically integrated sound system that will be built into 1986 Toyota Celicas. . . . Connecticut is considering a law that will require AM stereo receiver manufacturers to identify clearly which AM stereo system their units are designed for. This is to help the consumer realize that there are different, incompatible AM stereo systems and that the radio he buys may not deliver stereo from a local AM stereo broadcaster. . . . In an effort to boost the 8mm video-tape format, Sony has announced lines of prerecorded music videos and children's programming. Kodak is planning similar moves, but the 8mm format has gotten a very cold reception from video rental and retail dealers who say they already have too many inventory problems. . . . Matsushita's Franklin Park, Illinois, plant will begin manufacturing car stereo units next spring. . . . Sharp Electronics is planning to enter the U.S. car stereo market with a line of remotely controlled units designed to be theft resistant. . . . After many years of discussions about High Definition TV (HDTV) systems that would make current types obsolete, several Japanese and American TV makers are turning to what is being called enhanced definition (sometimes EDTV) NTSC systems, which offer greatly improved vertical and horizontal resolution while retaining compatibility with the hundreds of millions of TV sets now in use. Experts see little need for HDTV for 27-inch and smaller TV sets, but EDTV can make dramatic improvements in pictures this size.

MUSIC VIDEO PRICE CUTS

During the upcoming holiday season at least three home video companies are dropping their suggested list prices on selected titles. Vestron is reducing the price on a number of its bestsellers to \$24.95, including music videos by Michael Jackson, the Rolling Stones, Linda Ronstadt, and Neil Diamond.

Disney is cutting its price on twenty-one feature films, normally priced as high as \$79.95, to \$29.95. MGM/UA is matching Disney's price cut on several videos, including the original *Wizard of Oz* soundtrack, with a specially "enhanced" audio track, as well as music videos by the Everly Brothers and Pink Floyd. MCA Home Video has reduced the suggested retail price on all of its music videos to \$29.95, including titles, like *Jesus Christ Superstar* and *The Pirates of Penzance*, previously priced at \$59.95 and more.

LATIN CD'S FROM RCA

RCA Records has begun to issue some of its extensive Latin catalog on Compact Discs. Popular album titles like "Reflexiones" by José José and "Como tú quieres" by José Feliciano are included among the first releases along with an all-star sampler featuring hits by Juan Gabriel, Lucia Méndez, Rocío Durcal, and Miguel Gallardo.

ELECTRONIC EAR PROTECTOR

Listening to headphones at high continuous volume levels can cause hearing loss. The Ameritec Earsaver will shut off the sound when the volume exceeds 85 dB sound-pressure level. Normal play will resume when the volume drops down to an acceptable level. The company claims the detection level is accurate within ± 2 dB for phones of various impedances. The device is particularly recommended to joggers and cyclists who listen to music with headphones but still need to be able to hear traffic. U.S. Patent No. 4,538,296 was granted to the inventors of the Earsaver.





FEEL THE BASS

With Radio Shack's Digital-Ready Mach Two.[®]

Our finest speaker system towers above the competition. Its massive 15" woofer delivers a dramatic sonic impact that smaller speakers can't match. Whether you're listening to heavy metal or watching Discovery thunder off the pad, you can actually feel the bass! Ideal for digital audio, the Mach Two handles 160 watts of power, and liquid cooling protects the midrange and tweeter voice coils. And for great looks, the 28" high enclosure has a real walnut finish. Only 219.95 each including 5-year limited warranty. Come in and hear what you've been missing. As little as \$21 monthly on Radio Shack/CitiLine credit buys a pair.

Send Me a FREE Radio Shack Catalog
Mail To: Radio Shack, Dept. 86-A-064, 300 One Tandy Center, Fort Worth, TX 76102

NAME _____
ADDRESS _____
CITY _____
STATE _____
ZIP _____

Radio Shack[®]
The Technology Store[™]

A DIVISION OF TANDY CORPORATION

Prices apply at participating Radio Shack stores and dealers. CitiLine is an open-ended credit plan from Citibank. Actual payment may vary depending on balance. Mach Two shown with grille removed.

Stereo Review



page 151

BULLETIN.....	1	TECHNICAL TALK.....	34
EDITORIAL.....	4	POPULAR MUSIC.....	101
LETTERS.....	6	CLASSICAL MUSIC.....	119
NEW PRODUCTS.....	15	VIDEO REVIEWS.....	134
AUDIO Q&A.....	18	ADVERTISERS' INDEX.....	149
VIDEO BASICS.....	24	THE HIGH END.....	152

EQUIPMENT

CAR STEREO 28

The Audiovox Hi-Comp HCC 2250 receiver/cassette player in the lab and on the road

by Julian Hirsch and Christopher Greenleaf

HIRSCH-HOUCK LABS EQUIPMENT TEST REPORTS 39

Proton D540 Integrated Amplifier

Celestion DL8 Speaker System

Tandberg TCA 3008A Preamplifier

Nikko NR-750 Receiver

Pioneer CT-A9Z Cassette Deck

Canon VR-40A VHS Hi-Fi Video Cassette Recorder

THE NEW \$300 CD PLAYERS 71

Lab tests of five players reveal extraordinary value in sonic performance

by Julian Hirsch

NEW LIFE FOR OLD RECORDINGS 81

How to tape your time-worn treasures

by Ian G. Masters

SYSTEMS 84

A prize-winning reader's installation shows that the audio dollar is inflation-proof

by William Livingstone

POLK'S SDA-SRS SPEAKER: A SPECIAL TEST REPORT 86

The Polk flagship system offers new refinements on the

Stereo Dimension Array design

by Julian Hirsch

MUSIC

KATRINA AND THE WAVES 78

Hands across the sea—another triumph of British-American cultural relations

by Ann Ferrar

BEST RECORDINGS OF THE MONTH 93

Bach's *Magnificat*, Style Council, Bartók's *The Miraculous Mandarin*, the Weather Girls

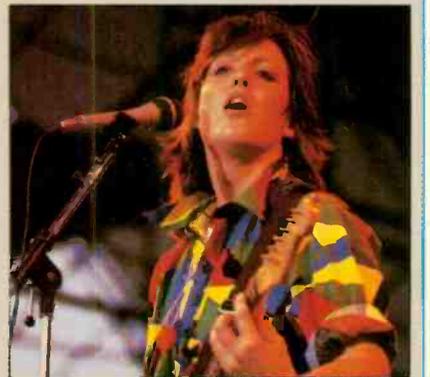
RECORD MAKERS 150

The latest from Willie Nelson and Ray Charles, André

Previn, David Bowie and Mick Jagger, Julian Lennon, and more



page 71



page 78



The Polk SDA-SRS speaker on our cover is tested in this issue, page 86.

VOL. 50 No. 11 NOVEMBER 1985 (ISSN 0039-1220)

COVER: DESIGN BY SUE LLEWELLYN, PHOTO CY GROSS

COPYRIGHT © 1985 BY CBS MAGAZINES, A DIVISION OF CBS INC. All rights reserved. Stereo Review, November 1985, Volume 50, Number 11. Published monthly by CBS Magazines at 3460 Wilshire Boulevard, Los Angeles, CA 90010. Editorial and Executive Offices at One Park Avenue, New York, NY 10016; Telephone (212) 503-4000. Also publishers of Stereo Buyers Guide, Car Stereo Buyers Guide, Tape Recording Buyers Guide, and Video Buyers Guide. One-year subscription rate for the United States and its possessions, \$9.98; Canada, \$10.98; all other countries, \$14.98, cash orders only, payable in U.S. currency. Second-class postage paid at Los Angeles, CA 90052, and at additional mailing offices. Authorized as second-class mail by the Post Office Department, Ottawa, Canada, and for payment of postage in cash. **SUBSCRIPTION SERVICE:** Forms 3579 and all subscription correspondence must be addressed to Stereo Review, P.O. Box 2771, Boulder, CO 80302. Please allow at least eight weeks for the change of address to become effective. Include both your old and your new address, enclosing, if possible, an address label from a recent issue. If you have a subscription problem, please write to the above address or call (800) 525-0643; in Colorado, call (303) 447-9330. **PERMISSIONS:** Material in this publication may not be reproduced in any form without permission. Requests for permission should be directed to Irving Benig, Rights and Permissions, CBS Magazines, One Park Avenue, New York, NY 10016.

SPEAKING MY PIECE

by William Livingstone



Mad About Ads

MOST of the mail an editor gets is composed of complaints from readers who disagree with something they've read in the magazine and are angry about it. These days a number of readers are making heated complaints about ads.

Readers of general magazines accept the fact that *Time* or *Newsweek* may include many ads for products they have no use for. But readers of magazines about boating, photography, or hi-fi want them not just for their editorial content, but also for the advertisements for products related to their subject matter. If such a magazine contains many ads for cars, cigarettes, or liquor, some readers become sufficiently annoyed to take pen, typewriter, or word processor in hand and fire off a letter to the hapless editor.

At the old *Collier's* magazine whenever anyone protested against liquor advertisements on religious grounds, the publisher responded with a sheet of Biblical quotations about Jesus drinking wine, serving wine to his disciples, or turning water into wine.

The most abusive letters I get are the ones from readers who think it is immoral for STEREO REVIEW to accept ads for cigarettes. I can't, of course, claim that Jesus or anybody else in Biblical times smoked, and I don't think the people who are angry about cigarette ads in our pages

would be impressed that when I smoked I used to put away between three and four packs a day at deadline time.

I have gotten a few rather huffy letters from readers who were annoyed that our classified ads included a "Personals" section with such entries as "Asian women want you for friendship and marriage" and "Oriental beauties love men and music." The former owners of the magazine were deaf to my objections to ads of this kind, but our present owners, CBS Magazines, decreed that the contracts with the purveyors of Oriental beauties not be renewed.

The last of those ads appeared in our September issue. I didn't even have to appeal to President Reagan to protect the interests of American beauties who love men and music and might want our readers for friendship and marriage.

Even huffier than the complaints about the personals have been the objections to the DAK advertising supplement in our September issue. There weren't many of them, but they were intense. A couple of printable ones are included in this month's letters column.

What those who complain about ads seem not to realize is that the number of editorial pages depends on the number of ads. What a subscriber or newsstand buyer pays for a magazine often covers little more than the cost of its distribution, and revenue from ads is required for the production and printing costs. The more ads, the more editorial pages. It's as simple as that.

The reason advertisers want to bring their message to readers of this magazine is that you are predominantly young, affluent people with a proven track record for buying products advertised in STEREO REVIEW. DAK has been advertising here for several years, and it was on the basis of your response that the company decided to place the special supplement in this magazine. You are known to be big spenders.

Small wonder the Oriental beauties want you. Now that they are denied access to these pages, I feel a little guilty for having protested that they lowered the tone of the book. Jesus would probably have been more tolerant. □

Stereo Review

WILLIAM LIVINGSTONE
Editor in Chief

LOUISE GOOCH BOUNDAS
Managing Editor

SUE LLEWELLYN
Art Director

GORDON SELL
Technical Editor

CHRISTIE BARTER
Music Editor

DAVID STEIN
Assistant Managing Editor

WILLIAM BURTON
Associate Editor

MARGARET BRUEN
Assistant Art Director

BARBARA AIKEN
ROCCO MATTERA
Editorial Assistants

HENRY PLEASANTS
London Editor

Contributing Editors

ROBERT ACKART	LOUIS MEREDITH
CHRIS ALBERTSON	ALANNA NASH
RICHARD FREED	MARK PEEL
PHYL GARLAND	LINCOLN PERRY
CHRIS GREENLEAF	PETER REILLY
DAVID HALL	CHARLES RODRIGUES
JULIAN D. HIRSCH	ERIC SALZMAN
RALPH HODGES	STEVE SIMELS
LARRY KLEIN	CRAIG STARK
STODDARD LINCOLN	JOEL VANCE

ROMAN BEYER
Vice President and Publisher

ADVERTISING

Advertising Director: Winston A. Johnson
(212) 503-5067

National Manager: Richard J. Halpern
(212) 503-5070

Eastern Manager: Charles L. P. Watson
(212) 503-5071

Classified Advertising: (212) 503-5999

Midwestern Office, The Patis Group
Account Managers: Arnold S. Hoffman
Dirk E. Barenbrugge
(312) 679-1100

Western Office, W. J. Curtis & Assoc.
Western Manager: Marge Doherty-Wilhite
(818) 784-0700

Tokyo Office, Iwai Trading Co., Ltd.
603 Ginza Sky Heights Building, 18-13,
Ginza 7-Chome, Chuo-Ku, Tokyo, Japan 104
Account Manager: J. S. Yagi
(03) 545-3908

EDITORIAL CONTRIBUTIONS must be accompanied by return postage and will be handled with reasonable care; however, the publisher assumes no responsibility for the return or safety of artwork, photographs, or manuscripts.

Member Audit Bureau of Circulations



STEREO REVIEW IS PUBLISHED BY
CBS MAGAZINES, A DIVISION OF CBS INC.

President: Peter G. Diamandis
Executive Vice President: Thomas M. Kenney
Executive Vice President, Magazines: Albert S. Traina
Executive Vice President, Operations: Paul H. Chook
Senior Vice President, Advertising: Michael J. O'Neill
Vice President, Editorial Director: Carey Winfrey
Senior Vice President, Robert F. Spillane; Vice
President, Finance & Administration, Robert J.
Granata; Vice President, Circulation, Bernard B. Lacy;
Vice President, Manufacturing & Distribution, Murray
M. Romer; President, CBS Magazine Marketing,
Robert E. Alexander

NO OTHER HIGH-BIAS CASSETTE CAN MATCH THESE NUMBERS:

10110001010110001101



Other Type II (high-bias) cassettes are a long way from home when it comes to reproducing the pure, dynamic sounds of digitally encoded music sources.

But, number for number, TDK HX-S audio cassettes are number one.

Their exclusive metal particle formulation reproduces a wider dynamic range and higher frequency response. This enables HX-S to capture all the crispness and purity of digital performance on any cassette deck with a Type II (high-bias) switch.

With four times the magnetic storage ability of other high-bias cassettes, HX-S virtually eliminates high frequency

saturation, while delivering unsurpassed sensitivity throughout the audio spectrum.

Additionally, HX-S excels in retention of high frequency MOL, which no other high-bias formulation attains.

And HX-S superiority is not just numerical. To maintain its dynamic performance, HX-S is housed in TDK's specially engineered, trouble-free Laboratory Standard mechanism. It's your assurance of unerring reliability and durability, backed by a Lifetime Warranty.

For optimum results with Type II (high-bias) and digitally-sourced recordings, get TDK HX-S. You'll feel more at home with it, wherever you go.

TDK
THE MACHINE FOR YOUR MACHINE.

Buying Separates

I was quite pleased with Thomas R. Gillett's "The Case for Separate Components" in August. The "rack system" has defeated many first-time buyers, including me. After investing in one of these, I found the speakers to be quite inadequate. My only recourse was to upgrade the system. With the addition of a JVC seven-band equalizer and a pair of Bose 301 speakers, my system became the envy of my friends.

THOMAS L. CHVILICEK
Bozeman, MT

I enjoyed "The Case for Separate Components" very much. I was about to make the same mistake (buying an all-in-one system) myself. I'm trying to build a good stereo system for about \$1,000 and find it very difficult because of the range of products. I'd appreciate it very much if you would refer me to any source of information that will help me to make the best choice.

RUBEN SHIZINIAN
Brooklyn, NY

STEREO REVIEW frequently runs articles offering buying advice in different areas.

In addition, the new, 1986 edition of our Stereo Buyers' Guide includes a feature on "How to Buy a Basic Hi-Fi System" and detailed information on thousands of current components. So just keep reading!

In a Bind

Since you started binding STEREO REVIEW with staples, you have reduced the elegant appearance of this prestigious magazine to the status of lesser publications. I used to proudly display each issue next to my stereo system. Now it looks as though I have started collecting another magazine.

JOHN LIN
Daly City, CA

Among the "lesser publications" that use the same saddle-stitch method of binding are Artforum, The Atlantic, Business Week, Forbes, Harper's, The New Yorker, Newsweek, Scientific American, Time, and others.

DAK Backlash

I am writing to tell you what a let-down the September issue is from your

usual editorial standard. Though many people may not write, I'm sure they will be equally offended by your becoming a mail-order outlet for DAK. Your readers are *not* interested in such junk.

PETER H. WILLIAMS
Cincinnati, OH

Preliminary reports on response to the DAK supplement suggest that vast numbers of our readers disagree with Mr. Williams. Ed.

Thanks for making the DAK Industries "section" in September so easy to remove! I don't expect to find such advertising in my favorite magazine. I'm all for the free-enterprise system, but profit can't be all that important.

H. A. LEONARD
Tuscaloosa, AL

Wrong. For more on this subject, see "Speaking My Piece," page 4.

Taste Expansion

In response to Editor William Livingstone's September column, I'm glad to hear that STEREO REVIEW's musical mission is "to help readers expand their

CALL OUR TOLL
FREE NUMBER
800-
TO FIND OUT WHERE
TO SEE AND HEAR
633-
PRODUCTS ADVERTISED
IN STEREO REVIEW.
2252

For a demonstration of products from any of the advertisers listed below, call the STEREO REVIEW TOLL FREE 800 number. You'll get the name and location of a nearby dealer who will be happy to let you see and hear the components in action.

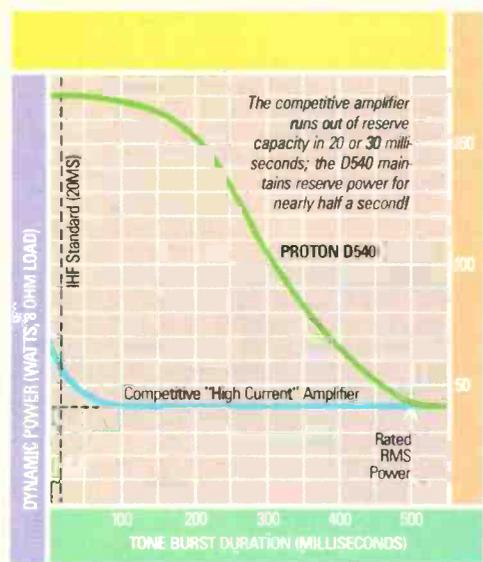
But call right now. The STEREO REVIEW "Where-To-Buy-It" Program for this issue ends November 22. After that date you'll have to contact the advertiser directly.

The following advertisers are participating in the STEREO REVIEW "Where-To-Buy-It" Program. Dial 800-633-2252 and ask for the extension of the advertiser whose products interest you:

AAL (American Acoustics)	x825	NAD (USA)	x834
Audio Technica	x826	Ortofon	x835
Bang & Olufsen	x827	Polk Audio	x836
Beyer Dynamic Inc.	x828	Proton	x837
Carver Corporation	x829	Pyle Industries	x838
Denon America	x830	Sennheiser	x839
Discwasher	x831	Studer Revox	x840
Hitachi	x832	Tandberg of America	x841
Jensen Car Audio	x833	Yamaha	x842

Stereo Review

PROTON INTRODUCES DYNAMIC POWER ON DEMAND.



Music is a demanding master. Nowhere does it ask more of amplifiers than in the reproduction of musical peaks. It's in this area of dynamic range that conventional amplifiers fail. They simply run out of energy before the sound does. Now, with the increased dynamics of digital audio discs and hi-fi video sound, there's more than ever to hear...or miss.

DPD lets you hear it all. Dynamic Power on Demand* is a radical new design that uses two different types of circuits to supply power. The first is ideal for most of the signals that music produces. The second circuit stores power, and automatically takes over when the loudest musical passages require the big reserves; and, it provides power as long as the musical peak lasts. That's what only DPD can do — deliver its reserve capacity up to 20 times longer than other amps!

The result is performance that's fanatically faithful to your favorite Benatar or Beethoven.

With more realism and dynamics than you've ever heard before. But even DPD is just the beginning of our remarkable D540 integrated amp. Add to that a unique dual action volume control, phono circuitry for either moving magnet or moving coil cartridges, complete record-playback flexibility, and the ability to bridge to mono. This is the Proton D540 with DPD.

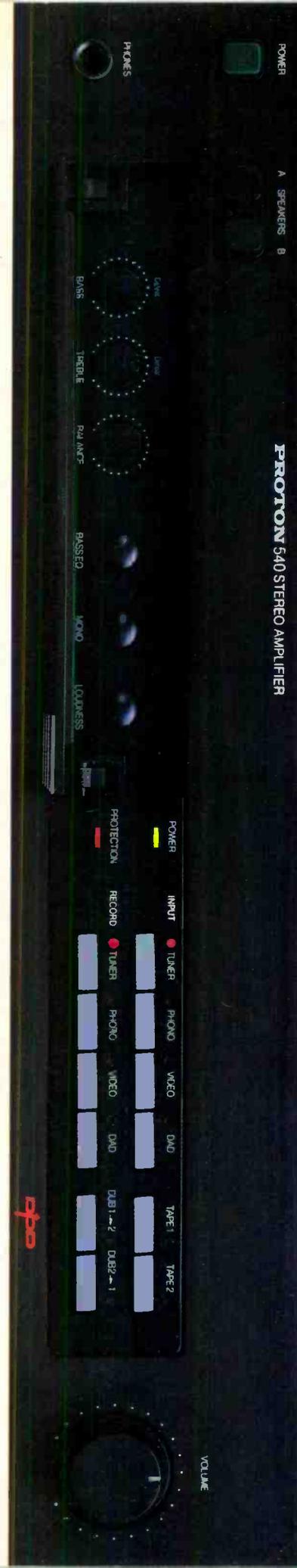
The demands of music have never been better fulfilled.

Proton Corporation • 737 West Artesia Blvd. • Compton, CA 90220 • (213) 638-5151

CIRCLE NO. 17 ON READER SERVICE CARD * Patent Pending

For Dealer Nearest You Call TOLL-FREE 800-633-2252 Ext. 837

P R O T O N
Inside California 800-428-1006 Outside California 800-772-0172



tastes by encouraging them to listen to the best available recordings of a wide variety of music." Unfortunately, I know of few other dedicated music lovers besides myself who actually *do* listen to "a wide variety of music." Not even your editor does. A classical-music lover "opening his ears" to Bach's Passions and Mass in B Minor is not an example of expanding one's musical tastes.

I implore Mr. Livingstone, as well as other music lovers, to become radical in their musical expansion. Do as I do, and listen to the best of hard rock, jazz, big bands, synth-pop, classical, and, yes, even punk, to name just a few genres.

EDWARD P. GOETTL
Inver Grove Heights, MN

I generally listen only to classical music, but I have nothing against jazz, rock, country, or any other form of music. Nor do I have any objections to transcriptions of classical works for different musical instruments.

In short, I'm neither a snob nor a purist when it comes to music. However, one *has* to draw the line at synthesized classical music. I can imagine nothing more antithetical to the spirit of the music of Bach and Handel than the

reproduction of that music by a soulless machine. The music was written to be performed by human beings, not computers, and one simply cannot analogize transcribing a lute concerto for guitar to transcribing it for synthesizer.

As for Editor William Livingstone's statement that synthesized classics such as Graziano Mandozzi's "Bach/Handel 300" could be "a wonderful first step toward the serious stuff for a lot of people"—well, that was also said about the execrable "Hooked on Classics" album several years ago, and I am unaware of any greatly increased interest in classical music because of that recording.

I think STEREO REVIEW should have declined Deutsche Grammophon's offer of 2,000 copies of "Bach/Handel 300" and, if DG was determined to be generous, asked for some real Bach and Handel music instead.

DAVID WARD
Lubbock, TX

The synthesizer requires participation by human beings when it plays music just as a harpsichord or piano does. The response to the offer of "Bach/Handel 300" made in our September issue ex-

ceeded our expectations by thousands. We regret that many readers were disappointed when our limited supply of the records ran out.

Antiskating

I must take issue with the method of setting a tone arm's antiskating compensation recommended in August's "Troubleshooting" article by Ian G. Masters. The method Mr. Masters describes will result in the correct antiskating setting for an extremely low tracking force, but when the proper tracking force is set the antiskating force will be too low.

A better *approximation* of the correct antiskating setting (assuming reasonably good tone-arm bearings) can be found by playing a blank disc, or the run-out area of a short-sided LP, and adjusting the antiskating so that the tone arm just begins to move toward the outside of the record. More accurate adjustments can, of course, be made using test records, though I believe a certain amount of interpretive experience is required.

STEVE GRAHAM
Ann Arbor, MI

When she came by to pick up the rest of her stuff, I was waiting. I knew I shouldn't be there, but I had to give it one last chance.

She saw me sitting there when she came in, but didn't say a word—just brushed by me leaving a hint of perfume in the air.

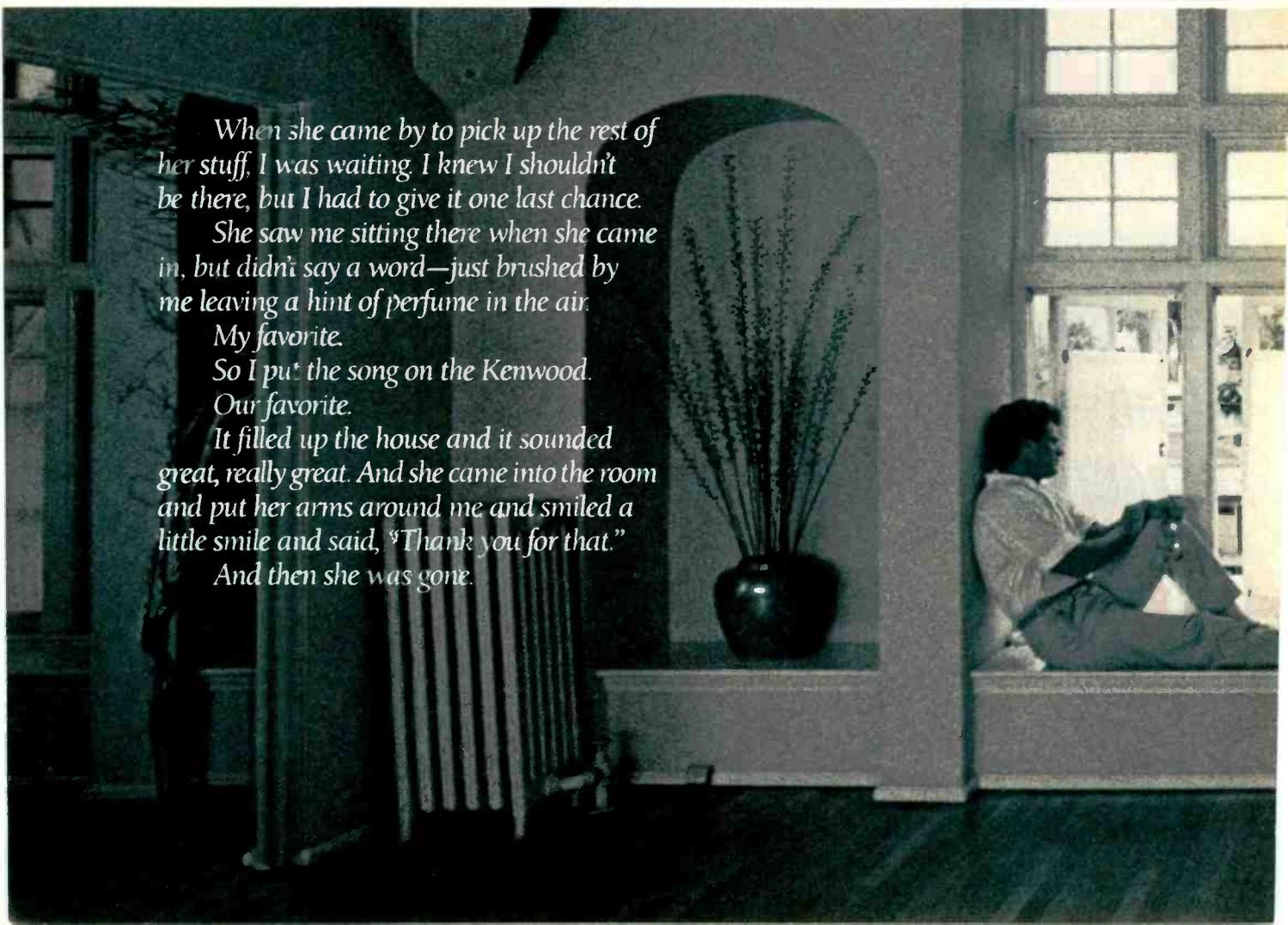
My favorite.

So I put the song on the Kenwood.

Our favorite.

It filled up the house and it sounded great, really great. And she came into the room and put her arms around me and smiled a little smile and said, "Thank you for that."

And then she was gone.



CD's, Cassettes, LP's

In July's "The Compact Disc Is Here to Stay," Marc Finer of Sony is quoted as predicting that CD's "will largely displace cassettes because there's no longer any need to dub music off of records." Mr. Finer seems to have overlooked the need for dubbing music off of CD's. The cassette will remain the most economical medium for those "personal" recordings no music store can provide. While most LP's and turntables are no match for CD's, some manufacturers now offer dbx noise-reduction systems on their cassette decks. Such decks will prove to be close contenders with the CD players. Unless a recordable CD player is marketed, I say that cassette decks are "here to stay."

LAWRENCE R. CHRISMAN
FPO New York, NY

In regard to the current battle between partisans of Compact Discs and of high-end turntables, let's take a peek at it from a physics point of view. An analog record is at best capable of a dynamic range of 45 dB, while a CD is capable of more than 96 dB! It is not unusual to hear a 100-dB dynamic

range when you attend a concert, and that 50-dB superiority of the CD medium makes a big difference.

Also, when a stylus is passing over a vinyl record, pressures can exceed 100,000 pounds per square inch, and temperatures generated by friction can exceed 2,000° F at the stylus tip. Naturally, every time you play a record, a little of the sound is lost. A CD, in contrast, uses light; there is no friction and no wear, and it will sound exactly the same after thousands of playings. Whether a turntable costs \$300 or \$10,000, the physics behind it is the same.

Finally, some have labeled the sound of CD's "antiseptic." Well, cleanliness is next to godliness.

DAVID R. DICKSON
Salt Lake City, UT

Opera Today

I would like to commend Contributing Editor Robert Ackart for the excellent job he has been doing as a reviewer of opera recordings for STEREO REVIEW. In this age of sour, biased, carping, and captious music criticism, it is refreshing indeed to find a reviewer who can

appreciate the opera singers and conductors of our time instead of constantly telling us how vastly superior past recordings and live performances were. As far as I am concerned, the commonly held notion that standards in singing or musical performance in general have declined appallingly is a canard. I am sick and tired of critics who automatically praise any recording of past generations, even mediocre ones, and who grossly exaggerate the technical flaws of modern singers, ignoring or downplaying their virtues.

Robert Ackart is a credit to your magazine. May he keep up the good work.

ROBERT BERGER
Levittown, NY

Buying Wisely

This past year I decided that it was time to purchase a CD player. I felt that it was wise to wait for a few "generations" of players to appear, having made the mistake of purchasing an early Pioneer video-disc player when there were still some technological bugs in the system (later models are vastly superior).

In the past when I have been con-

The wonder of a great stereo system is its ability to take music and make it almost tangible. In the rarified moments of life, this ability can be especially powerful. Even ironic.

The Kenwood Spectrum CD84B is for all moments. Its exciting componentry is highlighted by an Optimum Servo Control compact disc player. In addition to a completely dedicated 125W* per channel integrated amplifier, the CD84B also features a quartz synthesized AM/FM stereo tuner. A double auto-reverse full logic cassette deck with high speed dubbing. A linear tracking, fully automatic direct drive turntable. A 7-band stereo graphic equalizer with reverb. And a pair of 150W 4-way tower speakers.

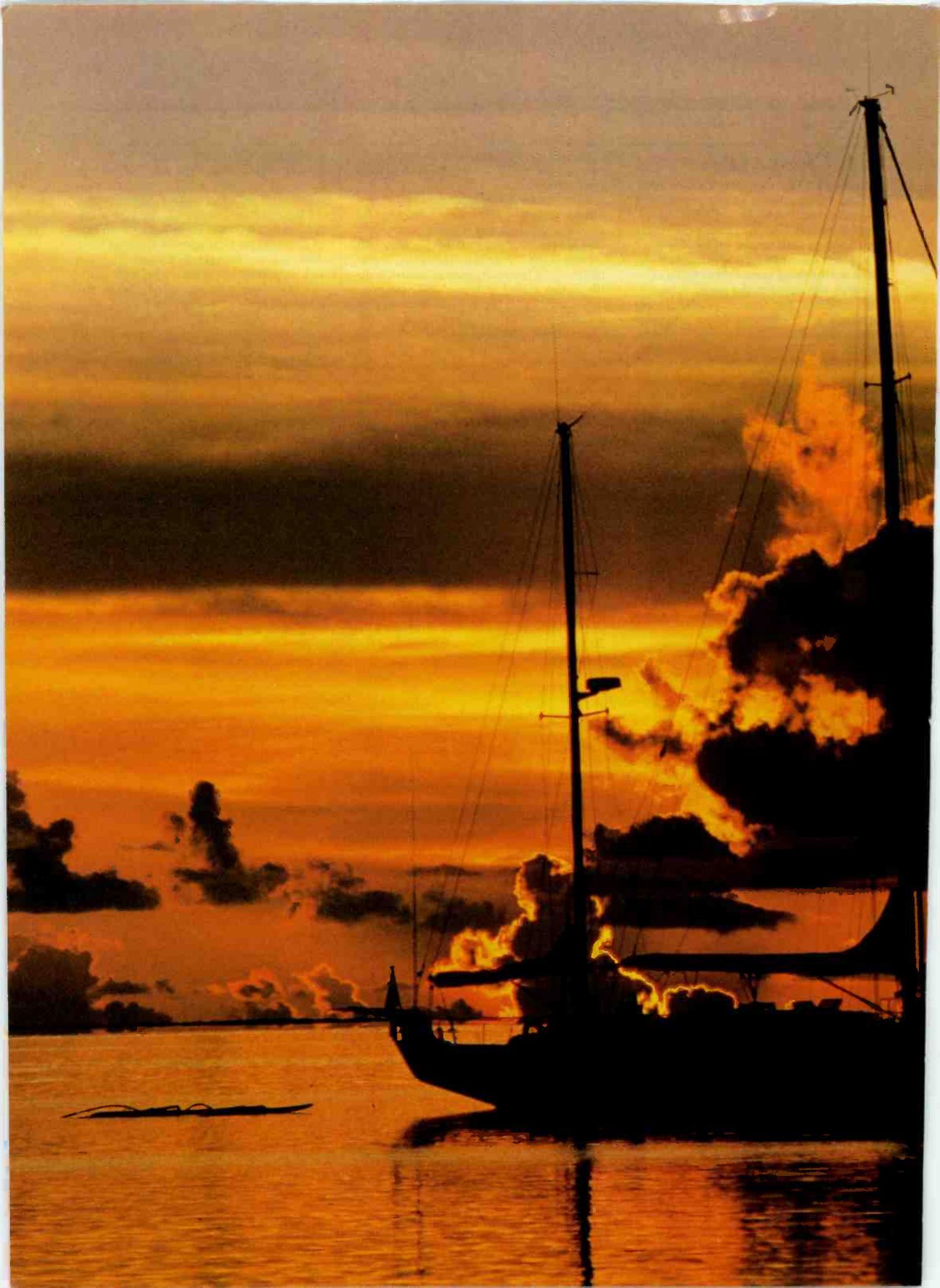
The Spectrum CD84B. One of many Home Entertainment Systems designed for people who want a little more out of life.

For the Kenwood dealer nearest you, call 1-800-4-KENWOOD.

*Min. RMS 8 ohms 20Hz to 20kHz with no more than 0.05 THD.



KENWOOD



Merit

A world of flavor in a low tar.



8 mg "tar," 0.5 mg nicotine av. per cigarette, FTC Report Feb '85

SURGEON GENERAL'S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy.

fronted with a dilemma in a major, big-bucks audio purchase, I have always turned to STEREO REVIEW to help me make my decision. I finally decided on the CD player I wanted, and it was Julian Hirsch's wonderfully detailed and straightforward review of the Sony CDP-520ES (July) that did it for me.

Thanks once again for helping me plow through a vast web of audio "insanity." I have been absolutely delighted with my purchase.

GABRIEL DEMOURA, JR.
North Providence, RI

Doyle Lawson & Quicksilver

I would like to thank Alanna Nash for her fine review in September of the latest and last album by Doyle Lawson & Quicksilver, "Once and for Always." Shortly after its release, Doyle left the group, but his spot has been more than adequately filled by Alan Bibey, a fine young mandolin picker and vocalist from Walnut Cove, North Carolina. The general consensus among festival promoters, club owners, and fans is that Quicksilver has lost none of its instrumental drive or vocal purity with the personnel change, and the group is still

considered one of the top three bands in the business.

There is some question in my mind, though, about Ms. Nash's saying that the band is lacking in "immediacy." I'm not sure I understand her use of the word. Is she saying that the band lacks presence or impact? If so, I suggest she make it a point to see the group live so she can see, as well as hear, the enthusiastic crowd response to their music. Quicksilver blows crowds away.

As for her comment on Terry Baucum's bass singing—he doesn't need to learn anything. If Terry doesn't "nail" the bass notes, they don't get nailed—by anyone. Terry is simply the best.

MILO CANE
Easley, SC

Reconstructing Speakers

I recently purchased a used pair of speakers at a bargain price. When buying the speakers my primary interest was in the walnut cabinets. Now that I've had them for a week or so I'm pretty dissatisfied with their sound and wish to "reconstruct" them with improved woofers, tweeters, and possibly a new crossover network.

Can you direct me to a source where I can buy quality individual "components" for speakers?

RODNEY L. CLARK
Wheelersburg, OH

Next time you should use your ears to choose speakers. As for changing the parts, that would be a case of out of the frying pan and into the fire. A good loudspeaker is an integrated design that takes account of the interactions of all the components with each other and with the enclosure, not just a collection of good parts in a handsome box.

Carts and Horses

For some time now I have meant to let you know of my dissatisfaction with STEREO REVIEW after its change of format. You are putting the cart before the horse. It seems that I read all about what equipment there is to buy, but no longer about what to play on it. Is this audiophilia as a "high end" in itself?

PETER H. HOMANN
Tallahassee, FL

As a long-time reader of STEREO REVIEW, I have found that your record-



What other audio tapes fail to hear.

review section is the most complete and informative among magazines of the same kind. But I find one of your symbols confusing, the **Ⓢ** that stands for "digital-master analog LP." Many old analog classical recordings have been digitally re-mastered; these are not equivalent to the modern digitally recorded releases. Please make a clear distinction between the two types of recordings. Also, I rarely see the digital-master symbol at all in the pop section though many of the pop records you review were digitally recorded.

JASON LIN
Santa Monica, CA

*We do not ordinarily review reissues (and when we do we identify them as such), so you can assume that the **Ⓢ** symbol indicates a digital recording in LP format. We try to obtain this information whenever possible, but pop records are often not clearly labeled.*

Progress

Like others, I have taken the appropriate amount of time to "normalize" and "equalize" my home component hi-fi system. I've adjusted the skate,

adjusted the weight, trimmed the antenna, tinned the leads, dampened the turntable, clipped the speakers, bi-leveled the amps, leveled the walls, and alienated my friends. My LP's, open reels, and cassettes go round and round. I've been Dolby C'd and dbx'd, and the only hiss left is from my cat. Until an alternative is found to replace sound via rotation, I'm hanging on to all my "dated" components. They have become trusted old friends. And besides, what am I going to do with my bulk erasers, head cleaners, stylus cleaners, record cleaners, demagnetizers, splicing equipment, sextant and compass, and ball and chain?

BRUCE M. HANGS
Littleton, MA

Onward, . . .

Thank you for Alanna Nash's July review of Amy Grant's "Straight Ahead." As a Christian, I appreciate any recognition given to a Christian artist. Ms. Nash hit the mark when she said that "you don't have to be a Jesus freak to get into . . ." Christian music. There are so many facets to contemporary Christian music that one does not

have to give up good music if one is a committed Christian.

KAREN J. ROZGA
Milwaukee, WI

Cassette Notes

Some prerecorded-tape labels are still not including notes or lyric sheets with their cassettes. Now that cassettes are the major category of sales in recorded music, there is no reason to treat cassette buyers as second-class citizens. If Deutsche Grammophon can include a twelve-page booklet with a cassette of Strauss's *Alpine Symphony*, there's no excuse for Columbia not even to give a list of back-up performers with its cassette of Dylan's "Empire Burlesque."

Anyway, keep up the good work at STEREO REVIEW. You still serve both the classical and popular tastes better than anyone else.

DAN J. MOLONEY
Marion, OH

Correction

The photo of Sting on page 154 of the September issue was miscredited. The photographer was Gilles Larrain.

One audio tape is so sensitive it can hear a pin drop. Or the full crash of a cymbal.

To no one's surprise, it's made by Sony.

Designed with our widest dynamic range ever, the UCX-S can pick up the softest softs you've never heard.

Or the loudest louds. Without distortion.*

And since we pack smaller, more uniform particles on our tape, you can pack more music in it.

And go from one extreme to the other.

So pick Sony. And hear what you've been missing.



SONY
THE ONE AND ONLY.SM

© 1985 Sony Corp. of America. Sony is a registered trademark of Sony Corp. "The One and Only" is a registered trademark of Sony Corp. of America. *Third harmonic distortion at 1000 Hz.

SPIRIT OF JOY



FINLANDIA®.
THE WORLD'S FINEST VODKA®.
OVER ICE.

SEND "THE WORLD'S FINEST VODKA" AS A GIFT ANYWHERE IN THE CONTINENTAL U.S. WHERE ALLOWED BY STATE LAW. CALL TOLL FREE 1-800-238-4373

FINLANDIA® AND THE WORLD'S FINEST VODKA®
ARE REGISTERED TRADEMARKS OF ALKO LTD. 80 AND 100 PROOF
IMPORTED BY PALACE BRANDS COMPANY, FARMINGTON, CT

"FINLANDIA PAYS TRIBUTE TO TRADITION" © ALKO LTD 1985

NEW PRODUCTS

Panasonic

The Panasonic PV-1442 video-cassette recorder features VHS Hi-Fi audio for lowered distortion, less wow-and-flutter, and a greatly extended frequency response compared with conventional soundtracks. Audio signal levels can be monitored for each channel with dual meters. A special video head provides video effects such as freeze frame and slow motion free from interference or noise bars. The deck can be programmed to record four programs over a two-week period. An infrared remote unit controls nineteen functions. Price: \$750. Panasonic, Dept. SR, One Panasonic Way, Secaucus, NJ 07094.

Circle 120 on reader service card



JBL

The new L series of speakers from JBL is led by the L100T (shown), a floor-standing three-way system with a 12-inch woofer, made of laminated Aquaplas for improved damping, and a 4-inch laminated-polymer cone midrange. Like the rest of the L series speakers, the L100T also uses a titanium dome tweeter molded by swirling nitrogen at high pressure against a film of the metal. The mold includes a complex pattern of ribs to give the dome additional strength. The tweeter's frequency response is said to be smooth and neutral from 3,000 to 20,000 Hz and flat out to 27,000 Hz. Like the

midrange driver, it has a cast and machined frame.

The wood-veneer speaker cabinet is lock-mitered. Internal connections use hard-wired, heavy-gauge cable for improved current transfer. The binding posts for external connections accept banana plugs, pins, or large-gauge wire. Price: \$990 per pair. The other speakers in the line are the L80T, a three-way with a 10-inch woofer priced at \$750 per pair; the L60T, a two-way with an 8-inch woofer for \$550 per pair; and the L20T, a two-way with a 6½-inch woofer for \$390 per pair. JBL, Dept. SR, 8500 Balboa Blvd., Northridge, CA 91329.

Circle 121 on reader service card

KW Designs

Storage racks for Compact Discs from KW Designs are made of solid hardwoods (walnut or maple) with all-dovetail joinery and finished in hand-rubbed oil. The racks can be positioned so that the discs are held horizontally or vertically. Four cork feet, provided separate-



ly, can be applied to whichever side is on the bottom. Two sizes are available: the CD10, which holds ten discs, \$30; and the CD20, which holds twenty, \$50. KW Designs, Dept. SR, P.O. Box 5245, Madison, WI 53705.

Circle 122 on reader service card

Koss

Headphones in the Home Pro Plus line from Koss use Pneumalite ear cushions to improve frequency response and decrease external noise. The top-of-the-line Pro 4X Plus (shown) combines a rare-earth-magnet dynamic low-frequency element with a piezoelectric tweeter. Frequency response is rated as 10 to 40,000 Hz. Price: \$100. The Pro 4AAA Plus has extra-large voice coils and oversized diaphragms. The headband is padded with vinyl, and the earcups pivot for increased comfort. Price: \$85. The K/40LC Plus, weighing less than 7 ounces, has controls to adjust the volume levels of each side independently. Price: \$44.95. The K-6X Plus, also a lightweight model, has an improved high-energy element. Price: \$34.95. Koss Corporation, Dept. SR, 4129 North Port Washington Ave., Milwaukee, WI 53212.

Circle 123 on reader service card



NEW PRODUCTS



Revolver

The Revolver is a two-speed belt-drive turntable with the tone arm mounted on one platform and all other components on a lower platform. The two platforms are connected to control extraneous movement. The synchronous a.c. motor drives the platter via a stepped pulley. The base sits on three rubber feet. Each Revolver turntable is supplied with the company's Precision Instant Grip (PIG) record clamp, Star-mat record mat, and lubrication oil. Price with Linn LVX tone arm and Basik cartridge: \$450 in gray or red, \$495 in black-ash veneer. Price without tone arm, predrilled for Linn arm: \$255 in gray or red, \$296 in black-ash veneer. Music Hall, Dept. SR, 108 Station Rd., Great Neck, NY 11023.

Circle 124 on reader service card



Carver

The Carver Car Amplifier, rated at 120 watts per channel into 4 ohms, uses proprietary Magnetic Field Amplifier technology. A built-in crossover network at 115 Hz can be switched in for biamping. Pressing a button on the Carver amp bridges it for use as a 240-watt mono amp. Automatic-reset circuit protection prevents damage and eliminates the need to replace fuses. An infrasonic filter eliminates inaudible

low frequencies that would otherwise drain electrical power.

Input sensitivity is variable from 250 mV to 3 V. Distortion at rated power is said to be no more than 0.05 percent. The amp is 10¾ inches wide, 6 inches high, and 2 inches deep, and it weighs approximately 5 pounds. Price: \$350. Carver Corp., Dept. SR, 19210 33rd Ave. W., Lynnwood, WA 98046.

Circle 125 on reader service card

Marantz

Two new Compact Disc players from Marantz include random-access programming for playback of selected tracks in any order. Specifications for both players include a frequency response of 5 to 20,000 Hz (no tolerance stated), dynamic range of 96 dB, and wow-and-flutter below measurable limits. The CD-74 (shown) can be programmed to play up to twenty-four tracks. Unwanted tracks can be canceled from the program. When used with compatible Marantz components, the player can be operated by remote control. Price: \$599.95.

The CD-150 can be programmed to play up to sixteen tracks in any order. The program material remains audible in the forward and backward search modes. Repeat functions are the same as on the CD-74. Price: \$399.95. Marantz, Dept. SR, 20525 Nordhoff St., Chatsworth, CA 93111.

Circle 126 on reader service card



John Bowers Ltd.

The John Bowers Active I is a bi-amplified loudspeaker system with an optional outboard control unit. Each Active I speaker includes three drivers: 150-mm woofer and bass/midrange cones and a 26-mm tweeter. One built-in amplifier module delivers 200 watts rms into 4 ohms for the bass and bass/midrange drivers; the other delivers 100 watts into 8 ohms to the tweeter. The low-frequency drivers are said to use an advanced motor system for improved transients and higher power-handling capabilities. There is a six-position frequency-response adjustment switch for the woofer and a three-position switch for the tweeter.

Although the Active I speakers can be driven by any line-level signal, the companion Active Control Unit was developed to handle the increased dynamic range of Compact Discs and other sources. Its frequency response is given as 45 to 18,000 Hz \pm 2 dB. The speakers are finished in black-ash, natural-oak,



or walnut veneers, and they measure 24¾ inches high (with the supplied stands), 10 inches wide, and 14 inches deep. The control unit's dimensions are 11¼ inches wide, 2¼ inches high, and 7½ inches deep. Prices: Active I speakers, approximately \$2,900 per pair; Active Control Unit, approximately \$700. Distributed by Anglo American Audio, Dept. SR, P.O. Box 653, Buffalo, NY 14240.

Circle 127 on reader service card

VALUE

Introducing Karat — a new generation of bookshelf speakers from Canton.

With Karat, Canton leads the way into the digital era of sound reproduction. The result is sound so natural and free of coloration you must hear them to appreciate the acoustic achievement this series represents.

Like the entire Canton product line, from our mini-speakers to our floor-standing speakers, the Karat bookshelf series offers value. Value in sound reproduction is first and foremost: that's why every element in the Karat series is designed, engineered and manufactured at the Canton factory in Germany.

Value in terms of detailing goes into every Canton speaker as well. That's why we offer our speakers in a variety of fine finishes, like walnut and oak veneers, rich black, bronze and white lacquers and now a premium finish, gloss mahogany. For at Canton, we believe speakers should look as good as they sound.

Visit your local Canton dealer today and learn the value of a sound investment: Canton's Karat series — products of German quality and craftsmanship.

Canton North America, Inc.
254 First Avenue North
Minneapolis, MN 55401



CANTON
Die reine Musik

CIRCLE NO. 33 ON READER SERVICE CARD

by Larry Klein



Simultaneous Recording

Q Is it possible or desirable to make two cassette recordings simultaneously from the same disc? Or is dubbing the only way? I have two identical, fairly good cassette recorders.

EUGENE J. BOGUCKI
Short Hills, NJ

A It is both possible and desirable in terms of achieving optimum signal-to-noise ratio and frequency response to feed two recorders simultaneously rather than dubbing from one tape to the other. Some amplifying equipment with inputs and outputs for two recorders has the circuitry to do just that. If your receiver, integrated amplifier, or preamp has only one set of tape input/output jacks, then use "Y" connectors to feed the right- and left-channel signals from the tape-output jacks of your receiver to the equivalent line inputs of both recorders. The line outputs of recorder A are connected to the receiver's tape-input jacks; the line outputs of recorder B are connected to the receiver's aux input.

If you make the connections correctly, the signal to be taped will appear at both recorders. You can then monitor the recording of recorder A with your receiver's tape-monitor switch. Recorder B can be heard by switching to the aux input, but *only* after the recording is complete.

FM Interference

Q Recently the only full-time classical music station in Milwaukee moved its transmitter to an area some 35 miles from my home, and now I'm having severe reception problems. I have

tried everything with my receiver from a simple dipole antenna to a large Yagi system, but when the signal is strong enough to avoid hiss, there is tremendous interference from numerous other FM stations. I can receive a listenable signal in mono, but I want stereo. Do you have any suggestions?

JOHN L. MILEWSKI
Milwaukee, WI

A You seem to be caught between a rock (hiss) and a hard place (interference). As I diagnose your problem (with an assist from Julian Hirsch), the hiss is from inadequate signal strength when you are using a simple antenna, and the interference is from front-end overload when you are using a high-gain Yagi antenna. Aside from the possibilities offered by a new FM tuner that is both more sensitive and more resistant to overload, you might investigate the use of a directional antenna that has lower gain. Your existing Yagi will serve. If you put an attenuator in the signal path you can reduce the Yagi's gain as needed while preserving its directionality. Assuming that you have a 75-ohm feed from your antenna, it's worth trying Radio Shack's \$4.95 variable attenuator (No. 15-578), which will provide up to 20 dB attenuation.

Class A Power

Q I'm having reservations about purchasing a 100-watt-per-channel Class A power amplifier that's been recommended to me. I own relatively inefficient speakers, and the power of the amplifier may not be enough to drive my speakers to the volume levels I want. A friend tells me not to worry, because 100 watts of Class A power are equivalent to 250-300 watts of power from conventional Class A/B amplifiers. What watts are what, anyway? Is there an industry standard that allows accurate comparisons?

ERIC C. PALIK
Lyndhurst, OH

A Yes, there is an industry standard—it is called Ohm's Law, and it states that $P = E^2/R$. Or, to convert it into English, power output (P) in watts is calculated by dividing the signal voltage (E) squared by the load resistance or speaker impedance (R) that it appears across. Example: If your amplifier were to deliver 15 volts of audio signal to your speaker's 4-ohm impedance, it would be putting out about 56 watts.

In other words, the wattage output of an amplifier is determined solely by the voltage it develops across a load and not by its class of operation or any other factor. Some amplifiers, because of their greater dynamic headroom or current capacity, can put out more voltage for

short periods or into lower impedances, but this has nothing to do with their operating class as such.

Incidentally, I've long felt that the virtues of Class A operation (reduced crossover distortion and lower distortion overall *before* feedback is applied) are highly overrated. It is a *theoretical* advantage without a significant *audible* consequence. This sort of thing goes on all the time in hi-fi design, and it is usually unobjectionable. Like chicken soup, it can't hurt. Unfortunately, in the case of pure Class A output-circuit designs, a substantial practical price is paid in terms of heat, size, power limitation, and cost in order to achieve a dubious sonic advantage.

Power Input/Output

Q I intend to add a turntable to my stereo system. The ones I've looked at have a "10-watt power consumption" specification. Will my 17-watt receiver be sufficient to power such a turntable, or is this information irrelevant?

TOM PLOWMAN
Simi Valley, CA

A Irrelevant is the right word. Your receiver does not "power" your turntable, it simply receives the very small voltages from the turntable's phono cartridge and amplifies them sufficiently to drive your speakers. The "power consumption" specification of your turntable refers to the amount of current drawn from the a.c. line by its motor, and it has nothing to do with your amplifier's 17-watt power output rating—which, incidentally, is rather low by today's standards.

Why Prerecorded?

Q I was recently told by a language maven that the word "prerecorded" was a silly redundancy. His point was that either something was recorded or it was not, and no "pre" prefix was called for. Do you agree?

JAMES FRANKLIN
Washington, D.C.

A Neither silly nor redundant, the "pre" provides a clear signal to those concerned with such matters that the audio or audio/video content of a particular tape has been *commercially* duplicated. This distinction is helpful when a home recordist in conversation seeks to differentiate commercially produced audio or video cassette recordings from tapes that have been privately dubbed off-the-air or copied from discs or other tapes.

The question is far from trivial, since the Supreme Court was asked last year

Thinking about a new car?

**“...you have to hear it
to believe it.”**

Popular Mechanics

**“I’ve experienced
all kinds of car stereos,
but nothing like this
(Delco-GM/Bose) system.”**

Chicago Sun Times

“...this sonic paradise...”

Stereo Review

Our experience has convinced us that, regardless of your interest in music, you will require less than one minute of listening to know that you want the Delco-GM/Bose Music System in your next General Motors car.*



Sound so real, it will change how you feel about driving.

*Available on selected models of Cadillac, Buick, Oldsmobile and Chevrolet.

Buy any Sony Compact Disc Player and save up to \$200 on 100 great CD titles.

Sony's just found a way to give you a compact disc library on a silver platter.

Starting September 1, when you buy any Sony® home, car or portable compact disc player, you'll be entitled to receive a Sony Compact Disc-Count Coupon

Book good for up to \$200 in discounts on your choice of 100 select compact disc titles.*

Each coupon is worth \$2.00 off the regular retail shelf price on select CD titles.**

Just look for the discount certificate inside specially marked Sony cartons. With it, you'll be able to build a complete CD library in no time.

But hurry because this offer is for a limited time only. So see your local Sony dealer or these Sony Compact Disc-Count Centers for details on the best offer in compact discs you've heard in a long time.

DISC-COUNTS AVAILABLE AT ALL LOCATIONS OF THESE PARTICIPATING RETAILERS:

BOSTON COMPACT DISC (Boston Area)	NEW WORLD RECORDS (Buffalo Area)
BUDGET TAPE & RECORDS	ODYSSEY (Las Vegas)
CAMELOT MUSIC	RECORD BAR
DISCOUNT RECORDS	RECORD FACTORY (N. Calif.)
FLIPSIDE (Chicago Area)	RECORD TOWN/RECORD LAND
GOOD VIBRATIONS (Boston Area)	RECORD WORLD/TSS
HARMONY HOUSE (Detroit Area)	RECORDS HAWAII
J & R MUSIC WORLD (New York City)	RENAISSANCE MUSIC MEDIA (Dayton)
KEMP MILL RECORDS (Baltimore/Washington)	SOUND SHOP
LAURY'S RECORDS (Chicago Area)	SOUND WAREHOUSE
LICORICE PIZZA	SPEC'S MUSIC (Florida)
LISTENING BOOTH/WALL-TO-WALL SOUND	STREETSIDE RECORDS (Missouri)
LISTEN UP (Denver Area)	TAPE WORLD
MUSICLAND/SAM GOODY	TURTLE'S RECORDS & TAPES
	VINYL MANIA (New York City)

SONY

THE LEADER IN DIGITAL AUDIO™

*Compact Disc Players must be purchased between September 1 and December 31, 1985.

**All coupons must be redeemed prior to March 31, 1986.

© 1985 Sony Corporation of America. Sony is a registered trademark of Sony Corporation. The Leader in Digital Audio is a trademark of Sony Corporation of America.

to judge whether those who duplicated (rerecorded) prerecorded material for private use were flouting the copyright laws. I'm relieved that the court's decision absolved home recordists of possible charges of grand larceny.

Now ask me about "recorded live."

Equalizer Settings

Q Please send me information on the agreed-upon settings for a seven-band home equalizer with controls at 60, 150, 400, 1,000, 2,400, 6,000 and 15,000 Hz. One of the articles I've read said to decrease the 125- to 250-Hz band when making an equalized tape for car use, but my unit has neither of these bands. What is the best way to use my unit?

DAN ARTH
Lancaster, NY

A There are no "agreed-upon settings" for an equalizer. An equalizer should be considered a very flexible tone control that can individually adjust (boost or cut) the relative levels of the frequency bands in the audio range. The amounts of adjustment required—if any—and the frequencies at which it is applied depend on the specific program material you are playing and the performance of your speakers in a particular acoustic environment.

Experiment with the controls, moving them in small increments, to achieve the most natural—or pleasing—sound to your ears. Assuming that your system has a reasonably flat frequency response, the controls are likely to produce the following subjective effects when set for moderate boost:

- 60 Hz: Adds solidity to bass
- 150 Hz: Adds boomy quality to bass
- 400 Hz: Adds warmth and body to bass
- 1,000 Hz: Brings soloists forward
- 2,400 Hz: Produces hollow, nasal quality
- 6,000 Hz: Emphasizes the sound of cymbals
- 15,000 Hz: Adds detail, shimmer, and air

Keep in mind that unnecessary or excessive boost is likely to sound unpleasant. The effect of the boost will provide some clues as to the effect of cutting back on the frequency bands.

Those writers suggesting a 125- to 250-Hz cut are probably referring to the performance of speakers installed in the rear package shelf of a car. The acoustic horn formed by the tilted rear window and the package shelf plus reflections off the rear window can interact to produce a boost of those frequencies. However, there are just too many variables in speaker setups and car interiors for you to assume that your car needs that

correction. Since adjacent controls on any equalizer interact strongly, I suggest that you take the panel markings as rough guides rather than gospel. A certain amount of trial and error is always necessary when equalizing tapes.

Adding a Midrange

Q I own a pair of speakers that have 10-inch woofers and 3-inch tweeters. I recently bought a 100-watt-per-channel integrated amplifier and have already blown out two tweeters. Can I remove the stress from the tweeters by adding a midrange driver to each system? Can I mount the midranges in the bass-reflex ports? Or should I trade up to a system with greater power-handling capacity?

T. LATTANZI
Nashville, TN

A One of the reasons speaker designers include midrange drivers in a system is to increase overall power-handling capability, but that is done in the original design stage, not as an add-on after the system is complete. To do the job right, you would have to redesign the crossover completely and also replace the tweeter. But if you were to do all that and then mount the midrange in the port, you would detune the enclosure and lose bass performance. Yes, you should trade up to a better system.

Better Sound on Dubs?

Q I was recently making up a party tape consisting of dubs from my old Sixties records, plus some new stuff. I used an expensive high-bias tape in my cassette deck because I wanted to get the best possible quality. To my surprise, when I played back the tape it sounded better than most of the original records. I thought there was always some loss in taping discs.

SAM FIDELMAN
San Jose, CA

A I'm about to lay a heavy paradox on you: Even though your tapes sound better to you, there really was a loss of fidelity in the transfer. I suspect that your recording process injected a high-frequency boost that—to your ears, with your equipment, in your room—caused the tapes to sound more realistic. The boost could come about through a lower-than-required recording bias in your deck or might be built into the tape itself. I wouldn't worry about the boost, except that if your recording bias is much too low for the tapes used, you risk distortion. And discs that already have enough sizzle may become too piercing in the dub.

"CARVER CD PLAYER: SUPERB SOUND PLUS THE DIGITAL TIME LENS"

AUDIO MAGAZINE

"Leave it to Bob Carver to come up with a CD player designed to please both those who love CDs and those who still have reservations about their sound quality."

—Leonard Feldman
AUDIO MAGAZINE



The Carver Compact Disc Player answers the audiophile's demand for a CD Player which provides not only the greater dynamic range and richer bass expected from compact disc technology, but also the musicality, spectral balance and spatial qualities of well executed analog high fidelity recordings.

LOGICAL

How logical it is for a physicist dedicated to delivering music with maximum dynamic impact to offer a state-of-the-art CD player. Anyone who ever wondered why Carver makes amplifiers capable of delivering hundreds of watts of power need wonder no longer after they have heard the Carver Compact Disc Player as a sound source.

There are dozens of models of compact disc players now available, many of them demonstrating little regard for the finer points of digital playback technology. Bob Carver was in no hurry. He wanted to do digital right. And he did.

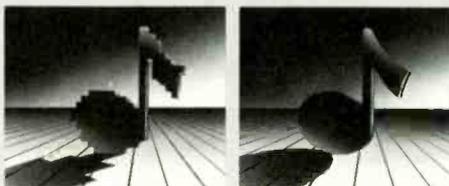
The state of the art has advanced considerably since the first players appeared several years ago. The Carver Compact Disc Player makes use of the latest **triple laser beam** pickups, **sophisticated oversampling**, **digital**

filtering technology and, very importantly, Carver's unique distortion reducing **dither signal** that effectively removes the low level quantization distortion existing in all other CD players.

Except for features like display and programming, the real determining factor in CD player quality is its ability to reconstruct music from digital information bits. And that is not an easy job nor one that can be effectively achieved while skimping on circuitry.

IMPROVED TRACKING

The Carver Compact Disc Player reads discs with more precisely focused laser power than most other models, resulting in improved tracking and less chance of drop-outs when dust or smudges are encountered on a CD.



The Digital Time Lens circuitry restores the octave-to-octave balance originally intended by the musician and recording engineer.

DIGITAL FILTERING

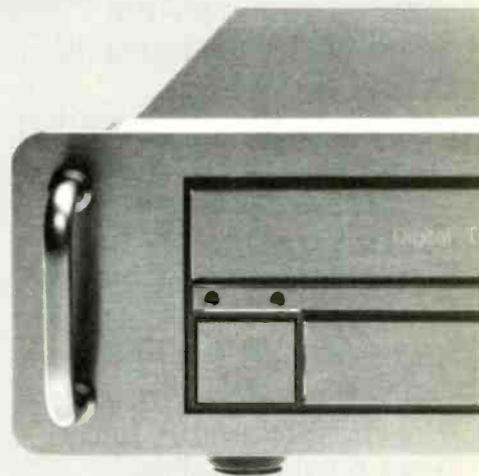
Along with a potentially audible signal ranging up to 20kHz, there are endless images of the signal at 40kHz, 80kHz and 160kHz. While they are above the range of human hearing, they must be removed from the signal to prevent harmonic problems which could turn into audible distortion. Earlier CD models placed an anti-imaging filter after the digital/analog converter stage. Carver uses **DIGITAL** filtering ahead of the D/A converter through a process called multiple oversampling. The sig-

nal is passed through a shift register which delays the samples, so that the weighted average of a large number of signals is generated. Through a complicated process, frequency bands are suppressed between 20kHz and 160kHz, eliminating harmonic distortion problems early on before the complicated D/A 16 bit translation.

The same oversampling process also distributes the same amount of noise over twice as wide a frequency range, resulting in half as much noise in the final signal. Then after translation to analog, the signal is once again filtered for a gentle roll-off above 20kHz. This yields a marvelously natural musical sound to the final output.

ABSENCE OF PHASE ERROR

One of the important tests applied to determine the effectiveness of digital-to-analog translation circuitry is the reproduction of a square wave.



CARVER

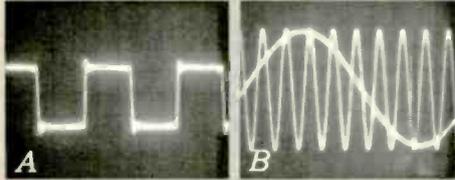
POWERFUL

Corporation, PO Box 1237, Lynnwood, WA 9804

Call TOLL-FREE 800-633-2252 Ext. 82

"Reproduction of a 1kHz digitally generated signal was as close to a true square wave as I have ever seen from a CD player that used digital filtering. (The Carver Digital Disc Player) shows a virtual absence of phase error."

AUDIO MAGAZINE



A. Square-wave reproduction, 1kHz
B. Two-tone phase test signal (200Hz and 2kHz) with Digital Time Lens off.

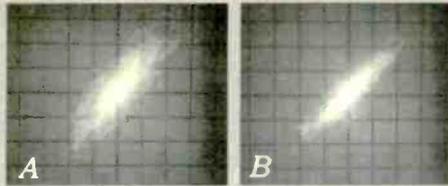
PLUS THE DIGITAL TIME LENS

On top of this unerring ability to produce natural, real-sounding music from the CD's digital bits, the Carver Compact Disc Player has the remarkable Digital Time Lens circuit to insure your listening enjoyment.

The Carver Compact Disc Player is the world's **only** compact disc player to address the problem of the bright, hot, harsh sounding midrange and a lack of ambience and spatial detail characteristic of the **majority** of compact discs currently available.

When Bob Carver obtained his first compact disc player, he was surprised at the sound derived from most of the compact discs he purchased. The three-dimensional musical perspective which his analog system provided in lush abundance on phono discs evaporated into a flat, brittle wasteland. After extensive testing, Bob uncovered two fundamental flaws in almost all compact discs: 1) An unpleasant, harsh spectral energy balance. The overall octave-to-octave energy balance was shifted on the CD towards more midrange above 400Hz; 2) The amount of L-R signal (which carries the spacial detail of the music) on the CD was inexplicably, but substantially, reduced

when compared with the amount of L-R signal found on the corresponding analog disc.



A. Lissajous pattern showing spatial detail (L-R)/(L+R) ratio from an LP record.
B. The same instant of music but taken from the CD version. Note the decreased (L-R) content, as shown by the narrowed trace.

Carver's circuitry corrects the ratio of L-R to L+R by performing one extra, but important mathematical operation on the signal stream that all other CD players fail to perform. This final operation makes all the difference.

The result is a natural sound with more of the three-dimensional information that places us in the same space with performers. You won't need the Digital Time Lens on all CDs. But it is there when you need it.

In the beginning, Carver hoped, indeed he expected, that once recording artists and engineers became more experienced with CD technology fewer and fewer CDs would require the Digital Time Lens. But both laboratory and listening tests reveal that the great majority of even the most recently released CDs benefits significantly from the Digital Time Lens.

EASY TO USE

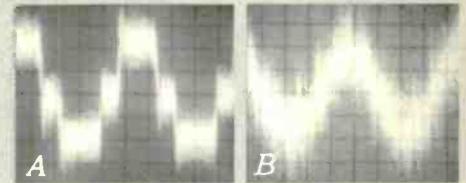
Ease of operation is a hallmark of Carver components and the Carver Compact Disc Player is no exception. A subtle but easy-to-read LCD display not only shows selection number, elapsed time and total time of the CD, but also "talks" to the user. Turn on the Carver Compact Disc Player and the display asks for a disc. When the disc tray is open, the display reminds you with an OPEN readout. When a CD has completed playing, the multi-function display reads END.

With the Carver Compact Disc Player's Programmable Random Access Playback System, track search and programming of different selections is a snap, as is automatic repeat of a previous selection or an entire CD. For classical music lovers, the Carver Compact Disc Player has complete indexing capabilities as well.

The large, easy-to-use feather-touch controls include pause, fast forward and reverse. You can even monitor music at high speed to find a certain portion of a selection.

We know you really enjoy music so, you owe it to yourself to begin your digital experience with the only full feature CD player that has the Carver touch. The only CD player that can actually improve on what is already the best playback medium ever offered.

Addition the Carver Compact Disc Player with Digital Time Lens at your Carver Dealer

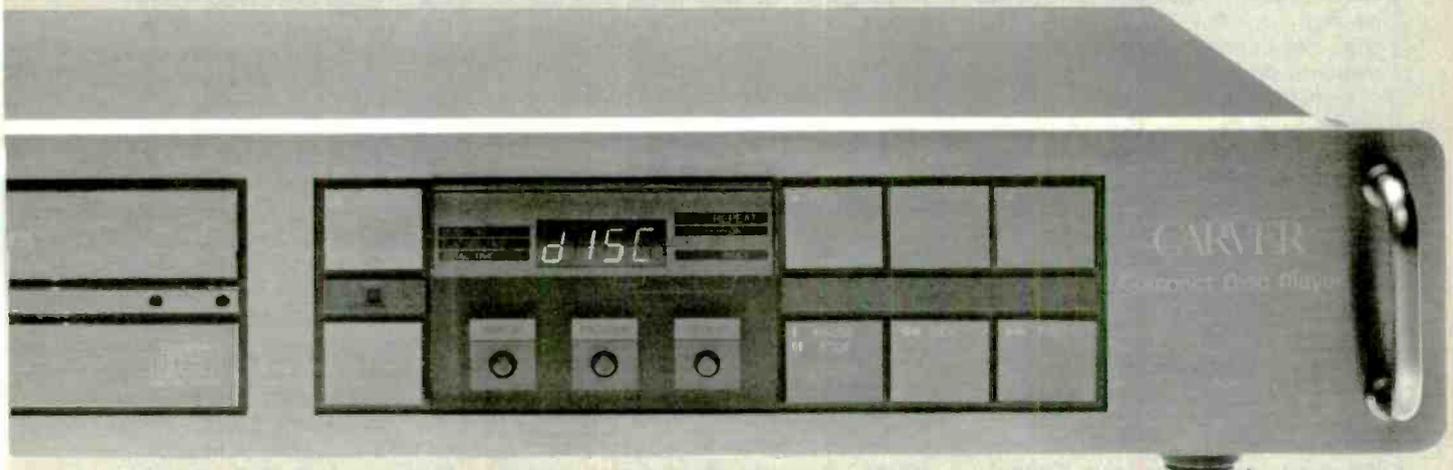


A. Ultra-low-level (4 significant bits) 1kHz signal, as reproduced by conventional CD players.
B. Same signal with dither added before 1/A conversion by Carver CD player. Note that dither has caused the distorted step-wise approximation of the 1kHz tone virtually to vanish. Quantization distortion has been reduced to insignificance.

IF YOU ALREADY HAVE A CD PLAYER

By buying a CD Player you made a commitment to vastly improve your sound source, now you can go the short extra step that lets digital realize its true potential.

That step is the CARVER Digital Time Lens. Simply connect it between your CD player and your preamplifier or receiver.



by Chris Albertson



Shopping for a VCR

THE first step in shopping for a video-cassette recorder is to decide how you will use it, how much you can spend, and which features will be useful to you. That's your homework.

Let us assume that you are now in the store. You have already decided what you want your VCR to do, and you have selected a few machines that appeal to your aesthetic sense as well as your pocketbook. The time has come to examine features more closely.

A *clock/timer* is standard, but you might look for one that is easy to set. All timers allow presetting the stop and start times for recording transmitted programs; some recorders also have a built-in memory that will activate the machine at the same time each day without reprogramming.

If you do a lot of traveling, a *multi-event programmable timer* is especially handy. With one of these, you can not only program the machine to start and stop several times but also to switch channels. Today's VCR's can be programmed from one day to a year in advance (the average is two to three weeks), and

the number of "events" (channel changes) ranges from one to nine. Great, you say, but don't forget that you have to pay for these features, so be discriminating. Sacrificing a few events and cutting down the number of days you can program in advance may mean that you can afford another feature you might otherwise have to do without.

For instance, *remote control*. When you see an inexpensive machine with remote control, it is probably not wireless, but perhaps you don't need to operate your VCR from a great distance. If you are buying a unit with remote control, you should also check the control module's features.

I was looking at a *cable-ready* machine when I asked the clerk if I would be able to record one cable channel while watching another. "Yes," he replied, "but you need a converter." The attachment he recommended cost \$99, and I wonder how many of them he has sold to people who don't need it. Unless you subscribe to a pay channel whose signal has to be unscrambled inside the cable converter, you will not need a special attachment in order to view that channel normally on a cable-ready VCR.

Then there is the question of *heads*. They say that two heads are better than one, and VCR's often have three or more. There is a lot of planned confusion here. VCR's need at least two video heads to produce a picture of acceptable quality. Adding one or two more can enhance the overall sharpness, but it

Two heads are better than one, and VCR's often have three or more. VCR's need at least two video heads to produce an acceptable picture. Adding one or two more serves mainly to improve special effects.

serves mainly to improve special effects. Recently the industry has been pushing four heads, and some manufacturers have indicated that their machines have as many as sev-

en! They usually fail to say, however, how many of those heads are video heads; a "five-head" machine can turn out to have a three-head video scanner and two audio heads.

Find out how many video heads a model has, but don't take the salesperson's word for it—ask to see the technical specifications for that machine. If you want four heads only because you're afraid of being stuck with an outdated machine, think again. The real advantage of four heads is being able to generate smooth slow motion and steady stills, and if that capability is not something you need, perhaps the

Even if your TV set is not equipped for stereo sound, a VCR with an MTS decoder will allow you to record stereo broadcasts when they begin in your area.

cost of the extra heads should be applied to a more practical feature. One sales clerk told me that four heads would make it possible for me to add stereo! In fact, one has nothing to do with the other: two heads and stereo get along quite nicely.

And what about *stereo*? Here there is more confusion, for some VCR's boast stereo sound, some have something called hi-fi stereo, and others are said to be "stereo-ready." What does it all mean?

If a VCR is *stereo-ready* or *hi-fi-ready*, you will have to buy an adaptor to obtain the desired audio effect. In the future, more commercial television broadcasts will have stereo sound, also called MTS (for Multichannel Television Sound). Some new television sets already have the MTS feature built into their audio receiver, and others are equipped with the appropriate connectors for a future add-on. Even if your television set is *not* equipped with MTS, a VCR with a built-in MTS decoder will allow you to record stereo broadcasts when they become a reality in your area.

Stereo is just that, two-channel sound, but the *hi-fi* designation takes the equipment a giant step further, producing a sound that many

The picture says a thousand words, but the sound will leave you speechless. The new Panasonic VHS™ Hi-Fi Video Recorder.



Feel the excitement of a concert. Or the thrill of a car chase. With this new Panasonic VHS Hi-Fi recorder you don't just hear sound, you experience it. Get incredible sound from hundreds of prerecorded VHS Hi-Fi tapes. Sound reproduced with such richness and intensity, it even rivals the reality of compact discs.

Beyond that, the PV-1740 turns

any TV into a stereo TV, right through your stereo system. This year, over 100 TV stations will be broadcasting in stereo.* So you'll be able to enjoy more lifelike TV sound than ever before.

The new PV-1740. It's on the leading edge of video technology. Tech-4™ heads give you virtually jitter-free effects. A wireless

remote lets you control every major function right from your favorite chair. It will even let you preset to record up to 8 shows over 3 weeks. And to make it easier, your settings are displayed right on your television screen.

Panasonic VHS Hi-Fi. So advanced, even years from now, it'll still leave you speechless.

TV Picture Simulated
*Stereo broadcasts vary by area.



THE PANASONIC LAS VEGAS PRO-AM.
APRIL 30-MAY 4, 1986. CALL 1-800-722-GOLF.
SEE IT ON NBC.

CIRCLE NO. 9 ON READER SERVICE CARD

Panasonic®
just slightly ahead of our time.™



S-X1130 Audio/Video/Stereo Receiver

Introducing one brilliant idea on top of another.

Unmatched FM Stereo/AM Stereo reception and video control makes them fantastic. X-Balanced circuitry makes them phenomenal. Sansui's 130 watt S-X1130 and 100 watt S-X1100 Quartz PLL Audio/Video receivers are so far advanced, they even have a special decoder that lets you receive broadcasts of all AM stereo systems. What's more, their unique X-Balanced circuitry cancels out external distortion and decisively eliminates IHM, for the purest all-around listening pleasure.

But the advantages don't stop there. Both receivers are complete Audio/Video control centers that are radically different—and significantly more versatile—than any others on the market. The S-X1130 delivers all the highly advanced audio and video performance of the S-X1100, with the added bonus of sharpness and fader controls for enhanced video art functions. And both units offer additional audio dexterity with "multidimension" for expanded stereo or simulated stereo, plus sound mixing capabilities.

For more brilliant, innovative ideas, check out our full line of superior receivers. You'll know why we're first, the second you hear us.

There's more worth hearing and seeing from Sansui. Write: Consumer Service Dept., Sansui Electronics Corp., Lyndhurst, NJ 07071; Carson, CA 90746; Sansui Electric Co., Ltd., Tokyo, Japan.



Putting More Pleasure in Sound.

VIDEO BASICS

consumers feel is on par with digital Compact Discs. They find themselves using their hi-fi video-cassette machines to make tapes that are strictly audio. The inherent advantage of hi-fi VCR systems is that they combine extraordinary audio fidelity with extended playing time. And, unlike Compact Discs, they allow a user to record from a variety of sources.

Unless you are watching old Garbo movies or the *Honeymooners*, stereo sound is clearly an improvement over mono, and hi-fi sound is even better. But if all you want to do is to time-shift *All My Children* to the evening hours or capture the *CBS Evening News* while watching another network, paying the added price for these audio features doesn't make much sense. There are many prerecorded stereo video cassettes on the market already, but it will be a while before stereo broadcasts become commonplace. By that time you may be ready for a new

The inherent advantage of hi-fi VCR's is that they combine extraordinary audio fidelity with extended playing time. And, unlike CD's, they allow a user to record from a variety of sources.

machine anyway—or even for a second one.

One last bit of advice for discount shoppers. Having told you how great and well built the machine is, your salesperson is going to turn around and urge you to purchase the store's own extended warranty. This is often where the store makes its money. The machine you purchased already comes with a limited warranty, and rarely will any major problem occur while the store's plan is in effect. You know that something is not right when the clerk forces you to refuse the offer five or ten times. Once, when purchasing a turntable from such a store, I finally had to tell the clerk to stop pushing his warranty or forget the sale. That works every time. □

SOUND IMPROVEMENT.

When you hear the fidelity of the AKG K 240 Monitor headphone, you'll understand why so many recording engineers and professional musicians prize its studio accuracy. AKG also has two-way electrostatic/dynamic models that set standards for headphone design.

AKG has developed a line of stereo phonocartridges with the AKG Transversal Suspension System. Selected models feature the van den Hul II diamond stylus cut for unparalleled tracking accuracy.

For the best in sound, from "start to finish"... AKG.

AKG
ACOUSTICS

77 Seleck Street
Stamford, CT 06902



AKG headphones range in price from \$45 to \$195; cartridges from \$50 to \$1000.
*Suggested retail price.

© AKG 1985 © Akustische und Kine-Geräte GmbH, Austria

WATTS THE DIFFERENCE.

Clear, clean sound begins with clean equipment. Europeans have known that for over 30 years. And they've made the products of Cecil E. Watts their choice.

Imported from England, the Watts Mereal Parastat II is now improving American sound systems with impressive results. The Parastat II actually "washes" dust, impurities and pollution from records without harmful fluid build-up.

Watts... the difference will impress you.



WATTS
W

Distributed in the U.S. by AKG Acoustics, Inc.
© 1985 AKG Acoustics, Inc.

AUDIOVOX HI-COMP HCC 2250

by Julian Hirsch and
Christopher Greenleaf

THE Audiovox Hi-Comp HCC 2250 stereo digital-synthesis AM/FM receiver/autoreverse cassette player presents a very attractive and functional appearance, especially when all the lights are on. The panel lights even change color from amber to green when the mode is changed from radio to tape play. A large multifunction, multicolor LCD display at the right of the panel shows the time in amber numerals whenever the radio is off or while a tape is playing. The time reading is replaced by the tuner frequency when the radio is turned on by rotating the volume knob. The status of the various control functions is shown by highly legible letters with internal illumination. When a cassette is loaded edgewise into the front-panel slot, certain tuner displays are replaced or supplemented by appropriate tape indications, such as arrows to show the direction of tape motion.

On the lower left of the panel is the large knob for power on/off and volume control. When it is pulled out it becomes a center-detented balance control. Sharing the same control shaft is a fader tab. The bass and treble tone controls are small knobs in the upper left that are normally recessed flush with the panel. Pressing a knob in and releasing it causes it to extend forward for adjustment after which it can be pushed in again to prevent unintentional changes. When the radio is on each knob is surrounded by a ring of amber light, which changes to green when a cassette is inserted.

The other controls are light-pressure pushbuttons (the tape-transport mechanism is controlled by internal solenoids). Next to the tape opening are large buttons labeled EJECT and PROG (to change tape direction). Below the opening are



the rewind and fast-forward buttons, which also serve to initiate the tuner's scan and seek modes. In scan mode the tuner stops at each receivable station along the band and pauses for 8 seconds before proceeding. In seek the tuner moves to the next signal and remains there until the button is pressed a second time. A similar pair of buttons marked DN and UP step the tuned frequency in the indicated direction by one channel increment (0.2 MHz for FM and 10 kHz for AM) for each momentary touch or continuously if the button is held in.

There are six preset buttons, each usable for one AM and one FM station. In tape operation, pressing the 5 button initiates a rapid scan through the tape, with the deck playing 8 seconds of each recorded selection before proceeding to the next; a second touch on this button restores normal playing. The deck will skip rapidly forward or backward through the tape if the 6 button is pressed and then either the FF or REW button.

The FM performance of the Audiovox Hi-Comp 2250 was consistently transparent, full, and obviously resistant to multipath.

A group of smaller buttons are used to select Dolby B noise reduction, 70-microsecond equalization for chrome or metal tapes, loudness compensation, and the radio band. In radio operation, the MIL equalization button becomes a local sensitivity selector to prevent overload from a strong nearby station. The CALL button replaces the tuner frequency display by the time, and the M.E. button is used to store a

received frequency in memory for recall by the desired preset button.

The Audiovox Hi-Comp HCC 2250 is rated to deliver 15 watts per channel into 4-ohm loads from 50 to 20,000 Hz with no more than 1 percent total harmonic distortion. It can drive either two or four speakers but has a 50-watt total maximum-power rating. The tape-deck frequency response is rated as 40 to 14,000 Hz ± 3 dB, with 0.1 percent rms flutter and a signal-to-noise ratio of 60 to 61 dB with Dolby B. Although the radio has built-in power amplifiers, a DIN socket on a short integral cable carries d.c. control voltages and line-level outputs from its preamplifier section for driving an external power amplifier. Price: \$400. Audiovox Corp., Dept. SR, 150 Marcus Blvd., Hauppauge, NY 11788.

Lab Tests

We connected the HCC 2250 to two 4-ohm loads for our tests. Following our usual procedure, we carried out the tests by modulating our FM signal generator, connecting its output to the receiver's antenna jack, and measuring at the speaker outputs. Tape-transport measurements were made in a similar manner by playing standard test tapes. As a result, the performance of the unit's built-in amplifier is included in each of our measurements. Since the power-amplifier sections are bridged, neither side of the speaker outputs can be grounded.

As sometimes happens, our test sample's radio was slightly misaligned, and an FM input signal had to be detuned by 10 kHz for minimum distortion. Since the user does not have this option, and our Panasonic generator is accurate to within 0.5 kHz at the 100-MHz test frequency, we chose to set the receiver to the frequency of the generator



KLIPSCHORN® PICTURED ABOVE

KLIPSCH® Presents The Difference Between Hearing And Feeling

Dan Wallin is the executive director of Record Plant Scoring, Inc., the world's largest studio for recording film scores. KLIPSCH Loudspeakers are used for playback in the main studio there.

Dan tells a story of a famous composer who was brought to tears when he first heard his music over those KLIPSCH Loudspeakers.

For whatever reasons, KLIPSCH Loudspeakers deliver more than the sound of music. They deliver all the emotion of music as well. Most people think it's the way the compression

drivers are able to react so quickly and so sensitively to every little change and detail in the music. All the artists' punctuations, as subtle and indefinable as they may be, come through perfectly clear.

With KLIPSCH, a drum doesn't just sound like a drum. It *feels* like a drum. The same goes for a piano, a guitar . . . all the instruments. KLIPSCH gives you that extra dimension thought to come only from a live musical performance.

Hear it and feel it for yourself. Take your very favorite recording to

your nearest KLIPSCH dealer and get a personal demonstration. You'll find at least one KLIPSCH model within your budget. And, you'll find every KLIPSCH model lets you feel as well as hear your music.

For your nearest dealer, look in the Yellow Pages. Or call toll free 1-800-223-3527.

 **klipsch®**

A Legend In Sound.™

P.O. Box 688 • Hope, Arkansas 71801

and let the measurements come out accordingly. The effect on the mono usable sensitivity was slight: it measured 18 dBf (2.2 microvolts, or μV , across the 75-ohm antenna input impedance) and was improved to 16.6 dBf (1.85 μV) when we tuned the generator for minimum distortion. The tuner distortion in mono was typically about 1 to 1.2 percent at high signal levels with the nominally correct tuning. In stereo, it was about 1.35 percent.

The capture ratio was degraded by the alignment error, typically measuring 4.5 to 5 dB but improving to 1.5 dB with a tuning offset. The i.f. bandpass of the FM tuner was quite asymmetrical, yielding an alternate-channel selectivity reading of 47 dB on one side of the signal frequency but over 100 dB on the other. The same effect showed up in the respective adjacent-channel readings of 2 and 11 dB, which averages out to about 6 dB.

Stereo channel separation was a function of signal strength, a common feature of car radios. It measured about 34 dB over much of the frequency range at 65 dBf (500 μV) but fell to about 12 dB at 35 dBf (15.5 μV). This channel-blending action affected all audio frequencies, unlike some circuits that blend only the high frequencies. Its effect was to make stereo reception possible only at fairly high signal levels, but it also kept the noise level at acceptable values.

The audio frequency response measured through the FM tuner was flat within about ± 2 dB from 70 to 20,000 Hz, falling off at low frequencies to -13 dB at 20 Hz. The loudness compensation boosted both low and high frequencies at reduced volume settings. The 1,000-Hz power output at clipping was 15.6 watts with 4-ohm loads and 9 watts with 8-ohm loads. The 1,000-Hz distortion was a constant 0.53 percent from 0.1 watt to the clipping point (this was obviously the tuner distortion, even though we used 30-percent modulation to minimize distortion). Measured over the full audio range, the distortion was at its minimum—a respectable 0.17 percent—at 3,000 Hz, rising at both lower and higher frequencies. We were unable to develop the rated 15-watt output below 100 Hz, but at 50

Hz the distortion at half power and less was about 3 to 4 percent.

The tape frequency response rolled off steeply above 12,000 Hz and below 60 Hz, but it was virtually identical in both directions of tape motion. The fluctuations in high-frequency output caused by poor head contact were also much smaller than we normally find in car stereo tape decks. Flutter was 0.18 percent JIS-weighted rms and ± 0.27 percent CCIR-weighted peak in reverse and about 10 percent less in the forward direction.

The Audiovox Hi-Comp HCC 2250 was easy to operate on the bench, and its legible displays and practical control layout should make it easy to operate in a car as well. The alignment error was not that unusual for car radios, and while it degraded the measured performance of the receiver in some respects, it should have no effect on its sound. On our test sample, the local-sensitivity switch appeared to be nonfunctional; pressing it lit the LOCAL readout on the display but did not change the measured sensitivity at all. The unit's case became quite hot above the output-transistor ventilation holes during sustained high-power operation, but this should not affect the life of the radio in normal use. *J.H.*

Road Tests

I spent a lot of time with the Audiovox Hi-Comp HCC 2250

while traveling about 2,200 miles in the Northeast and Midwest. It joined me for the mixed delights of Cape Cod's back roads and country lanes in Illinois, and for some particularly vicious potholes in Chicago within a mile of the Summer Consumer Electronics Show. The tuner bravely sorted through the crowded airwaves of the Windy City as well as those of Philadelphia, Boston, and Cleveland. Of course, just to make sure we also heard it under conditions identical to our other road tests, we started out with two runs through our usual Brooklyn Navy Yard/Brooklyn Bridge test route.

The FM performance was consistently transparent, full, and obviously resistant to serious multipath interference. Except for the very lowest bass, the whole musical bandwidth was present. The only problem was an excessive sensitivity to any source of hum or impulse noise, such as arc welding and unshielded ignitions. Even my car's fairly well-isolated ignition system could be heard during low-level programs.

I couldn't get as many FM or AM stations as I'm used to pulling in, but FM broadcasts tended to sound clear when they were receivable, with few sonic interruptions. The action of the automatic channel-blending circuitry was not too noticeable as it reacted to a receding stereo FM signal by effectively *(Continued on page 140)*

HIRSCH-HOUCK LAB MEASUREMENTS

FM mono usable sensitivity

(75-ohm input): 18 dBf (2.2 μV)

50-dB quieting sensitivity (75-ohm input): mono, 17 dBf (1.95 μV); stereo 38 dBf (21.8 μV)

FM tuner signal-to-noise ratio at 65 dBf: 70 dB in mono; 66.5 dB in stereo

Tuner distortion at 65 dBf: 1.2% in mono; 1.35% in stereo

FM frequency response: 50 to 19,000 Hz ± 2 , -5 dB

Stereo separation (65 dBf) at 100, 1,000, and 10,000 Hz: 28, 33.5, and 27 dB

Capture ratio at 65 dBf: 4.5 dB (see text)

AM rejection at 65 dBf: 57 dB

Alternate-channel selectivity: 47 dB (see text)

Adjacent-channel selectivity: 6 dB (average, see text)

Image rejection 57 dB

Tape-playback frequency response

(standard BASF test tapes): 120- μs EQ, 55 to 11,500 Hz $+0$, -3 dB forward or reverse; 70- μs EQ, 55 to 13,500 Hz $+0$, -3 dB forward or reverse

Tape signal-to-noise ratio (referred to 250 nWb/m at 315 Hz, 120- μs EQ): unweighted, 53 dB; Dolby B and A-weighting, 64 dB; Dolby B and CCIR/ARM weighting, 60 dB

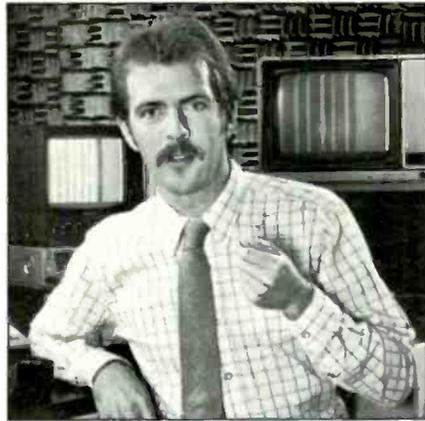
Flutter: $\pm 0.27\%$ CCIR-weighted peak; 0.18% JIS-weighted rms

Tape speed accuracy: 0% forward; -1% reverse

Fast rewind time (C-60): 97 seconds

Tone-control range: $+9$, -12 dB at 100 Hz; $+9$, -10.5 dB at 10,000 Hz

1,000-Hz clipping power output (into 4 ohms): 15.6 watts.



Getting the most from compact discs.

Can your system really keep pace with digital audio?

by J. Robert O'Connell

Recording Engineer



As an audio enthusiast, you've probably read many articles on compact discs. Most have stressed the dynamic range available, and the consistent sound quality, play after play. Both of those topics are important. But what also must be considered, and is all too often ignored, is the impact of this new format on your present audio system.

DYNAMIC RANGE: THE COMPACT DISC EDGE

Peak Output. The top two curves on the graph at right show the same piece of music played from a conventional LP and a compact disc. The peak output heard from a disc is substantially greater than that available from the LP, provided the rest of your system can reproduce it.

Noise Floor. As can be seen from the three lines at the bottom of the graph, the noise floor of the compact disc is below that of a common listening room, while a conventional LP is above it. This demonstrates that compact discs are so quiet that other factors (such as the room noise and the quality of the rest of your audio system) limit the softest sounds you can hear.

Dynamic Range. Since the compact disc exhibits both increased peak output and decreased noise floor, the dynamic range (difference between the softest and loudest sounds) is extended. But this extended range is only experienced if the rest of your audio system is physically capable of handling it.

IMPACT ON YOUR AUDIO SYSTEM

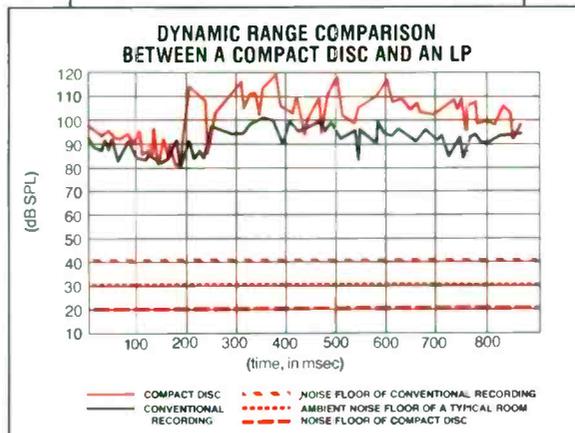
Increased dynamic range and decreased noise floor places new demands on your audio system. Remember that each 3 dB of additional dynamic range requires *double* the amplifier power

speaker if the result will be "blown" tweeters rather than a more enjoyable experience. Finally, and perhaps most importantly, the speaker must be able to create the lifelike impact and flawless clarity captured by the disc.

At Bose®, we've invested 20 years developing Direct/Reflecting® speaker systems to deliver spacious, lifelike sound. We've also designed them to meet the demands of lifelike recordings, such as the compact disc. So, our 901® Series V system, for example, is rated for unlimited power handling. But the only way to evaluate our speakers, or anyone else's, is to listen to them. For help in properly evaluating speakers, we refer you to article #2 in this series, "Why didn't they sound like that in the showroom?" by John Carter, Chief Engineer.

For reprints of article #2, as well as more information on Bose products, please write: Bose Corporation, Dept. SR, 10 Speen Street, Framingham, MA 01701.

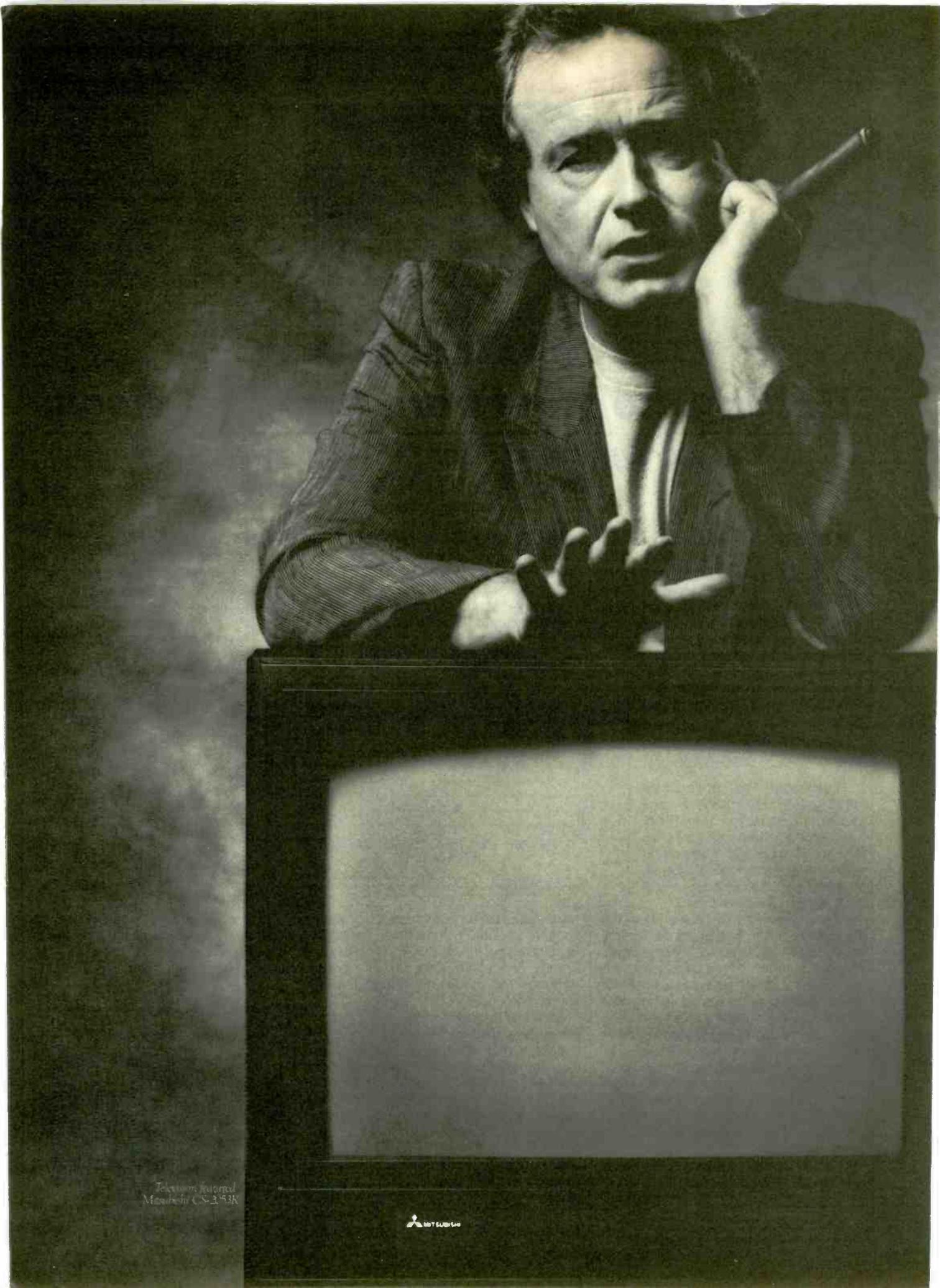
J. Robert O'Connell is manager of Bose Audio Visual Services.



to reproduce it. So, compared with conventional recordings, compact discs require higher amplifier power. But amplifier power is only one of the criteria which determines the quality of compact disc sound reproduction.

Extended dynamic range also places previously-unheard-of demands on your speakers. And, after all, speakers, more than any other component, determine the quality of sound you actually hear from a compact disc. The higher the speaker's sensitivity, for example, the less the necessary amplifier power to reproduce the peaks in source material captured by a disc. Further, to reproduce the incredible dynamic range available from compact discs, a speaker must also have high power handling capability. There's no sense feeding a higher level signal to a





Televisione Integrata
Mitsubishi CS-2153K



Ridley Scott On Set Design.

A frame plucked at random from any one of Ridley Scott's four feature films—*The Duellists*, *Alien*, *Blade Runner*, and this year's *Legend*—is graphic evidence that this man treats the screen as a canvas. Behind the beauty of the imagery is a master storyteller with an uncommon ability to make visuals and sound resonate with meaning.

“My obsession for detail angers a lot of people. In the end, I think these small touches make an enormous difference.”

“All films are, basically, a process of accurate guessing. If you're wrong, well, you're wrong.”

“Designing sets is one of the most enjoyable aspects of the films I do.”

“I'm very respectful of actors. I listen to them.”

“Sound is primal, as powerful as pictures. It's instant. You don't have to do anything.”

“I have this huge frustration with the image on theater screens and television. The day they invent a little black box which when placed in every theater and home optimizes projection and sound... that would be ideal.”

The cinematic visions of filmmakers like Ridley Scott challenge the manufacturer to offer video equipment capable of capturing the totality of their art in all its subtlety and nuance. Mitsubishi accepts that challenge.

For a detailed look at Mitsubishi telecommunication equipment for the home, send for our brochure, *Mitsubishi: The Thinking Inside*.



 **MITSUBISHI**

Mitsubishi Electric Sales America, Inc., 5757 Plaza Drive, Box C, Cypress, CA 90630-0007
A \$10,000 donation in the name of Ridley Scott has been made to the U.S.A. for Africa Relief Fund.

by Julian Hirsch



Speaker Sensitivity

SPEAKER sensitivity—often confused with the related but very different concept of *efficiency*—is one of the few meaningful ratings included on most speaker specification sheets. It is widely misunderstood, however, perhaps because it is frequently accompanied by a “recommended amplifier power rating” that is not nearly so well defined. A recent letter from a reader cites the example of two speakers whose rated sensitivities differ by 13 dB—a required-power ratio of twenty to one!—but whose minimum suggested amplifier powers differ by only two to one. My correspondent was understandably puzzled by the discrepancy, and his puzzlement made me very aware of the semantic pitfalls we risk when trying to make defined specifications correspond with seemingly related numbers that have no technical validity.

First, let's define some terms. *Sensitivity*, as applied to a speaker, normally means the sound-pressure level (SPL) measured at 1 meter from its front surface when the

speaker is driven by 2.83 volts. To the best of my knowledge there is no current standard for speaker measurements in this country, but the 1-meter spacing and 2.83-volt drive level seem to enjoy at least de facto acceptance.

I do not know of a standard test frequency or other signal definition. Sometimes the signal used to measure sensitivity is full-range pink noise, and sometimes it is specified as “1,000 Hz.” A single-frequency (sine-wave) signal is undesirable, however, since a speaker's response can vary by several decibels over a narrow range of frequencies. For Hirsch-Houck Labs tests we have settled on a band of pink noise 1 octave wide centered at 1,000 Hz. Such a signal avoids the possibility of narrow-band response variations affecting the results, and it tests the speaker's sensitivity near the center of its useful range.

Why 2.83 volts? Because that represents a power level of 1 watt into an 8-ohm resistive load. Disregarding for the moment that no speaker is likely to look to an amplifier like an 8-ohm resistor, except possibly at a few discrete frequencies, this means that the measurement is actually one of *voltage* sensitivity rather than efficiency. In ratings sensitivity is often listed as “x dB for a 1-watt input,” but that is not correct; the reference level is 2.83 volts.

The *efficiency* of a speaker (expressed as a percentage) is the ratio of its total acoustic power output,

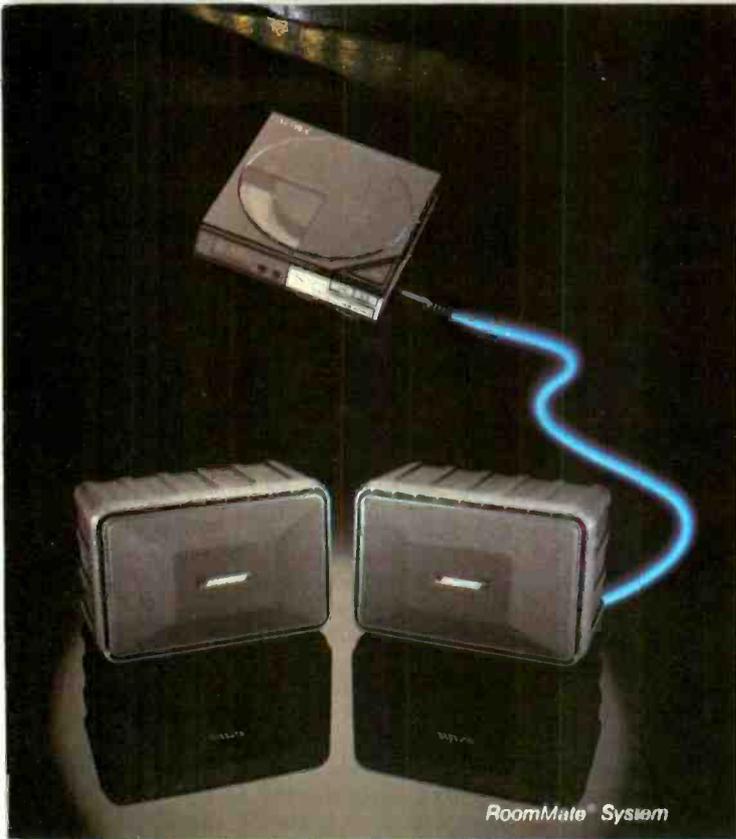
measured in all directions and over the full audio frequency range, to its electrical power input from the amplifier. An efficiency measurement encompasses the speaker's sensitivity, its actual impedance over the frequency range, and its directional properties. Sensitivity is more applicable to real-world listening conditions, however, since the voltage output of most amplifiers is fairly constant over a wide range of load resistances. A user does not need to know how efficient a speaker is, or how much power is actually being supplied by the amplifier, but rather how much sound level the speaker will produce for a given amplifier output voltage. Two speakers with the same sensitivity rating but different impedances, such as 4 and 8 ohms, will—all else being equal—sound identically loud, even though a 4-ohm speaker will draw twice as much power from the amplifier for the same acoustic output as an 8-ohm speaker will.

It has been widely stated, and it bears repetition here, that a speaker's sensitivity and impedance ratings have nothing whatever to do with its sound quality. There *is* a fundamental relationship between enclosure volume, low-frequency response limits, and efficiency (which, as I have pointed out, is related to but is not the same as sensitivity). Although this relationship really applies only to the performance of low-frequency drivers (woofers), in practice higher-frequency drivers can easily be made more efficient than the system's woofer. It is the woofer, therefore, that limits a speaker's overall efficiency. If a small speaker system is to have a good bass response, it must be relatively inefficient, but otherwise it can be as good a transducer as a larger and more efficient design with the same frequency response. Since most amplifiers can deliver more power into 4 ohms than into 8 ohms, however, speaker designers often use 4-ohm drivers to take better advantage of an amplifier's capabilities.

Now we come to the confusing part of the story. Almost every speaker manufacturer specifies a range of amplifier powers that he deems suitable for driving his products. Typically, such ratings follow

Tested This Month

Proton D540
 Integrated Amplifier
 Celestion DL8
 Speaker System
 Tandberg TCA 3008A
 Preamplifier
 Nikko NR-750
 Receiver
 Pioneer CT-A9X
 Cassette Deck
 Canon VR-40A
 VHS Hi-Fi VCR



RoomMate® System



Video RoomMate® System

Release the High Fidelity from Your High Technology.

Hidden inside personal stereos, VCRs, and computers is something that most people don't even realize is there.

All of these personal electronics differ in both function and form, but inside they're all made up of incredibly advanced electronic components. So they all have the potential to sound extremely good.

With the Bose® family of powered speaker systems, you can finally unleash all the high fidelity that's trapped inside your personal electronics.

speaker systems, you can finally unleash all the high fidelity that's trapped inside your personal electronics.

The RoomMate® System.

The Bose RoomMate system brings room-filling high fidelity out of virtually anything equipped with a headphone jack. For example, connect it to one of the new generation of portable Compact Disc players, and you'll have the world's smallest complete digital stereo system!

The Video RoomMate® System. The new Video RoomMate system adds true hi-fi sound to VCRs, televisions, and video disc players. Magnetic shielding, a volume control and RCA cables make it compatible with any VCR—right out of the box. Plug the Video RoomMate system into your video source, and you'll be one step closer to the theater itself.

Both systems have a built-in amplifier and active equalizer for component-system fidelity, and a nearly indestructible cabinet for durability. And both RoomMate systems use some of the same audio technology that made the Bose 901® speaker an audio legend.

Best of all, the RoomMate and Video RoomMate systems are very easy to live with. They're affordable enough to use with all your personal electronics. There's also a line of accessories available, such as travel bags, wall mounts, adapters, and the mounting arm shown on the left.

You'll probably find applications for



the RoomMate and Video RoomMate systems nearly everywhere you look—because real high fidelity is hiding all around you, in all your electronics! Hear the Bose powered speaker systems at your authorized RoomMate and Video RoomMate dealer soon, or write to: Bose Corporation, Department SR, 10 Speen Street, Framingham, MA 01701

© Copyright 1985 Bose Corporation. All rights reserved. Covered by patent rights issued and/or pending. Specifications subject to change without notice.

BOSE®
Better sound through research.

the form "Use with amplifiers rated from 10 to 150 watts" or "Minimum recommended power 10 watts, maximum power 150 watts." Few other speaker specifications, I believe, cause as much confusion as this one.

The purpose of a recommended-power specification is to give the prospective buyer a rough, "ball-park" figure for judging a speaker's compatibility with a particular amplifier he may already have or be considering buying. Generally speaking, the minimum recommended power indicates that "typical" home listening levels (whatever they might be) will require an amplifier rated to deliver at least 10 watts per channel. Considering that the actual average power required for a comfortable listening level is often well under 1 watt, this seems quite reasonable; the 10-dB power reserve should be sufficient to handle most program peaks. Unfortu-

nately, there is no more likely to be a "typical" music system installation than an "average" listener. These entities might be envisioned statistically, but in reality they are purely imaginary. Let's look at a few hypothetical examples of atypical listening situations that are more likely to be encountered than that "typical" one.

Suppose our "average" listener turns up the volume just a bit, perhaps to override the noise of a household appliance or passing traffic. The average amplifier power output might have to be increased to 4 or 5 watts, and the peaks would then be severely clipped. Obviously, a 10-watt amplifier would be inadequate in this situation. On the other hand, someone in a rural location, without the inevitable urban noise pollution, might be able to enjoy a comfortable listening level with no more than 0.1 watt of power on average. In this case, anything more

than the minimum amplifier rating would be wasted.

Now let's consider the matter of individual listening preferences. The examples cited might apply to people who like to listen to light-classical or popular music at moderate levels that might not suit either hard-rock enthusiasts or hard-core audiophiles who want to re-create live listening levels. A several-fold increase in available power might easily be needed to satisfy these segments of the audio population. You can see that our apparently reasonable 10-watt minimum recommended amplifier rating might have to be increased to 50 watts or more under certain not too unusual conditions (and in all these examples we have assumed the same listening-room characteristics, which also affect power needs considerably).

Apparently (with apologies to Lewis Carroll's Humpty Dumpty) a "minimum power recommenda-

Discwasher.[®] The clear choice for tape care.

To maintain sound quality and prevent damaged tapes, use Discwasher tape care products regularly. The Perfect Path™ Cassette Head Cleaner is a unique, non-abrasive dry cleaning system. Scientifically

designed to remove oxides and residues from the entire tape path and tape heads. Discwasher C.P.R.™ cleans capstans and pinch rollers to prevent tape jamming. To eliminate magnetism problems, use

Discwasher D'Mag.™ For total tape care maintenance, you can trust Discwasher.

Discwasher, the leader in audio care technology, is the clear choice for video care, too.



The sound and sight come through clean and clear.

discwasher

©1985 Discwasher
A DIVISION OF INTERNATIONAL JENSEN INC.

1407 North Providence Road, P.O. Box 6021, Columbia, MO 65205

For Dealer Nearest You Call TOLL-FREE 800-633-2252 Ext. 831

CIRCLE NO. 10 ON READER SERVICE CARD

Finally, stereo can come out and play.

Bose® 101™ Environmental Speaker



The weatherproof Bose 101 speaker can play true high fidelity sound almost anywhere. Optional mounting accessories and colored decorator grilles make the 101 system a perfect match for any environment—indoors and out. Hear it now at your authorized Bose dealer. For more information, write: Bose Corporation, Dept. SR, 10 Speen St., Framingham, MA 01701.



BOSE
Better sound through research.

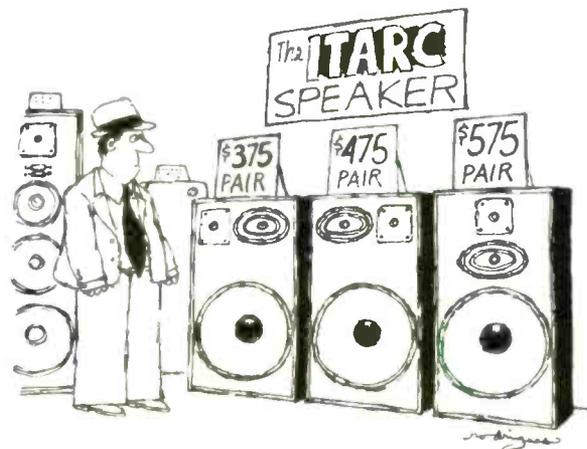
© Copyright 1985 Bose Corporation. All rights reserved. Covered by patent rights issued and/or pending.

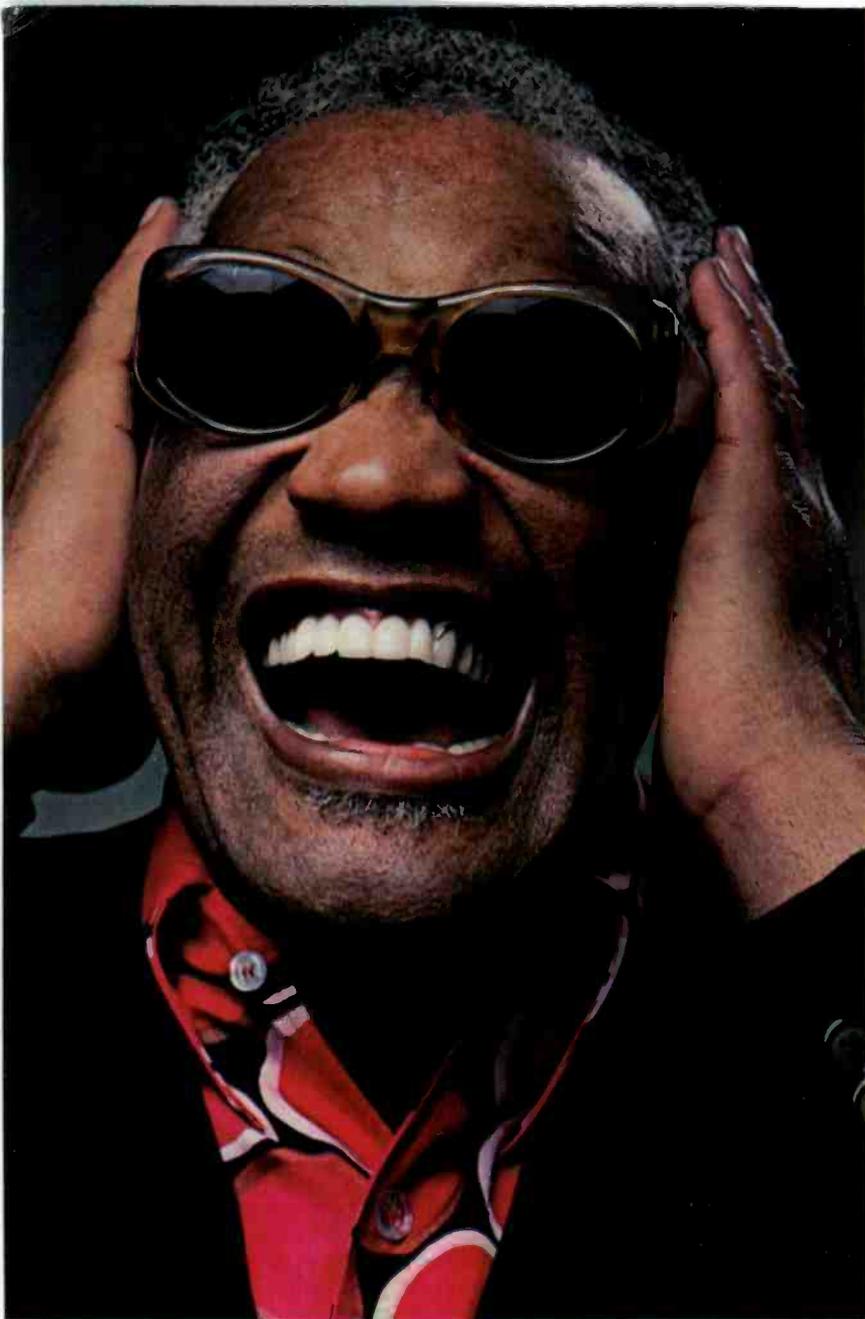
tion" from a speaker manufacturer means exactly what he intends it to mean, no more and no less. In my correspondent's example, a speaker with a 102-dB sensitivity had a minimum power recommendation of 5 watts, while another, rated at 89 dB, was suggested for use with a 10-watt amplifier. The seeming inconsistency can be explained by the fact that there are *no* 5-watt amplifiers made that would be used with component speakers; in fact, I doubt there are any suitable 10-watt amplifiers either. Literally *any* amplifier you might select would have more than the recommended minimum power for either of these speakers, or just about any other you might name.

My advice is to ignore the minimum-power part of the specification, with one possible exception. If a speaker's minimum-power rating is high—40 to 80 watts, say—and the sensitivity is at least 85 or 86 dB, you can infer that the manufacturer is hinting that his speaker deserves a high-quality component amplifier and would be mismatched to a low-priced receiver with a 20-watt rating. In such a case the speaker's price will usually reinforce this inference—a \$1,000 speaker is wasted on a \$200 receiver, although it would probably sound just fine.

How about that recommended maximum-power figure? Consider it just a common-sense admonition not to drive the speaker with an amplifier capable of vaporizing it during a moment's carelessness. Although there are few speakers that cannot be damaged by an over-driven 25-watt amplifier, and an astonishing number of speakers (including some rather small ones) that thrive when used with a good 200-watt amplifier, the maximum-power rating is the manufacturer's way of warning the user not to place the speaker in unnecessary jeopardy.

In general, however, I would prefer to operate that hypothetical "10 to 150 watt" speaker from a 150-watt amplifier than from a 10-watt amplifier. In fact, I routinely listen to speakers through a 350-watt-per-channel amplifier—which most of the time is delivering a fraction of a watt. When the program or other conditions require it, I use the full power of the amplifier for brief periods, and the results are most gratifying. And, although few of the speakers I test are rated for more than 100 or 150 watts, I have never damaged a speaker while listening to it. □





If a video system isn't worth hearing, it isn't worth seeing.

by Ray Charles

"My word, have you ever seriously *listened* to most video systems? This is not great sound, my friend, this is noise. They may give you something pretty to look at, but they sure make you pay with your ears.

Then one day the Pioneer folks ask me to listen to their videodisc system called LaserDisc. And I'm amazed. The sound on LaserDisc is every bit as good as I ever heard on my stereo.

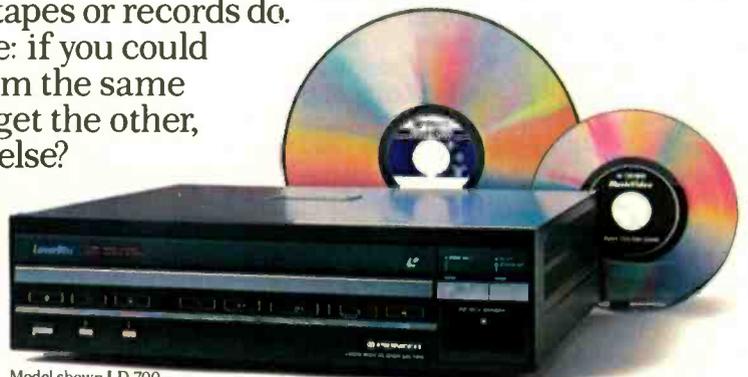
Maybe better.

I think to myself, 'If the sound is so great, maybe the picture isn't so hot.' So I ask the experts. And they tell me that the picture on LaserDisc is so much better than any other video system, nothing else even comes close.

And then they tell me that because the disc is read by a beam of light instead of a video head or a needle, it can't wear out the way tapes or records do.

Suddenly, it all becomes very clear to me: if you could get the best sound and the best picture from the same system, if you didn't have to give up one to get the other, how could you possibly consider anything else?

I don't care if you're a big video-music fan, or all you do is watch movies. Either way, you're not going to do better than LaserDisc nohow."



Model shown LD-700.

Prices start at \$299. Suggested retail price.

LaserDisc™ brand videodisc player is a trademark of Pioneer Electronics Corp.
© 1985 Pioneer Video, Inc. All rights reserved.

 **PIONEER®**
Video for those
who really care about audio.



PHOTOS BY RED AXON

PROTON D540 INTEGRATED AMPLIFIER

Julian Hirsch, Hirsch-Houck Laboratories

Amplifier designers have long recognized the significance and desirability of a high short-term reserve power capability; it is the basis for the dynamic-headroom specification. But Proton's research suggested that the standard EIA 20-millisecond dynamic-headroom tone-burst test signal was unrealistically short in view of the peak-power demands of real-world music signals. Although the maximum amplitudes might last only 20 milliseconds or so, many waveforms decay over a much longer time period and thus could require an amplifier to deliver much more than its rated continuous power for as long as several hundred milliseconds.

To meet this requirement, Proton developed a Dynamic Power on Demand (DPD) system, used in the new D540 integrated amplifier, that allows an amplifier's maximum unclipped output to exceed its continuous-power rating by four times (a 6-dB increase) for considerably more than 20 milliseconds and to decay slowly over a relatively long period before returning to the maximum steady-state output level. While the same capability could have been achieved by several conventional design approaches, another requirement for Proton's designs was that the amplifier be highly efficient and moderately priced.

The D540 is a relatively low-powered amplifier whose output transistors normally operate from a low-voltage power supply although they are capable of much higher power levels. There is also, however, a second, high-voltage supply, together with a power-control circuit that monitors the instantaneous output level from the amplifier. When the D540's output power reaches an internally set threshold level (which is close to the amplifier's continuous-power capability), fast-acting electronic switches connect the high-voltage power supply to the output transistors, increasing their maximum power capability to several times its normal value. Because the high-voltage supply is used infrequently and only for short periods of time, its continuous current rating can be very low. In fact, it merely charges up the capacitors to its full voltage, and when more power is needed the amplifier draws it from those capacitors.

Proton's DPD system calls for storage capacitors large enough that a high short-term power level can be sustained for 200 to 400 milliseconds, after which it gradually declines. If a continuous tone is applied at the highest signal level, the DPD power reserve decreases until the internal switches disconnect it, leaving the amplifier to operate at its rated continuous-power level

while the capacitors recharge (which takes about a second). Because the switching occurs at close to the amplifier's normal full-power level, any switching transients are masked by the program content. And since the power transistors operate at a fraction of their capability under normal conditions, they cannot overheat and therefore require no current limiting or thermal protection systems.

The Proton D540 is a compact but surprisingly heavy unit with a minimum of visible controls on its all-black exterior. Simple pushbuttons turn it on and off and select one or both sets of speaker outputs. Other than the small input-selector pushbuttons, the only visible operating control is the volume knob. The inputs provided are for phono, tuner, CD player (marked DAD, for digital audio disc), and video; each button is duplicated to allow independent selection of sources for listening or tape recording. Similar buttons select playback from either of two tape decks or cross-connect them for dubbing from either machine to the other. There is a small yellow-green power-on pilot light and a red light that glows when the DPD power supply is being used.

Behind a hinged door on the front panel are small center-detented knobs for the bass and treble tone controls and the balance control, buttons for mono mode and loudness compensation, and a BASS EQ button that engages a low-frequency boost circuit to extend the low-frequency response of typical small woofers. The BASS EQ circuit has no effect above 100 Hz, but it boosts

polk audio

SDA SRS
\$1295.00 ea

SDA 1
\$875.00 ea

SDA CRS
\$395.00 ea

Monitor 10B
\$425.00 ea

MM 10
\$99.95

MM 10
\$92.50 ea

Monitor 34
\$129.99 ea

Matthew Polk's total dedication to a philosophy of uncompromising quality results in dramatically better sounding speakers for you.

"The Genius of Matthew Polk Creates Better Sounding Loudspeakers"

Matthew Polk has combined human creative genius and computer technology to design loudspeakers of unexcelled musical sound quality for you.

Polk Speakers Sound Better

The ultimate goal of every one of Matthew Polk's loudspeakers is to enable you to achieve better sound in your listening room and to give you the greatest listening pleasure and long term satisfaction from your music and hifi. You will find Grand Prix Award winning state-of-the-art technology in every Polk speaker system from the least to the most expensive. At Polk Audio technology serves music, and you.

"Vastly superior to the competition... Our advice is not to buy speakers till you've heard the Polks."
Musician Magazine.

Hear for Yourself Why Polk is #1

Last year, for the second year in a row, Polk Audio was voted #1 in the Audio Video Grand Prix. It was the 4th year in a row that Polk won the Audio Video Grand Prix Speaker of the Year Award. Polk speakers are designed better, built better and sound better! We are The Speaker Specialists®. Polk builds a wide variety of different loudspeakers for different needs and budgets; however, their ultimate goal is always your total musical satisfaction. If you're looking for lifelike musical quality, world class technology and unexcelled value, Polk loudspeakers are your obvious choice. You'll always be glad you bought the best.

For your nearest Polk dealer see page 146.

CIRCLE NO. 37 ON READER SERVICE CARD

For Dealer Nearest You Call TOLL-FREE 800-633-2252 Ext. 836

“Polk’s Remarkable Monitors Redefine Incredible Sound/Affordable Price”

“At the price, they’re simply a steal.”
AUDIOGRAM MAGAZINE

A new generation of Polk Monitors is now available which incorporate the same high definition Silver Coil Dome tweeters and Optimized Flux Density drivers developed for the SDAs. Polk Monitor Series loudspeakers have always had a well deserved reputation for offering state-of-the-art performance and technology usually found only in systems which sell for many times their modest cost. In fact, many knowledgeable listeners consider that other than the SDAs, Polk Monitors are the finest imaging speakers in the world, regardless of price. They have been compared in performance with loudspeakers which sell for up to \$10,000 a pair and are absolutely the best sounding loudspeakers for the money available on the market. Now they sound even better than ever.

“Open, uncolored, perfectly imaged sound.”
MUSICIAN MAGAZINE

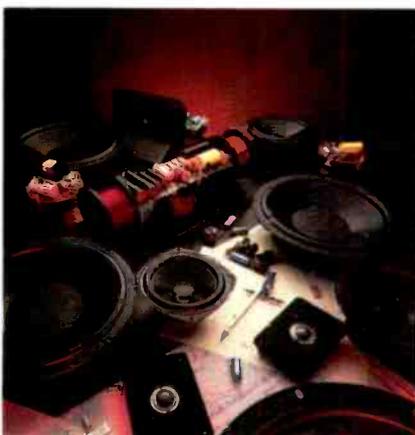
All the Polk Monitors, regardless of price, offer consistently superb construction and sonic performance. They achieve open, boxless, three dimensional imaging surpassed only by the SDAs. The Monitor’s silky smooth frequency response assures natural, non-fatiguing, easy to listen to sound; while their instantaneous transient response results in music that is crisply reproduced with lifelike clarity and detail. In addition, dynamic bass performance, ultra wide dispersion, high efficiency and high power handling are all much appreciated hallmarks of Monitor Series performance.

Polk’s Uncompromising Standard of Superior Sonic Performance

The consistently superb performance of the Polk Monitors is in large part due to the fact that they all utilize very similar components and design features. However, more importantly, it is the elegant integration of concepts and components which results in the superior sonic performance and value which sets the Monitor Series apart. *AudioGram* magazine said, “How does Polk do it? We think it is mostly execution. They hear very well and they care.” *Audiogram* is absolutely right! At Polk we take the same care with each and every product we build, whether it is our most or least expensive. We lavish the same lengthy amount of critical listening and tuning on every single Polk speaker because we know that having a limited budget does not necessarily indicate that you have a limited ability to appreciate true musical quality. That’s why Polk speakers sound better.



Polk’s remarkable Monitor Series Loudspeakers offer state-of-the-art technology and performance usually found only in systems which sell for many times their modest cost.



Polk dedication to quality is apparent in every detail of design, construction and superior sonic performance.

There’s A Polk Monitor Perfect for You

There are six Polk Monitor Series loudspeakers. As you move up the Monitor Series the speakers get larger, more efficient, handle higher power, have greater dynamic range and better bass response. They are designed so that a smaller Polk played in a small room will sound nearly identical to a larger Polk in a large room. And, of course, a larger Polk in a smaller room will play that much louder and have even better bass. The RTA 12C also incorporates unique technology which results in improved imaging and clarity. Whatever your budget, there is a Polk Monitor which is perfect to fulfill your sonic dreams at a price you can afford.

Digital Disc Ready

polk audio



Matthew Polk's remarkable new SDA-SRS was selected for the prestigious 1985 CES Design and Engineering Exhibition.

"The Genius of Matthew Polk Redefines State-of-the-Art"

For the last 4 years Matthew Polk has been driven by an all consuming passion: to develop the ultimate SDA loudspeaker. He has succeeded.

Matthew Polk's Ultimate SDA

The extraordinary new SDA Signature Reference System combines Polk's patented SDA TRUE STEREO Technology* with phase-coherent vertical line-source topology. The result is a high efficiency, low coloration system of awesome and seemingly limitless dynamic range and bass capabilities. It reproduces music with a precisely detailed and life-like 3-dimensional soundstage which is unequalled.

Introducing the Phase-Coherent Line-Source SDA-SRS

"The Best SDAs yet... impressive and worthy of Matt Polk's signature."

High Fidelity Magazine

The SDA Signature Reference System's State-of-the-Art Performance Features

- Exclusive Patented SDA TRUE STEREO Technology*
- Effective Bass Radiating Area Equivalent to a 40" Woofer
- Multiple Driver Line-Source Topology
- Phase-Coherent Time-Compensated Driver Alignment
- Progressive Point-Source Tweeter Array
- Full System Complement Sub-Bass Drive
- Panel Mounted Isophase Crossover
- Bi-Wire/Bi-Amp Capability
- 1000 Watt/Channel Power Handling
- Non-Resonant Monocoque Cabinet

For your nearest Polk dealer see page 146.

CIRCLE NO. 37 ON READER SERVICE CARD

For Dealer Nearest You Call TOLL-FREE 800-633-2252 Ext. 836

polkaudio
The Speaker Specialists®

“Polk’s Revolutionary TRUE STEREO SDAs Always Sound Better Than Conventional Speakers”

“They truly represent a breakthrough”
ROLLING STONE MAGAZINE

Polk’s critically acclaimed, Audio Video Grand Prix Award winning SDA technology is the most important fundamental advance in loudspeaker technology since stereo itself. Listeners are amazed when they hear the huge, lifelike, three-dimensional sonic image produced by Polk’s SDA speakers. The nation’s top audio experts agree that Polk SDA loudspeakers always sound better than conventional loudspeakers. Stereo Review said, “Spectacular... the result is always better than would be achieved by conventional speakers.” High Fidelity said, “Astounding... We have yet to hear any stereo program that doesn’t benefit.” Now the dramatic audible benefits of Polk’s exclusive TRUE STEREO SDA technology are available in 4 uniquely superb loudspeaker systems, the SDA-1A, SDA-2, SDA CRS and the incredible new SDA SRS.

Polk’s Revolutionary SDAs: The First TRUE STEREO Speakers

The design principles embodied in the SDAs make them the world’s first true stereo speakers. When the big switch was made from mono to stereo, the basic concept of speaker design was never modified to take into account the fundamental difference between a mono and stereo signal.

What is the difference between a mono and stereo speaker? It’s quite simple. The fundamental and basic concept of mono is that you have one signal (and speaker) meant to be heard by both ears at once. However, the fundamental and basic concept of stereo is that a much more lifelike three-dimensional sound is achieved by having 2 different signals, each played back through a separate speaker and each meant to be heard by only one ear apiece (L or R). So quite simply, a mono loudspeaker is designed to be heard by two ears at once while true stereo loudspeakers should each be



Polk’s revolutionary TRUE STEREO SDA Loudspeakers fully realize the astonishingly lifelike, three dimensional imaging capabilities of the stereophonic sound medium. Stereo Review says “the result is always better than that achieved by conventional speakers.” High Fidelity says they’re “Mind boggling...astounding and flabbergasting.”

Digital Disc Ready

heard by only one ear apiece (like headphones). The revolutionary Polk SDAs are the first TRUE STEREO speakers engineered to accomplish this and fully realize the astonishingly lifelike three-dimensional imaging capabilities of the stereophonic sound medium.

“A new dimension in the sound.”
STEREO REVIEW MAGAZINE

Words alone cannot fully describe how much more lifelike TRUE STEREO reproduction is. Reviewers, critical listeners and novices alike are usually overwhelmed by the magnitude of the sonic improvement achieved by Polk’s Stereo/Dimensional Technology. You will hear a huge sound stage which extends not only beyond the speakers, but beyond the walls of your listening room itself. The lifelike ambience revealed by the SDAs makes it sound as though you have

been transported to the acoustic environment of the original sonic event. Every instrument, vocalist and sound becomes tangible, distinct, alive and firmly placed in its own natural spatial position. You will hear instruments, ambience and subtle musical nuances (normally masked by conventional speakers), revealed for your enjoyment by the SDAs. This benefit is accurately described by Julian Hirsch in Stereo Review, “...the sense of discovery experienced when playing an old favorite stereo record and hearing, quite literally, a new dimension in the sound is a most attractive bonus...” Records, CD’s, tapes, video and FM all benefit equally as dramatically. SDAs allow you to experience the spine tingling excitement, majesty and pleasure of live music in your own home. You must hear the remarkable sonic benefits of SDA technology for yourself. You too will agree with Stereo Review’s dramatic conclusion: “the result is always better than would be achieved by conventional speakers... it does indeed add a new dimension to reproduced sound.”

The experts agree: Polk speakers sound better. Hear them for yourself!

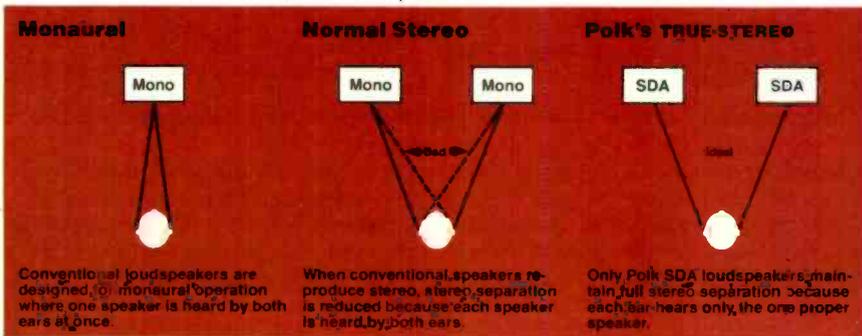
polkaudio

1915 Annapolis Road, Baltimore, Maryland 21230

In Canada: Dist. by Evolution Technology

*U.S. Patent No. 4,489,432. Other patents pending. U.S. & Foreign.

“Polk Reinvents the Loudspeaker” HIGH FIDELITY MAGAZINE



the response by almost 10 dB around 50 Hz while cutting the response by 18 dB per octave below 40 Hz.

In addition to the various signal input and output jacks, the rear panel has PRE-OUT and MAIN-IN jacks, normally joined by jumpers, for connecting external signal-processing accessories into the signal path. A pushbutton near the gold-plated phono jacks sets the preamplifier for input from either a moving-magnet or a moving-coil cartridge, and another button selects either high or low gain for the MC input. A three-position slide switch selects 100, 200, or 320 picofarads input capacitance for the MM input (across a 47,000-ohm resistance). Another slide switch engages Proton's "anti-clipping" circuit, which smoothly rounds off the output waveform when the amplifier's limits are exceeded rather than allowing hard clipping with its audibly unpleasant high-order harmonics. Another switch connects the two channels in a bridged mode, transforming the D540 into a mono amplifier with more than double its normal power. For stereo operation in the bridged mode, a second power amplifier can be driven from the D540's PRE-OUT jacks.

The Proton D540 is rated to deliver 40 watts into 8-ohm loads from 20 to 20,000 Hz with no more than 0.02 percent total harmonic distortion. Its dynamic power is variously rated from 150 to 380 watts for loads of 2, 4, and 8 ohms with durations from 20 to 200 milliseconds. The D540 is 16½ inches wide, 12¾ inches deep, and 3½ inches high and weighs just over 19 pounds. Price: \$350. Proton Corporation, Dept. SR, 737 W. Artesia Blvd., Compton, CA 90220.

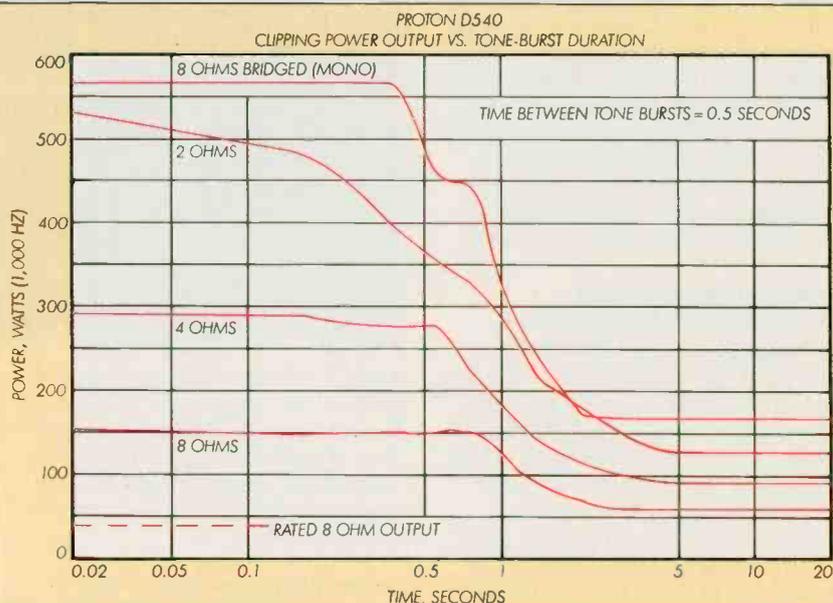
Lab Tests

Preconditioning the Proton D540 for one hour at 13.3 watts (one-third rated power) made its top quite hot above the transistor heat sinks, but in normal use it never became more than moderately warm to the touch. With both channels driven at 1,000 Hz, the outputs clipped at 60 watts into 8 ohms, 90 watts into 4 ohms, and 128 watts into 2 ohms.

The 8-ohm harmonic distortion at 1,000 Hz fell from 0.006 to 0.002

FEATURES

- Dynamic Power on Demand: dual power supply provides 6-dB dynamic headroom; high dynamic power available for 200 to 400 milliseconds
- Inputs include phono, tuner, CD, video, and two tape decks
- Separate input-selector buttons for listening and tape recording
- Dubbing from either tape deck to the other
- Two switchable speaker outputs
- Hinged door conceals controls for bass, treble, balance, mono, loudness, and Bass EQ
- Front-panel headphone jack
- Separate rear-panel pre-out and main-in jacks
- Bridgeable for higher power in mono mode
- Gold-plated phono-input jacks
- Selectable MM or MC phono-preamplifier modes
- Switchable sensitivity for MC cartridge (high or low)
- Switchable capacitance for MM cartridge (100, 200, 320 pF)
- Anti-clipping circuit
- Three a.c. outlets (one switched)



HIRSCH-HOUCK LAB MEASUREMENTS

1,000-Hz output power at clipping: 60 watts into 8 ohms; 90 watts into 4 ohms; 128 watts into 2 ohms

Clipping headroom (relative to rated output): 1.76 dB (8 ohms)

Dynamic power output: 156 watts into 8 ohms; 288 watts into 4 ohms; 530 watts into 2 ohms (see text)

Dynamic headroom: 5.9 dB (8 ohms)

Frequency response: +0, -0.5 dB from 20 to 20,000 Hz

Maximum distortion from 20 to 20,000 Hz at 40 watts output: 0.016% into 8 ohms

Sensitivity (1-watt output): tuner, 23.5 mV; MM phono, 0.4 mV; MC phono, 0.032 mV (high), 0.016 mV (low)

Output noise referred to 1 watt output (A-weighted): tuner, -91 dB; MM phono, -84 dB; MC phono (high), -74 dB

Phono-input overload level (MM): 220 to 260 mV depending on frequency

Phono-input impedance (MM): 45,000 ohms in parallel with 120-pF capacitance (100-pF setting)

Slew factor: greater than 25

RIAA equalization accuracy: +0, -1 dB from 20 to 20,000 Hz

percent as the power increased from 1 to 40 watts, rising to 0.0033 percent at 50 watts. The distortion curves were quite similar with 4-ohm and 2-ohm loads, with slight-

ly higher readings and maximum power levels. In all cases the distortion was less than 0.01 percent from 1 watt to the clipping point. The reactive load factor was 2.3 dB. The

amplifier was exceptionally stable with complex reactive simulated speaker loads, showing only a single cycle of overshoot on a 10,000-Hz square wave signal.

Across the audio range, at rated power or less, the distortion was typically 0.0025 to 0.005 percent, rising to 0.007 to 0.008 percent at 20 Hz and 0.01 to 0.016 percent at

The Proton D540 is not only the most powerful "40-watt" amplifier we have used, it is one of the few of any rating whose capabilities begin to encompass the dynamic properties of live music.

20,000 Hz. At all times the distortion was well below the rated 0.02 percent.

Dynamic-power measurements dramatically demonstrated the effectiveness of the DPD system. The standard EIA dynamic-headroom measurement, with 8-ohm loads, produced a 20-millisecond output of 156 watts (for a headroom of 5.9 dB). With 4-ohm loads, the dynamic power was 288 watts, and into 2 ohms it was a prodigious 530 watts!

We also made dynamic-power measurements under the conditions specified by Proton for its amplifier ratings, using burst durations from 20 to 1,000 milliseconds and off times of 500 milliseconds, into loads of 2, 4, and 8 ohms and in the bridged mode with an 8-ohm load. The accompanying graph tells the story more vividly than mere words. With 4- and 8-ohm loads, the full 20-millisecond power level was maintained for 300 and 400 milliseconds, respectively, falling to the steady-state levels after a second or two. With 2-ohm loads, charge is drawn more rapidly from the high-voltage capacitors, and the maximum output dropped slightly during the first 100 milliseconds, followed by a smooth decline to continuous levels after about 2 seconds. In the bridged mode (8 ohms), the maximum output of almost 570 watts was maintained for 200 milli-

seconds, and then the output dropped to 170 watts (the continuous value) after 1 second.

The D540's tone controls had good characteristics and were capable of making subtle changes in the sound. The BASS EQ control boosted response 9.5 dB at 47 Hz and cut it by 12 dB at 20 Hz. The loudness compensation boosted both low and high frequencies to a moderate degree as the volume was reduced.

Comments

By any objective criteria, the Proton D540 is an exceptional amplifier. Its low noise and distortion levels, control flexibility, cool operation, and generally ideal performance by themselves rank it among the finest amplifiers we have seen. There are many good amplifiers on the market, however, and the special quality of the D540 really shows itself in the performance of its DPD system.

Listening to CD's and other wide-range sources left no doubt of the remarkable qualities of this amplifier. It begs the issue merely to say that the D540 is by far the most powerful "40 watt" amplifier we have used (which it certainly is). More to the point, it is one of the few amplifiers of any rating we have seen whose capabilities begin to encompass the dynamic properties of live music. The peak-to-average ratio of music waveforms is often in the range of 10 to 20 dB, perhaps

more (although of course every case is different). The Proton D540 has a ratio of 6 dB between its peak and its continuous maximum power levels, but the *average* power required, even for loud listening, is probably no more than a couple of watts. That gives the amplifier another 13 dB of dynamic range, for a *total* useful dynamic range of more than 20 dB. (Of course, I am not using "dynamic range" in its usual sense here. I am referring to the peak-to-average range of music rather than to the maximum sound level compared to the background noise in the hall.)

In practical terms, this means that with a CD or similar source and reasonably good speakers, the D540 brings us within earshot of the dynamic range of a live program. Please note that this is *not* the same as a realistic simulation of a live performance translated to your home; that is not within the capability of any amplifier or any other means now known to us. What the Proton D540 *will* give you is a degree of natural dynamics usually obtainable only with a few extremely powerful and expensive amplifiers. But with such amplifiers you have to pay for a huge continuous-power capability to reproduce high peak levels for fractions of a second at a time. The D540 gives you 99 percent of the same sonic impact at a fraction of the price.

Circle 140 on reader service card



"... Marty, don't you think that having a remote-control unit for your car stereo is gilding the lily a bit ... ?"



CELESTION DL8 SPEAKER SYSTEM

Julian Hirsch, Hirsh-Houck Laboratories

THE new DL8 loudspeaker makes some of the advanced technology used in Celestion's very expensive SL6 and SL600 speakers available in a much more affordable price range.

One of the most distinctive features of Celestion's SL600 speaker system, which we tested last year, is its thin copper-foil tweeter, whose dome and voice-coil former are made as a single, integral unit. Celestion used laser interferometry and computer techniques to study the modes of diaphragm vibration, and the combined voice-coil and dome structure was a result of that investigation. As compared with conventional tweeter construction, this design has reduced mass (for extended high-frequency response) and improved heat conduction (for

higher power-handling ability). However, it is a costly driver to manufacture, requiring precision hand operations to mount the tweeter's integrated dome and voice coil in its extremely narrow magnetic gap.

The DL8 uses a similar tweeter, although instead of copper it is made of aluminum alloy, which actually reduces its moving mass still further. At 2,500 Hz, there is a crossover from the 1¼-inch tweeter to an 8-inch cone woofer operating in a sealed enclosure. The system is rated for a nominal frequency response of 50 to 20,000 Hz and a sensitivity of 89 dB sound-pressure level (SPL) for a 1-watt input, and it is recommended for use with amplifiers rated to deliver from 10 to 150 watts per channel.

The Celestion DL8, housed in a

walnut-finish wooden cabinet, measures 19¾ inches high, 10¾ inches wide, and 10¾ inches deep. Its acoustically transparent dark-brown cloth grille is stretched on a plastic frame that snaps into retainers on the front panel of the cabinet. The heavy-duty metal binding-post terminals are recessed into the rear of the cabinet. Although they accept the stripped ends of wire leads, they cannot be used with banana plugs or similar connectors. Each speaker weighs about 22 pounds. Price: \$500 per pair.

Lab Tests

Celestion provided us with a frequency-response chart made on a DL8 system (not one of the units supplied to us). To our surprise, our own measurements, both of room response and FFT quasi-anechoic response, correlated extremely closely with the Celestion curve. In fact, we have never before encountered such close agreement between our measurements of a speaker and those made by its manufacturer, even when the measurements were made on the same test sample.

For measurements and listening, we installed the DL8's on stands about 25 inches high, with the rear of the speaker cabinets about 18 inches from the wall, in approximately the position Celestion suggests.

The room response was among the smoothest we have ever measured, and the close-miked woofer response was an exact match to the curve supplied by Celestion. The two curves spliced smoothly and unambiguously, resulting in a composite frequency response of ± 1.5 dB from 600 to 20,000 Hz. The woofer's maximum output was at 200 Hz, where it was about 5 dB above the average midrange and high-frequency level. From 70 to 20,000 Hz the composite response variation was only ± 3.5 dB. Below 200 Hz, the woofer's output fell at 6 dB per octave from its maximal +5-dB level and a steeper rolloff was introduced by the crossover design below 45 or 50 Hz.

Our FFT response measurements, made on axis at a 1-meter distance, closely matched the manufacturer's graph, showing a 5- or 6-dB overall variation from 200 to 15,000 Hz, a

SURGEON GENERAL'S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy.

Winston. America's Best.

Excellence.
The best live up to it.





**IN THREE OUT OF FOUR
HIGH PERFORMANCE TESTS WE
CAME OUT AHEAD OF BMW.
IN THE FOURTH WE DIDN'T WANT TO.**



What are these two cars doing on an aircraft carrier and what are they trying to prove anyway?

The silver one is a very famous German-made sports sedan. A BMW 528e that sells for over \$24,000*.

The other one is a new Chrysler LeBaron GTS that goes for under \$12,000* and includes Chrysler's famous 5-year/50,000-mile Protection Plan.** An American car that can drop the legendary BMW in its tracks*** And give you back more than \$12,000 in change.

To dramatize the performance superiority of GTS over BMW, we simulated official United States Automobile Club tests. Not on the track

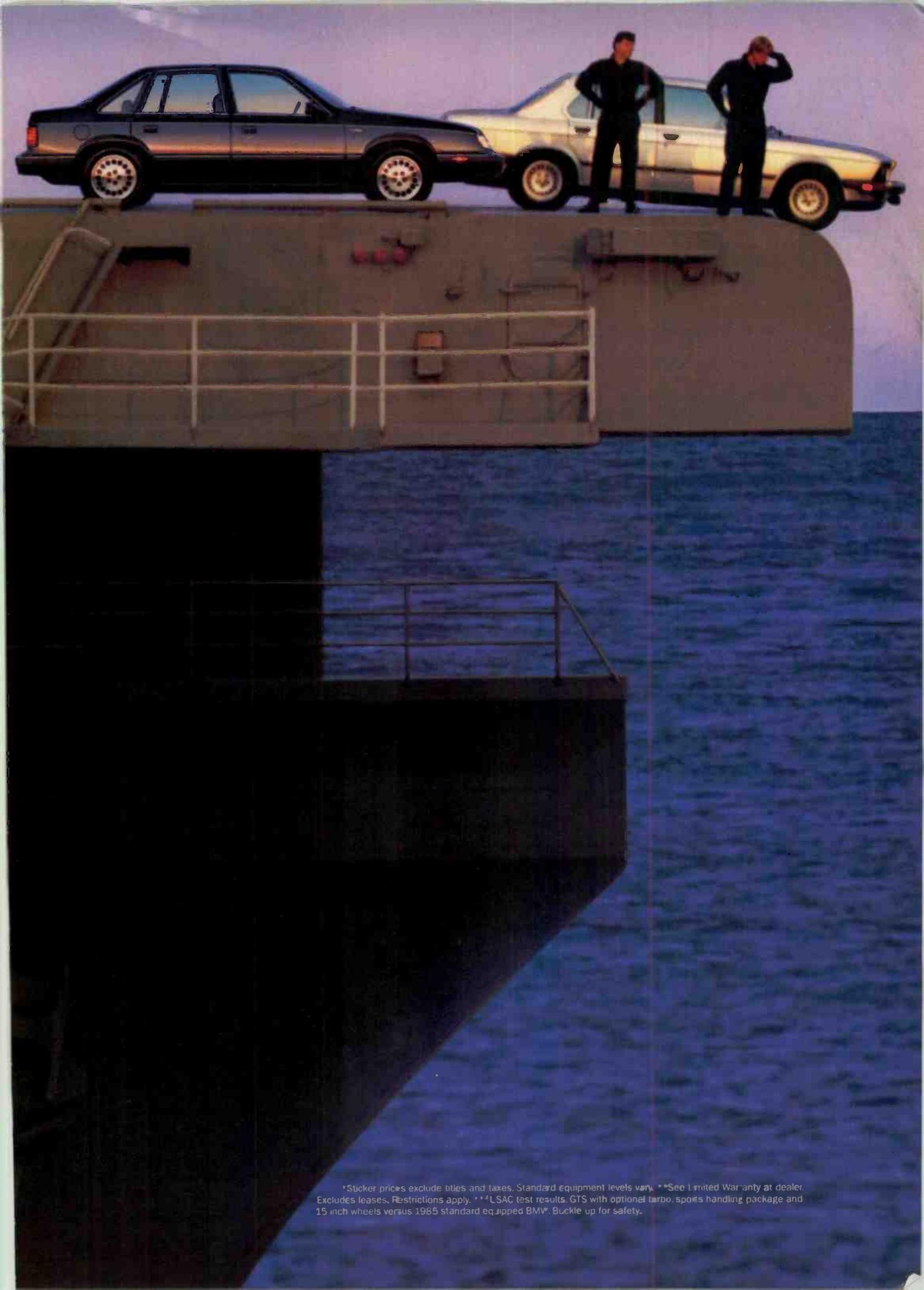
where they were actually conducted, but on the short, treacherous deck of an aircraft carrier.

In the actual tests, GTS beat BMW in acceleration, from 0-50, by a full 1.44 seconds. In high speed cornering, GTS stayed true up to .820 G Force; BMW lost it at .791. In the tricky esses of the slalom, GTS was quicker than BMW by a convincing 5%. And, when it came to braking, from 60-0, GTS came up short... 13 feet shorter than BMW.

All of this was done to prove only one thing. That for under \$12,000, half the BMW price, you no longer have to go overboard to own one of the world's best-performing cars.



**CHRYSLER LEBARON GTS.
IT'S OVER, OVER THERE.**



*Sticker prices exclude titles and taxes. Standard equipment levels vary. **See Limited Warranty at dealer. Excludes leases. Restrictions apply. ***LSAC test results. GTS with optional turbo, sports handling package and 15 inch wheels versus 1985 standard equipped BMW. Buckle up for safety.

distinct dip to -6 dB (relative to average midrange levels) at 16,000 Hz, and a rising output above that frequency. The high-frequency rise was due to the tweeter's resonance peak at 24,000 Hz, where the output was more than 10 dB higher than the midrange level. Because of the high "Q" of the relatively undamped resonance, the output at 20,000 Hz was essentially at midrange level.

Response measurements on axis and 45 degrees off axis showed moderate directivity in the horizontal plane that changed very little with frequency. The two measurements differed typically by 3 to 6 dB at most frequencies above 1,000 Hz, but the divergence was never more than 10 dB up to 20,000 Hz. The phase linearity of the DL8 was very good, with less than 0.8 millisecond of group-delay variation from about 300 Hz to over 20,000 Hz.

The speaker's impedance was 7.5 ohms at 200 Hz and about 7 ohms from 10,000 to 20,000 Hz. It reached maxima of 32 ohms at 80 Hz and 52 ohms at 1,800 Hz. Its sensitivity was exactly as rated, 89 dB SPL at 1 meter with a 2.83-volt drive level. Woofer distortion was measured with a 3.2-volt drive, corresponding to a 90-dB midrange SPL. The distortion was extremely low (0.3 to 0.4 percent) at 90 to 100 Hz, and it increased to 1.9 percent at 60 Hz and 5 percent at 40 Hz.

In power-handling tests with 1-cycle bursts at frequencies of 100, 1,000, and 10,000 Hz, the woofer cone "bottomed" at 100 Hz with a drive level of 25 watts, producing an audible raspy sound that was clearly due to excessive physical cone excursion. At 1,000 Hz, still handled by the woofer, the amplifier clipped at 280 watts (into the 28-ohm impedance of the speaker at that frequency) before the output of the speaker showed significant waveform distortion. Finally, at 10,000 Hz the tweeter showed its true mettle: our amplifier clipped at 1,100 watts without any obvious signs of distress from the speaker!

Comments

By any standard, the Celestion DL8 proved itself to be a very fine speaker. Measurements of a speaker, of course, give only a few clues to

its sound quality. Nevertheless, in this case all our test data were so good, and so closely in agreement with Celestion's claims, that we must confess to being impressed. Listening tests tended to confirm our impressions.

Its sound was superbly balanced, with a solid bass that belied its small size, yet without undue upper-bass emphasis or boxiness. The middles and highs were seamless and so well integrated that we simply heard the total sound and gave up trying to hear the minor response variations that our microphone had detected. After all, we don't go to concerts to perform an acoustic analysis on the music, do we? Perhaps that is the best way to describe the quality of this speaker—thoroughly musical, with an insidious tendency to be so listenable as to discourage technical criticism. We made a special effort to be aware of the DL8's spatial properties ("imaging," if you prefer). Like any conventional front-firing box system, its sound stage is essentially confined to the space between the speakers, but it manages to fill that part of the room with a well-defined sound stage, mostly in the listening room but sometimes including the space immediately behind the wall. We also found that

these speakers respond very well to spatial enhancers such as "sonic holography" and similar systems.

Finally, encouraged by our measurements of the speaker's power-handling ability, we put that to a practical test. Playing a record with very well-recorded percussion sound, we turned up the volume until the sound was about as loud as we felt comfortable with in a modest-sized room (it had considerable physical impact at that level). The speakers sounded beautiful, with no detectable compression of dynamics and a surprisingly visceral effect from the larger drums. The amplifier power during this time averaged perhaps 10 watts per channel, with frequent peaks to well over 350 watts! This is something we would not recommend with any small speaker, including these, but it certainly says something about their construction and quality.

There are many good speakers selling at the price of the DL8. Without attempting to establish which are "better" than others (if only that could be done!) let me say that I cannot recall hearing a speaker comparable in size or price to the Celestion DL8 that I would rather listen to for extended periods.

Circle 141 on reader service card



"... Yes, Mr. Lehman, Dr. Heinz did yell out, 'Eureka!' but it was not about any speaker breakthrough. It was because after five years of trying to get his research assistant, Miss Dionne, to spend a week alone with him up at his cabin in New Hampshire, she finally said, 'Yes.'"



**NEC's digital
experience here...**

**brings you a better
digital experience here.**



When you put a satellite in orbit, you want every possible assurance that it will perform. That's why corporations and governments all over the world ask NEC to build their satellites.

Even if you don't launch objects into outer space, it's comforting to know that NEC puts much of our satellite PCM digital technology into our Compact Disc players for the home.

While most high fidelity companies have only two or three years of experience with PCM digital audio, NEC has been at it since 1965. So it comes as no surprise that other manufacturers are now imitating the digital filtration and high-speed switching our CD players have had from the beginning. And it's no surprise that independent critics in America, Europe and Japan have awarded NEC's players top ratings.

You see, building satellites is not enough for NEC. We feel obligated to take the world's most advanced technology one step further. Into your home.

NEC

We bring high technology home.



TANDBERG TCA 3008A PREAMPLIFIER

Julian Hirsch, Hirsch-Houck Laboratories

THE TCA 3008A is Tandberg's finest preamplifier, designed and styled with the conservatism and understatement that characterize Tandberg products. Physically and electrically, it matches the company's TPA 3009A power amplifier and TPT 3001A tuner. Outwardly similar to the earlier TCA 3002A, which it replaces in Tandberg's product line, the TCA 3008A incorporates numerous changes in internal components and mechanical design details.

Tandberg products typically offer the level of performance and quality of construction for which certain extremely expensive "high end" audio components have been noted, but at prices just above those of the better mass-market products. For instance, all the audio stages use polystyrene dielectric capacitors and metal-film resistors (with 1 percent tolerances in critical circuits). It is felt by some audio designers that the dielectric absorption of the more commonly used electrolytic capacitors causes a loss of detail in

the reproduced sound, hence their preference for low-loss capacitors whose dielectric absorption is typically 500 times less than that of electrolytic types. For lower capacitance values, most manufacturers use ceramic capacitors, whose capacitance changes with the applied voltage (including the signal voltage itself). Taking the position that the phase shift introduced by such capacitance change can affect the sound, Tandberg uses only stable polystyrene capacitors instead of lower-cost ceramic units throughout the TCA 3008A. In addition, the entire audio section of the preamplifier uses discrete transistors (no IC chips).

The TCA 3008A's "mother board," on which almost all the circuitry is located, has been completely redesigned from that in the TCA 3002A. Layout revisions have reduced stray coupling between circuits, and many of the actual circuits differ from those of the TCA 3002A. Almost all of the surface on the mother board not occupied by circuit components or conductors is covered with a conductive "ground

plane" that is said to reduce hum, noise, and stray coupling even further. According to Tandberg, the moving-coil (MC) preamplifier section was also modified for optimum performance with medium-output cartridges.

Like other Tandberg products, the TCA 3008A is finished in black with white panel markings and bright metal knobs and pushbuttons. A group of four tape-control buttons select playback from tape 1 or tape 2 or cross-connect the decks for dubbing from either machine to the other. Other buttons are used for power on/off and to select the infrasonic filter, tone-control defeat, mono/stereo mode, and loudness compensation.

The headphone jack on the front panel has an independent volume control. Other small knobs operate the bass and treble tone controls (each has eleven detented positions), adjust balance (center detented), and select the program source. Besides the two tape decks, inputs include a tuner, CD player, MM phono, and MC phono. The main volume control is a large knob. A red LED pilot above each pushbutton lights when it is depressed.

On the rear of the preamplifier, besides the various signal input and output jacks, there is a pair of three-position toggle switches. These se-

lect MM phono-input terminations of 33,000, 47,000, or 100,000 ohms and shunting capacitances of 20, 120, or 350 picofarads. Next to the power-cord socket is a voltage selector for 115- or 230-volt operation. There are three switched a.c. outlets, with a total capacity of 300 watts, and there is a single unswitched outlet.

The Tandberg TCA 3008A measures 17 $\frac{1}{8}$ inches wide, 13 $\frac{3}{4}$ inches deep, and 3 $\frac{1}{4}$ inches high, and it weighs 12 $\frac{1}{2}$ pounds. Available options include black acrylic side panels or 19-inch rack-mounting attachments. Price: \$795. Tandberg of America, Inc., Dept. SR, P.O. Box 58, Armonk, NY 10504.

Lab Tests

Measured with the EIA standard load of 10,000 ohms in parallel with 1,000 picofarads (pF), the output of the Tandberg TCA 3008A clipped at 11 volts at any frequency from 20 to 20,000 Hz. The headphone output (unloaded) clipped at 27 volts at 1,000 Hz. Since the headphone jack is driven by a separate amplifier stage, taking its input ahead of the tone controls, the headphone sound is not affected by the volume, tone, or loudness circuits.

At the standard EIA reference line-level output of 2 volts, distortion was between 0.0024 and 0.0028 percent over the entire audio range. The sensitivity for a 0.5-volt reference output was 67 millivolts (mV) for the high-level inputs, 1.05 mV for the MM phono input, and 0.055 mV for the MC phono input. The respective A-weighted signal-to-noise ratios (referred to 0.5 volt) were 96, 81, and 78 dB.

The high-level inputs could not be overloaded by the highest signal available to us (10 volts). The MM phono input overloaded at about 300 mV at 1,000 Hz and higher, and at 110 mV at 20 Hz (this is still more than adequate reserve headroom). The MC input overloaded at 16 to 17 mV at middle and high frequencies, and at about 14 mV at 20 Hz. The measured resistance at the MM phono input was exactly as indicated for the three positions of the switch in the rear. The capacitance values differed somewhat from the nominal values, reading 115 pF at the 20-pF setting, 180 pF

at the 120-pF setting, and 315 pF at the 350-pF setting.

The tone-control circuit provided an adequate range near the frequency extremes and, as is desirable, had almost no effect between 200 and 3,000 Hz. With tone-control defeat, the basic response was as flat as our test instruments could resolve, varying less than 0.1 dB overall from 20 to 20,000 Hz. The loudness compensation, which affected only the low frequencies, was very moderate and did not degrade the sound in our use tests. The turnover frequency was in the 200- to 300-Hz range, with a maximum boost of about 9 dB below 40 Hz. The infrasonic filter, which has a rated -3-dB point of 15 Hz, affected the response by only about 1 dB at 20 Hz. Finally, the RIAA phono equalization was as flat as we have ever measured, varying ± 0.5 dB from 20 to 20,000 Hz.

Comments

We have never heard (or heard of) any properly controlled tests demonstrating the audible differences that are claimed by some to exist between various types of electronic components (principally capacitors and resistors). Under the circumstances, we confess to considerable skepticism. However, we needed no such evidence to convince us of the superior qualities of the Tandberg TCA 3008A, many of which are readily measurable without probing the outer limits of human experience. It is unquestion-

ably one of the quietest, flattest (in frequency response), and most bug-free pieces of audio equipment we have had the pleasure of using.

The preamplifier delivered no unwanted surprises—no switching transients, no turn-on or turn-off transients, no crosstalk between inputs, no noise at maximum volume settings, and so forth. It is one of the few preamplifiers we have used whose noise level matches or surpasses that of a good CD player. Whether or not that made an audible difference, there is no doubt that it contributed to a thoroughly satisfying listening experience.

The TCA 3008A is also one of the few preamplifiers that can drive medium-impedance headphones to ear-shattering levels. Music lovers whose family or neighbors do not share their enthusiasm can dispense with a power amplifier and speakers and treat themselves to state-of-the-art sound with the help of a pair of high-quality phones and the Tandberg TCA 3008A.

Probably much or even all of the same performance can be obtained from some of the exotic preamplifiers selling for up to several times as much as the TCA 3008A, but the Tandberg unit provides what we would consider the highest caliber of audio preamplifier performance for a relatively reasonable price. Incidentally, opening up its top reveals an interior layout as clean and attractive as the electrical and acoustic performance it delivers.

Circle 142 on reader service card



"... My God, they're clipping!"



NIKKO NR-750 RECEIVER

Julian Hirsch, Hirsch-Houck Laboratories

NIKKO'S NR-750, a moderately priced stereo receiver, offers a full complement of operating features in a compact and attractive package. Its digital-synthesis AM/FM tuner can operate in a scanning mode (stopping on each receivable signal) or it can be tuned manually in steps of 200 kHz for FM and 10 kHz for AM. The audio preamplifier has inputs for one high-level source (identified as CD/VIDEO) and a moving-magnet phono cartridge as well as input and output jacks for two tape decks. Front-panel switches can connect the decks for dubbing from tape 1 to tape 2. The audio amplifiers are rated to deliver 48 watts per channel into 8-ohm loads from 20 to 20,000 Hz with no more than 0.04 percent distortion.

Like many other digital-synthesis receivers, the Nikko NR-750 has a front-panel display window that shows its complete operating status at all times. Unlike some we have seen, however, its multicolored display is more informative than decorative. The tuner displays include the tuned frequency and band, the number of a selected preset station (each of the seven preset buttons can store the frequencies of one FM

and one AM station), a red stereo indicator, and a signal-strength indicator in the form of a rectangular matrix of luminous dots whose color changes from red to orange to green as the signal strength increases. Other indicators show the selected program source, the status of the tape inputs and dubbing connections, and which of the two sets of speaker outputs is connected (both pairs can be connected simultaneously since they have separate selector buttons). Finally, two rows of horizontal red lights show the approximate power output of each channel.

Most of the NR-750's front-panel controls are pushbuttons, which are used to switch power on or off and to select the input source, tape-monitor status, frequency band, FM muting or mono mode (when the muting is disabled), loudness compensation, infrasonic filter, and speaker connections. Two light-pressure buttons scan the tuner up or down in frequency if they are held in or change the tuning in discrete steps if they are pressed momentarily. The bass and treble tone-control knobs are neither detented nor provided with clearly visible index marks. A large volume knob

and a small center-detented balance knob complete the front-panel controls. There is also a front-panel headphone jack.

The rear of the receiver contains the various input and output jacks, binding posts for the speaker outputs and the antennas (300- and 75-ohm FM inputs and an AM long-wire antenna), and a pivoted AM ferrite-rod antenna. One of the two a.c. convenience outlets is switched. The Nikko NR-750 is finished in black, and it has black knobs and buttons and white markings. Dimensions are 17¼ inches wide, 12 inches deep, and 3¾ inches high; weight is 16½ pounds. Price: \$250. Nikko Audio Corp., Dept. SR, 5830 Triangle Dr., Commerce, CA 90040.

Lab Tests

The FM tuner section of the Nikko NR-750, like that of many other receivers we have tested, had a fixed tuning-frequency error of about 30 kHz. The error increases the tuner's distortion, particularly at low signal levels, and thus degrades its usability-sensitivity measurement. Although the FM distortion in mono was low (0.1 percent, as rated), the stereo distortion was considerably higher than the specified 0.2 percent. The signal-to-noise ratio, however, was close to the rated value for both stereo and mono operation.

Most other tuner measurements were good, especially the capture

WOULD YOU BUY HI-FI VIDEO FROM A TV COMPANY?

The big word among video manufacturers now has become *audio*. Yet, the vast majority of companies trying to sell hi-fi video used to make nothing but TV's.

If you're looking for true high fidelity video performance, look to a company with a real background in high fidelity. Denon.

Denon's audiophile approach to video is demonstrated in the innovative AVC-500, a component destined to become the heart of the finest audio/video systems. From its 5-band dynamic equalizer designed specifically for video applications to its multi-mode surround sound signal processing, the

AVC-500 epitomizes Denon's sound engineering.

Rather than tack an audio receiver onto a video switcher, Denon incorporated full video switching into the powerful new DRA-Series A/M/FM Stereo Receivers.

Plus, Denon is introducing genuine high fidelity video components to satisfy the most discriminating videophiles. They include the VHS Hi-Fi VA-1000 and T-1000 Stereo-ready 25" Full Square Tube Monitor/Receiver.

Whether you think of these new components as video for the audiophile or audio for the videophile, remember one thing. Denon.



DENON

D E S I G N I N T E G R I T Y

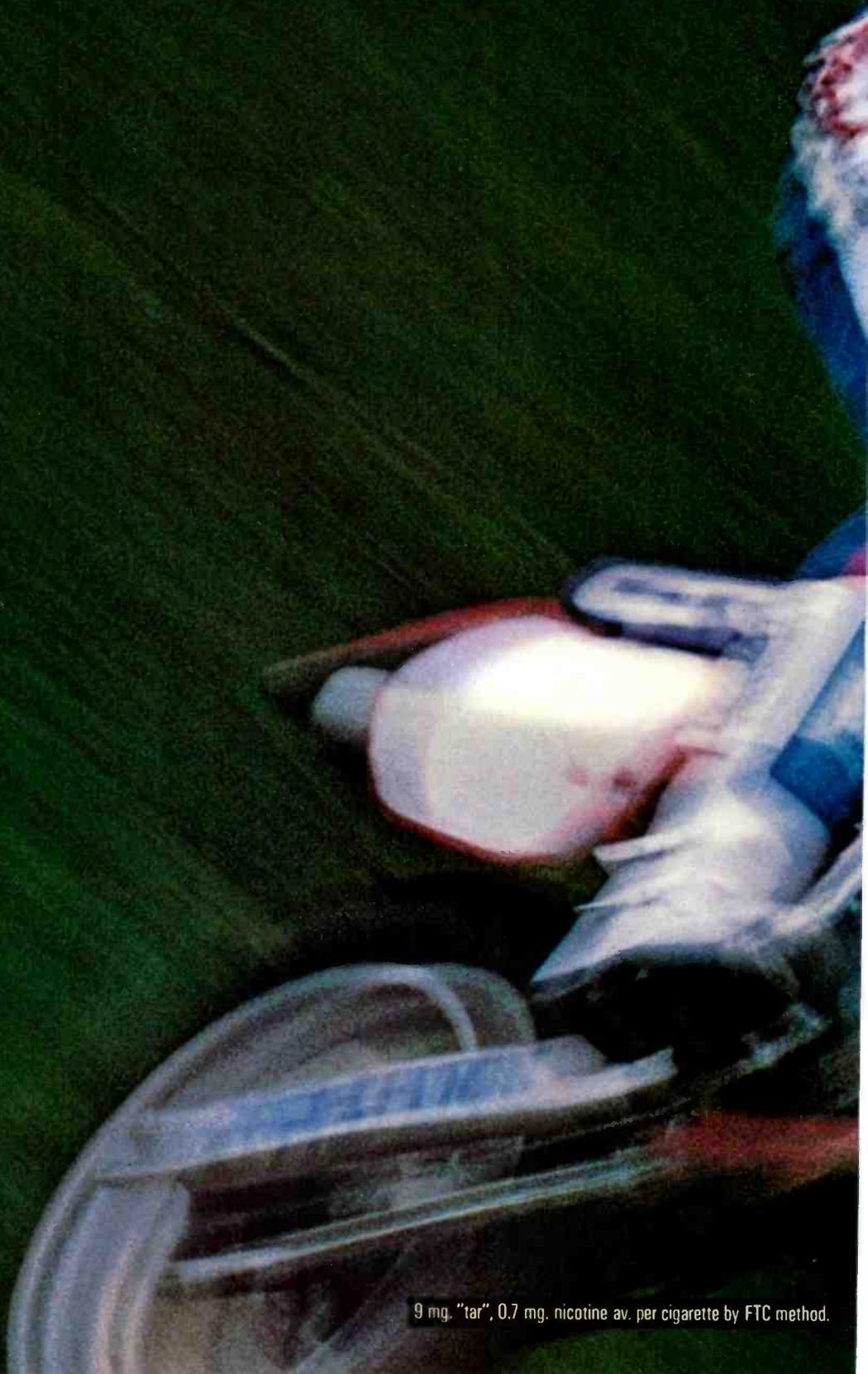
For Dealer Nearest You Call TOLL-FREE 800-633-2252 Ext. 830

Denon America, Inc., 27 Law Drive, Fairfield, N.J. 07006
CIRCLE NO. 27 ON READER SERVICE CARD

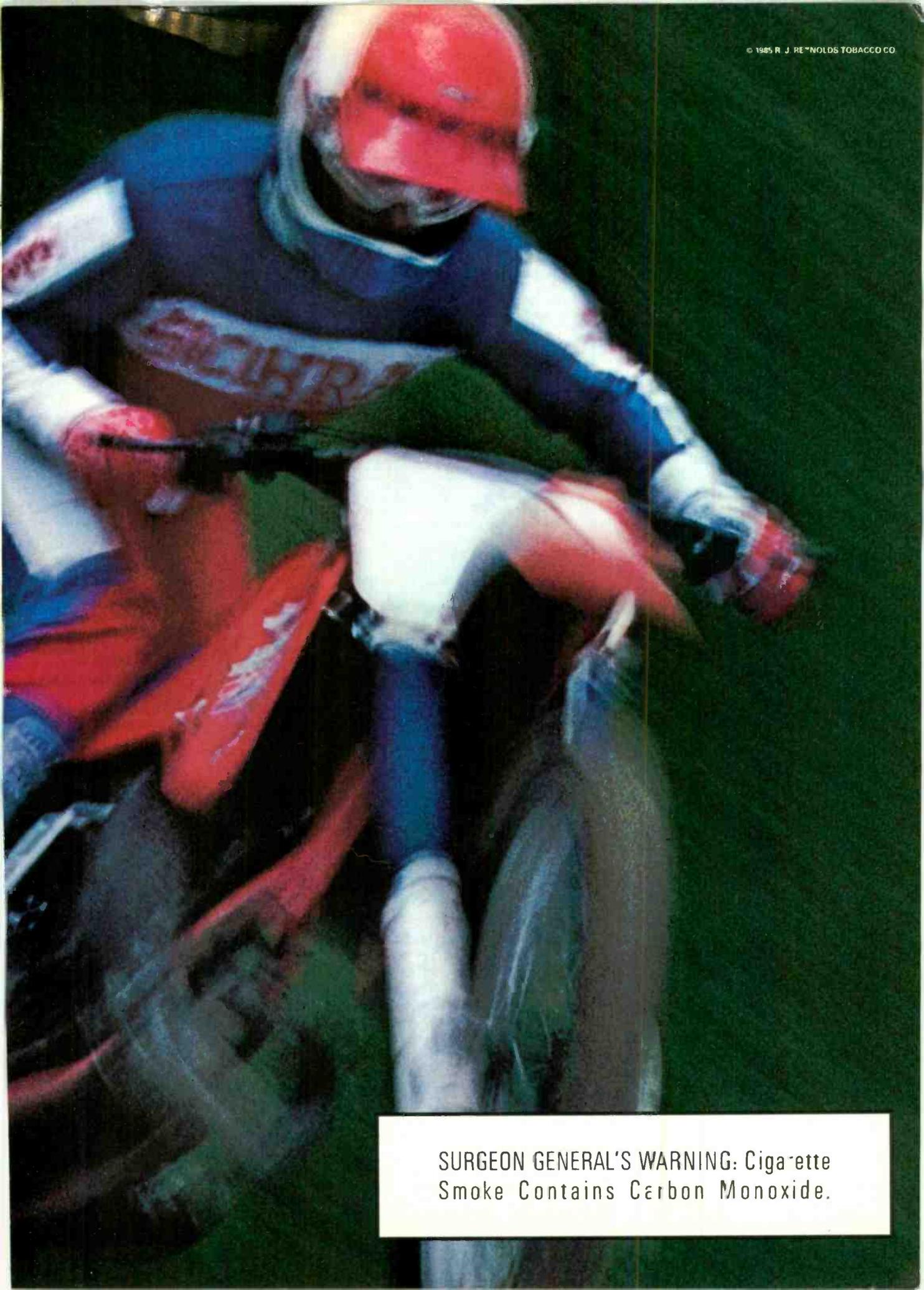
VANTAGE

PERFORMANCE COUNTS.
THE THRILL OF REAL CIGARETTE TASTE IN A LOW TAR.

VANTAGE



9 mg. "tar", 0.7 mg. nicotine av. per cigarette by FTC method.



SURGEON GENERAL'S WARNING: Cigarette
Smoke Contains Carbon Monoxide.

ratio of 1.1 dB, AM rejection of 63 dB, and image rejection of 73 dB. The 19-kHz pilot carrier was present in the audio output at a rather high level of -46 dB, which should cause no problems with normal operation of the receiver but makes it imperative that any tape deck used with it for recording FM stereo transmissions have an effective 19-kHz filter (as most do).

The FM frequency response was flat within 0.5 dB from 60 to 10,000 Hz and down 3 dB at 30 and 13,000 Hz. The stereo channel separation was good, between 30 and 40 dB from 30 to 8,000 Hz. The AM tuner section's frequency response rolled off gradually below about 150 Hz and more rapidly above 3,000 Hz.

Measuring the receiver's audio frequency response was complicated by the nearly invisible markings on the tone-control knobs. We set the knobs as closely as possible to their center positions, and the resulting frequency response was down 2.5 dB at 20 Hz and 2 dB at 20,000 Hz. The SUBSONIC filter appeared to have a 6-dB-per-octave slope, and the response with it engaged was down an additional 2 dB at 20 Hz. The tone-control curves were good, with little effect on the middle frequencies and a moderate but adequate control range at the frequency extremes. The loudness control boosted the low frequencies, below 300 to 400 Hz, at levels 20 dB or more below the maximum volume setting.

The power-amplifier section had low distortion, typically 0.01 to 0.03 percent, over practically the entire audio range at rated power or less. The only exception was at 20 Hz, where the rated power (48 watts) could not be delivered without clipping. However, the full-power distortion was only 0.029 percent at 30 Hz. The amplifier drove 4-ohm and 2-ohm loads well, although its protection system shut it off momentarily when we exceeded 45 watts into 2 ohms. With the 20-millisecond tone bursts of the EIA dynamic-power tests, the amplifier was able to deliver 90 watts to a 2-ohm load.

Comments

We found the Nikko NR-750 to be a very satisfactory performer. Al-

FEATURES

- Rated at 48 watts per channel into 8-ohm loads from 20 to 20,000 Hz with no more than 0.04 percent total harmonic distortion.
- Digital-synthesis AM/FM tuner with seven AM and seven FM station presets
- Automatic and manual tuning
- Pushbuttons select speakers, infrasonic filter, tuning mode, band, muting, loudness compensation, tape monitoring and dubbing from tape 1 to tape 2, and input source
- Multicolored LED display shows receiver's operating status, including tuned frequency, radio band, stereo reception, signal strength, selected source, tape monitoring or dubbing, speaker selection, and audio power output
- Knobs operate bass and treble tone controls, volume, and balance
- Front-panel headphone jack
- Detachable AM ferrite-rod antenna
- Inputs for 300- and 75-ohm FM antennas
- Two a.c. outlets (one switched)

HIRSCH-HOUCK LAB MEASUREMENTS

- Audio Amplifier**
 - 1,000-Hz output power at clipping:** 55 watts into 8 ohms; 72 watts into 4 ohms; 46 watts into 2 ohms
 - Clipping headroom** (relative to rated output): 0.6 dB (8 ohms)
 - Dynamic power output:** 72 watts into 8 ohms; 112 watts into 4 ohms; 90 watts into 2 ohms
 - Dynamic headroom:** 1.77 dB (8 ohms)
 - Harmonic distortion (THD + noise at 1,000 Hz into 8 ohms):** 0.0245% at 1 watt output; 0.013% at 48 watts
 - Slew factor:** greater than 25
 - Sensitivity (1 watt output):** phono, 1.35 mV; CD, 75 mV
 - Phono-input overload level:** 190 mV at 1,000 Hz; 110 mV at 20,000 Hz
 - A-weighted noise** (referred to 1 watt): phono, -76.3 dB; CD, -77.6 dB
 - Phono-input impedance:** 50,000 ohms in parallel with 125 pF
 - RIAA phono-equalization error:** +0.2, -1 dB from 20 to 20,000 Hz
- Reactive load factor:** 0.18 dB at 63 Hz
- FM Tuner Section**
 - Usable sensitivity** (mono): 20.8 dBf (6 μ V)
 - 50-dB-quieting sensitivity:** mono, 17 dBf (4 μ V); stereo, 39 dBf (4 μ V)
 - Signal-to-noise ratio** at 65 dBf (1,000 μ V): mono, 72.6 dB; stereo, 63.6 dB
 - THD + noise** at 65 dBf (1,000 μ V): mono, 0.1%; stereo, 0.62%
 - Capture ratio** at 65 dBf: 1.1 dB
 - AM rejection** at 65 dBf: 63 dB
 - Selectivity:** alternate-channel, 57 dB; adjacent-channel, 5 dB
 - Image rejection:** 73 dB
 - Stereo threshold:** 37 dBf (39 μ V)
 - 19-kHz leakage:** -46 dB
 - Hum:** -73 dB
 - Stereo channel separation:** 38 dB at 100 and 1,000 Hz; 28 dB at 10,000 Hz
- AM Tuner Section**
 - Frequency response** (-6-dB points): 80 to 3,000 Hz

though it is not reasonable to expect a \$250 receiver to deliver the same performance as one costing two or three times its price, the NR-750 comes surprisingly close to doing just that. Its control flexibility should satisfy almost anyone, and it is easy to use, attractive, and compact. It also sounds fine. Most people who are looking for a receiver in this price range should find its power output more than adequate, as we did using several different speaker systems.

The receiver's instructions advise that unplugging it for more than six

days may cause its preset station memories to lose their information. We left it unplugged for more than a week, and all the station memories were retained. Each time the receiver is turned on, the tuner is set to the last frequency played.

During our tests of the NR-750, we encountered no unwelcome surprises. Our only significant criticism concerns the essentially unmarked tone-control knobs. Actually, however, any product for which this is the major criticism must do a pretty good job!

Circle 143 on reader service card



If you can read this, you need a videotape as sensitive to color as you are. Panasonic Sensicolor.™

Of course, this isn't an official color blindness test. But you already know how sensitive you are to color. And if you really care about accurate color. Rich color. Color the way TV networks want you to see it. You'll want Panasonic Sensicolor Videotape.

Panasonic Sensicolor faithfully reproduces color. From the subtlest tones to the boldest hues. And every color remains true, replay after replay. Because the same technology and attention to detail that makes Panasonic a leader in VCRs is behind our VHS™

videotapes, too. Panasonic videotape is available in three grades. Premium Standard, Super High-Grade and Hi-Fi. All with Sensicolor quality.

Take one home and give it the most difficult test of all. See it with your own eyes



THE PANASONIC LAS VEGAS PRO-AM.
APRIL 30-MAY 4, 1986. CALL 1-800-722-GOLF.
SEE IT ON NBC.

CIRCLE NO. 9 ON READER SERVICE CARD

Panasonic
just slightly ahead of our time.™

TV stereo. VCR stereo. AM/FM stereo. And you were going to settle for an ordinary receiver.

Technics introduces the audio receiver that's also
a video switching center.

Now Technics allows you to channel your audio and video
into one advanced component. To give you not only an
extraordinary audio experience, but an astonishing television
experience as well.

It's the new Technics SA-560 audio/video receiver. More than
just AM and FM stereo, it also gives you true stereo TV sound
with an ordinary TV.* All coming through your stereo system
with 70 watts of power.**

In addition, there's VCR stereo.† And cable TV sound.†† Plus
inputs for a compact disc player, cassette deck and turntable.
All with one remarkable receiver.

Beyond that, Technics also gives you Stereoplex circuitry. To
expand monaural sound into a spectacular stereo-like effect.

So why settle for an ordinary stereo receiver, when you can
have one extraordinary audio/video receiver. The choice is
yours. The receiver is Technics.

Technics

The science of sound



*Stereo TV sound where available. **70 watts per channel at 8 ohms, 20Hz-20kHz with 0.007% THD. †Stereo VCR required. ††Cable TV converter required.

CIRCLE NO. 1 ON READER SERVICE CARD



PIONEER ELITE CT-A9X CASSETTE DECK

Julian Hirsch, Hirsch-Houck Laboratories

PIONEER'S CT-A9X cassette deck, which is in the company's new Elite series of audio components, combines a number of advanced operating and convenience features with outstanding performance qualities. Its tape transport uses a dual-capstan, closed-loop drive system that keeps the tape under constant tension to minimize flutter and maintain head contact. The capstans are turned by a quartz-controlled motor.

The CT-A9X is a three-head machine whose separate Sendust-core recording and playback heads are packaged in the same case. It contains both Dolby B and Dolby C noise-reduction systems, and the Dolby circuits are duplicated in the recording and playback sections so that programs can be monitored from the tape with the correct noise and frequency-response characteristics while they are being recorded. The direct-coupled playback amplifier features a low-noise differential dual-FET input stage.

Another feature of the Pioneer CT-A9X is its AUTO-BLE (for bias, level, and equalization) system, which optimizes the key recording parameters for the specific tape be-

ing used. Computer-controlled circuits record a series of test signals on the tape, play them back, and adjust the bias, recording level, and equalization for optimum frequency response and maximum output level (MOL) characteristics. The process takes about 11 seconds, after which the tape rewinds to its initial position, and the settings are stored in the recorder's memory until it is shut off or the calibration process is repeated. The AUTO-BLE system is put into operation by pressing one of three buttons, marked UNDER BIAS, PEAK BIAS, and OVER BIAS. Normally the PEAK BIAS button is used, but the others give a user the option of slightly adjusting the recorder's performance to suit individual preferences.

Although the AUTO-BLE system is very easy to use, it does not have to be used before making a recording. When a cassette is loaded, the pattern of holes on its back edge tells the machine its tape type, and it sets the appropriate playback-equalization time constant and recording bias even if AUTO-BLE is not used. Of course, these standard settings are compromises that may not be optimum for all individual tapes.

The Pioneer CT-A9X has a unique automatic motor-driven cassette-loading mechanism. Pressing the eject button causes the tape-well door to move outward, tilting slightly forward as it does so. When the cassette is slipped into the guide tracks, optical sensors detect its presence, and the motor shuts the door swiftly and silently. Any slack in the tape is then automatically taken up, internal sensors detect the tape type, and the recorder's operating parameters are adjusted accordingly. If the cassette housing is translucent or clear, however, the optical sensors may not recognize its presence, in which case the tape-well door must be shut manually by pushing it closed. A clear plastic window in the door gives a full view of the cassette label and the head assembly, and its bottom section hinges down to give access for cleaning and demagnetizing the heads.

The information display of the CT-A9X is both functional and attractive. A large, bright, horizontal fluorescent level display shows the recording and playback levels over a range of -40 to +14 dB. The bars are colored white below 0 dB and red above that level. The scales are calibrated in uniformly spaced 1-dB steps (there are three light bars for each decibel of the scale) from -14 to +14 dB, with the Dolby-level mark set at about +3 dB. The display responds rapidly to level increases and decays more slowly.

Above the level scales, the words TAPE or SOURCE appear in red to

show the status of the monitor system. The tape type sensed by the loading system is also shown in the display window. In a smaller window below the level display are the large, red LED numerals of the four-digit tape counter. Next to the counter's reset button is a TAPE RETURN button that automatically rewinds the tape to the point where the counter reads 0000.

The CT-A9X also has a useful remaining-time display. The overall tape capacity (in minutes) is set at the start with one of four small buttons under the counter window. The selected time appears next to the counter reading in contrasting yellow numerals, and when the TIME/TAPE button next to the counter is pressed, the display shows the time left on the tape side in minutes and seconds.

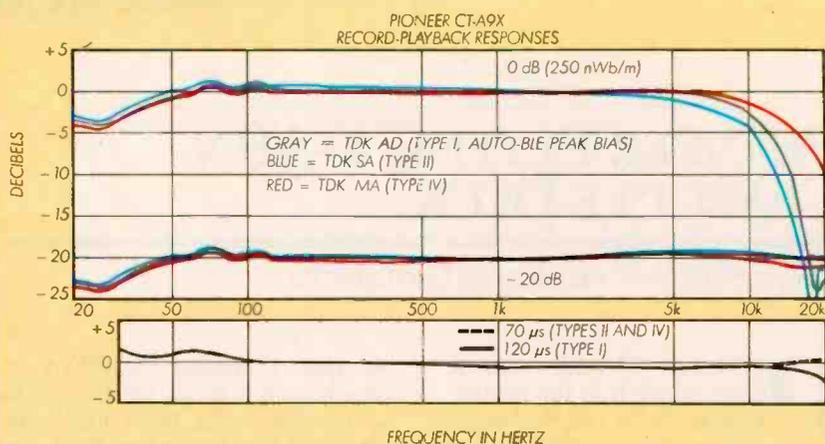
The other operational features of the CT-A9X are more conventional. Large rectangular buttons control the stop, play, and record functions, and smaller buttons select the pause, fast-forward, and rewind modes. When record is selected, pause is automatically activated and must be released before the recording starts. Record can only be engaged when the tape is stopped, which prevents "flying starts" but keeps you from accidentally erasing a tape by touching the record button unintentionally (the buttons work with very little pressure).

The CT-A9X has a music-search capability to locate portions of a recording preceded by at least 4 seconds of silence. The MS buttons, located just below the fast-forward and rewind buttons, advance the tape at high speed to the beginning of the next selection or return it to the beginning of the current selection (a second touch will back it up to the start of the preceding selection, and so forth). To insert the requisite 4-second silent intervals in your own recordings, you need only press the record-mute button while recording. The deck immediately switches out the incoming program, and after 4 seconds the tape stops and the machine goes into pause.

The CT-A9X has three recording-level controls: a master control that affects both channels and two smaller knobs that set the levels individually for each channel. The small

FEATURES

- Separate record and playback heads
- Dolby B and Dolby C noise reduction
- Peak-indicating fluorescent level display
- Separate level controls for line and headphone outputs
- Coreless d.c. motor drives reel hubs
- Quartz-controlled capstan motor
- Closed-loop dual-capstan drive
- Automatic cassette-loading mechanism
- Auto-BLE system sets bias, level, and equalization for specific tape used
- Servo-actuated, logic-controlled transport functions
- Music-search function
- External-timer function in record or play mode (including Auto-BLE operation)
- Switchable auto-monitor selects tape during recording, switches to source program for listening
- Tape slack is taken up automatically on loading
- Switchable tape-counter/remaining-time display



HIRSCH-HOUCK LAB MEASUREMENTS

Rewind time (C-60): 75 seconds

Speed error: +0.2%

Dolby tracking error: Dolby B, ±0.5 dB; Dolby C, ±0.5 dB

Wow-and-flutter: 0.022% JIS (wrms) at start of tape, 0.028% JIS at end; ±0.04% DIN (weighted peak)

Line output for indicated 0 dB: 0.5 volt

Line input for indicated 0 dB: 50 mv

Meter indication at IEC-standard 0 dB: +4.5 dB

Tape used: TDK AD (Type I, ferric)

Indicated 0-dB distortion: 0.5%

Meter indication at 3% third-harmonic distortion: +6 dB

Signal-to-noise ratios (decibels):

	Unwtd.	A-wtd.	CCIR/ARM
NR off	53.5	57	47.7
Dolby B	60	66	58
Dolby C	62	73	67

Tape used: TDK SA (Type II, chrome equivalent)

Indicated 0-dB distortion: 0.8%

Meter indication at 3% third-harmonic distortion: +5 dB

Signal-to-noise ratios (decibels):

	Unwtd.	A-wtd.	CCIR/ARM
NR off	53	56.5	47.5
Dolby B	59	65	57.5
Dolby C	62	73	67

Tape used: TDK MA (Type IV, metal)

Indicated 0-dB distortion: 0.8%

Meter indication at 3% third-harmonic distortion: +7 dB

Signal-to-noise ratios (decibels):

	Unwtd.	A-wtd.	CCIR/ARM
NR off	53.5	56.5	47.5
Dolby B	60	65.5	57.5
Dolby C	62.5	73.5	66.5

knobs have center detents, and the master knob has a concentric indicator ring that can be set to any desired point as a reference. Another

pair of small knobs is used to control the playback level for the line outputs (a convenience not often found on cassette decks) and the



BOOM BOXES NEED SOPHISTICATED TAPE, TOO.

When boom boxes were only built for boom, ordinary tape was good enough. Not anymore.

Boom boxes are now built with graphic equalizers and automatic programming. Dolby™ has become virtually standard. Some are even capable of high-speed dubbing. Ordinary tape can set one of these boom boxes back four or five years. Sophisticated equipment requires sophisticated tape.

People who spend thousands of dollars on audio equipment know this. They use Maxell religiously. It's built to standards 60% higher than the industry calls for. It's tough enough to stand up to heavy use. Fact is, Maxell sounds as good after 500 plays as it does brand new.

And it's sensitive enough to reveal the subtle differences that features like Dolby and equalizers can make. On a \$1000 living room system. Or a \$100 portable one.

So get Maxell.

And get more than boom out of your boom box.



**THE TAPE FOR
SOPHISTICATED EQUIPMENT.**

volume at the front-panel headphone jack. Successive operations of the Dolby button toggle the selected noise-reduction system on and off. A smaller button toggles between the Dolby B and Dolby C systems, and a separate button switches the MPX filter.

Finally, the Pioneer CT-A9X is equipped for unattended recording or playback under the control of an external timer connected in the a.c. power line. The deck's timer switch selects either record or play, and a BLE PRESET switch can be set to go through the BLE calibration cycle before an unattended recording.

The Pioneer CT-A9X is finished in black; accessory wood-grain side panels are available. It measures 16½ inches wide, 14¾ inches deep, and 5⅞ inches high, and it weighs 22 pounds. Price: \$799.95. Pioneer Electronics (USA), Inc., Dept. SR, P.O. Box 1540, Long Beach, CA 90801.

Lab Tests

To confirm that the AUTO-BLE system would produce very similar performance from almost any tape, we measured the record-playback frequency response of the CT-A9X with a number of Type I, Type II, and Type IV tapes ("normal," "high-bias" or chrome-equivalent, and metal-particle coated). The differences between brands were so small that we selected TDK AD (Type I), TDK SA (Type II), and TDK MA (Type IV) for the full test program, as representative of better-grade cassette tapes.

With TDK AD tape, we obtained the flattest response at a -20-dB level (referred to the standard 250-nWb/m flux level) using the PEAK BIAS setting of the AUTO-BLE system. From 80 to 20,000 Hz the response varied only ±0.5 dB, including a couple of minor low-frequency head ripples. The low-frequency response dropped off to about -3.5 dB between 20 and 30 Hz, resulting in an overall response of +1, -3.5 dB from 20 to 20,000 Hz. The response at the 0-dB level was the same up to about 4,000 Hz and dropped off smoothly to -3 dB at 10,000 Hz and -6 dB at 20,000 Hz.

To see the range of response adjustment provided by the AUTO-BLE system, we repeated the -20-dB

measurement using the UNDER BIAS and OVER BIAS settings. To our surprise, the differences were barely detectable, with the extreme conditions differing by only 1 dB at 20,000 Hz!

The response with TDK SA and MA was much like that with TDK AD, with the same low-frequency behavior and a variation of less than ±1 dB from about 100 to 20,000 Hz. As expected, the 0-dB high-frequency response was slightly better with SA and MA than with AD tape; the response of the metal MA tape, for example, was down 6 dB at 17,000 Hz.

Given the exceptional response flatness of the CT-A9X, we would expect it to show very good Dolby tracking, and it did not disappoint us. Over the full 20- to 20,000-Hz range, the response at levels of -20 dB or lower changed by less than 1 dB with either Dolby B or Dolby C in use, and over most of that range the change was less than 0.5 dB. At -10 dB, tape saturation began to affect the high-frequency response, but even there the response varied less than 1 dB up to 15,000 Hz. The fixed high-frequency boost and cut incorporated into Dolby C has a strong effect on the high-frequency response at levels of 0 dB and higher. At 0 dB the output was about 15 dB greater at 15,000 Hz with Dolby C than with Dolby B.

The playback frequency response, measured with IEC standard tapes over a range of 31.5 to 18,000 Hz, was again extremely flat (see graph). The recording input level needed to make an IEC standard 250-nWb/m recording at 315 Hz was 50 millivolts, and the resulting playback level was 0.75 volt. The same signal produced a +4.5-dB indication on the recorder's level scales. Referred to this level, the A-weighted playback signal-to-noise ratio was about 56 to 57 dB without noise reduction, improving to 65 to 66 dB with Dolby B and to 73 dB with Dolby C. The 1,000-Hz crosstalk between channels was a low -65 dB.

The flutter readings of the CT-A9X were among the lowest we have seen. Although the deck did not quite match Pioneer's specification of 0.018 percent JIS-weighted rms, it surpassed the ±0.048-percent DIN-weighted-peak specifica-

tion. In any event, both the JIS reading of 0.022 to 0.028 percent and the ±0.04-percent DIN measurement are exceptional.

The playback distortion from an indicated 0-dB recording at 1,000 Hz was 0.5 percent with the AD tape, 0.8 percent with the SA and MA tapes. The standard reference distortion level of 3 percent was reached at respective recording levels of +6.2, +4.7, and +6.8 dB. The headphone volume, using medium-impedance 600-ohm phones, was only moderate, but the specifications indicate that 8-ohm phones are recommended.

Comments

To say that we were impressed with the Pioneer CT-A9X would be an understatement. Outstanding as its measured performance was, it did just as well in actual use. It passed such difficult tests as copying high-quality "audiophile" LP records, CD's, and interstation FM tuner hiss with virtually no detectable changes in direct A/B comparisons with the original signals. The controls operate effortlessly, and the mechanism is exceptionally quiet in all its modes of operation.

Some of the human-engineering aspects of the CT-A9X could stand improvement, however. All the controls are black like the front panel, and the very delicate silver-colored markings are often difficult to read. The three major controls (stop, play, and record) are close together and all the same size and shape, making it much too easy to hit the wrong one (even a slight touch is sufficient for activation). Finally—yes, the list of criticisms is short—we should mention that we found an inoperative tape-type indicator on our initial test sample, but we were reassured when the indicator on a second sample functioned.

The surprisingly small difference in response using the three settings of the AUTO-BLE system (PEAK BIAS, UNDER BIAS, and OVER BIAS) makes us question the usefulness of these options, but the system worked so well regardless of the setting selected that we can hardly fault the deck in that respect. The Pioneer CT-A9X is an impressive machine by any measure.

Circle 145 on reader service card



Come to Marlboro Country.

Also available in
convenient 25's packs.



**SURGEON GENERAL'S WARNING: Cigarette
Smoke Contains Carbon Monoxide.**

Light: 10 mg "tar," 0.7 mg nicotine—
Kings: 16 mg "tar," 1.0 mg nicotine
av. per cigarette. FTC Report Feb. '85



CANON VR-40A VHS HI-FI VCR

Julian Hirsch, Hirsch-Houck Laboratories

THE Canon VR-40A is a portable VHS Hi-Fi VCR designed for operation from a 12-volt d.c. power source. The power can be obtained from a car's battery through the cigarette-lighter socket, from the recorder's internal rechargeable battery pack, or from an optional a.c. power adaptor, the CA-30A, which fits into the battery compartment (and can also be used to recharge the battery). Although the VR-40A was obviously designed primarily for field use with a video camera, it is adaptable to home video installations with the addition of one of Canon's compatible tuner/timer/charger units, such as the VT-50A.

The VR-40A, though compact, is full-featured. It accommodates all standard lengths of VHS tape cassettes and can record and play back at three speeds: SP (standard play), LP (long play), and SLP (super long play). The rotating head drum carries four video heads and two hi-fi audio heads. The standard longitu-

dinal audio track is recorded and reproduced through a single fixed head. Light-touch pushbuttons on the front panel control the usual tape functions. An AUDIO DUB button permits adding a mono sound track to an existing video recording without erasing the video portion. Also on the front panel is a socket for the 16-foot cable of the remote-control unit, which duplicates virtually all the front-panel control functions.

The LCD display window on the front of the VR-40A shows the operating mode (PLAY or REC) in large letters, with arrows showing the direction of tape movement. Smaller letters indicate the speed and the status of the dubbing function. A symbol of a cassette shows that a tape is loaded into the machine, and there is a battery-level indicator. Large numerals serve as the four-digit tape counter, and others below them display the time remaining on the tape in 5-minute steps.

Along the right side of the record-

er case are miniature phone jacks for the left and right microphone inputs and the audio output (suitable for driving headphones) and phono jacks for the video input and output signals. Small slide switches select stereo or mono playback, video record/playback or hi-fi audio only, audio dubbing or mixing, audio output channels (left only, right only, stereo, or mono), and the TV channel on which the VCR output appears (Channel 3 or 4). There is also a socket for a video camera.

The Canon VR-40A measures 8½ inches wide, 10¾ inches deep, and 3 inches high. With the battery pack installed, it weighs about 7¼ pounds. It comes with a detachable shoulder strap (an optional carrying case is available). Price: \$1,030, including remote control. The CA-30A a.c. adaptor is \$120. Canon U.S.A., Inc., Dept. SR, One Canon Plaza, Lake Success, NY 11042.

Lab Tests

Our laboratory tests were limited to the hi-fi audio functions of the Canon VR-40A, although we did play video tapes through it to verify its video performance, which appeared to be similar to that of the other home VCR's we have used. For subjective tests of its audio

It leaves nothing to be desired.



**THE SANYO
AV-4000 SYSTEM WITH
REMOTE CONTROL.
A MORE ADVANCED
APPROACH TO
HOME ENTERTAINMENT.**

It's everything you ever hoped for. All the most sophisticated features in audio. All the latest breakthroughs in video. All in



one perfectly matched system. Featuring the incredible Super Beta VCR, the best picture and sound in video. A 26-inch color monitor with true stereo broadcast capability and 140 channel tuner. A programmable compact disc player with a remarkable 96dB dynamic range. A fully automatic

turntable, full logic dual cassette deck, and a programmable digital AM/FM stereo tuner, all feeding a 100-watt per channel amplifier with 5-band graphic equalizer. And you hold the controls to every feature, every function right in the palm of your hand. It's enough to give you goose bumps.

SANYO
THE MODERN ART OF ELECTRONICS.

CIRCLE NO. 11 ON READER SERVICE CARD

quality, we connected the VR-40A to our main music system, using it as an audio tape deck and recording from FM, LP, and CD sources.

As the absence of audio recording or playback level controls implies, the VR-40A uses automatic gain control (AGC) to maintain adequate but not excessive recording levels from almost any source. Since the audio inputs are designed for microphone sources, Canon supplies attenuating adaptors that plug into the recorder's microphone jacks and make them compatible with normal line-level signals.

The only way we could determine the acceptable input limits for either microphone or line sources was by trial and error, looking for the level at which waveform distortion appeared during playback. Although the microphone inputs overloaded at about 29 millivolts, the line-level attenuators enabled the recorder to withstand the full 6.5-volt output of our signal source without distortion. We determined, however, that at 1.5 volts input the playback level had reached its maximum of 0.58 volt; higher inputs were merely reduced to the equivalent of 1.5 volts.

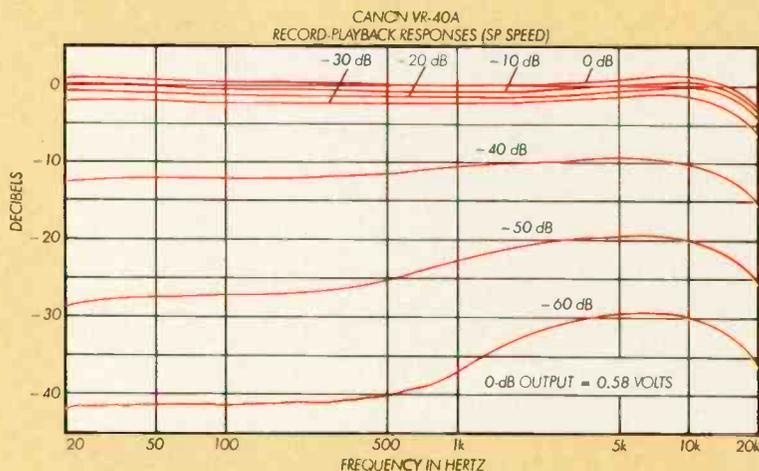
Using 1.5 volts as our "0-dB" input reference, we measured the VR-40A's playback level and distortion at 10-dB intervals. From 0 to -30 dB, the playback output decreased from 0.58 to 0.43 volt, and the distortion decreased from 0.96 to 0.41 percent. At still lower input levels, the output dropped rapidly and the distortion rose to 1.4 percent at -50 dB.

Since no true 0-dB level could be established, we could not define the recorder's noise in the usual manner. The output noise (A-weighted) was -71 dB referred to the 0.58-volt maximum playback level. If one chose to refer the output noise to the -30-dB playback level, for instance, the noise level would be -98 dB! Canon's specifications merely claim an 80-dB signal-to-noise ratio, which is probably as valid as any other number one might use.

Like other VHS Hi-Fi recorders, the VR-40A had very low flutter. In both the recording and playback processes, flutter measured only 0.005 percent JIS-weighted rms and

FEATURES

- Records and plays back at SP, LP, and SLP speeds (up to 8 continuous hours on a T-160 cassette)
- Can be used with video camera or a Canon tuner/timer
- Normal (longitudinal) mono audio track recorded simultaneously with hi-fi channels for compatibility with conventional VHS VCR's
- Electronic four-digit counter
- Memory rewind to 0000
- LCD display shows remaining time on tape in 5-minute increments
- Nondefeatable automatic gain control (AGC) for audio recording
- Stereo headphone output (fixed level)
- Wired (16-foot cable) remote control duplicates normal operating controls
- All usual VCR features including fast forward, rewind, pause, slow motion, and single-frame viewing
- Operates from internal rechargeable battery pack, a.c. adaptor, 12-volt d.c. automobile battery, or a.c.-powered tuner/timer



HIRSCH-HOUCK LAB MEASUREMENTS

Frequency response in hi-fi mode (referred to 1,000-Hz level): 20 to 15,000 Hz ± 1 dB (-4 dB at 20,000 Hz)

Harmonic distortion in hi-fi mode at 1,000 Hz: typically 0.4% to 1%

Signal-to-noise ratio in hi-fi mode: at least 71 dB (see text)

Flutter in hi-fi mode: 0.005% JIS-weighted rms; $\pm 0.009\%$ CCIR-weighted peak

Input-overload level: greater than 6.5 volts with external line-level adaptor; 29 mV at microphone input

Playback level: 0.58 volt maximum

± 0.009 percent CCIR-weighted peak.

Frequency-response measurements were also complicated by the recorder's AGC system. Once again taking the 0.58-volt playback level as an indication of "0-dB" recording, we recorded and played back sweeping sine-wave signals at levels from 0 to -60 dB in 10-dB steps. Since, as we have seen, the upper 30 dB of this range is quite compressed, the top four curves were virtually identical and occupied only about 4 dB on the graph paper. The frequency response was ± 1 dB

from 20 to 15,000 Hz and down 4 dB at 20,000 Hz.

At lower recording levels the playback output decreased by about 15 dB for each 10-dB step down in recording level, and the high frequencies were progressively more emphasized. At -60 dB, for example, the low and middle frequencies were down about 40 dB from the maximum-level curve, but the response was elevated by about 11 or 12 dB in the 4,000- to 10,000-Hz range. Canon's specifications for frequency response in the hi-fi mode are simply "20 to 20,000 Hz."

Comments

Listening to the recordings made with the Canon VR-40A, it was hard to believe that its measured frequency response and dynamic linearity were so far from hi-fi quality. Of course, much of the program material broadcast on FM radio is already compressed to some degree, which may have helped to mask the effects of the recorder's AGC system. And since we had no control over program levels through the tape outputs of the system preamplifier, there was no way of knowing to what extent the aberrations we measured on the bench were actually affecting the signals we were hearing.

In any event, the playback recordings sounded surprisingly good, free of noise, flutter, and any obvious distortions. We even recorded and reproduced FM interstation hiss with only minor alterations to the upper-middle and high frequencies. In this test the VR-40A sounded much like one of the better audio cassette decks.

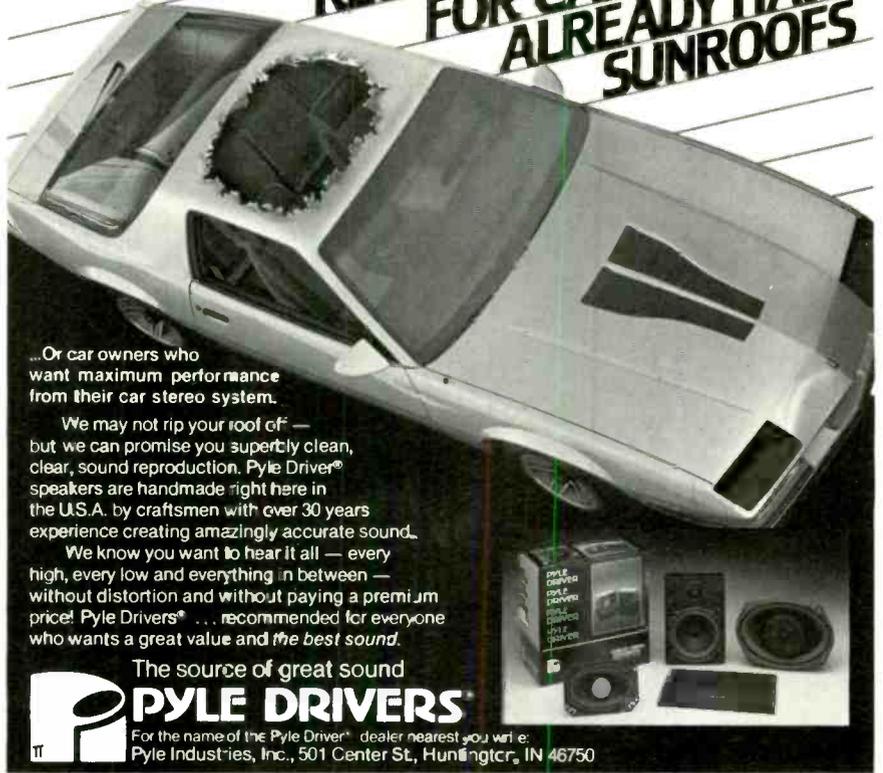
Quite possibly, if the Canon VR-40A had recording-level controls instead of a nondefeatable AGC system, it would be a superb hi-fi audio recorder as well. But, as we see it, no recorder whose levels cannot be set by the user can qualify for serious audio recording, no matter how good its performance might be otherwise. The VR-40A is certainly capable of doing a good job in home hi-fi TV audio recording or as a primary home VCR, but so are a number of standard-sized home hi-fi VCR's at lower prices.

The Canon VR-40A portable VCR was obviously meant to be used with a camera in the field and only secondarily as a home deck with a.c. power. Typical microphones on video cameras are probably not good enough to match the capability of this machine, and for stereo recording you would need two of them, limiting your flexibility of action somewhat. Even so, its freedom from noise and flutter, plus a frequency response far surpassing that of any VCR's longitudinal sound track, certainly make it an attractive choice for video recording in the field.

Circle 146 on reader service card

PYLE DRIVER[®] SPEAKERS...

RECOMMENDED FOR CARS THAT ALREADY HAVE SUNROOFS



...Or car owners who want maximum performance from their car stereo system.

We may not rip your roof off — but we can promise you superbly clean, clear, sound reproduction. Pyle Driver[®] speakers are handmade right here in the U.S.A. by craftsmen with over 30 years experience creating amazingly accurate sound.

We know you want to hear it all — every high, every low and everything in between — without distortion and without paying a premium price! Pyle Drivers[®] ... recommended for everyone who wants a great value and *the best sound.*

The source of great sound

PYLE DRIVERS[®]

For the name of the Pyle Driver[®] dealer nearest you visit:
Pyle Industries, Inc., 501 Center St., Huntingtcr, IN 46750

For Dealer Nearest You Call TOLL-FREE 800-633-2252 Ext. 838
CIRCLE NO. 35 ON READER SERVICE CARD

WHY ARE THESE THE WORLD'S BEST-SELLING HEADPHONES?



Ask someone who owns them.
Or your Sennheiser dealer.

© 1985 Sennheiser Electronic Corporation (NY)

CIRCLE NO. 54 ON READER SERVICE CARD

TOLL-FREE 800-633-2252 Ext. 839

Precision without complication.

At the very pinnacle of Aiwa's technological breakthroughs resides a new standard of performance. A new level of precision. A new achievement in human engineering. It is the Aiwa AD-F990B.

The AD-F990B's ability to meet the dynamic and textural demands of the best of both digital and analog source materials is unprecedented. The ease with which the AD-F990B makes this outstanding performance available is unbelievable.

At the touch of a single button, the AD-F990B's unique D.A.T.A. system automatically analyzes the tape you have selected. Reference signals are automatically recorded and then instantly compared to the original. Once the analysis is complete, in just 16 seconds, the Aiwa AD-F990B adjusts bias, equalization and sensitivity to optimum levels.

Through the use of Dolby HX Pro, the AD-F990B then dynamically adjusts bias levels in response to the music you record. It even adjusts the bias levels separately for each channel.

To make perfect performances even more effortless, the AD-F990B also offers an auto-noise reduction detector, auto-recording level control, auto-demagnetizing system and auto-intro-play facility. The Aiwa AD-F990B. Perfection has never been so easy to achieve.

If you can't tell whether it's a Stradivarius or a Guarneri, it isn't an Aiwa.

The Aiwa AD-F990B. Simply the best cassette deck we make.



AIWA
SIMPLY ADVANCED

Dolby is a trademark of Dolby Laboratories.

Aiwa America Inc., 35 Oxford Drive, Moonachie, New Jersey 07074 In Canada, Shitro (Canada) Ltd.

CIRCLE NO. 12 ON READER SERVICE CARD

THE
NEW

\$300 CD PLAYERS

*Lab tests reveal extraordinary value in sonic performance
by Julian Hirsch*

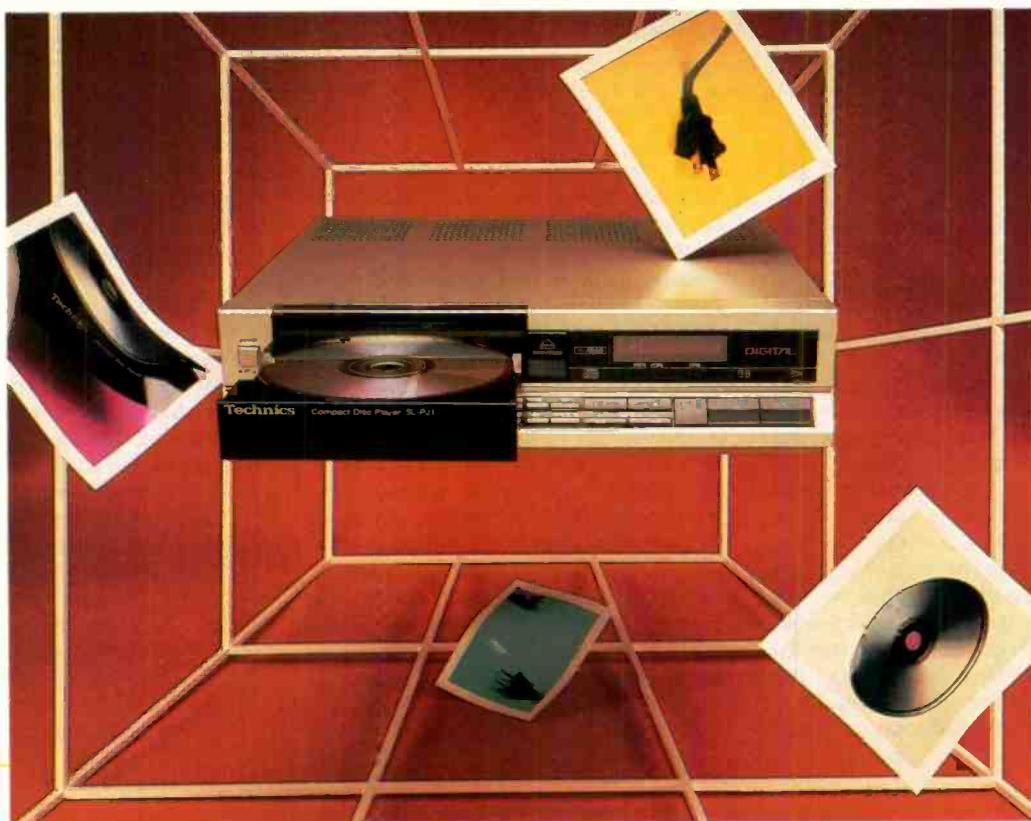
SINCE the introduction of the Compact Disc about three years ago, the prices of CD players have dropped dramatically. But their performance, especially in respect to error correction, has actually improved. A number of manufacturers have recently introduced players with list prices around \$300, less than what you have to pay for a modest turntable/cartridge combination. We tested several of these units to see what differences could be found among them and generally to determine what, if anything, has been omitted from them in order to achieve such a low price.

Most of the five players we tested—models from Mitsubishi, Pioneer, Sanyo, Sony, and Technics—closely resemble each other in size and general styling. With one exception (Technics), they are black-finished “low-profile” units

measuring slightly less than 17 inches wide, 10 to 12 inches deep, and 2¾ to 3½ inches high. They weigh from 7 to 10 pounds. Each has a front-loading horizontal disc drawer at the left of the panel and a display window on the right. All the players have a button that opens and closes the disc drawer (three of them can also be closed by pressing the drawer lightly, which may be more convenient than using the button). Although the five players have many of the same features (see Table 1, page 74), we found enough differences in this area to provide a prospective buyer with some basis for a selection. Equally important are questions about performance: Has it suffered in the price-reduction process? And are there substantive measurable or audible differences between these players?

All the players were subjected to a uniform series of tests (summarized

in Table 2, page 76) using the same test discs, instruments, and procedures throughout. We measured each unit's output voltage playing the 0-dB (maximum-level) 1,000-Hz track on the Sony YEDS2 test disc, with the player's output terminated in the EIA standard load of 10,000 ohms in parallel with a 1,000-picofarad capacitor. We measured the output voltage from each channel as well as the output imbalance (difference in amplitude) between channels. The A-weighted noise level (referred to the 0-dB output level) was measured using the “infinity zero level” band of the Sony test disc. Harmonic distortion at 1,000 Hz was measured at levels of 0, -10, and -20 dB. Channel separation was measured separately for each direction (left to right and right to left) at frequencies of 100, 1,000, and 20,000 Hz, and the two readings were averaged.



The SL-PJ1 from Technics was the only one of the five players with random track access—just punch in the track number and play. It was also one of the best performers.

Other measurements were made using the Philips TS3 test record. Frequency response was measured with the TS3's sweeping frequency bands, which slide logarithmically from 20 to 20,000 Hz in 50 seconds, and the player's output level was recorded on a graphic plotter. The curves for both channels (see the graph on page 77) were plotted on the same chart paper using an expanded scale of 2 dB per inch, instead of the usual 10 dB per inch.

ure the approximate phase shift between channels, playing a mono (L + R) track on the Sony test disc at frequencies of 1,000, 5,000, and 20,000 Hz. From this test and from the appearance of a square-wave signal reproduced from the Philips disc we could infer whether a player used an analog or a digital low-pass filter in the audio outputs, whether a single D/A (digital-to-analog) converter was multiplexed between the left and right channels or two sepa-

To our knowledge, the only standardized test disc available for evaluating error correction is the Philips TS4A, which is a modification of the TS4 sampler disc with a wedge-shaped portion of its signal surface damaged, black dots of several sizes painted on the outer surface, and a group of parallel lines inscribed on the outer surface to simulate a fingerprint. The size of these calibrated defects (in micrometers) can be determined for any portion of the modified part of the disc by referring to the elapsed time in minutes and seconds in the track being played when the defect begins to be audible. A failure to correct for the data errors will be apparent in the form of "dropouts" in the program or actual loss of tracking, which can manifest itself as "stuttering" or even a total shutdown.

Our final test (not actually a measurement) was of the ability of each player to withstand physical shock without mistracking. This is a subjective process involving a "calibrated blow" delivered to the case of the player with the flat of the hand (or with the fingers if necessary). Since I have been subjecting all the CD players we have tested to this treatment, I must consider my hand to be a standard of sorts! At any rate, while playing a disc I strike the player on its top and sides and determine how much of an impact is required to cause mistracking (skipping or actually shutting off).

A player receives a grade of A, B, C, or D depending on its ability to cope with this treatment. An A means that a fairly solid blow does not cause mistracking, and a D indicates that a light drumming with the fingers is enough to cause trouble. So far I have never encountered a player deserving an F in this test, but I would probably give an F to a player that reacted to a gentle stroke of the fingers (making it quite useless for normal home operation).

In spite of prior experience indicating that CD players sound very much alike, we took advantage of having several units on hand at the same time and connected them to a switching system so that we could change from any one to any other instantly at the press of a button. The comparisons were done in pairs, using duplicate discs of the same recording and cueing them to within a second (a striking convenience of CD's).

Each machine was compared with



Sony's CDP-70 was one of the best players in the group in terms of its measured performance characteristics.

From this plot, we obtained the response variation, in decibels, between 20 and 20,000 Hz relative to the 1,000-Hz level.

The slewing ability of each player's laser-tracking mechanism was measured by programming the machine to go from Track 1 to Track 15 of the Philips TS4 sampler disc and measuring the time required for the transition. Also on this disc are two tracks, Nos. 17 and 18, that have no silent interval between them. With some earlier CD players, it was common for the opening syllable of the vocal on Track 18 to be clipped, and we use this test to judge the accuracy with which the laser-pickup servo can locate the exact start of a track. All five players passed this test easily.

We used an oscilloscope to meas-

ure rate converters were used, and whether "oversampling" was used in the digital-to-analog conversion process. Oversampling shows up as a lower interchannel phase shift (reduced by the oversampling factor) compared with conventional operation, and its use is thought by some people to have an audible effect on the sound of a CD player.

The ability of a CD player to correct for defects in the digital data received from the disc is crucial to the success of the system, since a considerable number of such errors are normally encountered while playing a disc. A properly operating system incorporates some digital facility to fill in the "holes" in the program resulting from data errors. In early players, we found substantial differences in this respect.

each of the others, using two different recordings. No effort was made to match levels closer than they already were, but the existing matches were perfectly satisfactory for our purpose. The worst mismatch (between the Mitsubishi and the Technics) amounted to a 1.76-dB difference in level, which was just audible but not enough to affect the sound-quality comparison significantly. The other units typically had level mismatches of less than a few tenths of a decibel, and these differences were not audible.

The upshot of the comparisons was that I was never able to hear the slightest variation in sound quality between any pair of players. Most of the time even the switching itself was undetectable; although I was pressing the button, it was as though it had no connection with the rest of the system. I think it is reasonable to conclude that any slight differences that might be detected by someone else would be far short of what would be needed to establish a sonic superiority for any one machine based on rational criteria.

Mitsubishi DP-107

Although no instruction manual was packed with our test sample of the Mitsubishi DP-107, we were able to learn its various operating features through a process of trial and error. The DP-107 has a glossy black front panel that handsomely contrasts with its satin-silver push-buttons and pale-gold markings.

The DP-107 was the only player in the group to use oversampling (by a factor of two) and digital audio filtering. However, our phase-shift measurements suggested that, like all the other players in this test, the DP-107 uses a single D/A converter multiplexed between the two channels. Also like most of the other players, when a disc is first loaded the DP-107's display shows the total number of tracks and the total playing time on the disc. During play this information is not available (nor is it likely to be needed). Instead, the display shows either the number of the track being played or the elapsed time on that track.

Although the DP-107 can access any indexed portion of any track, with the selected index number appearing in the display window, it cannot be programmed for automatic access to indexed sections. Programming by tracks is simple. Pressing the PROGRAM button

causes "P1" to appear on the display, after which the fast-search buttons (which step in forward or reverse, one track at a time) are used to select the first desired track. Pressing PROGRAM again produces a "P2" on the display, and the process is repeated up to a maximum of nine selections. After the last selection is made, pressing PROGRAM causes "End" to appear on the display, and a touch on the play button starts the programmed sequence. It

on a CD player. Its two large, red figures start at "00" when it is turned on, changing to "OP" when the disc drawer is opened. When the drawer is closed, the display first shows the total number of tracks; then, after a few seconds, it changes to "01" to show that the unit is ready to play Track 1. A touch of the play button starts the playing process.

Under most circumstances, the only numerical information pro-



Mitsubishi's DP-107 uses two-times oversampling and digital filtering. It also had the best headphone volume.

is a minor annoyance that a programmed playing sequence cannot be canceled in its entirety except by opening and closing the drawer or shutting the player off and turning it on again (an idiosyncrasy shared with the Sanyo CP660).

The DP-107 had, by a comfortable margin, the best headphone volume of the group with high-quality, high-impedance phones (we used AKG K340's throughout these tests). Although the Mitsubishi player, like the others, has a button that opens and closes the disc drawer, it is one of the three whose drawers can also be closed by light pressure on the front.

Pioneer PD-5010

The Pioneer PD-5010 has the simplest display we can recall seeing

provided by the display is the current track number. Illuminated arrows and lights show that a program has been entered, that the repeat or pause function has been engaged, and that the disc is actually being played (this last indication is useful since the PD-5010 does not count off the seconds and minutes as a disc plays).

The numerical display does have another function, however. In the player's fast-scan mode, the display indicates the number of minutes of program that have been scanned, with a resolution of 1 minute. When the fast-speed button is released, the display once again shows the current track number. Although not as useful as an exact minutes-and-seconds indication, this approximate readout is better than nothing.



The Pioneer PD-5010 is easy to use and can be programmed to play twenty-seven tracks in any order.

The only respect in which the PD-5010 failed to match most of the other players was in its impact resistance. A light tap of the fingers directly above the disc drawer would usually cause the player to shut down. We would have graded it D for this, but over much of the

top surface it was considerably less sensitive, so it received a C. Suspecting a mechanical resonance of the top plate, we placed one of the other players on top of the Pioneer, and its impact resistance was then much improved. It is possible too, of course, that the sensitivity of our

test sample was not typical of the model.

The PD-5010 is easy to program by successively keying in the desired tracks using the fast-search buttons, which step forward or backward by one track each time they are pressed, and following each selection with a touch on the PROGRAM MEMORY button. To cancel the program sequence, you press the stop button twice.

Although the PD-5010 has a headphone jack, the sound level through the phones we used was barely adequate, and we doubt that many people would find it satisfactory. The headphone level is also not adjustable, although that presented no problem at the nearly background-music levels we obtained from this player. As in the Mitsubishi DP-107, the disc drawer of the Pioneer PD-5010 closes with a light touch as well as when its control button is pressed. An interesting feature of the PD-5010 is the SUBCODE output connector in the rear of the player. According to the instruction manual, this will supply digital signals from specially encoded CD's to various accessories that will be available in the future.

Sanyo CP660

Among this group of players, only the Sanyo CP660 can be programmed by index numbers as well as track numbers. Instead of using

TABLE 1 - FEATURES

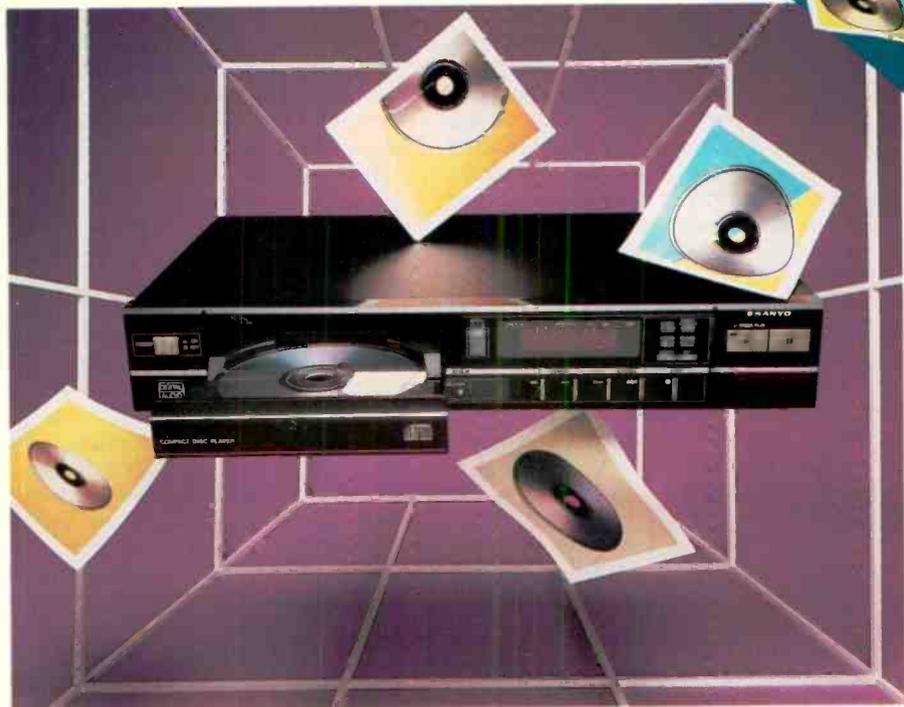
	MITSUBISHI DP-107	PIONEER PD-5010	SANYO CP660	SONY CDP-70	TECHNICS SL-PJ1
Fast search	✓	✓	✓	✓	✓
Program audible during search	✓	✓	✓	✓	✓
Fast track skip	✓	✓	✓	✓	✓
Random track access	—	—	—	—	✓
Index access	✓	—	✓	—	✓
Random index access	—	—	—	—	✓
Programmed play	✓	✓	✓	✓	✓
Maximum number of programmed selections	9	27	16	16	15
Index programming	—	—	✓	—	—
Program-cancel button	—	✓	—	✓	✓
Repeat current track	—	—	—	✓	—
Repeat all tracks	✓	✓	✓	✓	✓
Initial play from selected track	✓	✓	✓	✓	✓
Headphone jack	✓	✓	—	✓	—

the fast-search buttons to select the desired tracks, it has a pair of UP and DOWN keys dedicated to entering program information. If index numbers are to be included in the programming, the INDEX key is pressed following the track selection, then the UP and DOWN keys are used again to select the desired index number. Pressing the MEMO key then enters the selection into the programmed sequence.

The CLEAR button can clear only one memory entry at a time. To remove a programmed sequence, it is necessary to turn the player off or to open the disc drawer.

The display of the Sanyo CP660 uses bright blue-white numerals that are smaller than those of some other players but extremely legible. At all times the readout shows the track and index numbers and the elapsed playing time in the track in minutes and seconds. Pressing the EACH/REMAIN button changes the track-time display to show the total remaining playing time on the disc. The total disc playing time as well as the total number of tracks appears on the display when the disc is loaded, but this readout is replaced by specific track numbers and playing times after play begins. In the programmed mode, a red light appears on the PLAY key.

The CP660 was one of the two players in this group (along with the Technics) whose disc drawer is ap-



Sanyo's CP660 was the only player in the group to offer programming by index number as well as track number.

parently meant to be closed only by the open/close button. The drawer can be closed by pressing it inward with considerable force, but that is obviously not recommended.

In most respects the CP660 gave excellent performance. Its phase shift was somewhat less than that of

most of the other players at middle and high frequencies, although the reason for this was not obvious. The impact resistance was very good on the sides and good over most of the top surface, but it earned a C grade over the disc drive. This was not a problem in normal use, however.

	MITSUBISHI DP-107	PIONEER PD-5010	SANYO CP660	SONY CDP-70	TECHNICS SL-PJ1
Headphone volume control	✓	—	—	✓	—
Digital (D) or analog (A) filtering	D	A	A	A	A
Oversampling	✓	—	—	—	—
Disc drawer closes by touch	✓	✓	—	✓	—
DISPLAY:					
Total number of tracks	✓*	✓*	✓*	✓*	✓*
Total playing time on disc	✓*	—	✓	✓*	✓*
Track number being played	✓	✓	✓	✓	✓
Elapsed time on track	✓	—	✓	✓	✓
Remaining time on disc	—	—	✓	✓	✓
Index number	✓	—	✓	✓	✓
Programmed selection order	—	—	✓	✓	✓
Disc-loaded indication	✓	✓	✓	✓	✓
Repeat-status indication	✓	✓	✓	✓	✓

*Shown at start-up only

What did surprise us about the Sanyo unit was its error correction, which would have been considered below average even in a first-generation CD player. Over much of the modified portion of the Philips TS4A disc the CP660 simply would not function. It skipped from point to point and sometimes scanned the test disc in the reverse direction, from the higher-numbered tracks toward the lower-numbered ones! We have no way of knowing whether this behavior was peculiar to our test sample. In fairness, we must add that the player had no problems with any of our music CD's other than this test disc.

Sony CDP-70

When a disc is loaded into the Sony CDP-70, the display briefly shows the total number of tracks and the playing time for the entire disc. In a few seconds this is replaced by a "0" and the red word "DISK" to indicate that the player is ready to be used or programmed. The blue-white display, using $\frac{3}{8}$ -inch-high figures, is highly legible and resembles that of Sony's more expensive CD players.

While a disc is playing, the display shows the track and index numbers (if any) and the elapsed time in the track or the total time remaining on the disc (as selected by toggling the ELAPSED/REMAINING button), and a green PLAY arrow appears next to the window. Other illuminated symbols show when the pause mode has been selected and when the player is operating in a programmed mode.

While a programmed sequence is

being entered, the INDEX/RMS number next to the track-number display shows the number of the selection in the sequence (Sony calls the programmed mode RMS for Random Music Sensor). If a track contains indexed subsections, during playback this portion of the display shows the current index number. However, there is no provision for programming or directly accessing specific indexed sections of a disc.

The programming procedure for the CDP-70 is much like that of the other machines. The track-search buttons (which Sony calls AMS for Automatic Music Sensor) are used to select a track, and its number is stored by pressing the MEMORY button. The latest entry can be removed with the CLEAR button, but to remove a programmed sequence completely the STOP (RESET) button must be pressed.

The repeat function of the CDP-70 is more versatile than that of the other players tested. One touch on the repeat button produces a "Repeat 1" indication in the display window and causes only the current track to be repeated. A second touch changes the display to "Repeat All" and repeats the entire disc (or entire programmed sequence). A third touch clears the repeat function.

The program-scan function of the Sony CDP-70 is much faster than that of the other players in the group. As far as we could judge, the speed does not increase after a few seconds (as it does in the others), but the starting rate seems to be faster than the fast scan of the others. Furthermore, if the machine is in the pause mode, the scanning speed

is tripled, which made it possible to scan a disc in about 36 seconds.

The back of the CDP-70 contains a couple of multipin connectors not found on the other players. These are for use with an optional remote-control accessory (Sony RM-D1K) or certain other Sony audio components to which the CDP-70 can be connected, enabling it to be controlled with an infrared hand unit.

At least one measurement of the Sony CDP-70 sets it apart from the others—indeed, from all previous CD players we have tested. Its channel separation was greater than we have ever encountered and was close to the practical measurement limits of our spectrum analyzer. Over the full audio range the separation was between 104 and 110 dB. It must be realized, however, that this figure is of no direct audible significance since every CD player we have seen has far more separation than is necessary for total stereo performance. But it does suggest that Sony has taken some unusual design and layout precautions and is noteworthy for this if not for any practical reason. A more practical quality of the Sony player was its good headphone volume—not quite as loud as the Mitsubishi's but very listenable nevertheless.

Technics SL-PJ1

The Technics SL-PJ1 is quite different from the other players in this group in appearance as well as operating features. In size and shape it resembles one of the Technics linear-tracking record players, which are barely larger than a 12-inch disc. The SL-PJ1, while considerably

TABLE 2 • HIRSCH-HOUCK LAB MEASUREMENTS

	MITSUBISHI DP-107	PIONEER PD-5010	SANYO CP660	SONY CDP-70	TECHNICS SL-PJ1	
Output voltage from 0-dB level	1.77	1.92	1.80	1.85	2.17	
Output channel imbalance (in decibels)	0.1	0.4	0.2	0.4	0.3	
Signal-to-noise ratio (A-weighted) referred to 0-dB level (in decibels)	97.5	101	99.3	97.5	101	
Distortion at 1,000 Hz (percent)	0 dB	0.0056	0.0032	0.0037	0.0032	0.0053
	-10 dB	0.011	0.0022	0.0018	0.002	0.0155
	-20 dB	0.027	0.0036	0.0032	0.004	0.006
Channel separation (in decibels)	100 Hz	91.5	98.5	97	110	94
	1,000 Hz	92.5	96.5	98	108	97
	20,000 Hz	73	81.5	85	105	94.5
Response variation, 20 to 20,000 Hz (in decibels)	+0.23, -1.4	+0.15, -0.9	+0.1, -0.6	+0.1, -0.2	+0.3, -0.1	



larger than a CD, is only about 12½ inches wide, 12¾ inches deep, and 3¼ inches high, and it weighs about 10 pounds. Its control buttons are on a sloping front panel that spans the width of the bottom edge. Among them are the usual fast-search buttons and the skip buttons that move the laser pickup to the beginning of a recorded track. Engaging the repeat function lights a red light next to the display.

Selecting a track or programming the SL-PJ1 is even simpler and usually faster than with the other players in the group since it is the only one to offer random-access track selection. Ten small buttons, numbered 1 through 0, can be used for direct access to any track numbered up to 99. Although each of the other machines can access any track up to No. 99, to do so requires pressing a button up to ninety-nine times! That is not as difficult as you might think, but it is a far cry from pressing just one or two buttons. The SL-PJ1 also gives direct access to any indexed section, but only in normal playing mode (you can program any sequence of tracks but no indexed subtracks).

After a program has been entered, pressing the RECALL button displays each programmed track number in the correct sequence. The CLEAR button cancels all programmed selections; if one is being played, the SL-PJ1 continues in the normal sequence at its conclusion.

The display window shows the total number of tracks and total playing time when a disc is first loaded. During play the readout shows the current track number

(and index number, if applicable) and its elapsed time. The time remaining can be displayed by pressing the REM TIME button.

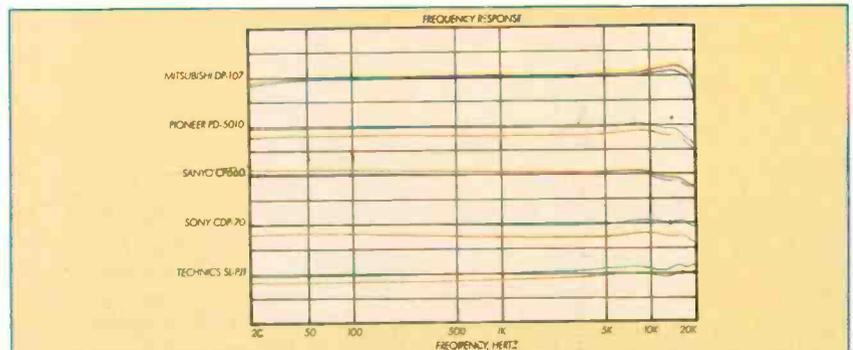
The measured performance of the Technics SL-PJ1 was in every respect as good as or better than the others. Its overall impact resistance was, by a small margin, the best in the group, its output voltage was slightly higher than the others, and it tied with the Sony player for the flattest frequency response and with the Pioneer for the best signal-to-noise ratio.

Conclusions

These low-priced CD players represent extraordinary value. Almost all of them are better in important respects, such as error correction, than almost any of the first-generation players that sold for three to five times their price less than three years ago. Although the more expensive models available today from the same manufacturers and

others have certain operating conveniences and features lacking in these budget-priced units, there were no substantive differences among the five we evaluated. The Sanyo did not come up to the others in error correction on our test disc, but otherwise we would be hard put to rank these players in any order of quality. And since even the Sanyo had no difficulty in playing ordinary music discs and was the only player to be programmable by index as well as track numbers, it might be the best choice for some.

Nonetheless, I do have some preferences among this group. All things considered, it seems to me that the Technics and Sony machines had the highest overall level of excellence, though each of the others excels in some respect. No doubt many buyers would have valid reasons for choosing one of the others instead. It is hard to see how you could go wrong, whichever player you choose. □



The curves above show the measured frequency response of the five CD players tested for this article (see Table 2 for numerical results). In order to make small response variations apparent, the vertical scale divisions represent only 1 dB, a much finer scale than we use for non-CD-player test-report graphs, which have 5-dB divisions. For each player, the red curve represents the response of the right channel, the blue curve that of the left channel.

		MITSUBISHI DP-107	PIONEER PD-5010	SANYO CP660	SONY CDP-70	TECHNICS SL-PJ1
Slew time (from Track 1 to Track 15, Philips TS4, in seconds)		3.4	3.1	2.8	3.3	3.3
Phase shift (left to right, in degrees)	1,000 Hz	2.5	4.3	4.3	4.3	4.3
	5,000 Hz	12	22	4.3	22	18
	20,000 Hz	54	90	77	77	90
Defect tracking (Philips TS4A, figures represent size in micrometers of largest defect successfully tracked)	Signal surface	900	900	600	900	900
	Painted dots	800	800	500	800	800
	"Fingerprint"	pass	pass	pass	pass	pass
Impact resistance	Top	B	C*	B**	C	B
	Side	B	C	A	A	A
* D over disc drawer						
** C over disc drawer						

Katrina and the Waves

HANDS ACROSS THE SEA—

ANOTHER TRIUMPH OF BRITISH-

AMERICAN CULTURAL RELATIONS

BY ANN FERRAR

KATRINA LESKANICH. The name sounds as if it has leapt off the pages of Tolstoy's *Anna Karenina*. But though it's of Russian origin, the name belongs to a sloe-eyed military brat from Topeka, Kansas. This young woman, who has a freckled, Ivory Girl face, also happens to be the focal point of a little U.K.-based rock band that, late last year, finally worked its way out of the garage and into the executive offices of Capitol Records. The band—Katrina and the Waves—made several Capitol executives very happy when its American debut LP reached No. 25 on the charts. The album's first single, the jubilant *Walkin' on Sunshine*, went on to peak at No. 9.

Critics eager for comparisons immediately thought of the Pretenders. Like Chrissie Hynde, Leskanich, twenty-five, is a Midwesterner who found a niche across the Atlantic, and like Hynde, Leskanich sings and plays rhythm guitar in a group with three males (only two of whom are British, by the way). But on closer inspection, the parallels quickly fade.

Hynde writes most of the Pretenders' street-wise music—she truly *leads* her band. Leskanich has only recently begun to try her hand at composing—she *fronts* her band, singing and playing cheerful songs written mainly by the Waves' shy lead guitarist, Kimberley Rew. Hynde's vocal style is icy and quirky; her darkly shrouded eyes warn, "Don't get too close or you might get hurt." But Leskanich belts out her heart and soul in a big, booming mezzo-soprano. She has a lively, inviting style that beckons to her audiences, "Come on in, the water's fine."

Recently I met Katrina Leskanich—this quintessential girl-next-door—in New York, during the band's second U.S. tour. She seemed to have an arsenal of answers at her disposal for the inevitable barrage of journalists' questions about the Pretenders analogy.

"It's understandable that people want to compare us," said Leskanich evenly. "One reason is that there just aren't enough women doing music. If a guy comes along and sings a certain way, there's not always a handy person to draw a



CAPITOL RECORDS

parallel with, because there are so many men in rock.

"I've always been a big fan of Chrissie Hynde," she continued. "But there's a definite difference between us. Chrissie's got this hard edge, and you get the feeling that things haven't always gone so well for her and that she wants to share a little bit of this misery with others. I've had some hard times, too, but when it comes to the music, I want to forget and to entertain with a smile on my face. And actually," she added, in utter seriousness, "I've always thought of myself as more of a Gidget than a Chrissie Hynde."

Her live act in New York would certainly support that statement. Let's just say it was not the stuff that made Madonna. Leskanich, wearing sneakers, hopped and skipped around the stage like a gangly, guitar-toting schoolgirl at a sock hop. And the dominant item in her wardrobe—an oversized smock decorated with large triangles in primary colors—was a metaphor for the Waves' music, which is as refreshingly bright and as fundamental as can be.

The songs on the Capitol LP—eight written by Kim Rew and two by bassist Vince de la Cruz—are remixed and, in some cases, totally rerecorded versions of material from a pair of little-known Canadian releases on the Attic label. With the exception of *Cry for Me* and *The Sun Won't Shine*, which are slow, bluesy wailers, the album is made up of highly danceable pop/rock songs with irresistible hooks that don't let you come up for air. The music is earthy and mainly guitar-based—no flashy technology to speak of—with Rew's Gibson SG Special providing a jangling backdrop for Leskanich's powerhouse vocals.

Perhaps the most striking aspect of the Waves' album is the unabashed homage paid to artists from the Fifties and Sixties, particularly Chuck Berry and greats from Motown and the British Invasion. Kim Rew admitted without hesitation that Berry, the Beatles, the Rolling Stones, and Ray Davies ("a very underrated songwriter") were among the dominant influences on "Katrina and the Waves."

Rew, De la Cruz, and drummer

Alex Cooper—thirty-three, twenty-seven, and thirty-two, respectively—seem like transplants from another era. They all sport clean, Mod-style "bowl" haircuts that flap up and down as they bob their heads during their live shows. In New York, I half-expected them to break out in a chorus of "She loves you, yeah, yeah, yeah."

Before signing with Capitol in December 1984, the band spent four years carting demos around to record companies, though its roots go back to the late Seventies. Rew and Cooper, both Cambridge University students, formed the Waves and played locally. When the short-lived Waves broke up, Rew worked for a while with the eccentric Soft Boys, which he calls "a sort of neo-psychedelic band with elements of the Velvet Underground and Pink Floyd."

Meanwhile Leskanich, the daughter of an Air Force colonel, had been living with her family at an American base in the English agricultural county of Norfolk. Texas-born and part Mexican, Vince de la Cruz was also living at the base; his father held a teaching post there. Leskan-

ich met De la Cruz in the base chapel, where both played the guitar for the choir.

Impressed with Leskanich's voice, De la Cruz asked her to join him in forming a band. With the addition of drummer Alex Cooper (post-Waves), Mama's Cooking was born as punk rumbled London.

"We were very isolated in the country," Leskanich pointed out, "so we weren't influenced by the music happening anywhere else. We played at the American military bases because those were the only places where we could make any money. We chose a repertoire that went down well with American GI's, so we did covers of Pat Benatar, Heart, the Eagles, and the Stones."

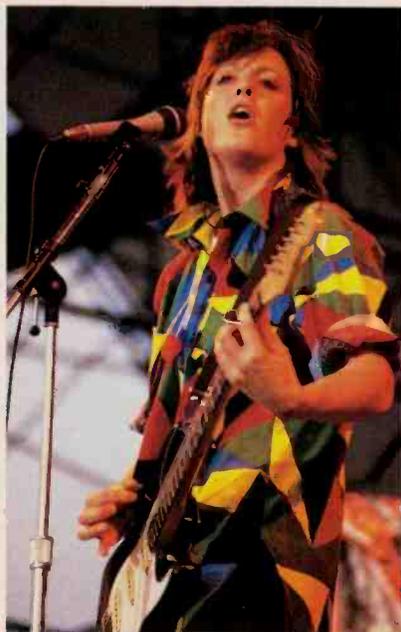
When Kim Rew gave up his attempts at a solo career and joined them, they dropped the name Mama's Cooking. Calling themselves the Waves, the foursome attempted to break into the London circuit. They performed Rew's songs to critical disdain.

"The English kids were going through a dismal period," said Leskanich. "Everyone was moaning, 'Oh, I'm miserable, so I'm wearing black, and we're all unemployed, and the world's going to hell,' and all this rubbish. Then we came on and played this poppy, happy stuff, and they *hated* it. Eventually we got fed up with getting slagged off in London, so we went back to the military bases where we could make some money."

According to Leskanich, her name got tacked on to the Waves "when somebody suggested that if we called ourselves Katrina and the Waves, more GI's would come to the show in the hopes that I would divest myself of my apparel."

Of course, that never happened, but she did begin to divest herself of a flat, youthful singing style that owed much to a childhood infatuation with such groups as the Partridge Family. Rew introduced her to his enormous record collection, which contained work by many black artists, including Etta James and Aretha Franklin, and she bought records by Sam & Dave, the Contours, Little Richard, Otis Redding—anything from the 1950's and 1960's that was black. "A lot of that stuff went into my head," she said, "and now it's coming out of my mouth."

The group made a few singles in England, but Attic Records in Toronto was the only company willing



JOANNE FLASTER

I WANT TO ENTERTAIN WITH
A SMILE ON MY FACE. AND
ACTUALLY, I'VE ALWAYS
THOUGHT OF MYSELF AS
MORE OF A GIDGET THAN
A CHRISIE HYNDE.

to stick its neck out for an album-licensing deal with the fledgling band. In 1982, Attic released "Walkin' on Sunshine," the group's first LP, which sounded very much like a rough garage tape. It was recorded in a London studio next to a railroad station. "The floor goes like this, and the ceiling is dripping," Leskanich said, demonstrating, "and you have to stop a vocal track midway if a train is passing because the noise gets in."

Undaunted, in 1983 the group made another LP for Attic at the same studio. The band had made strides, and the second album, "Katrina and the Waves 2," simply sparkled with a refreshing clarity and a "live" feeling that is, to a great extent, muddied on the fancier Capitol remix.

By 1984 the Attic recordings had attracted some attention on alternative and college radio stations, and soon the band was discovered by Capitol Records and signed to that label. When Andrew Fuhrmann, Capitol's director of talent acquisition, and engineer Scott Litt chose what they felt were the ten best tracks from the Waves' two Attic releases, the group went back to the

creaky London studio to rerecord some of the material. In New York, Litt put the tapes through the boards at the Power Station studio, using a variety of ambiances.

The result? A polished American debut album that has a somewhat Phil Spectorish Wall-of-Sound texture. It's slick as can be, but all the "atmosphere" causes the melodies to recede behind the "wall," creating much more homogeneity.

"If you've heard the first two LP's, then the third one's a bit of a shock," admitted De la Cruz.

"But it's better," added Rew, "because the basic sounds have been given close attention in a posh recording studio."

Now that they've entered the realm of the "posh recording studio," what's next for Katrina and the Waves?

"Hopefully, more of the same," said Rew, referring to the next album the band plans to finish by year's end. "We don't really progress. We're doing basic rock-and-roll. All I care about now is the next batch of ten good songs."

This emphasis on ten songs—no more, no less—hints at an inclination toward commercialism that could cause the band to become totally mainstream before they mature enough to take musical risks. "We do want a lot of people to like us so we can play in big places," said De la Cruz. And certainly, so far the group has managed to win over enough of the right people. This despite the fact that their wholesome, uncomplicated sound and their lack of a visual image are a far cry from the androgynous technopop that is so ubiquitous today.

Fuhrmann, the Capitol executive who signed the band, observed, "People always want to hear real acoustic sounds, real singers, and real emotion. And in a world of make-up and costumes, a non-fashion statement can be refreshing. Katrina has said more than once that she's not the next sex thingy. She's not selling records with a come-hither look."

But she *is* selling records, and the label is banking on a building momentum—the Waves' contract calls for no fewer than six LP's and one greatest-hits compilation.

"Our audience," said Rew, "contains a lot of eighteen-year-old girls who want to be like Katrina. We had no idea that would happen until we started doing gigs here. But they really look up to her, so we must be doing something right." □

NEW LIFE FOR OLD RECORDINGS



How to tape your time-worn treasures / by Ian G. Masters



LET'S face it: not everything we choose to listen to is hi-fi, or at least not everything I choose to listen to. I was bitten by the audiophile bug at a very early age, but at the same time my musical tastes were being formed in the peculiar world of late-Fifties greaser music and early-Sixties bubblegum rock. I would be the first to admit that much of the music of that period was, um, undistinguished, but I still take a perverse delight in listening to it sometimes, and I take pride in a room full of old 45-rpm singles, a few 78's, and some venerable LP's.

The main drawback of these records is that, however much they may tug at the old heartstrings, they sound terrible. Most of them were atrociously recorded in the first place, and the vast majority spent their early years being played on a series of truly wretched phonographs. My own equipment was fairly primitive back then, but what really did my collection in was the odd assortment of players my friends used at parties—plus the fact that sleeves were virtually un-

known once you got the records home from the store.

Playing these records on a state-of-the-art sound system today is an exercise in masochism that will drive away anyone but the most committed nostalgist. Even I find they put my teeth on edge much of the time. By now most of them sound as if they were recorded on a rifle range during a hail storm.

And yet I *do* want to hear this stuff now and again. The obvious solution is to transfer a bunch of the records to tape. When I embarked on a project to tape some of my collection, I knew that I would never end up with high fidelity, but I thought that some improvement would be possible, that the material might become more listenable with a little manipulation. It turned out I was right, and the methods I used are not at all esoteric or expensive, just time consuming—and rather fun, if you enjoy the recording process as much as I do.

Judging from the raft of oldies radio stations out there and the brisk sales of reissue albums of old singles, lots of people share my

tastes, and probably many of you are also sitting on treasure troves of old records you'd love to hear again but can't stand to listen to. So here is my step-by-step plan for breathing new life into such recordings. The techniques are based on a bit of theory, a bit of reading, and lots of trial and error. Not everyone will have the patience to go through all the steps, but any combination of them will result in a tape dub with *some* improvement over the original sound.

For convenience and flexibility, and because I had the equipment on hand, I did my work first on open-reel tape, then dubbed to cassette for the final version. While this approach has its advantages, most of the restoration techniques I used will work just as well dubbing direct to cassette.

Step 1: The Program

Early on, I realized there was no point in trying to put absolutely everything I had on tape. First, there was simply too much of it. Second, I didn't really like a lot of it all that much. And third, no one,



not even me, would sit still for more than a couple of hours of this stuff at a time. So I decided to record just two C-90's, a total of three hours maximum.

Figuring that an average song back then ran about 2½ minutes, I determined that I could record seventy-two of my favorites. I went through my collection, digging out possible candidates, and then discarded the more dubious items until I had the right number. I then listed the final choices, noting the time for each one (I had to time a few with a



stopwatch, but most had running times on the label) and the location of the best available copy of each. A surprising number of the songs I chose, perhaps half, I had at some point acquired as reissues or on LP collections, and I elected to use these where possible. Sometimes, however, a reissue was so heavily processed and "enhanced" that it bore relatively little resemblance to the original, in which case I went with the scratchy older version.

Having made my initial selections, I added up the times to see how close I was to the total I needed. As it happened, I was within a few seconds of three hours, but that can be put down to blind luck. Had I been less fortunate, I would have substituted selections until the total came out right.

The next step was to make up four separate programs, one for each side of the two final cassettes. My goal was to have each program fill a side completely, without any annoying pauses at the ends of songs, and each side had to have a certain pace and variety in itself. To do this, I decided that no artist would appear

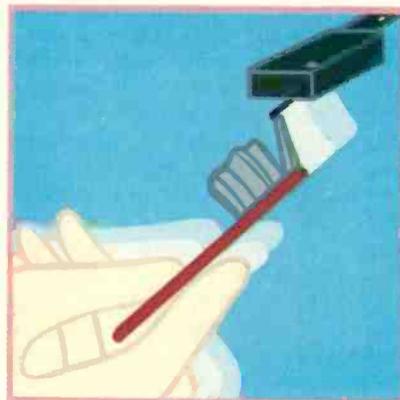
twice on the same side, meaning that none would have more than four songs in all. As it turned out, very few had that many: the Beatles, Elvis, Chuck Berry, and one or two others.

To make up the individual program sheets, I first assigned the groups of songs by the same artists, spreading them around as evenly as possible on the four sides. Then I filled up the sides arbitrarily until each side had eighteen songs, added up the total time for each one, and juggled songs around, switching cuts from side to side, until all four sides came out to the right length—a time-consuming but somehow rewarding exercise. Next I organized each side to provide a reasonably sensible or artistic mix: alternating instrumentals and vocals, groups and soloists, male and female singers, fast and slow songs, and so forth. Finally, I arranged all the records to be recorded in four neat piles and went on to the next step.

Step 2: Setting Up

It was obvious from the beginning that the tapes would be mono. Some of the records were originally stereo, and many of the reissues had been reprocessed in pseudo-stereo, but most of the cuts were mono, so that seemed the best way to go. Mono also had one technical advantage. The physical effects of record wear, as well as of accumulated dirt and scratches, tend to be random in terms of phase, so bridging the system to mono removed a surprising amount of the garbage interfering with the sound by canceling out-of-phase material.

I elected to do the bridging right



at the cartridge output, on the theory that the earlier it was done in the signal chain, the less chance there would be of tiny phase shifts letting unwanted noise through. Whether this actually made any difference I don't know. It was convenient for me, but the same results could probably have been achieved by a pair of back-to-back Y-connectors at either the phono input of the preamplifier or the line inputs of the tape deck.

I next concluded that while few of my old discs had much in the way of high-frequency musical content, the worst effects of wear and dirt were in the high-frequency portion of the spectrum. Therefore, I decided to chop the frequency response rather severely above about 5,000 Hz. With a slight increase in treble up to that point, to restore an apparent brightness, the effect was marvelous. The easiest way to accomplish it would have been with a graphic equalizer, but I did not have one immediately at hand, so I used a small filter unit that provided a very sharp low-pass cutoff with a variable turnover frequency (it extended down to 5,000 Hz, and that's where I left it most of the time).

Experience also showed me that gradual tone correction was a good idea in order to match the character of one song to the next. Although this too could be done with an equalizer, it would require quite a bit of restraint not to overdo things. Instead, I simply placed a second conventional preamplifier in the circuit and used its tone controls. An extra wrinkle was the inclusion of an old Phase Linear Autocorrelator for tidying up the noisiest of the discs. I didn't use it often, but it was handy on a few occasions. The Autocorrelator, the filter unit, and the extra preamp were wired in series between the tape-monitor output of the master preamp and the tape-recorder input.

One technique I experimented with turned out not to be a good idea. In the beginning, I reasoned that the styli that had ruined the records in the first place should be duplicated as closely as possible in making the tape, because the size and shape of the groove deformations would match an older cartridge better than a modern one. But

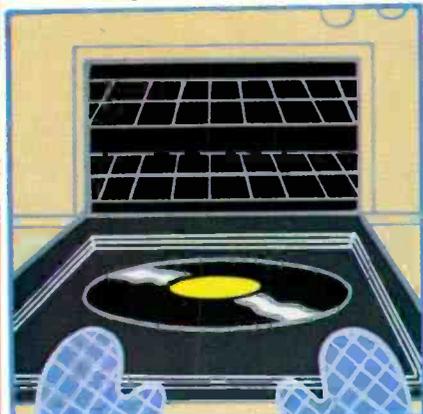


I found that the old cartridge I tried simply made things worse, while the newer models seemed to have more ability to track the worn grooves. I elected to use a very good modern cartridge, but one that could stand a fairly high tracking force, since this seemed to help the sound a bit.

Step 3: Preparing to Record

Once the system was set up and seemed likely to give reasonable sonic results, I found that some rehearsal was necessary to get the songs on tape as smoothly as possible. This involved determining how long the turntable took to get up to speed and matching that with the operating vagaries of the tape recorder so that a reasonably accurate cue could be achieved. I can back-cue my turntable, but it takes a couple of seconds to get up to speed, so I had to practice a while before I was able to roll the tape at just the right moment.

The simplest way to go about the



transition from one song to the next is to use the deck's pause control: stop the tape at the earliest possible moment after the previous record, restart the turntable, and then roll the tape just before the music begins. While this method works fine, for my taste it leaves a bit too much of a gap between songs. If you're using a three-head recorder and punch-in recording is possible, rolling the new record just before the previous song ends and then punching in the record function just before the new song starts can give a very nice, clean transition. But you'll have to practice quite a bit to know *exactly* when to roll the rec-
(Continued on page 132)

WHEN ALL ELSE FAILS.....



WARPING in everyone's record collection is at least one disc that no amount of processing will make listenable but that happens to be indispensable for a tape dub of favorite oldies. You may find it worthwhile to buy a new copy, or borrow one in better condition, but that may be impossible. Before you write it off completely, however, you can try a few more drastic measures that may let you squeeze out another play or two—enough to tape it for further processing.

Severe warps. There are several tricks to compensate for warps. Depending on the nature of the warp, one or a combination of these may work for you.

A central weight or clamp may flatten the disc just enough to make it play. If the clamp is in contact with the disc at only a few points, try different positions to find the most effective one. You might also try propping up the side of the record opposite the warp by putting a few pieces of paper under it; this may even out the surface enough for the arm to handle it. Some warps can be corrected temporarily by using a few short strips of tape to secure the edges of the record to the platter (again, try different locations).

If you can lay your hands on an old record player with the 16 $\frac{2}{3}$ -rpm speed (offered on a number of models in the Sixties), and if you have an open-reel recorder with more than one speed, you might try running both the player and the recorder at half speed. The arm may find it easier to track the warp at the slower speed.

Finally, you may want to try unwarping the record. The classic method is to place the disc between two sheets of glass (they have to be larger than the record), placing a weight on top, and then gently heating the whole works in an oven. Start at the lowest possible temperature (preferably about 110°F), then gradually raise the temperature over a period of time until you can see the record starting to flatten; then hold it at that temperature until it looks playable. Because this method of flattening out a warp can also deform the record grooves, I recommend it only as a last resort, and only to the point

where the record will play. Don't shoot for absolute flatness.

Clicks, pops, and skips. Random clicks may be caused by dirt and will usually yield to a thorough cleaning. Recurring clicks, however, the kind you hear once per revolution of the record, are caused by scratches. The best solution for such noises is to get an electronic "click and pop suppressor." These are less common today than a few years ago, but one is still available from SAE.

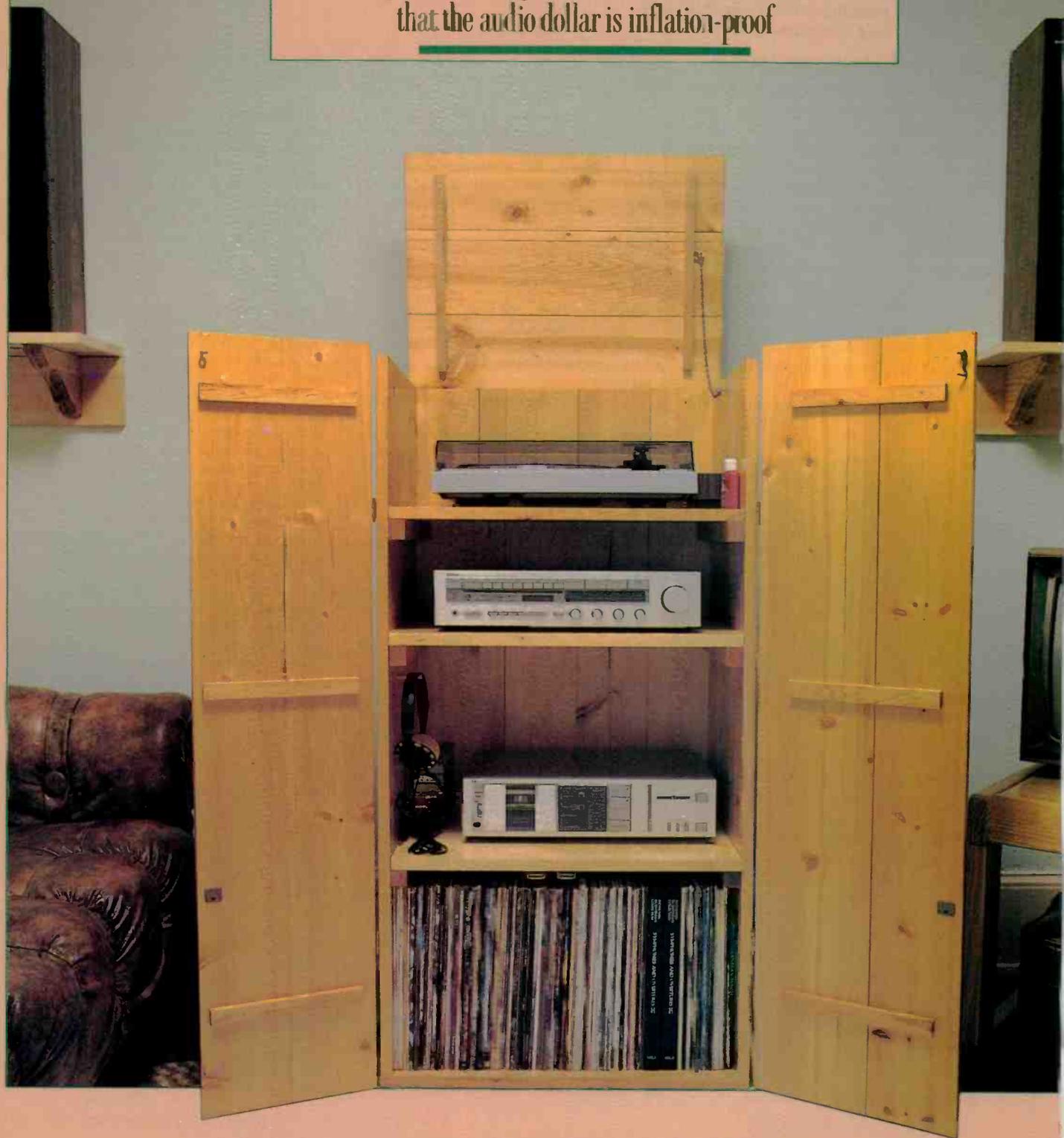
If a scratch causes the stylus to skip to the next groove, increasing the tracking force will sometimes correct the problem. Or you can try restoring the groove by using the tip of a sewing needle and a powerful magnifying glass; this won't get rid of the pop, but it may correct the skipping. If you have a spare cartridge with a stylus you don't mind abusing, another method is to crank the tracking force up to several grams and then back-cue over the offending part of the groove several times. Again, that section of the record will still be noisy, but it may not skip. If your problem is caused by a crack rather than a scratch, you may still be able to play the record if you very carefully align the two sides of the crack. But make sure that the stylus always tracks from the high side to the lower side, not the reverse, or you may tear it out of its moorings.

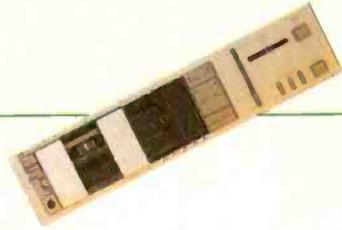
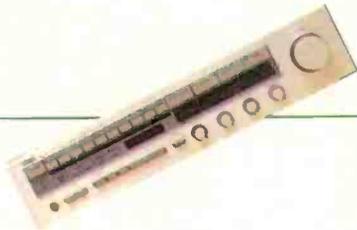
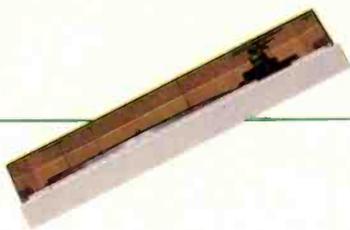
Filth. If a record is truly dirty, such as one of mine that emerged from years in the basement covered with green fuzz, repeated applications of a record-cleaning fluid might fix it. If not, try to find a local record store, record library, or even radio station that has a heavy-duty cleaning machine (the Keith Monks unit is the best-known); you may be able to cajole them, or pay them, to let you use it. As a last resort, try washing the record in lukewarm water and dishwashing detergent (not dishwashing-machine detergent), rinse it completely, and dry it very carefully by laying it on a lint-free cloth on a flat surface. This method may be bad for the record in the long run, but it will probably allow you a few relatively quiet plays for taping.

by William Livingstone

SYSTEMS

A prize-winning reader's installation shows
that the audio dollar is inflation-proof





THOMAS BRIGGLE, of Akron, Ohio, describes his stereo installation as a "no-frills" system. The winner of STEREO REVIEW's Rodrigues Cartoon Caption Contest, Briggle is a long-time reader of the magazine, and most of his audio purchases have been made on the basis of our equipment test reports. He says Julian Hirsch represents "a voice of reason in a marketplace of bewildering choices."

A computer systems programmer, Briggle works at a hospital on a medium-sized IBM mainframe. "My educational background is X-ray physics," he writes, "but my first love is music. It was sparked by a friend who told me there was a difference between mono and stereo records. I was so skeptical I bought a ceramic cartridge for \$10 and routed the two signals to oval speakers strapped to my head. I was stunned by the soundstage and have been entranced ever since."

While still in school he built speaker systems that were his own modification of Paul Klipsch's folded-corner horn design. Later he replaced those with Altec-Lansing Voice of the Theater systems. Although his wife was patient with 24-cubic-foot speakers in a small living room, out of deference to her he decided to go to bookshelf models.

After reading the April 1982 Hirsch-Houck Labs test report on Boston Acoustics A-40 speakers, he auditioned them in a local audio store and bought them. A year later he traded up to his present speakers, Boston Acoustics A-70's. "They better satisfied my deep-bass addiction," he says, "while retaining the exceptional smoothness and dispersion of the A-40's."

The heart of his system is a Yamaha R-50 receiver (reviewed in these pages in De-

ember 1983). "It appeared to be such a bargain," Briggle says, "that I immediately auditioned it and bought it. I have not been disappointed. My positive experience with the R-50 receiver led me to choose a Yamaha P-220 turntable.

"The review of the Shure V-15 Type V-MR cartridge was so laudatory that I bought one without listening first. My trust was not misplaced—I haven't heard a better cartridge at any price. It really does track anything!"

Briggle's current tape deck is a Nakamichi BX-1, which he bought after an A/B listening test comparing the source with the recording. It has convinced him that Nakamichi's reputation for quality is well deserved.

The installation is housed in a plain cabinet Briggle built himself. Modest about his skills as a carpenter, he says, "I built it simply because I was tired of looking at wires."

The cost of Briggle's equipment—receiver, \$335; speakers, \$270; turntable, \$130; car-

tridge, \$138; tape deck, \$300—adds up to \$1,173, which he says is about the same as the cost of a fairly similar component system he put together in 1973. "But there is no comparison in performance," he adds. "It seems the audio dollar has been untouched by inflation."

Like most audiophiles, Briggle continues to expand his equipment and trade up. He says there is a pair of Klipschorns in his future. He has watched the rapid maturation of Compact Disc players with interest. Just at press time he decided to take the plunge and apply his prize money from the Rodrigues contest toward the purchase of an Emerson CD player he saw advertised in our September issue. The unit only cost \$178, but Briggle says, "It sounds like a million dollars!" □



POLK SDA-SRS

In their pursuit of reality in audio reproduction, engineers have gone off in a variety of directions. Over the years, some have concentrated on further reduction of known (or newly discovered) distortions as a means of providing the breakthrough to higher fidelity. Others have dedicated their efforts to dynamic-range extension, or precise control of driver dispersion, or psychoacoustic manipulation of the stereo signal, as the key to realistic reproduction. Among those interested in psychoacoustics as a path to greater realism are both amplifier and speaker designers. Matthew Polk of Polk Audio is very prominent in the speaker group.

The new "no-compromise" flagship Polk speaker system, the SDA-SRS (\$2,600 a pair), represents a further refinement of the design approach first used in the Polk SDA-1, which we tested in December 1982. "SDA" stands for Stereo Dimension Array, which is a system of using a second set of drivers in each speaker to cancel the *interaural crosstalk* produced by the main drivers in the opposite speaker (see box on pages 88-89). We found the SDA-1 to be a very fine speaker in all respects, and it was followed a couple of years later by the slightly smaller SDA-2 and then the bookshelf-sized SDA-CRS.

The SDA-SRS—for Signature Reference System—refines the basic SDA approach in several ways. For example, since it is neither necessary nor possible to obtain *complete* cancellation of interaural crosstalk, in the SDA-SRS the dimension arrays handle only the frequency range between 200 and 1,000 Hz; the earlier SDA systems use full-range dimension arrays. According to Polk, the 200- to 1,000-Hz band is able to provide some 95 percent of the desired acoustical correction, and it has the logical appeal of encompassing the range of vocal fundamental frequencies as well as acoustic wavelengths com-

The Signature Reference

System, Polk's

no-compromise flagship

loudspeaker, offers new

refinements on the Stereo

Dimension Array design

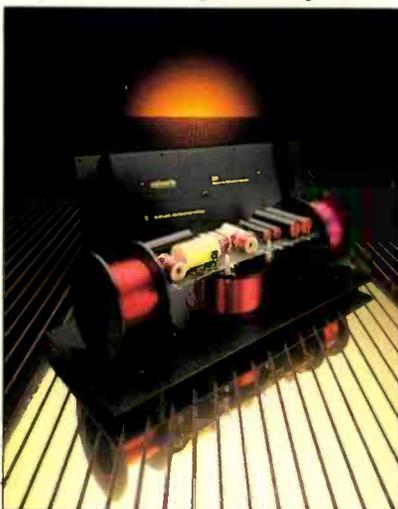


by Julian Hirsch

parable to the dimensions of a human head.

The basic configuration of each SDA-SRS speaker system consists of four vertically aligned 6½-inch polymer-cone drivers for the bass and midrange portion of the main stereo array and a second row of identical drivers about a foot away for the dimension array. At frequencies below about 200 Hz all eight drivers act together, and their out-

The sophisticated crossover network in the Polk SDA-SRS is larger and more complex than some separate components.



put is augmented below about 100 Hz by a nominally 15-inch passive radiator. Between the two rows of 6½-inch drivers is a single vertical group of four 1-inch polyamide-dome tweeters that operate above 1,000 Hz.

Since the SDA system's crosstalk-cancellation effect depends rather critically on precise timing of the signals arriving at the listening position, the driver configuration in the SDA-SRS is phase compensated through both the crossover network and the front-panel mounting of the drivers. The result is to angle each speaker's effective axis of radiation about 20 degrees inward toward the listener.

Another factor critical for successful operation of the interaural correction process is preventing room reflections in the 200- to 1,000-Hz range from reaching the listener's ears within the first 5 milliseconds of a direct signal's arrival. Because sound travels about 5½ feet in 5 milliseconds, placing the speakers at least 5½ feet away from the side walls eliminates a possible source of trouble. A different solution is required, however, to deal with reflections from the floor and ceiling.

The combined group of main and "dimensional" driver arrays in the SDA-SRS is about 30 inches high and is centered about 4 feet from the floor, midway between the floor and ceiling of a typical room. In the frequency range from 200 to 1,000 Hz, these drivers act in many respects as a uniformly driven line source with limited vertical dispersion, thus minimizing any interfering reflections from the floor and ceiling.

A line source, however, becomes increasingly directional as the frequency increases, so the array of high-frequency drivers required some special attention. If the four tweeters were driven in phase with identical signals, they would have an undesirably narrow vertical po-



Phase Coherence System

Aperture Reference System

PHASE COHERENCE SYSTEM

Aperture Reference System

Aperture Reference System

Aperture Reference System

lar pattern at high frequencies. What the system needed was a vertical tweeter radiation pattern that excluded output toward the ceiling and floor but had a constant directivity over the useful frequency range.

This was accomplished by operating the tweeters as a "progressive point source." At the lower end of the tweeter range, from 1,000 to 2,000 Hz, all four tweeters operate together. Above 2,000 Hz, the effective length of the tweeter array is progressively reduced by rolling off the signal to individual drivers until, at the highest frequencies, only one tweeter is operating. As a result, the total acoustic output of the four-tweeter array that reaches the listeners' ears is equal to the output of a single tweeter covering the same overall frequency range.

Putting Out the Bass

The use of relatively small cone drivers (with larger passive radiators) as bass and midrange reproducers is typical of Polk speaker designs. It has numerous advantages, since the smaller cone diameter allows the active drivers to reproduce midrange frequencies that would be beyond the ability of larger cones, yet ample lower bass can be produced by a passive radiator that is much less expensive than a conventional 15-inch driver.

In the SDA-SRS, the multidriver woofer array and the single large passive radiator—a rigid disc with a nominal 15-inch diameter and an actual moving-surface diameter of about 13 inches—provide an exceptional low-bass capability. The total area of the eight 6½-inch drivers and the passive radiator is equivalent to that of a 20-inch-diameter cone, which is impressive enough in itself. Moreover, the proximity of a number of drivers in a single system results in mutual acoustic coupling that further enlarges the effective diameter—according to Polk, each SDA-SRS system has the bass radiation of a 40-inch woofer!

As might be expected, the Polk SDA-SRS is a large, heavy, and expensive speaker system. Each cabinet is 63¾ inches high, 21 inches wide, and 13 inches deep and weighs about 150 pounds. The top and side trim panels are wood, in a choice of oak or walnut finish, and the front is covered by a single black cloth grille. Behind the grille just above the passive radiator is a black

metal panel as large as the front of a rather powerful amplifier. Behind it is the elaborate Polk Isophase crossover network.

In the rear of the cabinet are four binding posts spaced to accept dual banana plugs and joined in pairs by heavy metal links. These provide separate access to the high- and low-frequency sections of the system, allowing biamplified operation without using a separate electronic crossover. Each speaker enclosure has a socket for the cable that connects them so that their dimension arrays can be driven with the appropriate signals from the opposite speaker. This connection between the speakers requires that the driving amplifier be able to operate with a common ground between each channel's speaker-output terminals. Most amplifiers meet that requirement, but there are enough exceptions, including several popular models, that caution is indicated.

A Sense of Space

Extensive listening to the Polk SDA-SRS with a wide variety of program material led us to form separate judgments on its two key characteristics: the SDA spatial effects and its basic performance as a loudspeaker system.

The SDA system works essentially as claimed. Like its electronic counterparts, it is highly dependent on the program material for its effect. For example, mono programs are not spatially enhanced in any way by the SDA; the sound comes from midway between the speakers, just as it should. Stereo programs with strong channel blending fill the space bounded by the speakers, occasionally extending beyond those limits. But with highly separated material having little correlation between the two channels, the effect can be quite spectacular. On occasion we heard the sound to our sides, a full 90 degrees away from the speakers.

With most of the material we auditioned from LP, CD, cassette, and FM sources, the results were very pleasing. Despite having only a 5-foot separation (in the recommended placement in our listening room), the two speakers almost always filled the 15-foot room width with a well-defined sound stage that was readily apparent from most listening locations. Only when we listened from a point outside the rectangle defined by the speakers and

STEREO DIMENSION ARRAY

In general, sounds arriving from any direction other than straight ahead (or behind) reach our two ears at slightly different times. This interaural time delay is one of the ways in which we determine the direction of a sound source. When we listen to a typical pair of stereo speakers, however, our ears receive additional signals that interfere with our ability to localize the reproduced sound source. This effect, shown in Figure 1, is called interaural crosstalk, and it is largely responsible for the usual restriction of the stereo sound stage to the region between the speakers and for the listener's awareness that the sound originates from two speakers rather than a "real" source.

Although there are electronic techniques to compensate for interaural crosstalk, Polk uses a purely acoustic approach called Stereo Dimension Array (SDA). Polk's SDA series speaker systems have a second set of drivers, the "dimension array," in each enclosure, positioned to the outside of the regular stereo drivers (the drivers used in both the stereo and dimension arrays are vertically aligned).

In the original Polk SDA-1, the two arrays were spaced apart by approximately the distance between a person's ears; in later versions this distance has been increased slightly. In theory, the crosstalk signal reaching the right ear from the left-channel speaker, and vice versa, could be canceled by a similar signal from the opposite speaker if it were suitably delayed and reversed in polarity, as in Figure 2. In practice, with the earlier SDA systems the cancellation is most effective over a limited area, along a line midway between the two speakers. Nevertheless, there is an increased sense of spaciousness throughout most of a listening room and an extension of the sound stage beyond the left and right limits defined by the speaker cabinets.

The SDA-SRS refines the earlier design in several ways. One is illustrated in Figure 3, which shows how recessing the main bass/midrange drivers relative to the tweeters shifts the speaker's effective axis.

the length of the room did the sound narrow down to the usual "between the speakers" distribution.

Balance and Impact

As good as the SDA feature is, we were even more impressed by the overall quality of the Polk SDA-SRS as a speaker system. The sound is superbly balanced and totally ef-

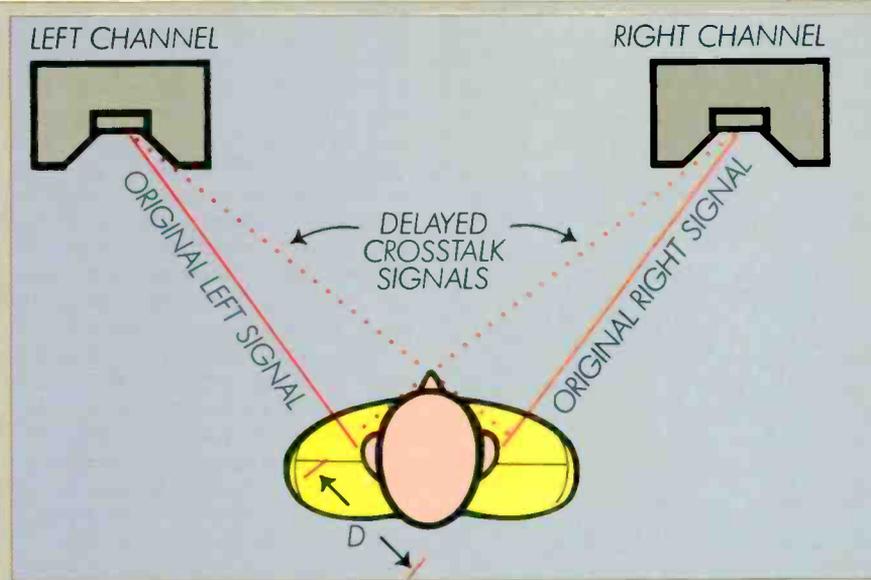


Figure 1: Interaural crosstalk with a conventional speaker system. In addition to the desired arrival of the left- and right-channel signals at the corresponding ears of the listener, each ear also receives a signal from the opposite channel, but delayed by the time required for the sound to travel the additional distance D to the opposite ear. If only the two "original" signals from each channel were heard, the listener would be able to localize the reproduced sound source more precisely from the arrival times and levels of the two signals. The crosstalk from the delayed signals reaching the "wrong" ears reduces this localization ability.

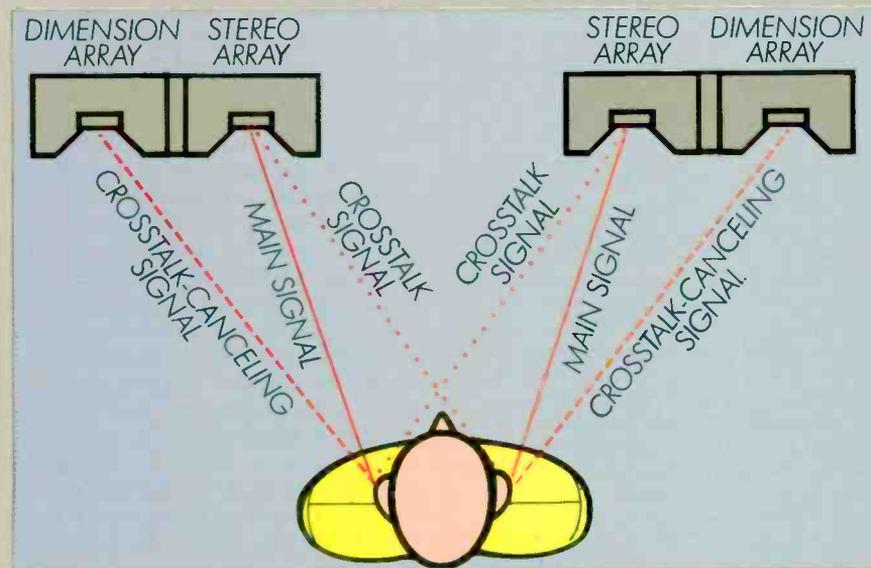


Figure 2: Stereo Dimension Array in Poik's SDA speaker systems. The "dimension array" drivers in the left speaker produce a right-channel signal with reversed polarity that arrives at the left ear with the correct timing to cancel most of the interaural crosstalk from the right speaker, and vice versa for the dimension array in the right system.

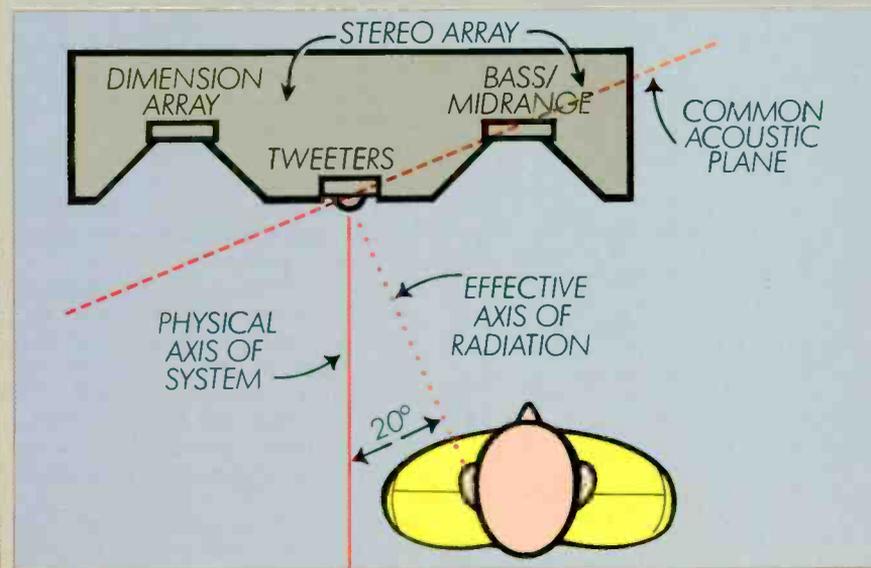


Figure 3: Phase compensation in the SDA-SRS system. The bass/midrange drivers are recessed relative to the tweeters so that their common acoustic plane, and thus the effective axis of radiation, is shifted by an angle of 20 degrees toward the listener. As a result, the distances from each set of stereo-array drivers to the listener's appropriate ear are equal, allowing the bass/midrange and tweeter signals to arrive at the same time and in correct phase for accurate reproduction of the original waveform.

MARK FALLS

Polk recommends that the SDA-SRS speakers be placed as close to the back wall as possible and at least 5 feet from the side walls. In our room, we were able to get them only about a foot from the back wall and 3½ to 4 feet from the side walls, which placed the cabinets about 5 feet apart (center to center). This separation is somewhat less than one might normally prefer when listening from distances of 10 to 15 feet, but, as we soon discovered, the SRS thrives on such less-than-optimum conditions.

For all our measurements we drove one speaker at a time, removing the amplifier connections from the other but keeping the cable between them connected at all times. The averaged room response from the two speakers, measured singly, was notably free of large fluctuations from 100 to 20,000 Hz. The output rose slightly above 10,000 Hz and below 500 Hz, giving the curve a somewhat "swaybacked" appearance that represented what was actually a slight lower-midrange emphasis according to our ears and other measurements.

Normally we measure the bass response of a system with close microphone spacing, separately for the driven and passive radiators (or ports). This procedure was not easy to carry out in an unambiguous manner for the SRS because of its multiple drivers. It was evident that measuring the output

The composite frequency response was exceptional no matter how you look at it.

of an individual cone would not result in a meaningful curve, but the passive-radiator response was strong enough to dominate the bass output up to about 100 Hz, where it could be spliced to the room-response curve. The resulting composite curve is probably at least as valid as our usual composite response measurements, and it was perfectly consistent with what we heard from the speakers.

The composite frequency response was flat within ± 4.5 dB from 20 to 20,000 Hz, exceptional performance no matter how you look at it. The system impedance was between 5 and 6 ohms between 70 and 200 Hz, rising to 13 ohms at 53 Hz and dropping to slightly below 5 ohms at 20 Hz. Above 200 Hz it rose to 19 ohms at 1,000 Hz, rolled off to 4 ohms at 3,000 Hz, and stayed between 5 and 6 ohms from there out to 20,000 Hz. According to

Polk, the actual impedance of the SDA-SRS varies dynamically with the program content and is also somewhat lower when both speakers are driven because of their dynamic interaction. The speaker sensitivity was as rated, 91 dB sound-pressure level at 1 meter when it was driven with 2.83 volts of random noise in an octave band centered at 1,000 Hz.

We have never measured a low-bass distortion level as low as that of the SDA-SRS.

The results of our bass-distortion measurements were both expected and surprising. Expected, because the huge bass radiating surface should generate very little distortion since only a small cone displacement is required for a given output. Surprising, because we have never measured a low-bass distortion level as low as that of the SDA-SRS. At a constant 2.5-volt input (corresponding to a 90-dB midrange output level), the distortion from the passive radiator was about 0.18 percent at 100 Hz and a constant 0.7 percent from 70 to 20 Hz except for a sudden rise to 2 percent at 30 Hz. Since the distortion returned to 0.7 percent at lower frequencies, we believe that this "distortion" peak simply reflected hum picked up by the system. To confirm the readings of our H-P distortion analyzer, we verified them on the spectrum analyzer. The distortion was essentially all second-harmonic.

With the aid of our IQS FFT analyzer, we were able to expand and essentially confirm our base of measurements on this system. Measured at 2 meters on the speaker's central acoustic axis, the response was ± 4.5 dB from 180 to 18,000 Hz. The horizontal dispersion was good, with the output 45 degrees off axis decreasing above 10,000 Hz but down only about 8 or 9 dB at 15,000 Hz.

The phase compensation of the system was exceptional, with the group delay being constant within ± 0.1 millisecond from 2,000 to 20,000 Hz. Most speakers show a much greater group-delay variation at lower frequencies, but in the SRS it rose only to 0.4 millisecond at 360 Hz and to 2 milliseconds at 180 Hz. Finally, since the IQS analyzer can measure down to lower frequencies than our regular response-plotting equipment, we found that the passive-radiator response varied a total of only 7 dB between 12 and 90 Hz. Polk calls the passive radiator a "sub-bass driver"—with good reason!

fortless. It might be possible to explain the large scale of the sound from the SRS system psychologically—these are huge speakers, and they sound as imposing as they look. It seems more probable, however, that the SDA feature had more to do with the unusually open and integrated sound quality. The speakers are very attractively styled, and in spite of their size, their physical presence faded into insignificance as we listened to them.

One of the most serendipitous aspects of living with the Polk SDA-SRS was the rediscovery of the low-bass content in many programs. We seldom encounter speakers with response below the audible range. It is quite an experience! Furthermore, with the SDA-SRS it is not necessary to play the music loud to enjoy the tactile qualities of deep bass. It comes through the floor and the skin even at background-music levels, yet the SDA-SRS has less artificial heaviness in the 100- to 200-Hz range than most smaller speakers.

Not surprisingly in view of its large driver complement and rated power-handling capability of 1,000 watts or more, the Polk SDA-SRS thrives on power levels that would vaporize some lesser designs. We ran out of power from our amplifier (one of the most powerful available for home use) when we attempted to reach the speaker's limits with 1-cycle tone bursts. At 100 Hz the amplifier clipped at 1,650 watts into 6 ohms, and at 1,000 Hz it clipped at 765 watts into 20 ohms. Only at 10,000 Hz, where presumably only one driver was in use, did we reach the limits of the speaker and the amplifier at about the same time—1,265 watts into 5 ohms.

Almost any amplifier can drive the SRS to the highest listening levels most people would want since its sensitivity is higher than that of most other contemporary high-quality speakers. However, be sure your amplifier can drive low load impedances comfortably—at least 4 ohms and preferably 2 ohms. For example, we tried out the speakers with one receiver, rated over 100 watts per channel, whose protective relays shut it down at levels we would not consider excessive. To get the most out of the Polk SDA-SRS speakers, we would recommend using an amplifier capable of delivering at least 200 watts per channel into 4-ohm loads. With that kind of reserve power you'll be able, at least once in a while, to "open up" the system and enjoy! □

DESIGNED TO BE THE CAR STEREO CLASSIC!

JENSEN



150 Watts Peak Power
Compact Disc Ready

COMPACT DISC



NEW JENSEN CLASSIC TRIAX[®] SPEAKER SYSTEM

The technological evolution in sound continues. We invented the first car speaker more than 50 years ago and then we invented the legendary Triax[®] car stereo speaker system. Now we have designed the state-of-the-art car stereo speaker for today's music requirements. The new Jensen Classic Triax car stereo speaker system.

DESIGNED FOR PERFORMANCE

Each speaker handles 150 sizzling watts of peak power with a torrid 80 watts RMS. Designed for use with today's car stereo components and the new high definition digital recordings. Yet so efficient, you get plenty of volume out of a standard car radio.



DESIGNED FOR REALISM

The 40-25,000 Hz frequency response means you'll hear all the music. The new unitized array and tuned pad ring improve response so you get all the dynamic range in today's music. The bass is more clear than ever before and the new midrange and tweeter allow a smoother blending of music than you've ever experienced.

DESIGNED FOR ENDURANCE

A classic stands the test of time. So whether you invest in the most advanced audio components or explore the digital world of compact disc, Classic Triax will handle it with unparalleled fidelity—today, tomorrow, and years from now.

DESIGNED FOR SMILES

Emotion should never be under-

estimated. And you'll smile every time you listen. This sound is that good. In the final analysis, your sound system is only as good as your speakers. If your speakers can't play it all, you won't hear it all. So don't buy backwards. Speakers first—and begin with a Classic!



JENSEN[®]

When you want it all.

© 1985 International Jensen, Inc.

Jensen[®] and Triax[®] are registered trademarks of International Jensen, Inc.

For Dealer Nearest You Call TOLL-FREE 800-633-2252 Ext. 833

CIRCLE NO. 24 ON READER SERVICE CARD

The Sight and Sound of
QUALITY

YOU CAN SEE AND HEAR

When you're this good, you put your warranties where your mouth is. That's why, overall, Hitachi probably has the finest limited warranty protection ever offered in home electronics products. Products that perform so well, you may never get a chance to see how good our warranties really are.



A World Leader in Technology



NEW SIGNAL TRACKER COMPONENT TV

Backed by Hitachi's incomparable 10/2/1 limited warranty, this state-of-the-art 20" diagonal flat square tube receiver/monitor integrates all your home entertainment functions. VCR, VideoDisc Player, stereo system, video games, home computer and total TV reception. Enjoy more on-screen picture and less distortion. And only Hitachi has Signal Tracker control, our most advanced color control system ever. With the handy wireless remote control and wood cabinetry you get ease of operation, great sound and quality good looks.

Simulated TV picture.



NEW COMPACT DIGITAL AUDIO DISC PLAYER

Only Hitachi, a world leader in advanced audio technology, offers Laser Life — a two year limited parts warranty for long term protection. Yours with the DA-600. With a three-spot laser pick-up servo system; wireless remote control that reads, selects, repeats, skips and scans; memory programming for up to 15 selections; slim-line, front load design.

NEW 5 + 2 HEAD HI-FI VCR

With Adjustomatic, a limited warranty superior to industry standards, the exceptional VT-89A VCR from Hitachi has brought hi-fi technology to video sound. Sound finer than any turntable or conventional tape deck... far superior to ordinary VCRs, it's sound you have to see to believe. Five video heads, two audio heads, cable ready, with a computer brain that guides you through every program function. Each step is displayed on your TV screen.



HITACHI

401 W. Artesia Blvd., Compton, CA 90220. (213) 537-8383

CIRCLE NO. 13 ON READER SERVICE CARD

For Dealer Nearest You Call TOLL-FREE 800-633-2252 Ext. 832

Stereo Review's critics choose the outstanding current releases

JOHN ELIOT GARDINER'S EXCITING BACH

THE young English conductor John Eliot Gardiner has certainly proved to be one of today's finest interpreters of large-scale Baroque vocal works. As director of the Monteverdi Choir



Emma Kirkby: genuine joy

and the English Baroque Soloists, he seems able to bring excitement to almost anything, and his new Philips recording of Bach's *Magnificat* and Cantata No. 51, "Jauchzet Gott," is no exception.

The performance of the *Magnificat* is vibrant in every respect. The sound of the early instruments is superb, and their precise articulation and the controlled balance Gardiner maintains bring immense clarity to Bach's intricate orchestration. The choral singing is as carefully etched in its detail as the instrumental playing is, so that the combined forces blend into a clarion ensemble of the utmost brilliance. And while the vocal soloists can claim no great distinction, they adapt themselves to Gardiner's

overall concept so perfectly that they become important links in a chain of exciting musical events.

On side two soprano Emma Kirkby, an exponent of Baroque vocal production and authentic performance practice, delivers an exuberant performance of the fiendishly difficult cantata "Jauchzet Gott in allen Landen." She handily demonstrates that the only way for a singer to maintain equal footing with a trumpet is by adjusting vocal timbre, not by forcing the voice to greater volume. This approach lends an ease to her singing here that conveys genuine joy instead of the tortured labor that mars so many performances of this work.

This is a wonderful album. Chalk one up for the authentic-performance gang. *Stoddard Lincoln*

BACH: *Magnificat (BWV 234); Cantata, "Jauchzet Gott in allen Landen" (BWV 51).* Nancy Argenta, Emma Kirkby, Patrizia Kwella (sopranos); Charles Brett (alto); Anthony Rolfe-Johnson (tenor); David Thomas (bass). Monteverdi Choir; English Baroque Soloists, John Eliot Gardiner cond. PHILIPS 411 458-1 \$10.98, 411 458-4 \$10.98, 411 458-2 no list price.

STYLE COUNCIL SINGS FOR THE REVOLUTION

IMAGINE the Righteous Brothers, Stan Getz and Astrid Gilberto, the Electric Flag, the Jacques Loussier Trio, Ashford and Simpson, the Guarneri Quartet, and the orchestra from *42nd Street* getting together to jam for world socialism, and you have some idea of the sprawling, riotous affair Paul Weller has masterminded with the Style Council's new "Internationalists." The second album from Weller, former leader of the Jam, and Mick Talbot of Dexy's Midnight Runners is funny, convincing, and, best of all, musical.

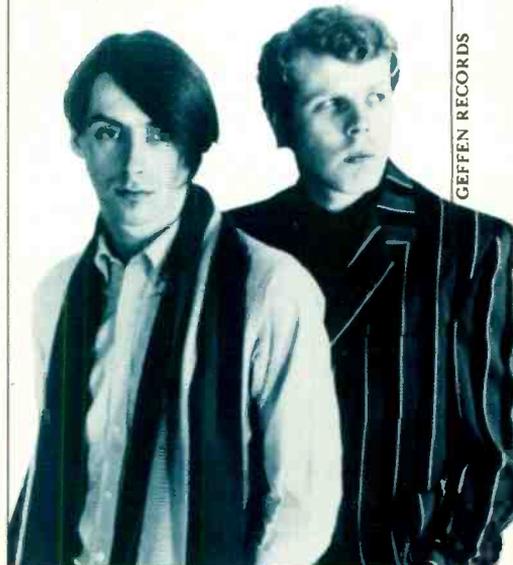
Weller has come up with a devastatingly subversive formula, setting virulently anti-authority, anti-capitalist lyrics to a variety of decidedly nonthreatening pop styles, from samba to Motown soul. *All Gone*

Away, for instance, cha-chas flittingly as it rails against monetarism, its Latin beat and lilting Club Med flute solo a seductively cheery counterpoint to lyrics like, "Come take a walk upon these hills, and see how monetarism kills." In *Come to Milton Keynes* a chorus of Broadway saxophones and strings swings innocuously as Weller sings, "I may slash my wrists tonight." One of my favorites is *The Stand Up Comic's Instructions*, which features a grizzily vocal by Lenny Henry as an ogre of a club owner giving last-minute instructions to a comedian: "Tell the one about the queer."

There's a lot of great music here—fourteen songs' worth—from D. C. Lee's righteously soulful vocal on *Homebreakers*, a meditation on how economic forces destroy the family, to Weller's call for violent revolution on the out-and-out rocker *Walls Come Tumbling Down*. To arms! But first, let's listen to side one again. *Mark Peel*

THE STYLE COUNCIL: *Internationalists.* Paul Weller (vocals, guitar, synthesizers); Mick Talbot (keyboards, vocals); vocal and instrumental accompaniment. *Homebreakers; All Gone Away; Come to Milton Keynes; Internationalists; A Stone's Throw Away; The Stand Up Comic's Instructions; Boy Who Cried Wolf; A Man of Great Promise; Down in the Seine; The Lodgers; Luck; With Everything to Lose; Shout to the Top; Walls Come Tumbling Down.* GEFHEN GHS 24061 \$8.98, © M5G 24061 \$8.98.

Weller, Talbot: subversive pop



IF YOU COULD HEAR THIS TAPE,



YOU'D BUY THIS AD.

Introducing The Memorex CDX II. You've Got To Hear It To Believe It.

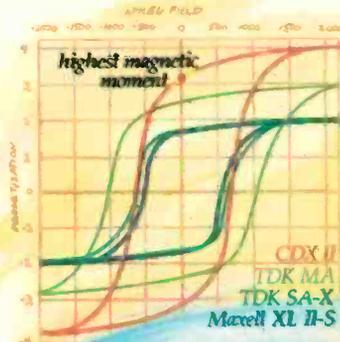
Without a doubt, the new Memorex® CDX II is in a very special class.

Consider these points:

- The CDX II is a metal tape that can be recorded and played at the high bias setting.
- The CDX II comes extremely close to matching (see Graph I) the capability of today's most challenging sound source—the Compact Disc.
- The CDX II outperforms leading high bias tapes hands down. Fact is, we compared (see Graph II) the CDX II to TDK SA-X and Maxell XLII-S. The result? When it comes to high energy recording, no one can match our levels. That's right. No one.



This metal particle produces the highest magnetic moment of any tape we tested. Nearly twice as high as any conventional high bias tape—even higher than pure metal, until now the industry champ (see Graph III). To you, that translates into more head room. Which means you can accurately reproduce even the most sudden bursts of high energy sound that comes with the most demanding music sources.



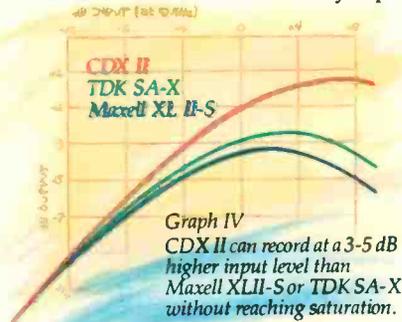
A Tape This Good Demanded A Superior Cassette.

So, we spent two years designing our new five-screw cassette from the ground up. This precision-engineered system assures that the CDX II works as great as it sounds. In fact, we guarantee it for life.

It Unlimits Your Limitations.

The Memorex CDX II can record critically demanding music substantially better than the best conventional high

bias tapes. At critical high frequencies, Memorex CDX II can faithfully repro-



duce music without saturating at a 3-5 dB higher input level (see Graph IV).

Now you can record at higher levels to minimize hiss, and still capture the loud passages, the peaks, the crescendos—without distortion or loss of high notes. In fact, you can almost capture the fantastic imaging digital discs have become famous for. But you can do it on tape. And do it with ease. Loud and clear. All at the high bias setting.

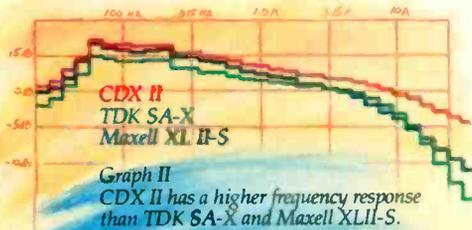
Compare The CDX II. You'll Find There's No Comparison.

We urge you to put loyalty aside and compare CDX II to the tape you're sold on now. Or, to any other tape you think can beat it. We're convinced you'll hear a difference.

And now that you've heard what we've had to say in this ad, there's no reason you shouldn't buy our tape.

And when you do, you'll wish you'd listened to us a long time ago.

*Comparison of CDX II performance versus Compact Disc containing high-energy electronic music. Data based on independent laboratory tests and examinations.



What Makes The Memorex CDX II So Special?

A bona fide breakthrough in metal chemistry. The development of a super alloy. One which lets us turn iron, the most magnetic material there is, into a super-small particle only 12 millionths of an inch long.

IS IT LIVE OR IS IT MEMOREX



DORATI'S BARTÓK: A CD SONIC SPECTACULAR

ANTAL DORATI will be eighty in April, and this season brings an end to his active association with the Detroit Symphony Orchestra, with which he has continued to make



Dorati: no want of intensity

some very striking recordings even after stepping down as music director in 1981. The latest—but not the last—issue from this source is in some respects, certainly sonically, the most impressive yet, and as valuable an addition to the discography of Dorati's teacher Béla Bartók as to that of the orchestra he brought to its highest level of professionalism.

On Compact Disc, Dorati's new London album of Bartók's *The Miraculous Mandarin* and *Music for Strings, Percussion, and Celesta* is possibly the most stunning recording of an orchestra I have ever come across. Surely the opening minutes of the *Mandarin* on this CD will replace the various recordings of *Also Sprach Zarathustra* used so fre-

quently in audio salons to show off playback equipment. It was a hearing of that Strauss work in 1902 that moved Bartók to get serious about composing, and in the first ninety seconds of his ballet-pantomime, completed in 1924, he seems to have matched the most dramatic moments of both *Zarathustra* and *Ein Heldenleben* in terms of orchestral excitement. Later on there is an echo or two of *The Rite of Spring* as well, but all of these resemblances seem to melt into the totally Bartókian blaze.

What Dorati has recorded here is not the familiar concert suite, which ends about two-thirds of the way through the ballet, but the complete score, including the choral interjections toward the end. The approach is a little more expansive than in the harder-driven performance he recorded with the BBC Symphony Orchestra for Mercury two decades ago, but there is no want of intensity here. On LP the new recording is very good; on CD it is unbelievably vivid, with a low end that has to be heard to be believed.

The other work on the new disc is the *Music for Strings, Percussion, and Celesta*, which Dorati has also recorded before. I didn't have his earlier version for comparison, but the new one is different from most others in stressing the geniality in the music rather than its more demonic, driving qualities. The approach may be surprising for this familiar work, but it is a convincing one, and the recording is also a reasonable first choice by virtue of the spectacular sound. On CD (again, the LP is not nearly as impressive) the sound is both rich enough to offset the inherent dryness of some of the scoring and clean enough to project absolutely every detail as never before.

In view of the exceptional sound quality of this extraordinary CD, which could in time account for more conversions to the new medium than anything else yet issued, Dorati and the orchestra should perhaps share honors with London/Decca's producer, James Mallinson, and the engineers, Colin Moorfoot for the *Mandarin* and Simon Eadon for the *Music for Strings, Percussion, and Celesta*. Honors, in any event, are richly deserved. Best of

all is that in returning to such a recording again and again to enjoy the splendor of the sound, you find yourself drawn deeper into the music itself.

Richard Freed

BARTÓK: *The Miraculous Mandarin, Op. 19; Music for Strings, Percussion, and Celesta.* Kenneth Jewell Chorale (in *Mandarin*); Detroit Symphony Orchestra, Antal Dorati cond. LONDON ● 411 894-1 \$10.98, © 411 894-4 \$10.98, © 411 894-2 no list price.

SUNNY SOUL SINGING BY THE WEATHER GIRLS

JUST when it seems that black popular music is about to collapse beneath the weight of musical clichés that cause 80 percent of all new releases to sound exactly the same, the Weather Girls have come along to rescue the endangered tradition of soul singing. Two buxom bundles of talent with voices as imposing as their bodies, Martha Wash and Izora Armstead bring to pop the same fire, passion, and deep conviction that were hallmarks of the gospel music they sang earlier in their careers. The general public was introduced to the duo during the Seventies, when they were known as Two Tons of Fun and sang back-up for Sylvester. After striking out on their own, they changed their name to the Weather Girls for their first big hit, *It's Raining Men* in 1982. With their new album, "Big Girls Don't Cry," Wash and Armstead serve notice that they are not one-shot artists but have every intention of carving out a lasting niche for themselves.

Overall, the songs are a masterly blending of Sixties rock-and-roll and rhythm-and-blues with a contemporary flavor laid over it, especially in terms of the crisp sound and superb production. The combination is not surprising since the coproducers were Hank Medress, who shaped hits for groups like the Chiffons and the Tokens during pop music's golden era, and Jeff Kent, who brought to the project a sense of instrumental excellence, an up-

A slight improvement on perfection.

Technics compact disc players.

Technics compact disc players. And the digital compact disc. Together they've given you what no conventional audio system can: the perfection of musical reality.

So with Technics, what you hear is not just a reproduction of a performance, but a re-creation of it.

But occasionally even the musical perfection of a compact disc can be marred by fingerprints, dust or scratches. So the Technics SL-P2 compact disc player has improvements like an advanced error correction system, designed to compensate for those imperfections. To help ensure that the sound you hear is still completely flawless.

You also get sophisticated, convenient controls. Such as 15-step random access programming so you can play any selection. In any order. And all of this can be controlled from across the room with Technics wireless remote control.

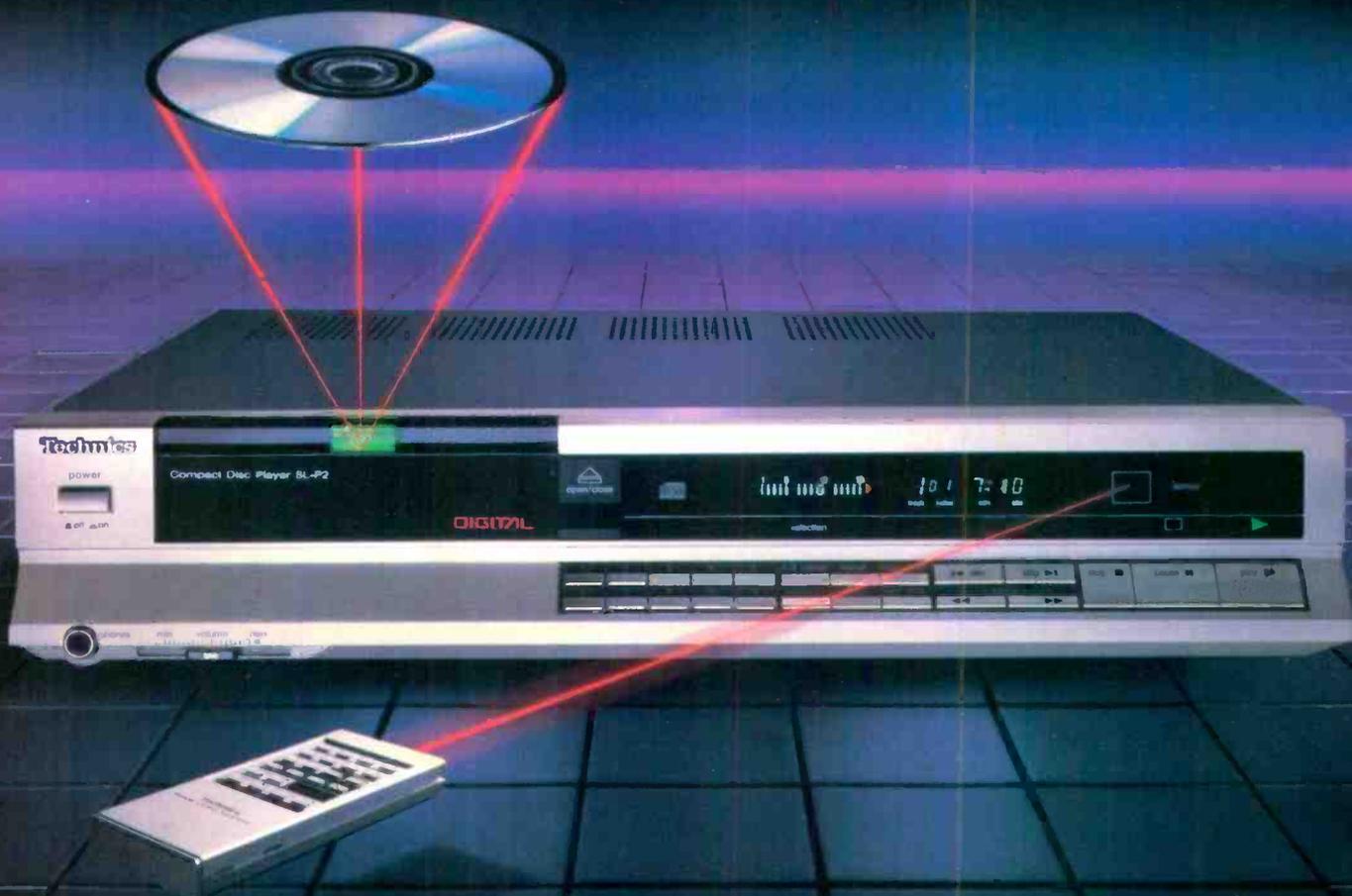
The digital revolution continues at Technics. Perfectly.

COMPACT
disc
DIGITAL AUDIO

Technics

The science of sound

CIRCLE NO. 1 ON READER SERVICE CARD



BEST OF THE MONTH

to-date style, and technical facility. But the greatest credit for this wonderfully invigorating record belongs to the Weather Girls themselves, who belt out each and every note as though their very lives depended on it—and do so with robust good humor.

Although Armstead has the more thickly resonant, grittier blues voice and Wash a sweeter-textured one, they blend together as naturally as hamhocks and greens. Their interplay results in hilarious effects on the title track, which was a big hit for Frankie Valli and the Four Seasons back in the era of ducktail haircuts and pegged jeans. The oldie takes on a totally new life as Izora growls out "Big girls . . ." and Martha cuts in with a positively wild ". . . they don't c-r-i-yi-yi" that suggests the tears might come simply from laughing too hard.

Even the new songs have a bygone cast to them, especially *Well-a-Wiggy*, a Jesse Winchester composition that contains the phrase "hey-bobba-rebop," which I haven't heard in at least twenty years. Re-

leased as the album's first single, it has already become a hit video. A similar fate should be in store for *Lock Me Up*, a "hallelujah" of a gospel romper, and John Fogerty's *Down on the Corner*, set to Caribbean rhythms.

Exceptional care was taken in every phase of producing this album. Even the background vocals are noteworthy, and the spirited instrumentals are highlighted by the work of L. Leon Pendarvis, who performs on acoustic piano and synthesizers. Above all, the Weather Girls prove here that dance music can still be a joy to hear as well as to move to. With them on hand, the forecast for this music may well be sunny.

Phyl Garland

THE WEATHER GIRLS: *Big Girls Don't Cry*. The Weather Girls (vocals); vocal and instrumental accompaniment. *Lock Me Up; Big Girls Don't Cry; Well-a-Wiggy; No One Can Love You More Than Me; Down on the Corner; March; Laughter in the Rain; You Can Do It.* COLUMBIA BFC 39980, © BFT 39980, no list price.

Armstead and Wash: a blend as natural as hamhocks and greens



GARY HEERY/COLUMBIA RECORDS

NOW ON CD Compact Discs of previously released LP's

POPULAR

- **EARL THOMAS CONLEY:** *Don't Make It Easy for Me.* RCA PCD1-4713. "Uptempo country rockers" (December 1983).
- **ELLA FITZGERALD:** *The Rodgers and Hart Songbook, Vols. 1 and 2.* VERVE 821 579/80-2 (two separate CD's). More prime Ella.
- **THE GRATEFUL DEAD:** *From the Mars Hotel.* MOBILE FIDELITY MFCD 830. "Seasoned, controlled, tasteful" (December 1974).
- **WILLIE NELSON:** *Somewhere Over the Rainbow.* COLUMBIA CK 36883. "Country-swing standards" (July 1981).
- **OKLAHOMA!** *The 1980 Broadway-revival-cast recording.* RCA RCD1-3572. "Exhilarating" (June 1980).
- **BOZ SCAGGS:** *Hits.* COLUMBIA CK 36841. Released on LP in 1980.
- **JAMES TAYLOR:** *Dad Loves His Work.* COLUMBIA CK 36058. "Idiomatic Americana" (August 1979).
- **BILL WITHERS:** *Watching You Watching Me.* COLUMBIA CK 39887. "Vintage" (September 1985).

CLASSICAL

- **BARTÓK:** *Concerto for Orchestra.* Karajan. DG 415 322-2. "Impressive" (November 1966).
- **HOLST:** *The Planets.* Previn. ANGEL CDC-47152. "Satisfying" (March 1975).
- **MAHLER:** *Das Lied von der Erde.* Ludwig, Wunderlich; Klemperer. ANGEL CDC-47231. "Eloquent" (May 1967).
- **MAHLER:** *Symphony No. 5.* Levine. RCA RCD1-5453. "Strong, clear, long-lined" (March 1979).
- **MOZART:** *Violin Concerto No. 4; other works.* Zukerman. CBS MK 37839. "Crisp and clean" (January 1985).
- **PUCCINI:** *Messa di Gloria.* Scimone. ERATO ECD-88022. "Lovingly directed, beautifully recorded" (May 1984).
- **R. STRAUSS.** *Salome.* Nilsson; Solti. LONDON 414 414-2 (two CD's). An early-stereo classic.
- **WAGNER:** *Die Meistersinger.* Jochum. DG 415 278-2 (four CD's). "A deeply felt performance" (March 1977).

MASTERWORKS ON COMPACT DISCS. PURE GENIUS.



Now CBS Masterworks enriches its standard of excellence with an unprecedented commitment to Compact Discs. And, only Masterworks has the range of artistry to complement this state of the audio art.

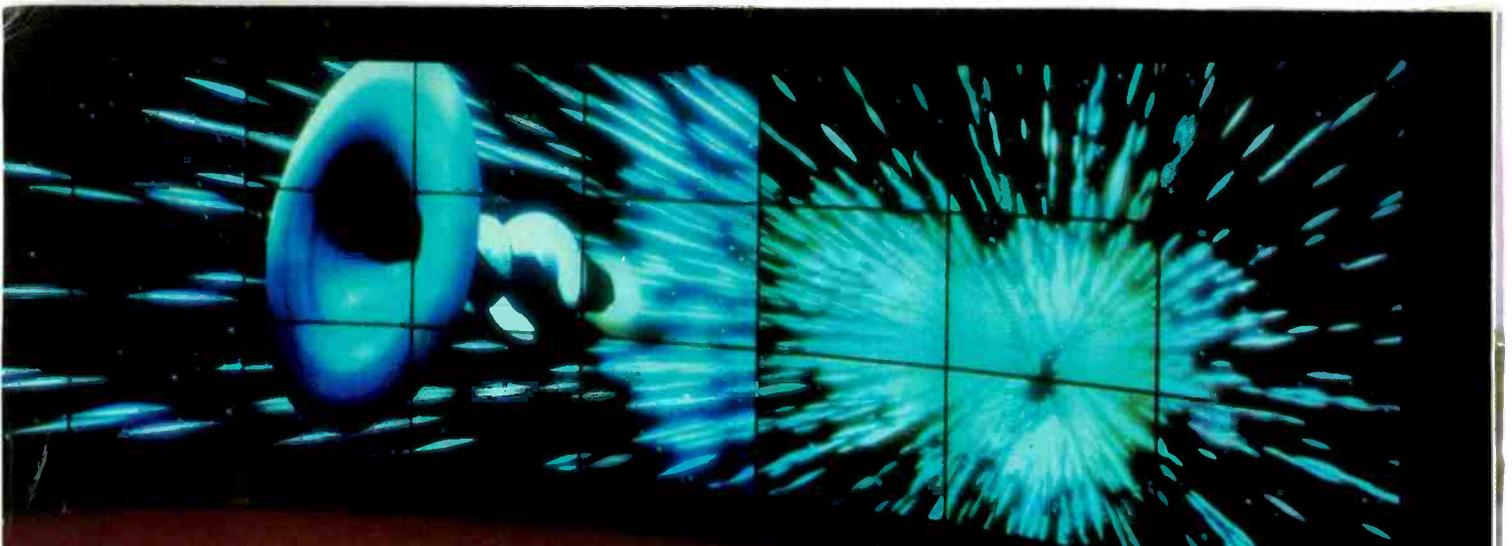
Discover the difference in major new recordings from superstars like Wynton Marsalis, Yo-Yo Ma, Murray Perahia and Claudio Abbado. Rediscover legendary recordings from such immortal artists as Leonard Bernstein, Bruno Walter and George Szell...the greatest moments in recorded music, digitally remastered to give you the purest sound possible from the original tape source. As our commitment continues further into our unparalleled catalog, you'll experience your favorite Masterworks performances with a new dimension of subtleties and nuances unheard of on the original pressings.

CBS MASTERWORKS ON COMPACT DISCS.
THE ARTISTRY OF MASTERWORKS...
THE TECHNOLOGY OF PERFECTION.

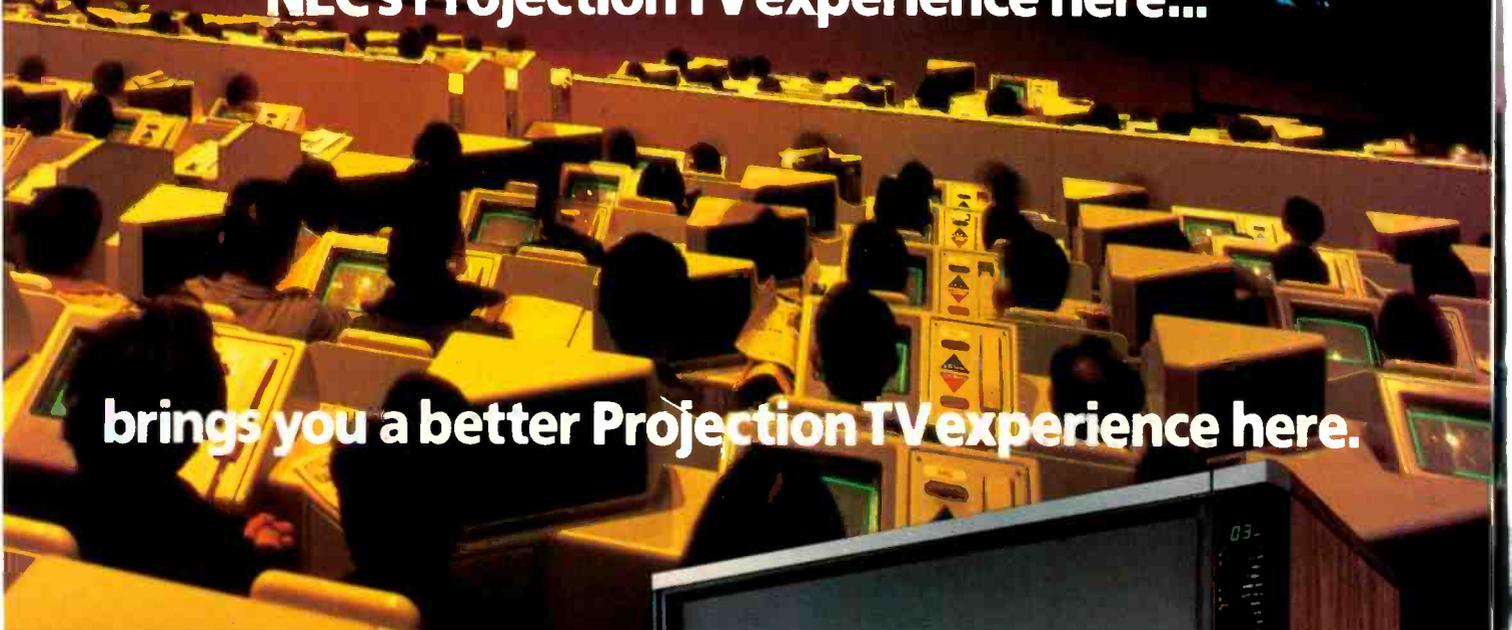
©CBS, "Masterworks," and the CBS eye logo are trademarks of CBS Inc. © 1985 CBS Inc.

M
A
S
T
E
R
W
O
R
K
S





NEC's Projection TV experience here...



brings you a better Projection TV experience here.

The world's largest projection TV measures 82 feet diagonally, is comprised of 27 synchronized projectors... and is built by NEC. Even if this screen is a trifle too big for your living room, it's comforting to know that NEC builds much of the same technology into our Projection TVs for the home.

Consider the NEC PJ-3700EN. We cleverly fit a giant 37" picture into a cabinet less than 21" deep. Not only is the picture big, it's bright with F/1.0 lenses. Sharp with high-resolution comb filters. Easy to see with a broad 130° viewing angle. And exciting to hear with stereo TV reception.

You see, building the world's biggest Projection TV is not enough for NEC. We feel obligated to take this advanced technology one step further. Into your home.

NEC

We bring high technology home.

NEC Home Electronics (U.S.A.), Inc. 1401 Estes Avenue, Elk Grove Village, IL 60007
CIRCLE NO. 19 ON READER SERVICE CARD



Discs and tapes reviewed by
Chris Albertson
Phyl Garland
Alanna Nash
Mark Peel
Peter Reilly
Steve Simels

AIR SUPPLY. Air Supply (vocals and instrumentals); vocal and instrumental accompaniment. *Just as I Am; I Can't Let Go; The Power of Love; When the Time Is Right; Sunset; After All; Never Fade Away*; and five others. ARISTA AL8-8283 \$8.98, © AC8-8283 \$8.98.

Performance: *Big as all outdoors*
 Recording: *Good*

Apparently, nobody ever told Air Supply that less is more. Lead vocalist Russell Hitchcock sounds absolutely determined to split a gut, and for my sake, I wish he would. With its overblown arrangements, treacly lyrics, and supercharged emotion, *Air Supply* is trash, and not even high-class trash at that. If you buy this album, you will die. *A.N.*

JOHN ANDERSON: Tokyo, Oklahoma. John Anderson (vocals, guitar, harmonica); vocal and instrumental accompaniment. *It's All Over Now; I've Got Me a Woman; Down in Tennessee; Tokyo, Oklahoma; A Little Rock 'n' Roll (And Some Country Blues)*; and five others. WARNER BROS. 25211-1 \$8.98, © 25211-4 \$8.98.

Performance: *Entertaining*
 Recording: *Good*

Country singer John Anderson has such a bizarre sense of humor that you half expect him to have walked out of a John Irving novel. On his new album, "Tokyo, Oklahoma," for example, we meet, in Paul Kennerley's *I've Got Me a Woman*, a couple who live with a monkey and a Chinese acrobat, with the wife alternately speaking in tongues and playing slide trombone. Then, in Mack Vickery's spunky title tune, we're introduced to a Japanese cowboy who lives in Oklahoma but finds he can't exist without Miss Sueleen Poole, who lives in—where else?—Japan.

Anderson has unveiled a taste for the off-the-wall before, and in the past he has almost always come up with meatier songs than most of those found on

EXPLANATION OF SYMBOLS:

- = DIGITAL-MASTER ANALOG LP
- Ⓢ = STEREO CASSETTE
- ⓐ = DIGITAL COMPACT DISC
- Ⓜ = MONOPHONIC RECORDING

COCK ROBIN



From left, Louis Molino, Anna LaCazio, Peter Kingsbery, Clive Wright

COCK ROBIN'S impressive debut album offers confident powerpop that's refreshingly free of pretension. A rarity in this genre, the group's songwriting is more fully developed than its "image." Any of five songs here could hit the charts, including three hard-rocking numbers (*Thought You Were on My Side, Just When You're Having Fun, and Born with Teeth*) and two ballads (*When Your Heart Is Weak* and *The Promise You Made*).

Cock Robin is led by songwriter/bassist/vocalist Peter Kingsbery and vocalist Anna LaCazio, and one of the things that makes their music so interesting is the romantic variations Kingsbery and LaCazio play out between the grooves as they alternate lead vocals. On *Thought You Were on My Side*, the two accuse one another of betrayal. On *When Your Heart Is Weak*, Kingsbery is a doggedly persistent suitor biding his time in the guise of a mere friend but ready to strike when LaCazio is vulnerable—and you know it'll happen sooner or later. On *Just When You're Having Fun*, LaCazio voices the timeless complaint that love always seems to complicate your life when you least need or want it.

Although Kingsbery has a tendency to write passive-voiced, inverted sen-

tences, such as "Of your good intentions what has become," he's also capable of powerful imagery—"I was born with teeth/ . . . Out the womb into an ugly world I've been thrown." The strong vocals are complemented by the work of guitarist Clive Wright, who commands a broad vocabulary. You have the feeling he could play for almost anyone. His playing is sharp, incisive, and mixed out front to good effect by producer Steve Hillage, an accomplished guitarist himself.

The chemistry between Kingsbery and LaCazio is a difficult balancing act, especially for a band that skirts hard rock as closely as Cock Robin. It can work for a band like Katrina and the Waves, but it can also turn a potentially solid group like Missing Persons into trashrock. Whether Cock Robin can avoid that pitfall, only time will tell. For now, they seem to be off to a good start. *Mark Peel*

COCK ROBIN. Cock Robin (vocals and instrumentals). *Thought You Were on My Side; When Your Heart Is Weak; Just When You're Having Fun; The Promise You Made; Because It Keeps On Working; Born with Teeth; Once We Might Have Known; More Than Willing; A Little Innocence.* COLUMBIA BFC 39582, © BFT 39582, no list price.

DENNIS KEELEY/COLUMBIA RECORDS

this LP. But on the whole, this is his most *entertaining*—if schizophrenic—album yet, with songs that follow a lively progression from r-&-b and country-blues (a fine reworking of the Bobby Womack-Rolling Stones hit *It's All Over Now* and the snappy *Twelve Bar Blues*) to ballads (*Only Your Love* and *Even a Fool Would Let Go*). And, as always, Anderson's queer, hang-dog delivery, where he pulls back and sings *across* the mike, instead of into it, makes for some of the most attention-getting vocals in contemporary country music. *A.N.*

BEAT RODEO: *Staying Out Late with Beat Rodeo.* Mike Osborn (drums); Dan Pratex (bass, vocals); Steve Almaas (vocals, guitars); Bill Schunk (guitar, dobro, vocals). *Just Friends; She's More; Heart Attack; Pet Project; Take You Home; Mistake; Without You; Mimi;* and four others. IRS IRS-39027 \$6.98, © IRC-39027 \$6.98.

Performance: *Flaccid*
Recording: *Cellar dweller*

How can a band that's got everything going for it—great concept (East Village cowboys), great name, lots of brains—

be so boring? Chiefly because no one here can write a tune. Even some old, worn-out, overused hooks would have been better than the mopey melodies on "Staying Out Late." When drab music writing collides with wise-cracking lyrics, what was intended to be affectionate kidding comes out sounding like sneering parody. There are a few good yucks: on *Heart Attack*, for instance, Steve Almaas sings an ode to his best friend, who's committed suicide after losing his girl—to Almaas. But the comatose arrangements and deliberately earthy production conspire to suffocate what wit there is. "Staying Out Late" had me turning in early. *M.P.*

JEFF BECK: *Flash.* Jeff Beck (guitar, vocals); vocal and instrumental accompaniment. *Ambitious; Gets Us All in the End; Escape; People Get Ready; Ecstasy;* and four others. EPIC FE 39483, © FET 39483, no list price.

Performance: *Good*
Recording: *Good*

The more things change, the more they remain the same. Jeff Beck's doing funk now instead of fusion, and he's working with two of the hottest producers in the business, Nile Rodgers and Arthur Baker. Yet here's Jeff Beck playing with Carmine Appice, Jan Hammer, Rod Stewart, and even Jimmy Hall (you remember Wet Willie). On Beck's first album in five years the setting may have changed, but Beck's ferocious guitar is as wild as ever.

"Flash" is really just an excuse for Beck to uncoil his sinuous, hyperkinetic instrument. Forget about Jimmy Hall's street-smart vocals on the album's strongest track, *Ambitious*, and forget the rhythm section's jittery beat. Just listen to Beck mock them with snickering fills, then blow them away with an attack like a charging rhino. On *Gets Us All in the End*, Beck out-Van Halens Eddie Van Halen with an aerial show solo—banking turns, death-defying dives, and headlong charges that swerve aside just in the nick of time. The old veteran's fingering may not be as clean as that Van Halen kid's, but then Beck *invented* this kind of playing.

When Beck teams up with former fusion partner Jan Hammer (who has rejuvenated a moribund career with his theme for *Miami Vice*), Beck's shimmying, buzzsaw licks stand out as the only human component on what sounds like an automated TV sound stage manned by robot session players. Beck's reunion with Rod Stewart on *People Get Ready* is somewhat disappointing: Beck's accompaniment and Stewart's vocal are just a little too nostalgic, the catch in Stewart's throat and the whining, sustained guitar notes just a little too show-bizzy.

"Flash" isn't a great album, but it is great Beck. After a five-year absence, that's plenty. *M.P.*

KAREN BROOKS: *I Will Dance with You.* Karen Brooks (vocals); Johnny

What has four motors, three heads...and three brains?

Answer: the new Revox B215 Cassette Deck. It has a four-motor, three-head transport built to strict professional standards. Plus three microprocessor "brains" to supervise critical calibration and control functions. This unique blend of "brains and brawn" marks a milestone in cassette recording technology.

First, the "brains." One microprocessor governs a comprehensive automatic alignment system. Insert any cassette tape, press a button, and the B215 runs a sequence of tests and adjustments (at three test frequencies) for bias, level, and equalization. Optimum performance is thus assured, and complete alignment settings for six formulations may be stored for instant recall.

Microprocessors supervise other B215 features, including automatic record level setting, elapsed time counter, dual autolocate, loop and record fade-in/fade-out functions. Spooling motors are microprocessor controlled to provide constant winding speed and smooth, jerk-free stops. Tape damage of any kind is virtually impossible.

Now for the brawn. The B215 comes from Studer Revox of Switzerland, the world's leading maker of professional studio mastering recorders. This pro heritage shows in the massive die-cast aluminum alloy chassis and four-motor tape drive. (Two Hall-effect motors drive dual capstans while two DC motors handle tape spooling.) A unique pivoting headlock maintains precise head azimuth alignment—a critical requirement in any pro recorder. The B215 also offers Dolby B and C* NR, Dolby HX Pro* headroom extension, and infrared remote control.**

Microprocessor brains and professional brawn reproduce beautiful music in the B215. Audition one today at your Revox dealer.

Dolby and Dolby HX Pro are trademarks of Dolby Laboratories
**Transmitter optional.



REVOX

1425 Elm Hill Pike, Nashville, TN 37210 / (615) 254-5651

For Dealer Nearest You Call TOLL-FREE 800-633-2252 Ext. 840

CIRCLE NO. 47 ON READER SERVICE CARD

Cash (duet vocal); Wendy Waldman, Mac McAnally (background vocals); vocal and instrumental accompaniment. *Nobody's Angel; I Will Dance with You; Have a Heart; The Last Time; The Last One to Know*; and five others. WARNER BROS. 25277-1 \$8.98, © 25277-4 \$8.98.

Performance: *Quiet desperation*
Recording: *Very good*

Karen Brooks is one of the best of the New Country singers and writers, as evidenced by her work with Jerry Jeff Walker and Rodney Crowell, her songwriting (picked up by Tracy Nelson and Rosanne Cash), and her two previous Warner Bros. albums. *Trouble* is, her last LP, "Hearts on Fire," was so impressive that this one falls short in comparison. Aside from an unexpected—and quite stirring—rendition of the Rolling Stones' *The Last Time*, there are few sparks here to ignite a solid, if somewhat stolid, group of songs. Even a duet with Johnny Cash (*I Will Dance with You*) sounds tired and unimaginative.

This isn't a *bad* album, by any means, and it's still better than 80 percent of what comes out of Nashville. But it's nowhere near what Brooks is capable of doing. A.N.

JOHN CAFFERTY AND THE BEAVER BROWN BAND: *Tough All Over*. John Cafferty (vocals, guitar); the Beaver Brown Band (vocals and instrumentals); other musicians. *Voice of America's Sons; Tough All Over; C-I-T-Y; Where the Action Is; Dixieland*; and four others. SCOTTI BROTHERS FZ 39405, © FZT 39405, no list price.

Performance: *Springsteen redux*
Recording: *Fine*

As an old Superman fan, I am loath to say anything bad about an album dedicated to "Truth, Justice, and the American Way." But let's face facts: the guys who made this record are only one small cut above the level of one of those Springsteen tribute bands you see on the club circuit out in the boonies. John Cafferty can't help that, of course (the vocal resemblance is probably an accident of birth), and everything here does seem reasonably felt. Still there's no denying that you've heard it all before—and probably too often.

Cafferty is not untalented, as his work on the *Eddie and the Cruisers* soundtrack proved, but in that case his songs aspired only to recall a more innocent era, which they did rather well. Here, however, he's trying much too hard to make big statements about Life Right Now in America. When he switches gears for a love song, like *More Than Just One of the Boys*, it comes as a genuine relief even if the Springsteen mannerisms still grate. This is not an unpleasant album, and I'd probably enjoy seeing these guys in a bar in the boonies, but there's no escaping the essentially secondhand nature of the whole business. S.S.

CHINA CRISIS: *Flaunt the Imperfection*. China Crisis (vocals and instrumentals); vocal and instrumental accompaniment. *The Highest High; Strength of Character; You Did Cut Me; Black Man Ray; Wall of God; The World Spins, I'm Part of It*; and four others. VIRGIN/WARNER BROS. 25296-1 \$8.98, © 25296-4 \$8.98.

Performance: *Clone of the month*
Recording: *Good*

How much does a record's producer affect the final product? In the case of China Crisis, which is still trying to fig-

ure out what trend it should be riding, a producer has enormous influence. The group's first U.S. album, "Working with Fire and Steel," was produced by Mike Howlett, who's worked with technopop bands like Flock of Seagulls. Its agitated, high-speed pop sounded like the Cars might if Ric Ocasek took voice lessons from David Byrne.

On "Flaunt the Imperfection," China Crisis called in Walter Becker, and the previous hyperventilated vocals and snappy New Wave attacks have been replaced by loping, King-of-the-World rhythms and satiny arrangements. Even

AN OFFER THAT'S MUSIC TO YOUR EARS



Buy a Dual turntable with an Ortofon cartridge, and get up to 3 Original Master Recordings™ from Mobile Fidelity Sound Lab free!

Mobile Fidelity Sound Lab has earned a reputation for producing some of the world's finest reproductions of recorded music. When it came to selecting a cutting system for their disc mastering they chose Ortofon.

And when Dual needed a phono cartridge manufacturer to aid in the design of the ultimate Low Mass Tonearm system for their new turntables, they too chose Ortofon.

Now these 3 industry leaders combine to make a unique, limited time offer. Simply purchase any new Dual turntable combined with a new Ortofon phono cartridge.

What you'll get is the finest reproduction of music for your money anywhere. Because of their legendary Black Forest craftsmanship and design, every Dual turntable offers superior performance in it's class. And when reproduced with the Dual/Ortofon U.L.M. tonearm/cartridge system, the sound from your records will astound you!

And to be sure that you have the finest possible music source to listen to, just send us proof of purchase and we'll send you FREE up to 3 "Original Master Recordings™" from the complete library of Mobile Fidelity Sound Lab.

Your participating Dual/Ortofon dealer has all the details.

mobile fidelity
SOUND LAB
A DIVISION OF MFSL, INC.

ortofon

Dual NEW TECH

Ortofon Inc.
122 Dupont St., Plainville, NY 11803
(516) 349-9180

TOLL-FREE 800-633-2252 Ext. 835

CIRCLE NO. 16 ON READER SERVICE CARD

the lyrics are more obscure this time. Trouble is, China Crisis seems to be more interested in indulging the cleverness of the group's songwriters than in communicating anything to listeners. "Flaunt" is filled with inside jokes and pointless wordplay, and the cocktail-lounge arrangements just add to the know-it-all attitude.

Bringing in Walter Becker to produce these precious youngsters is like asking John DeLorean to straighten out the drug problem in baseball. How about Nile Rodgers for the next album? *M.P.*

VASSAR CLEMENTS, JOHN HARTFORD, DAVE HOLLAND.

Vassar Clements (violin); John Hartford (banjo, guitar, vocals); Dave Holland (bass); Mark Howard (guitar, mandolin). *You Can't Run Away from Your Feet; Memories of Home; Home Cooking; Till Something Better Comes Along*; and six others. ROUNDER 0207 \$8.98, © 0207 \$8.98.

Performance: *Old-shoe comfort*
Recording: *Very good*

On first listening, this collaboration of three of bluegrass, country, and acoustic music's most accomplished performers sounds a lot like low-key noodling. On a second go-round, however, it emerges as a recording of subtle beauty. Matching Vassar Clements's straightforward

virtuosity with John Hartford's offbeat humor, the album nevertheless finds its true depth in Dave Holland's melancholy soulfulness, inherent both in his playing and in the three original songs he contributes to the project.

With Clements's voluptuous, jazzy fiddling taking center stage most of the time, Hartford sparkles on the banjo fills and on his occasional lucid solos, until he and Clements dig down to duel on side two with *Scapin' Out on the Roof*, a Hartford original. The picking never shifts into breakneck overdrive, however, and for that I'm glad. This is casual, relaxed, and moody acoustic instrumental music—only three vocal performances—for those times when you've had all the *Wheel Hoss* and *Orangeblossom Special* you can stand. Don't miss it. *A.N.*

EVERYTHING BUT THE GIRL:

Love Not Money. Tracey Thorn (vocals); Ben Watt (guitars, organ, piano, vocals); instrumental and vocal accompaniment. *When All's Well; Shot Me Down; Ugly Little Dreams; Are You Trying to Be Funny; Sean*; and seven others. SIRE 25274-1 \$8.98, © 25274-4 \$8.98.

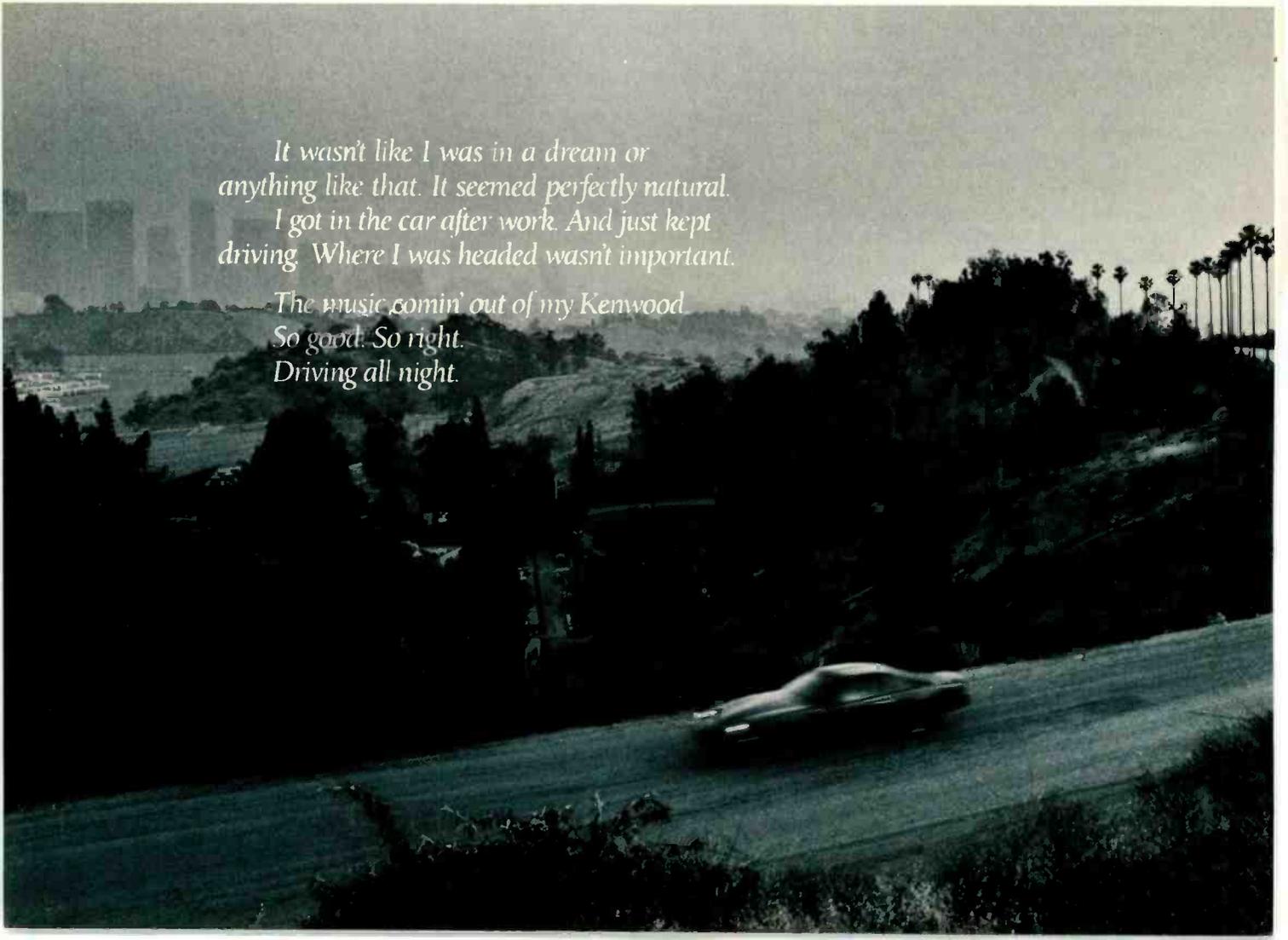
Performance: *Grim*
Recording: *Good enough*

Everything But the Girl—vocalist Tra-

cey Thorn and multi-instrumentalist Ben Watt—is part of an undocumented, unofficial anti-synth backlash that includes bands like U2, Aztec Camera, the Alarm, and the Smiths in a reaction against what they perceive as the tyranny of electronics and the remoteness and superficiality of synth artists. Thorn and Watt might be considered the movement's beat poets and "Love Not Money" their *Howl*. Images of war, industrial decay, and the emptiness of working-class life crowd one another in songs paced like long, tired sighs.

Both Thorn and Watt have a keen eye for the sad details of England's decline: the Belfast girl who becomes a recluse after her boyfriend is gunned down, the housewife who feels the deadly domesticity of her life close in around her like prison walls, the woman who can't make herself fight for the alimony payments she's entitled to. Unfortunately, the lyrics are crammed into songs too slight to carry them; more attention should have been paid to the music.

In their first U.S. release, last year's "Everything But the Girl," Thorn and Watt added elements of West Coast cool and Latin jazz to spare, folk-rock arrangements, but these elements are absent from "Love Not Money." Instead, there is a sameness from song to song—grim, acoustic arrangements for the end of the world as seen from the



*It wasn't like I was in a dream or
anything like that. It seemed perfectly natural.
I got in the car after work. And just kept
driving. Where I was headed wasn't important.*

*The music comin' out of my Kenwood
So good. So right.
Driving all night.*

basement of a Greenwich Village café—that makes you lose interest in “Love” long before Thorn and Watt have had their say. M.P.

BRYAN FERRY: *Boys and Girls*. Bryan Ferry (vocals); Mark Knopfler, David Gilmour (guitars); Tony Levin (bass); Andy Newmark (drums); other musicians. *Sensation; Slave to Love; Don't Stop the Dance; A Waste Land; Windswept; The Chosen One; Stone Woman*; and two others. WARNER BROS. 25082-1 \$8.98, © 25082-4 \$8.98, © 25082-2 no list price.

Performance: *Silly love songs*
Recording: *Excellent*

Here's yet another album in which Bryan Ferry spends forty minutes bewailing his inability to sustain a long-term relationship with a woman. Despite the abundant, high-profile sidemen and expensive-sounding production, the whole thing sounds unutterably parched. The music lurches around predictably from vague funk to vague reggae to vague vagueness. Only on *Slave to Love* does Ferry work up the kind of dreamy romantic mood that made his kvetching bearable on earlier numbers like *Dance Away* or *Avalon*. Enough of this Moonlight and Roses stuff, Bryan. As Joan Rivers might say, oh grow up! S.S.

VINCE GILL: *The Things That Matter*. Vince Gill (vocals, guitar); Jennifer Kimball, Rodney Crowell, Herb Pedersen (background vocals); vocal and instrumental accompaniment. *She Don't Know; Savannah; If It Weren't for Him. Ain't It Always That Way; Oklahoma Borderline*; and three others. RCA CPL1-5348 \$8.98, © CPK1-5348 \$8.98.

Performance: *Slowly but surely*
Recording: *Good*

Vince Gill's name appears in the credits of nearly every hip, contemporary country album these days, both as a singer and as a guitarist. Formerly of Pure Prairie League, he has been trying to break out as a solo artist for the last couple of years. The problem he has as a stylist and as a songwriter, however, is that he so closely resembles his mentor, Rodney Crowell. That was more evident on his first release, a mini-album, than on this one, his second, but he has compounded the problem here by choosing Emory Gordy, Jr., Crowell's friend and frequent bass player, as his producer, and by writing and singing with Crowell's wife, Rosanne Cash.

The album never really catches fire until the last cut, *Oklahoma Borderline*, where Gill is joined on vocals by Rodney Crowell. Still, at twenty-eight, Gill garners a lot of respect in Nashville, and

as a sure, solid talent, he probably has a bright future. Until he gets out of Crowell's shadow, though, he will never establish his own identity—or a true solo career. A.N.

VERN GOSDIN: *Time Stood Still*. Vern Gosdin (vocals); vocal and instrumental accompaniment. *It's Only Love Again; I Know the Way to You by Heart; Time Stood Still; Rainbows & Roses; Two Lonely Hearts; Was It Just the Wine*; and four others. COMPLEAT 671012-1 \$8.98, © 671012-4 \$8.98.

Performance: *A bit dry, but . . .*
Recording: *Good*

Vern Gosdin has been around country music all his life, writing songs recorded by such luminaries as the Byrds, Merle Haggard, and George Jones, and recording either on his own or with his late brother, Rex. For his new album, he has once again come up with one of those killer, heartbreak ballads in the title song, and when he really connects, as he does on this tune, you'd be hard pressed to find anyone to beat him.

Unfortunately most of the other songs on the album are mediocre, and the LP suffers from a sameness of tempo and mood. One of these days, with the right producer, Gosdin may fulfill all that early promise. But this album doesn't even come close. A.N.



The opportunity to indulge in the enriching moments of life should never be taken away. That's why Kenwood invented the theft-proof KRC-838—a simple flip of a lever releases the head unit so you can keep it with you. Without losing the preset memory.

Its superior audio features include a high-power amplifier, separate bass and treble controls, 24 station presets, auto-reverse, a 4-channel bi-azimuth tape head for flawless tracking, Tape Scan, Dolby* B and C, and a Tuner Call that plays the radio during fast forward or rewind.

The KRC-838. Designed by Kenwood to enhance the finer moments in your life.

For the Kenwood dealer nearest you, call 1-800-CAR-SOUND.

*Dolby and the double-D symbol are trademarks of Dolby Laboratories Corporation.



KENWOOD
STEREO FOR YOUR CAR

MARVIN GAYE



THE death of Marvin Gaye, shot by his father on April 1, 1984, the day before his forty-fifth birthday, left a tremendous void in the world of popular music.

Gaye was a brilliantly innovative figure in modern rhythm-and-blues, expanding the parameters of soul music, especially with the release of his landmark concept album "What's Going On" in 1971. Though he was a gifted composer, lyricist, producer, and instrumentalist, he was above all a singer, a master of vocal nuance with a style entirely his own. His velvet-smooth, infinitely pliable, high falsetto was immediately recognizable. Personally he was known to be a man who could embrace the Almighty with one arm and the most devilish delights of the flesh with the other—a two-sidedness reflected in the new Columbia album "Dream of a Lifetime."

The album contains previously unreleased material drawn from two sources. Half of the tracks on "Dream" are ones Gaye laid down over the years and entrusted to his mother for safekeeping. The other selections he recorded after the release of his single *Sexual Healing* and its companion album, "Midnight Love," in 1983, which got him his only two Grammy Awards. These later songs were intended for the album he was working on at the time of his death. Taken as a whole, the eight songs here provide a strange and disturbing mini-portrait of Gaye and his art. The lyrics are etched with the personal conflicts that inspired the music.

Stripped across the top of the back cover is the legend: "This album contains lyrical content that might be considered offensive to some listeners," which could be considered merely a bow to the new puritanism were it not, indeed, for the explicit nature of some of the words. In the opener, Gaye sings of his need for a *Sanctified Lady*, "a good ole church girl" who is wholesomely traditional, but that is followed by *Savage in the Sack*, which is openly sexual. And then there is *Masochistic Beauty*, in which Gaye intones in a commandingly icy voice the sadistic demands he intends to make on a woman if she does not satisfy him. All of this sounds pretty odd coming from a man who, on the flip side of the same record, offers a funky-up version of *The Lord's Prayer*.

At times the new material is distinguished from the old not only by its overtly sexual content but also because Gaye had moved, after his comeback two years before, toward a more commercial sound. Yet Gaye could be counted on for quality, and some of the best music is in *Ain't It Funny (How Things Turn Around)*, which is apparently of recent vintage. It is a moderately paced dance tune with immediately infectious rhythms and catchy licks that Gaye negotiates with the masterly sense of timing he retained to the end.

There are many poignant moments here, too, as in *Life's Opera*, an extended sermon that Gaye preaches, probably to himself, about the urgency of seeking good over evil—something he never seemed quite able to do. The saddest moment, however, comes in the title song, *Dream of a Lifetime*, written in 1970. It is introduced by an orchestral fanfare of Hollywood proportions and is based on a theme reminiscent of the old standard *Stout-Hearted Men*. Gaye sings achingly of the success he has tasted, noting that "the dreams I have lost, whatever the cost, the parade isn't passing me by." The final verse is heart-wrenching in its irony: "So the picture I paint makes me a sinner, makes me a saint; I won't try, no not I, to deny it. I may cry with the past, but it's easier to laugh at it. I thank God for my wonderful life."

When we consider the demons that pursued Marvin Gaye, leading to the last days when he was consumed by paranoia, losing his grip on sanity, it must be concluded that his life, in spite of the glitter and popularity, was not all that wonderful. But his music was.

Phyl Garland

MARVIN GAYE: *Dream of a Lifetime*. Marvin Gaye (vocals, synthesizers); vocal and instrumental accompaniment. *Sanctified Lady; Savage in the Sack; Masochistic Beauty; It's Madness; Ain't It Funny (How Things Turn Around); Symphony; Life's Opera; Dream of a Lifetime*. COLUMBIA FC 39916, © FCT 39916, no list price.

TOM T. HALL: *Song in a Seashell*.

Tom T. Hall (vocals); vocal and instrumental accompaniment. *That Lucky Old Sun; A Bar with No Beer; Red Sails in the Sunset; Down in the Florida Keys*; and six others. MERCURY 824 508-1 \$8.98, © 824 508-4 \$8.98.

Performance: *Beachcombing*
Recording: *Good*

In years back, whenever Tom T. Hall needed material for an album, he'd hop into his car and take off for parts unknown, or at least parts emotionally unexplored, and sometimes he'd come back with some of the most extraordinary songs in country music.

Today Hall is still jumping into his car, but this time he journeyed down to the beaches of Florida, Georgia, and the like. If the cover photo is any indication, Hall, in Topsiders, chinos, and golf jacket, really roughed it to come up with six original tunes. The idea, according to the promotion material, was to capture "summer, recreation and dreaming." But it sounds more like the lyrics of one of the cover songs here, "I ain't got no ambition/Gone fishin'." His half-talking, half-singing versions of the four standards are rather pleasant, and a couple of the original songs have some nice lines in them. But on the whole this is Muzak, Tom T. Hall style. Unless it happens to wash up on your own beach, free, better just let the tide take it. A.N.

THE HOOTERS: *Nervous Night*. The Hooters (vocals and instrumentals). *And We Danced; Day by Day; All You Zombies; Don't Take My Car Out Tonight*; and five others. COLUMBIA BFC 39912, © BFT 39912, no list price.

Performance: *By the book*
Recording: *Excellent*

The Hooters, apart from being the most popular local band in the history of Philadelphia, were the guys who played on Cyndi Lauper's album "She's So Unusual," which is probably why they wound up with their own record deal. Still, on the basis of "Nervous Night," their major-label debut, I suspect they'd be better off hiring themselves out as an all-star back-up band à la the Rumour. On their own, they don't have too much to say.

The basic sound is not unattractive—mainstream rock with occasional quirky touches like using a mandolin or a Hohner melodica—and they have all the stylistic bases covered: a little Springsteen here (*South Ferry Road*), a little white-boy reggae there (*All You Zombies*). Mostly, though, this stuff sounds as if the Hooters learned to write at Corporate Rock Extension School. With the exception of a surprisingly effective cover of an old Arthur Lee/Love number, *She Comes in Colors*, a quintessential slice of Sixties underground rock, there's nothing I'll want to hear twice. S.S.

(Continued on page 110)

10 mg. "tar", 0.9 mg. nicotine av. per cigarette by FTC method.

You've got what it takes.
Salem Spirit

*Share the spirit.
Share the refreshment.*

SURGEON GENERAL'S WARNING: Quitting Smoking
Now Greatly Reduces Serious Risks to Your Health.



Mitsubishi Galant

Das Goldene Lenkrad.

The Golden Steering Wheel. The German equivalent of Car of the Year. How could Mitsubishi Galant, a newcomer to this competition, take highest honors in the country famous for brilliant engineering?

Brilliant engineering.

Quite simply, the Galant is one of the most technologically advanced automobiles ever produced.

The powerful MCA-Jet™ engine is precisely managed by ECI™ electronic multi-point fuel injection for increased acceleration power and improved responsiveness.

Galant's sleek lines, the result of exhaustive wind tunnel testing, yield exceptional aerodynamic efficiency.

Then there's the available, micro-computerized ECS™ suspension system. It automatically adjusts the

1986 Mitsubishi Galant take

Call 1-800-447-4700 for your nearest Mitsubishi Motors Dealer. © 1985 Mitsubishi Motor Sales of America, Inc.
*For 1985 model

Galant. Natürlich.

suspension firmness to suit road conditions. It keeps the car level regardless of load. And lowers the ride height at highway speeds for more handling stability as well as reduced wind resistance.

Innovative ergonomic design provides sumptuous comfort. Even the rear seat reclines. And one of the 11 functions of the ETACS IV™ electronic control system prevents you

from locking your keys in the ignition.

An optional stereo even offers you steering wheel-mounted switches.

The list of its wondrous features goes on. And on. So test drive a new Mitsubishi Galant. You'll quickly understand why this automobile is recognized as perhaps the world's most ingeniously engineered luxury sedan.

In any language.



As you where you want to be.™

IMMEDIATE A'S & B'S: *The Singles Collection*. Small Faces: *The Universal*; *Itchykoo Park*. The Nice: *Thoughts of Emerlist Davjack*; *Angel of Death*. P. P. Arnold: *The First Cut Is the Deepest*. Mockingbirds: *You Stole My Heart*; *Skit Skat*. And thirteen others. COMPLEAT 672010-1 two discs \$11.98, © 672010-4 one cassette \$11.98.

Performance: *Mostly forgettable*
Recording: *Extremely variable*

Immediate Records, the brainchild of one-time Rolling Stones Svengali Andrew Loog Oldham, was one of the more interesting independent labels of the Sixties, and a lot of interesting artists passed through its doors, but this collection of obscure Immediate singles and vault items is likely to be of interest to passionate Anglophiles only. A few tracks can be listened to without squirming—P. P. Arnold's spectacularly soulful original version of *The First Cut Is the Deepest*, an interesting Jimmy Page production of the Who's *Circles*, and the odd Small Faces track—but most of what's here is of sub-demo quality. Not one of the great reissue albums of our time. S.S.

NICOLETTE LARSON: . . . *Say When*. Nicolette Larson (vocals); Emmylou Harris, Vince Gill, Ricky Skaggs, Sharon White, Jonathan Edwards (har-

mony vocals); instrumental accompaniment. *When You Get a Little Lonely*; *Say When*; *Building Bridges*; *I Just Keep Falling in Love*; *Only Love Will Make It Right*; *Dancin' 'Round and 'Round*; and four others. MCA MCA-5556 \$7.98, © MCAC-5556 \$7.98.

Performance: *No, no, Nicolette*
Recording: *Very good*

Nicolette Larson is a pop/rock singer from L.A. who established herself as a featured back-up vocalist (with Neil Young and Linda Ronstadt, among others) before making three disappointing solo albums in the late Seventies. Now that country music has become, in part, the Last Chance Texaco for failed pop singers, Larson has ambled on down to Nashville to try her luck.

Despite hooking up with producers Emory Gordy, Jr., and Tony Brown, who have infused this album with a hip, Emmylou Harris-Rodney Crowell, progressive-country sensibility, Larson falls flat on her pretty face. She has always, in my opinion, been overrated, possessing an undistinguished voice better suited for back-up than solo work, but the real problem here is that she doesn't begin to understand how to breathe life into the material. She moves through these top-quality, hand-picked songs as if she's reading an eye chart. A.N.

THE MANHATTANS: *Too Hot to Stop It*. The Manhattans (vocals); vocal and instrumental accompaniment. *Don't Say No*; *You Send Me*; *Angel of the Night*; *When We Were Made As One*; *C'est la vie*; and three others. COLUMBIA FC 39277, © FCT 39277, no list price.

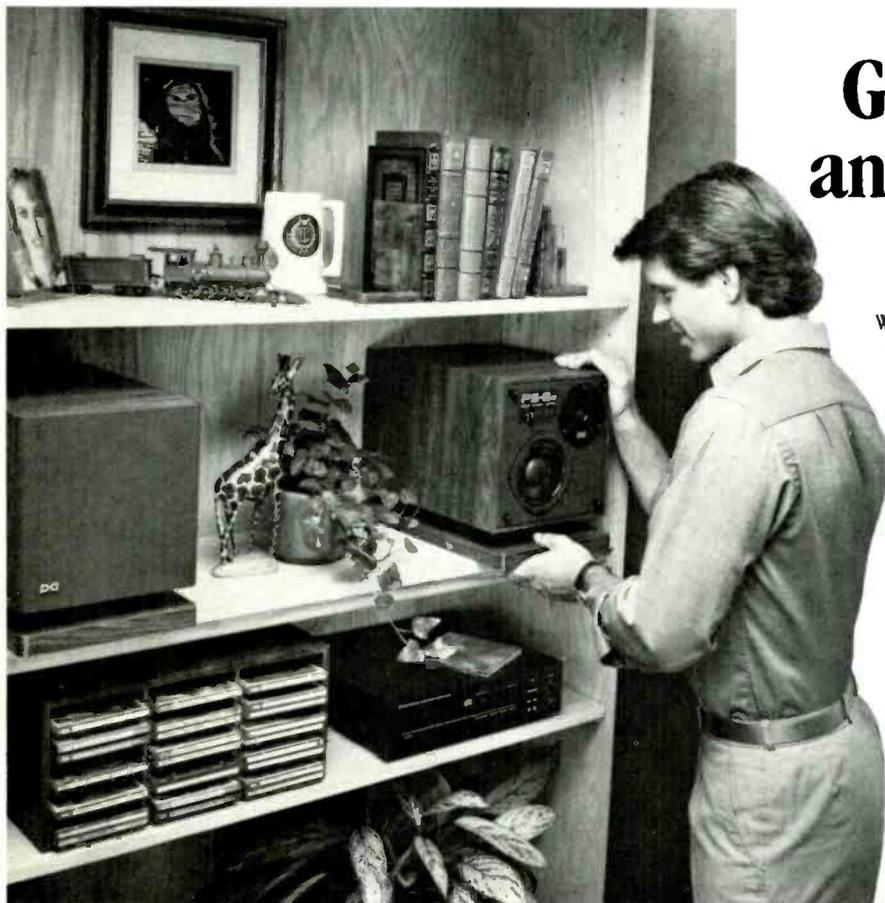
Performance: *Mellow*
Recording: *Excellent*

The Manhattans are the old smoothies of group soul singing, and this new album presents them at their mellow best. Two highlights are a new reading of Sam Cooke's classic *You Send Me* and an exquisite bit of nostalgia called *When We Were Made As One*, which is sung a cappella, effectively capturing the style and flavor of earlier, more innocent decades. P.G.

YEHUDI MENUHIN AND STÉPHANE GRAPPELLI: *For All Seasons*. Yehudi Menuhin (violin); Stéphane Grappelli (violin, piano); orchestra. *April in Paris*; *Heat Wave*; *Autumn Leaves*; *Button Up Your Overcoat*; and ten others. ANGEL ● DS-38118 \$11.98, © 4XS-38118 \$11.98.

Performance: *None better*
Recording: *Very good*

Here's another in the delightful series of "pop" albums by Yehudi Menuhin and



Give us a foot... and we'll give you a concert!

We've packed more musical perfection into one square foot than you may believe possible. The three-way Design Acoustics PS-8a speaker system handles up to 200 watts of power, yet is sensitive to the most delicate sounds you can hear.

Part of the secret is our Point Source design, with the smallest possible baffle to eliminate destructive sound diffraction by 40%. Plus a down-firing woofer that delivers enhanced bass response. And our Optimized Decade Crossovers™ which insure clean, clear sound in the critical mid-range while improving stereo imaging.

Be prepared for a delightful surprise when you hear the Design Acoustics PS-8a for the first time. And another surprise when you hear the low cost. Write today for your nearest Design Acoustics dealer.

Great stereo is just two square feet away.

PS-8a Three-way Point Source Speaker System

DCI DESIGNTM
ACOUSTICS
An Audio-Technica Company
1225 Commerce Drive, Stow, Ohio 44224

Stéphane Grappelli. They play in the style of the "jazz fiddle" of the 1920's, (neither of them can be much under seventy), and most of the music is well over a half-century old. But there is still a youthful gleam to these performances. Perhaps it has something to do with the freedom with which they attack their slightly shopworn material, their total lack of self-consciousness, or their irreverence. Whatever it is, it works for them as they sidle and strut through their repertoire, each displaying a technique as flawless as their obvious sense of humor about the whole enterprise. Fun for any age group. *P.R.*

FREDDIE MERCURY: *Mr. Bad Guy.* Freddie Mercury (vocals, piano); other musicians. *Let's Turn It On; Made in Heaven; I Was Born to Love You; Fool-in' Around; Your Kind of Lover;* and six others. COLUMBIA FC 40071, © FCT 40071, no list price.

Performance: *Surprisingly sedate*
Recording: *Excellent*

Freddie Mercury, currently the only major rock star who could be mistaken for a model on the cover of a gay porno magazine, appears here in a surprisingly unexcessive solo debut. While I am loathe to criticize the work of anybody who dedicates a record to his pet cat (the name is Jerry, in case you're won-

dering), I can't find much to get excited about here.

Superficially, it all sounds like Queen, for whom Mercury is the over-the-top front man, but while Queen usually gets away with making utterly bombastic music by winking at the audience as they do it, Mercury solo sounds as if he takes the stuff seriously. He's too damn well behaved. There's a little bit of Carmen Miranda for the Eighties (*Let's Turn It On*), a little anonymous dance rock, a halfhearted attempt at overproduction (the title song) featuring the Munich Philharmonic, and just about nothing you'll remember when the record is over. *S.S.*

NEW ORDER: *Low-life.* New Order (vocals); instrumental accompaniment. *Love Vigilantes; The Perfect Kiss; This Time of Night; Sunrise;* and four others. QWEST 25289-1 \$8.98, © 25289-4 \$8.98.

Performance: *Cheerless*
Recording: *Very good*

Few bands put as much distance between themselves and their listeners as New Order does on "Low-life." The arrangements are puzzling, at times riveting and at others ragged and weary. The flat vocals carry so little feeling they effectively rob the lyrics of impact. The song titles bear no apparent rela-

tionship to the songs, and no lyric sheet is provided. In fact, the album jacket doesn't even list the members of the band, never mind the instrumental lineup: just four dimly lit, out-of-focus black-and-white photos of the band members.

Yet, in spite of these barriers—or perhaps enhanced by them—an undercurrent of anger and frustration makes itself felt in every beat of "Low-life," not surprising from a band with as troubled a history as New Order (formerly Joy Division). The angst is conveyed principally through some fierce guitar work—especially the rising chords of *Sunrise*, which build to an extraordinary climax, and the thrashing rhythms of *Face-up*, which slash and burn away over the repeated cry, "I cannot bear the thought of you."

"Low-life" is strange for other reasons. New Order can sound like a synth-pop band in one song and a stripped-down guitar trio in the next. Its mixture of *haute couture*, synthesized percussion, and raw, U2-like guitar within the same song is also novel. It makes for a difficult album but one that rewards repeated listening. *M.P.*

HUGH MASEKELA: *Waiting for the Rain.* Hugh Masekela (vocals, flugelhorn, trumpet); vocal and instrumental accompaniment. *Lady; Politician; To-*



Disc drivers.

You're looking at the three drivers from our new NS-75T speaker. We took them apart so we could tell you how they're put together to meet the higher demands of compact discs.

The 12" woofer is made from specially developed carbon fiber material. Lightweight yet very rigid, carbon fiber has superior sonic clarity and low-end definition. Even under the increased dynamic range and high power demands of digital audio.

Both the dome midrange driver and the dome tweeter are made from a unique titanium

carbide composition. The result is outstanding transient response, wide sonic dispersion, and three-dimensional, transparent imaging. So you hear all the live in-studio or on-stage sound compact discs were recorded with.

The NS-75T is just one in a complete line of Yamaha NS-T speakers. They're ready for digital when you are.

Yamaha Electronics Corporation, USA, P.O. Box 6660, Buena Park, CA 90622



YAMAHA

CIRCLE NO. 14 ON READER SERVICE CARD



night; *The Joke of Life*; *Run No More*; *Coal Train*; *Ritual Danger*; *Zulu Wedding*. JIVE AFRICA/ARISTA JL8-8382 \$8.98, © JC8-8382 \$8.98.

Performance: *Scintillating*
Recording: *Very good*

The layered rhythms and antiphonal chants of indigenous African music have always figured prominently in the work of South Africa-born trumpeter Hugh Masekela, but the mix has become even heavier since he returned to the continent in 1980. He now lives in Botswana, near his homeland, and records in a modern studio, producing lively music that fuses American jazz and pop with his own traditions. The result is a bubbling concoction called "Afrobeat" that is one of the most refreshing sounds to be heard today.

Most of the selections here were written by Masekela, some being adapted from African songs. Serious political statements are often mingled with the captivating percussive effect. *Politician*, for example, is a two-fisted critique of government corruption, and *Coal Train (Stimela)* weaves jazz solos around commentary about goldminers who are brought by train from all over Southern Africa to toil "deep in the belly of the earth" near Johannesburg. But there is also humor and pure fun here, as in *Tonight*, a potential hit with a lilting dance beat. Masekela's charm is vibrant enough to stir us even from a distance of many thousands of miles. P.G.

NITTY GRITTY DIRT BAND: *Partners, Brothers and Friends*. Nitty Gritty Dirt Band (vocals and instrumentals); other musicians. *Modern Day Romance*; *Home Again in My Heart*; *Teluride*; *Old Upright Piano*; *Queen of the Road*; *Leon McDuff*; and four others. WARNER BROS. 25304-1 \$8.98, © 25304-4 \$8.98.

Performance: *Nitty but not gritty*
Recording: *Very good*

The Nitty Gritty Dirt Band comprises such good musicians, such veteran performers, and such witty, old-shoe songwriters that even a mediocre Dirt Band album like "Partners, Brothers and Friends" is at least a Stetson taller than most of the albums that come out of commercial Nashville. The best material here was written not by the band but by an assortment of fairly-well-knowns—Don Schlitz, Wendy Waldman, Russell Smith, Dan Tyler. That's fine, of course, but even with Mike Cross's rousing *Leon McDuff*, about the plight of a financially depressed farmer, most of these songs sound like outtakes from the Dirt Band's last album. Still, because these guys do what they do so well (the wry vocals would be enough to sell me), you'll probably want to add it to your collection. A.N.

OAK RIDGE BOYS: *Step On Out*. Oak Ridge Boys (vocals); instrumental accompaniment. *Touch a Hand, Make a Friend*; *Ophelia*; *Roll Tennessee Riv-*



The Nitty Gritty Dirt Band: wry vocals

ALAN MESSER/WARNER BROS. RECORDS

er; *Little Things*; *Staying Afloat*; and five others. MCA MCA-5555 \$7.98, © MCAC-5555 \$7.98.

Performance: *Slush*
Recording: *Good*

Several months ago, I wondered why *Little Things*, a slight if catchy tune, became an Oak Ridge Boys single. Now that I've heard the entire album it's from, the reason is obvious. With the possible exception of the title tune, there's nothing else that even comes close to single material. "Step On Out" is, as a matter of fact, one of the poorest excuses for an album that I've heard since the Sixties, when record companies could get away with putting one hit and eleven fillers on an album and charging full price for it. And while producer Ron Chancey took the Oaks down to Muscle Shoals, Alabama, to record, there is about as much r-&-b punch here as there is on a Florence Henderson record. "Adult contemporary" stations should love it, though—*Step On Out* never steps over the center line. A.N.

PARACHUTE CLUB: *At the Feet of the Moon*. Parachute Club (vocals and instrumentals). *At the Feet of the Moon*; *Sexual Intelligence*; *Innuendo*; *Equal/Equally*; *Rise Up*; and four others. RCA ● AFL1-5337 \$8.98, © AFK1-5337 \$8.98.

Performance: *Below par*
Recording: *Very good*

Parachute Club is a Canadian septet that subscribes to the unpopular notion that music can be an agent for change. "At the Feet of the Moon" is their second release in the U.S., and it's cast in the same riffing, Latin-tinged form as their first album, one of the pleasant surprises of 1984. (It even reprises that album's best track, *Rise Up*.) But while there's some powerful new material here—*Innuendo*, for instance, sung with convincing fear and anger by Julie Masi—this record misses the lean, unvarnished sound of its predecessor and shows signs of diminishing social re-

turns. The straightforward, uncomplicated rhythms that are the group's signature have been given a glossy sheen and extra bottom by producer Michael Beinhorn. The effect is cleaner, more commercial, but it also works against the unaffectedness and immediacy the music needs. And several compositions—*Equal/Equally*, *Middle Child*, *Walls and Laws*—never get off the ground either musically or lyrically. Overall, this album is an intelligent fusion of dance music and social commentary, but it is not Parachute Club's best work. M.P.

RARE SILK: *American Eyes*. Rare Silk (vocals); instrumental accompaniment. *Oops!*; *Watch What Happens*; *'Round Midnight*; *Hello*; *American Eyes*; *Storm*; and two others. PALO ALTO PA 8086 \$8.98.

Performance: *Not their best*
Recording: *Good*

With the release of a superb debut album, "New Weave," in 1983, the vocal quartet Rare Silk presented impressive evidence that it might well be the most gifted group of its kind since the great Lambert, Hendricks, and Ross. The three women and one man of Rare Silk blended lush voices with technical excellence and a rare agility that enabled them to execute complex jazz changes. Their musicianship was awesome, and their choice of material was impeccable, ranging from Billy Strayhorn to Chick Corea and Richie Cole.

After that auspicious debut, the new "American Eyes" is somewhat disappointing. It lacks the knockout quality of the first album, possibly because the group has tried to range over broader musical turf, with more original writing by member Todd Buffa. Though the music remains founded solidly in jazz, there are large hints of rock in the instrumentation, not all of them tasteful. Still, the treatment of Michel Legrand's *Watch What Happens* is daring, if irreverent, and the Calypso-flavored *Hello* and a fine arrangement of Stanley Turrentine's *Storm* are standouts. Ex-

perimentation should be encouraged, but I hope Rare Silk won't veer too far from the near-perfection they achieved on their first outing. *P.G.*

KENNY ROGERS: *Love Is What We Make It.* Kenny Rogers (vocals); vocal and instrumental accompaniment. *Love Is What We Make It; Twentieth Century Fool; Tie Me to Your Heart Again; Maybe in the End; It Turns Me Inside Out;* and five others. LIBERTY LO-51157 \$7.98, © 4LO-51157 \$7.98.

Performance: *B-grade*
Recording: *Okay*

"Love Is What We Make It" is a collection of "previously unreleased master recordings," which is a fancy way of saying, "These are the dregs that weren't good enough to make it onto any other Kenny Rogers album." Rogers's delivery is, as usual, competent, if limited, but the songs, and in some cases the production (by Larry Butler, Lionel Richie, John Guess, and Rogers himself), will probably produce more than a few snores in even the most hard-core Rogers fans. *A.N.*

SLADE: *Rogues Gallery.* Noddy Holder (vocals); Dave Hill (guitars, backing vocals); Jim Lea (guitars, keyboards, bass, violin, backing vocals); Don Powell (drums). *Hey Ho Wish You Well; Little Sheila; Walking on Water, Run-*

ning on Alcohol; Myzsterious Mizster Jones; Harmony; and five others. CBS FZ 39976, © FZT 39976, no list price.

Performance: *Pub grub*
Recording: *Good*

Back in the early Seventies, when heavy-metal was actually taken seriously, Slade's music was dismissed as derivative, mindless pap. But what we've come to realize during the current heavy-metal renaissance is that mindlessness is what this music is all about. Hence the unlikely resurrection of Noddy Holder and his bumptious (though, judging from the album cover photos, somewhat embarrassed) crew, helped out of retirement by Quiet Riot's cover of *Cum Feel the Noiz*.

Derivative Slade surely is. The opening track here, *Hey Ho Wish You Well*, is less than thirty seconds old before it's already ripped off Deep Purple (*Smoke on the Water*) and Van Halen (*Jump*). By side two, Slade has plundered most of BMI and started in on ASCAP. But no matter. After all, familiarity is essential to bar-room anthems.

"Rogues Gallery" is the musical equivalent of pub grub—a healthy wallop of bangers and mash washed down with a half-dozen pints of bitter. The songs slosh merrily around, their horsy rhythms and singsong lyrics spilling frothily forth in invitation to sing along. The more the merrier. *M.P.*

THE STYLE COUNCIL: *Internationalists* (see Best of the Month, page 93)

MEL TILLIS: *California Road.* Mel Tillis (vocals); instrumental accompaniment. *California Road; One More Time; Diggin' Up Bones; Another She's Leaving Song; You Done Me Wrong;* and five others. RCA AHL1-5483 \$8.98, © AHK1-5483 \$8.98.

Performance: *Earnest*
Recording: *Good*

Now that Ernest Tubb is gone, Mel Tillis has become, at the age of fifty-three, something of an elder statesman of country music. Seldom flashy, sometimes ponderous, Tillis nevertheless has mastered that slim groove between gut-level honky-tonk and mainstream Nashville Sound, and when he opens his mouth there is no doubt that he is the genuine article, someone who *cares* about the music and its evolution.

With that in mind, Tillis's first album for RCA is pure, basic, traditional music. The material, with the usual country themes, is solid, if a little dull—surprising, since Tillis owns seven publishing companies—but he manages to make them sound more heartfelt than I imagine anybody else could. *A.N.*

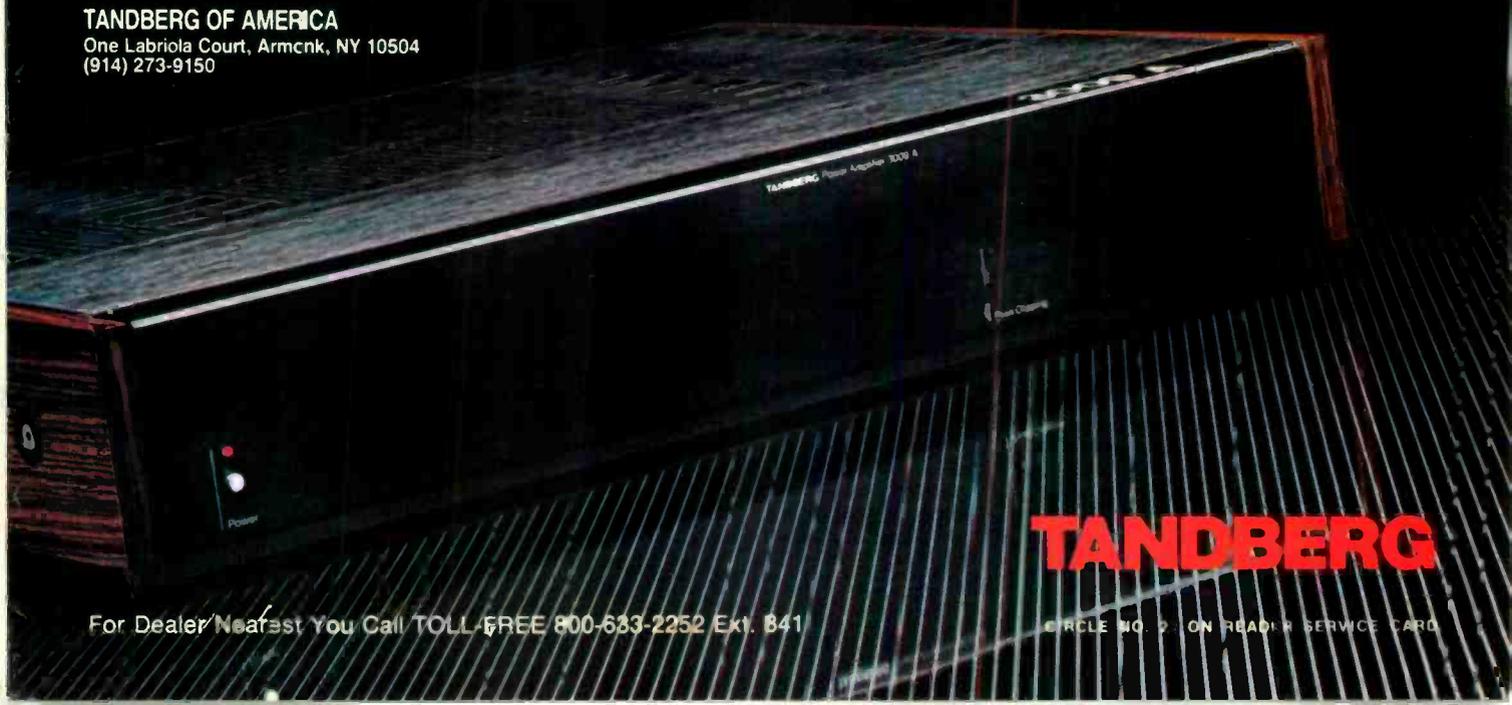
THE WEATHER GIRLS: *Big Girls Don't Cry* (see Best of the Month, page 96)

Tandberg's TPA-3009A Mono Power Amp is uniquely designed to meet the amplification needs of today... and the future: a high power, high current (55 amps) MOSFET amplifier in an advanced configuration, totally free of negative feedback and voltage/current-limiting circuits.

It handles – with ease and precision – the reactances and very low load impedances found in today's high performance loudspeakers, as well as custom multi-speaker system installations – and fully compliments the dynamic range and ultra low distortion made possible by digital recording. The amplifier is elegant, compact, rugged and affordable.

The TPA3009A: Engineered for the most demanding loudspeakers... and discriminating ears.

TANDBERG OF AMERICA
One Labriola Court, Armonk, NY 10504
(914) 273-9150



TANDBERG

For Dealer Nearest You Call TOLL-FREE 800-633-2252 Ext. 841

CIRCLE NO. 9 ON READER SERVICE CARD

ONE NIGHT WITH BLUE NOTE



Art Blakey: driving rhythm for a jazz classic

BLUE NOTE, the jazz label that was founded in 1939 and yielded an outstanding crop of recordings until it became a part of the Transamerica conglomerate, bounced back in capable hands last year, and the event was celebrated with an ambitious concert in New York's Town Hall. I would not go so far as to call the concert the "jazz event of the decade"—as one critic did describe it—but with twenty-five major jazz musicians on hand, the lineup was certainly impressive. Now most of it is available in just about every recording format, including video.

There are dull moments, to be sure, in "One Night with Blue Note Preserved," but they are relatively few. The nadir is reached in Volume Four, which is dominated by a quartet led by the overrated saxophonist Charles Lloyd. With him are two fine musicians, Cecil McBee and Jack DeJohnette, and Michel Petrucciani, a pedestrian pianist. I would suggest skipping this part, but it also contains two solo tracks by guitarist Stanley Jordan, who brings a new technique to his instrument.

Shades of the old Sixties Blue Note sounds are heard on Volume Three, which features Johnny Griffin, Freddie Hubbard, and Curtis Fuller with a rhythm section driven by Art Blakey; one track each with saxophonists Stanley Turrentine and Lou Donaldson joined by organist Jimmy Smith; and two excursions by Grover Washington, Jr., on soprano sax and guitarist Kenny Burrell.

The most satisfying volume overall is the second, which contains Cecil Taylor's *Pontos Cantados*, in typical venturesome style, and four tracks by a McCoy Tyner quintet that has Woody Shaw and Jackie McLean up front, with strong rhythmic support from Cecil McBee and Jack DeJohnette. McLean's *Appointment in Ghana* and Tyner's *Blues on the Corner* also get my vote.

Herbie Hancock seems to have a penchant for melons. His *Canteloupe Island*, which starts Volume One, is more interesting than *Watermelon Man*, but that may well be because it is less fre-

quently heard. In *Canteloupe Island*, and in an even better version of Joe Henderson's *Recorda Me*, we hear Hancock with a quintet completed by Henderson, Freddie Hubbard, Ron Carter, and Tony Williams. The same rhythm section is featured to advantage with vibist Bobby Hutcherson and flutist James Newton on *Little B's Poem*.

The boxed set of four LP's is beautifully packaged and comes with a copy of the concert program, a poster, color photographs, and producer Michael Cuscuna's authoritative liner notes. The digital recording was made with obvious attention to detail. (A release on CD is intended.) Viewed as a whole, this set hits the target more often than not. Bruce Lundvall, the guiding light behind Blue Note's resurrection, deserves a lot of credit for bringing a vital label back to a semblance of its old, glorious self.

Chris Albertson

ONE NIGHT WITH BLUE NOTE PRESERVED. Freddie Hubbard, Woody Shaw (trumpet); Curtis Fuller (trombone); James Newton (flute); Grover Washington, Jr. (soprano saxophone); Jackie McLean, Lou Donaldson (alto saxophone); Joe Henderson, Bennie Wallace, Johnny Griffin, Stanley Turrentine, Charles Lloyd (tenor saxophone); Herbie Hancock, McCoy Tyner, Cecil Taylor, Walter Davis, Michel Petrucciani (piano); Jimmy Smith (organ); Kenny Burrell, Stanley Jordan (guitar); Bobby Hutcherson (vibraphone); Ron Carter, Cecil McBee, Reggie Workman (bass); Tony Williams, Jack DeJohnette, Art Blakey, Grady Tate (drums). *The Blessing; Jumpin' Jack; Summertime; Moanin'; Sweet and Lovely; Appointment in Ghana; Broadside; Bouquet; Hat and Beard; Blues on the Corner; Passion Dance; Pontos Cantados*; and twelve others. BLUE NOTE ● BTDK 85117 four discs \$34.98. Also available as four individual volumes: BT 85113/4/5/6 \$8.98 each, © 4BT 85113/4/5/6 \$8.98 each. Excerpts on two video-tape cassettes: SONY 96W00093 and 96W00095 Beta Hi-Fi \$29.95 each, 96W50094 and 96W50096 VHS Hi-Fi \$29.95 each.

JAZZ

CHARLIE PARKER: *Bird at the Roost: The Savoy Years, Volume One.* Charlie Parker (alto saxophone); Miles Davis, Kenny Dorham (trumpet); Tadd Dameron, Al Haig (piano); Curley Russell, Tommy Potter (bass); Max Roach, Joe Harris (drums). *Ko-Ko; Groovin' High; Hot House; White Christmas; Cheryl; Salt Peanuts; Ornithology (two versions); Slow Boat to China (two versions);* and eight others. SAVOY JAZZ SJL 2259 two discs \$11.98.

Performance: *Important*

Recording: *Decent airchecks*

In modern jazz no name is quite as magical as Charlie Parker's. His career was relatively short, but it encompassed the transition from swing to bop, and no other player had more influence on bop than Parker. Fortunately, Parker was recorded extensively, so there exists a sizable library of his work. But there were also unofficial recordings, ranging from the covert tapping of club sound systems to airchecks of his broadcasts. Some of the broadcasts, aired from New York's Royal Roost in 1948 and 1949, made their way onto Savoy albums thirty years ago and are now being reissued in two double-disc albums called "Bird at the Roost: The Savoy Years."

The first volume contains twenty tracks, some of which offer different performances of the same tune. Although jazz is an art form based largely on improvisation, many musicians stray only so far from a successful note progression, doing no more than recreating an earlier improvisation. Parker did that only to a limited extent, so his freewheeling approach to a tune could often be more interesting than the composition itself. A case in point is *Slow Boat to China*, a perfectly dreadful 1948 pop song that Parker elevated and made into a classic. Recorded three weeks apart, the two versions in this set feature solos by Parker that bear only a slight similarity to each other, and both are marvelous examples of the heights even the tritest music can reach in the hands of a master improviser.

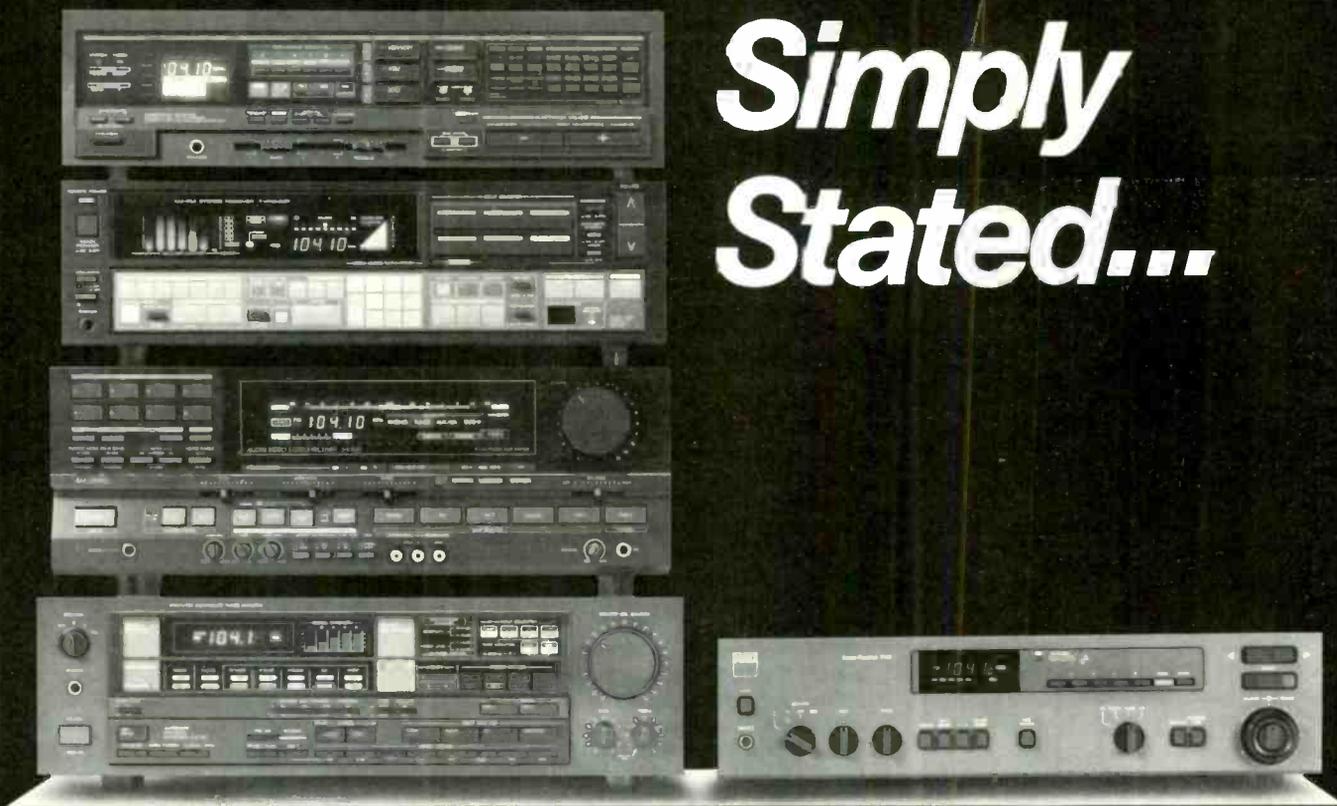
Parker's creativity alone could have carried this album, but it also features extraordinary performances by trumpeters Miles Davis and Kenny Dorham. The sound, too, is remarkably good. A must for serious collectors. C.A.

THE LIVING TIME ORCHESTRA: *The African Game.* The Living Time Orchestra, George Russell cond. *Organic Life on Earth Begins; Consciousness; Cartesian Man; The Future?;* and five others. BLUE NOTE BT 85103 \$7.98, © BTC 85103 \$7.98.

Performance: *Fascinating*
Recording: *Very good*

Although George Russell may be heard from infrequently, he's intellectually stimulating when he is. "The African

Simply Stated...



On the inside, where it counts, we engineered the most sophisticated and powerful technology available today.

On the outside, we designed a control panel that's straightforward and easy to use.

That's it. Because, at NAD, the music is the most important feature.



AN UNCOMMON COMPANY

For Dealer Nearest You Call TOLL-FREE 800-633-2252 Ext. 834

CIRCLE NO. 11 ON READER SERVICE CARD

Featured above on the right is the NAD 7140 AM/FM Stereo Receiver. Industrial design by Reinhold Weiss Design, Chicago

For more information on the NAD 7140 and a list of dealers send us the coupon below.

NAME _____

ADDRESS _____

CITY _____

STATE _____

ZIP _____

NAD (USA), INC., 675 Canton Street, Norwood, MA 02062



This catalog can save you up to 60% on your next car or home stereo, telephone, or VCR.

FREE Stereo Catalog

Refer to the Crutchfield Catalog before buying your next car or home stereo, telephone, or VCR

- Low discount prices
- 100 pages of helpful articles, shopping tips, charts, and installation guides
- Color photos, complete product descriptions and technical specifications on hundreds of the finest brand name products

You get more value shopping Crutchfield:

- Lowest possible prices
- Full factory warranties
- 23 toll-free lines staffed by helpful sales and technical advisors
- Huge in-stock inventories
- 24 hour shipping guaranteed
- All major credit cards welcome
- Liberal return privileges
- Complete satisfaction guaranteed

Call or write now for your **FREE Catalog**

Use the coupon below or call toll-free:

800-336-5566

In Virginia, call 800-552-3961



We now serve CANADA! Please enclose \$1.00 for catalog postage.

Be sure to mention Stereo Review when calling. Rush me your FREE Buyer's Guide.

Name _____

Address _____

City _____ State _____ Zip _____

CRUTCHFIELD

1 Crutchfield Park, Dept. SR, Charlottesville, VA 22906.

"Game" is a nine-part suite exemplifying his concept of Vertical Form, a system of polyrhythmic organization based on the layered rhythmic principles of African music. The music aims to convey Russell's impressions of the total evolutionary process, beginning with the origins of homo sapiens in Africa. Each "event," as the movements are called, is titled in high-toned anthropological, biological, and philosophical terms. But regardless of the ideas Russell seemed to have in mind, the music is exciting, full of lush clustered sounds enhanced by a hint of atonality. None of it is very complicated or inaccessible, but Russell is bent on charting new paths. Somehow he manages to make it all sound funky, immediately inviting, and, of course, stimulating. P.G.

TANIA MARIA: Made in New York. Tania Maria (vocals, keyboards); vocal and instrumental accompaniment. *Don't Go; E Carnival; My Space; I Do I Love You; Together;* and three others. MANHATTAN ST-53000 \$8.98, © 4XS-53000 \$8.98.

Performance: *Strangely subdued*
Recording: *Very good*

Although the fiery Brazilian singer-pianist Tania Maria has made at least a half-dozen records in the U.S., this one is the first on a major label, Manhattan being a subsidiary of Capitol. Unfortunately, it is also her least exciting recording to date. Not that it lacks merit. All the songs are, as usual, her own compositions, and they are as infectious melodiously and enticingly rhythmic as any of her other efforts. The flaw seems to be in the production, which is too laid back, bordering on the slick. Maria seems strangely subdued here. Even her wonderfully percussive piano work is shunted into the background, blending into the overall sound, and she never lets go with one of those marvelously inspired bursts of exuberant improvisation that are almost her trademark. Perhaps the intention was to make her more palatable to an easy-listening audience. If so, it was a mistake, for Tania Maria without spice and daring is like a trip to Brazil in the rainy season. P.G.

WYNTON MARSALIS: An American Hero. Art Blakey (drums); Wynton Marsalis (trumpet); Billy Pierce, Bobby Watson (saxophones); Jimmy Williams (piano); Charles Fambrough (bass). *My Funny Valentine; Blakey's Theme; 'Round Midnight; Time Will Tell;* and two others. WHO'S WHO IN JAZZ WWLP-21026 \$8.98, © WWC-21026 \$8.98.

Performance: *Interesting*
Recording: *Fine remote*

The release of "An American Hero" obviously represents an attempt to cash in on the phenomenal success of trumpeter Wynton Marsalis. These 1980 recordings were made during a Fort Lauderdale engagement when Marsalis was

nineteen, and they are, in fact, by Art Blakey's Jazz Messengers. They should have been released as such, of course, but, deceptive packaging aside, they are a welcome addition to the catalog.

There is a good measure of Marsalis's sometimes fiery, sometimes mellow trumpet here, and the set serves well—along with 1981 and 1982 Blakey material that has been released by Concord Jazz—to chart the maturing process of Marsalis's artistry. Except for *My Funny Valentine*, the album consists of previously unreleased material, and it represents a palatable slice of one of Blakey's many fine Messenger editions. Still, we could have done without *Blakey's Theme*, which has been doctored up to accommodate thirty meaningless seconds of Marsalis demonstrating his classical technique. C.A.

MABEL MERCER: Sings Cole Porter. Mabel Mercer (vocals); Cy Walter, Stan Freeman (piano). *It's Delovely; Every Time We Say Goodbye; Experiment; Ours; After You; Ace in the Hole; So in Love; Looking at You; Use Your Imagination;* and four others. ATLANTIC 81264-1 \$8.98, © 81264-4 \$8.98.

Performance: *Incomparable*
Recording: *Good*

There's very little one can add to the chorus of praise that Mabel Mercer received during her long and magnificent career except to say that she truly was a supreme artist. Any doubt about that can be quickly banished with even a casual listening to this rerelease of a classic.

Mercer was particularly at ease with the intricate, sophisticated, and grandly romantic lyrics of Cole Porter. There isn't a performance in this album that wouldn't have brought a nod of appreciation from Porter himself. Although her voice was drastically limited in range when she recorded these songs, Mercer was able to manipulate it with all of the grace, humor, and (often) stark passion of a truly great actress. Note to all "Style" craving Yuppies: try *this* one on the tape deck of your BMW! P.R.

MEL TORMÉ: 'Round Midnight. Mel Tormé (vocals); Marty Paich Dek-Tette, Shorty Rogers and His Giants (instrumentals). *The Lady Is a Tramp; Lulu's Back in Town; A Foggy Day; Hello Young Lovers; Marie; Hey, Look Me Over; When the Sun Comes Out; The Surrey with the Fringe on Top;* and seven others. STASH © ST 252 \$8.98, © STC 252 \$8.98.

Performance: *Vintage velvet*
Recording: *Excellent*

Record collectors who are familiar with Mel Tormé's commercial releases from the middle to late Fifties will recognize the songs and the arrangements on a new Stash release called "Round Midnight." These are, however, previously unreleased 1956-1962 recordings taken from *Guard Session* and *Guest Star* transcriptions, government propaganda

and National Guard recruitment programs that radio stations ran as a public service. The smooth instrumental accompaniments feature some of the top West Coast jazz men of the period, and each of the two instrumental groups, the Marty Paich Dek-Tette and Shorty Rogers and His Giants, is also represented by one track to themselves. The performances are superbly professional, the sound is monophonic but excellent, and Eric Comstock has provided a wealth of information and observations for the liner notes. By all means, treat yourself to this one. C.A.

EDDIE "CLEANHEAD" VINSON: *Sings the Blues*. Eddie "Cleanhead" Vinson (vocals, alto saxophone); Arnett Cobb, Buddy Tate (tenor saxophones); Ray Bryant (piano); Larry Gales, George Duvivier (bass); other musicians. *Hold It Right There; High Class Baby; Past Sixty Blues; Old Maid Boogie; He Was a Friend of Mine; Cleanhead Blues; When My Baby Left Me; Cherry Red.* MUSE MR 5310 \$8.98, © MC 5310 \$8.98.

Performance: *Excellent*
Recording: *Excellent*

I have admired the way Eddie "Cleanhead" Vinson handles a blues since I first heard him do it on a Mercury record some thirty-five years ago. This new Muse album, culled from previous recordings that were released between 1978 and 1982, features his vocals and alto sax in a wonderful collection with fine accompaniments that include saxophonists Arnett Cobb and Buddy Tate, pianist Ray Bryant, and the orchestra that calls itself Roomful of Blues. Peter Lowry's liner notes are contrived and self-serving, but the music is right on target. Unless you have the Muse albums from which the material stems, I recommend adding this set to your collection. C.A.

YELLOW JACKETS: *Samurai Samba*. Yellow Jackets (instrumentals); other musicians. *Homecoming; Deat Beat; Daddy's Gonna Miss You; Sylvania; Silverlake;* and three others. WARNER BROS. 25204-1 \$8.98, © 25204-4 \$8.98.

Performance: *Not distinctive*
Recording: *Satisfactory*

The four members of the Yellow Jackets, a prominent jazz fusion group, have spent most of their careers working sessions behind other artists. In "Samurai Samba," their third album, they continue to sound like a highly professional back-up band that lacks a musical personality of its own. The Jackets lean toward the heavy beat that is standard in pop fusion but play little that might qualify as jazz. Alto saxophonist Marc Russo tries hard on *Daddy's Gonna Miss You*, one of the more inviting tunes, but comes off sounding like a David Sanborn clone. It's hard to imagine anyone's being very satisfied with this album—certainly no jazz lover seeking real substance. P.G.

Toshiba's CD player comes complete with rack system.



Not only is a CD player standard equipment in Toshiba's outstanding System 150, so is the double cassette deck with double-reverse, high speed dubbing and Dolby*B and C NR. As well as AM/FM stereo digital synthesizer tuner, 100 watt per channel integrated amplifier** direct-drive turntable, 4-way speaker systems and 14-band graphic equalizer. All in a sleek glass-top cabinet.

Toshiba's System 150. The only option is to buy it.

*TM Dolby Labs

**100 watts per channel minimum RMS power into 8 ohms from 20-20,000 Hz with no more than 0.005% THD.

In Touch with Tomorrow

TOSHIBA

Toshiba America, Inc. 82 Totowa Road, Wayne, NJ 07470

CIRCLE NO. 57 ON READER SERVICE CARD

Stereo Review for great stereo buys!

Subscribe to *Stereo Review* and you'll learn about the best buys in audio. Each issue helps you select the equipment that's best for you and the music you'll enjoy most!

Stereo Review tells you everything you need to know about sound equipment: what's available, what to look for when comparing, what it costs, what it'll do for you.

Another part of *Stereo Review* that's worth its weight in gold: the



monthly tests of receivers, cassette decks, speaker systems, phono cartridges, amplifiers, audio/video units, compact disc players, and everything else you could need for great sound at home or in the car!

Plus reviews of the latest classical, popular, jazz and rock disc and tape recordings...special buyers guide features on receivers, car stereos, tape equipment and speakers...the newest in audio technology...favorite columns.

Order *Stereo Review* today with the coupon below. It'll save you 50% off the full subscription price!

Stereo Review

P.O. Box 2771
Boulder, Colorado 80322

Send me *STEREO REVIEW* for:

- One year (12 issues) for \$4.99—50% off!
 Two years for \$9.98—50% off!
 Three years for \$14.97—50% off!

Savings based on full one-year subscription price of \$9.98.

CHECK ONE: Payment enclosed.
 Bill me later.

Mr. _____
Mrs. _____
Ms. _____
(please print full name)

Address _____ Apt. _____

City _____

State _____ Zip _____

Offer valid in U.S. and possessions only. Please allow 30 to 60 days for delivery of first issue.

Would you like to receive special offers from qualified users of our mailing list? Yes No.

NEW SUBSCRIBERS ONLY

It's amazing what happens to sound once you get it out of a box.

In the small town of Struer, Denmark, you'll find the most advanced speaker research center in Europe.

There, the designers and engineers at Bang & Olufsen are dedicated to creating ways that improve the way you listen to music.

Now, Bang & Olufsen has created a new series of speakers that eliminates the "boxy" sound found in conventional speakers that are shaped like boxes.

Of course, as with all speakers, the best way to judge them is to listen to them.

Short of that, you can begin to appreciate the RL Series by thinking about what makes a good listening room.

The worst possible listening room is one where all the dimensions are the same. The resonance caused by reflections and the inherent soundwave reinforcement distorts music.

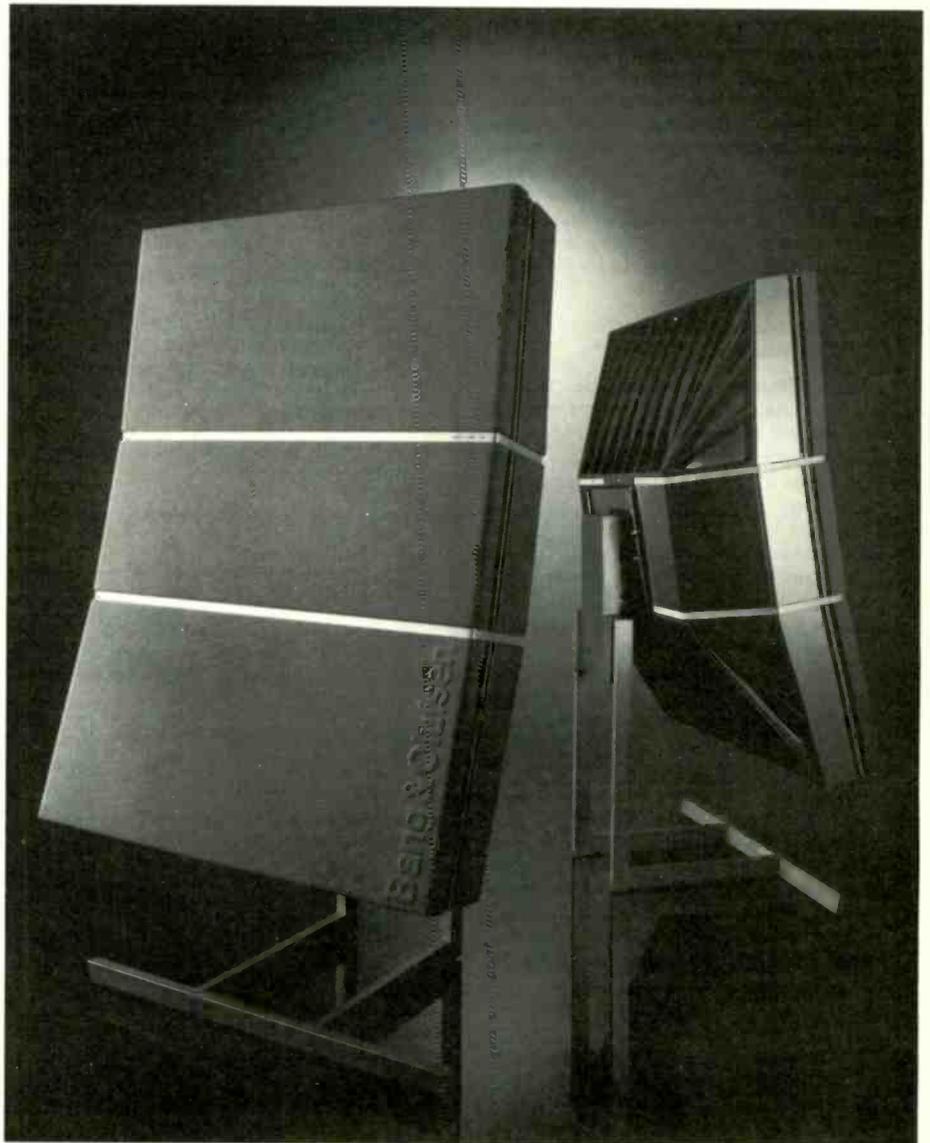
That's what happens inside a speaker shaped like a box.

Parallel walls within the speaker amplify and distort certain frequencies. This blurs the sound.

Although this fact has been known for some time, to date the problem has only been solved by the most costly systems.

The RL Series Speakers are an affordable solution to the problem.

The unique shape creates a series of non-parallel surfaces. So, like a concert hall (a room with non-parallel surfaces), the result is a pure, undistorted, "open" sound.



This shape, the material, and the internal construction have allowed us to eliminate the cabinet resonance and rear sound dispersion you hear in box type speakers.

In terms of capability, RL Series Speakers accurately reproduce an extremely wide range of music. Including the kind that's found on compact discs.

We could go on and on. But why listen to us when you can actually listen to a pair of RL's.

Just stop by any Bang & Olufsen Dealer and audition either the RL Series 60 or 140. We think you'll enjoy them.

Bang & Olufsen
of Denmark

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

BACH: *Magnificat; Cantata "Jauchzet Gott"* (see Best of the Month, page 93)

BACH: *Flute Sonatas (BWV 1020 and BWV 1030-1035); Partita for Flute (BWV 1013)*. Jean-Pierre Rampal (flute); Trevor Pinnock (harpsichord); Roland Pidoux (cello). CBS ● 12M 39746 two discs, © 12T 39746 two cassettes, no list price.

Performance: *Excellent*
Recording: *Excellent*

Considering that both Jean-Pierre Rampal and Trevor Pinnock have recorded the Bach flute sonatas with different partners in wildly opposed styles—Rampal in a slick performance with Robert Veyron-Lacroix, Pinnock in an impeccably authentic performance with Stephen Preston—you approach this set wondering just how the two will iron out their differences and produce a unified performance.

Most of the ironing out has been done by Rampal. While Pinnock remains true to his authentic style, with its detailed articulation and spacious presentation, Rampal has mellowed considerably. His tempos are slower, all signs of slickness have vanished, and poise complements his usual surface charm and wit. Playing with Pinnock apparently changed his whole concept of Bach, resulting in excellent performances of these works. S.L.

BARTÓK: *The Miraculous Mandarin; Music for Strings, Percussion, and Celesta* (see Best of the Month, page 96)

BEETHOVEN: *Symphony No. 7, Op. 92 (arr. Beethoven); Fidelio Overture, Op. 72b (arr. Sedlak)*. Octophoros. ACCENT ● ACC 8434 \$12.98, © ACC 48434D no list price (from Audio-Source, 1185 Chess Dr., Foster City, CA 94404).

Performance: *Highly entertaining*
Recording: *Splendid*

Before the days of the phonograph, masterpieces of the symphonic repertoire were available for home consump-

EXPLANATION OF SYMBOLS:

- = DIGITAL-MASTER ANALOG LP
- Ⓢ = STEREO CASSETTE
- Ⓢ = DIGITAL COMPACT DISC
- Ⓢ = MONOPHONIC RECORDING

DVOŘÁK'S STRING QUARTETS



Prague String Quartet: wholly authentic

THE complete works for string quartet of Antonín Dvořák were recorded by the Prague Quartet in the mid-Seventies and released by Deutsche Grammophon for sale overseas, but the recordings have never been available in the U.S. until now. PolyGram Special Imports is bringing the twelve-disc set in for the first time, and it is a wonderful musical treasure.

Dvořák's string quartets were written over the period 1862-1895, basically the same time span as the symphonies (1865-1893) but extended slightly at either end. Hearing them in chronological order offers profoundly illuminating insight into the composer's struggle to achieve mastery of the quartet medium. The very first quartet, in A Major, dates from Dvořák's twenty-fourth year. It is lyrical to a fault and, not surprisingly, permeated with elements of Schubert, Schumann, and Mendelssohn. The Second Quartet, in B-flat Major, composed about seven years later, displays a more chromatic texture indicating the influences of Liszt and Wagner. In the next four quartets, however, written over the following four years, Dvořák put more of himself into the music, and by the time of the Quartet No. 7 he was beginning to exercise greater control. The Seventh, Dvořák's first quartet to be published (1876) and performed in public (1878), has a *fiuriant*-style scherzo in which the composer's Czech roots are in full view. The Quartet No. 8 (1876) is more restrained, maintaining an almost Brahmsian pastel atmosphere for the first three movements but summoning a splendid burst of energy for the finale. The Ninth Quartet, in D Minor, was dedicated to Brahms.

It is with the Quartet No. 10, in E-flat Major, that we arrive at the works dis-

playing Dvořák's fullest mastery. The music is drenched in Slavonic color, highlighted by the famous *Dumka* slow movement and a finale of terrific vigor. The Quartet No. 11, in C Major, is the most imposing of them all in terms of formal mastery on a grand scale, particularly in the first movement.

The F Major *American* Quartet, No. 12, remains the most popular, and it is certainly a prime product of the composer's sojourn in this country. The final quartets—No. 13, in G Major, and No. 14, in A-flat Major—are masterly summations of his contribution to the string-quartet literature and deserve more attention than they've received.

The performances by the Prague String Quartet are not only wholly authentic in tone and style but wholly consistent in interpretive stance and execution. Unlike some quartets that have performed these works, the Prague players make no attempt to sweeten further what is intrinsically sweet and touching. It is the sinewy, sometimes flinty aspect of Dvořák's utterance that gets more than the usual stress here, most notably in the *American* Quartet and the preceding Quartet No. 10.

Although the recordings were done over a four-year period, in the pre-digital era, the sonics are absolutely true to life, with a comfortably resonant yet tonally warm-hued ambience. I can unreservedly recommend this set, especially at the bargain price that PSI is asking. David Hall

DVOŘÁK: *String Quartets Nos. 1-14; Two Quartet Fragments; Two Waltzes, Op. 54, Nos. 1 and 4; Twelve Cypresses*. Prague String Quartet. DEUTSCHE GRAMMOPHON/POLYGRAM SPECIAL IMPORTS 2740 177 twelve discs \$71.76.

McIntosh®

Get all the newest and latest information on McIntosh stereo equipment from McIntosh Laboratory.

XL 1 Speakers



MR 500 Tuner
MC 502 Amplifier
C 504 Preamplifier



C 33 Stereo Preamplifier



MC 2255 Stereo Power Amplifier

Send For Your Stereo Information

McIntosh Laboratory Inc.
East Side Station P.O. Box 96
Binghamton, N.Y. 13904-0096

SR

Name _____

Address _____

City _____

State _____

Zip _____

Phone Area Code _____

CIRCLE NO. 32 ON READER SERVICE CARD

120 STEREO REVIEW NOVEMBER 1985

tion not only through reductions for piano but also through transcriptions for small ensembles. Besides transcriptions authorized by the composers or their publishers, there were, of course, countless unauthorized arrangements. According to the liner notes for this release, it was in an effort to combat this plague of pirate reductions that Beethoven decided to publish a version of his Seventh Symphony scored for an ensemble of nine winds. He also made some drastic and surprising cuts, trimming the scherzo down to a straight A-B-A pattern and providing a finale shorn of its development section. The main key became G Major instead of A, but with the scherzo in its original key of F Major. Wenzel Sedlak's 1815 version of the *Fidelio* Overture knocks out twenty-six bars midway through to avoid an awkward bit of modulation.

Both of these works make for highly effective and entertaining listening, particularly in these beautifully molded and justly paced performances by the Belgium-based Octophoros ensemble. The recording is excellent too. *D.H.*

BERG: *Jugendlieder (Early Songs)*.

Dietrich Fischer-Dieskau (baritone); Aribert Reimann (pianist). ODEON 27 0195-1 \$12.98 (from International Book and Record Distributors, 40-11 24th St., Long Island City, NY 11101).

Performance: *Winning*
Recording: *Clear*

These twenty-three short songs (several of them last little more than a minute) are taken from a much larger group written by the youthful Alban Berg when composition was his avocation. They may not have any *great* musical significance, but they reveal an aspect of the composer not readily seen in his major vocal works, *Wozzeck* and *Lulu*—that is, simplicity, a sense of melody, and an immediate appeal to the listener. Dietrich Fischer-Dieskau's German enunciation is a model for all to follow, and his style has the polish we have come to expect from him. He might have tempered the extremes of *forte* and *piano* a bit, the former seeming too big for these vignettes and the latter sometimes so soft that the song is momentarily lost. Fine accompaniments are provided by the composer Aribert Reimann. Recommended to anyone interested in the canon of Berg's music. *R.A.*

BERLIOZ: *Roméo et Juliette*. Brigitte Fassbaender (mezzo-soprano); Nicolai Gedda (tenor); John Shirley-Quirk (baritone); Chorus of the Vienna State Opera; Austrian Radio Chorus and Orchestra, Lamberto Gardelli cond. ORFEO Ⓢ 087 842 two discs \$23.96, © MC 087 842 two cassettes \$23.96, © CD 087 842 two CD's \$34.

Performance: *Fully realized*
Recording: *Well balanced*

Berlioz's "symphonic poem," as he called *Roméo et Juliette*, is a curious

work that is not readily assimilated. It is "neither an opera in concert form nor a cantata, but a symphony with chorus," Berlioz suggested; he might have added, "and three solo voices." While there is no direct quote from Shakespeare's play, the vocal portions of the score, both choral and solo, tell us what the play is about in terms of narrative and image.

The excitement of the piece lies in the texture and color of the scoring. There is real musical drama in the extended orchestral sections and in the final choral confrontation and reconciliation of the feuding families. The two choruses here perform throughout with care and reverence for Berlioz's intentions. The recording, made in Vienna's acoustically glorious Musikvereinsaal, is sonorous, resonant, clear, and well engineered in terms of dynamics, and the performance is a thoughtful and sensitive one in the hands of conductor Lamberto Gardelli. *R.A.*

COUPERIN: *Concerts Royaux*. Robert Clair, Janet See (flute); Davitt Moroney (harpichord); Jaap ter Linden (bass viol). HARMONIA MUNDI HMC 1151 \$11.98, © HMC 40.1151 \$11.98, © 90.1151 \$17.

Performance: *Exquisite*
Recording: *Sensitive*

Written for Louis XIV's Sunday afternoon chamber concerts, Couperin's *Concerts Royaux* are so unbearably refined that they almost defy modern performance. The only way to play them seems to be to out-refine them—which is exactly what these musicians do. Throwing in every French mannerism imaginable and succumbing utterly to the characteristics of early instruments, they abandon themselves to the style so competely that any self-consciousness is lost in their oneness with the music. Couperin's exquisite decadence has met its match at last. *S.L.*

CRUMB: *A Haunted Landscape*. New York Philharmonic, Arthur Weisberg cond. **SCHUMAN: *Three Colloquies for Horn and Orchestra*.** Philip Myers (horn); New York Philharmonic, Zubin Mehta cond. NEW WORLD Ⓢ NW 326 \$9.98.

Performance: *Definitive*
Recording: *First-rate*

These are two more in a series of works commissioned by the New York Philharmonic—in most cases for its various first-chair players that has already enriched the repertoire with such works as John Corigliano's Clarinet Concerto and Vincent Persichetti's Concerto for English Horn. William Schuman's *Three Colloquies* was introduced in January 1980, George Crumb's *A Haunted Landscape* in June of last year; both were recorded live, with some subsequent studio takes.

According to Crumb, his piece "is not programmatic in any sense," but, rather, evocative of a generalized "aura of

mystery . . . the tiny, subtle nuances of emotion and sensibility that hover between the subliminal and the conscious." Over a "cosmic drone" in the form of a pedal-point low B-flat supplied by two alternating (and overlapping) double basses, the evocative means involve an enormous aggregation of percussion instruments—including exotic devices from Asia, South America, etc.—with an amplified piano played on its innards and even the two harpists tapping their sounding-boards with their knuckles. A measure of Crumb's success is that the listener (*this* listener, anyway) was not taken with the variety of exoticisms so much as the intriguing—and at times truly haunting—atmosphere these devices help to evoke. The "night music" (if you can call it that) of the opening has an almost Ivesian quality, ensuring an abundance of warmth as well as color.

Percussion instruments are quite prominent in Schuman's *Colloquies*, too, though by no means as numerous or as exotic as in the Crumb. Schuman has always known how to make effective use of the battery, and here even the suspended cymbal becomes an agent of some eloquence. The piano—not amplified, but played the old-fashioned way, on its keys—has an assertive role in establishing the dramatic texture, as do the drums and various bells (or cousins thereof). The three sections are headed, respectively, "Rumination," "Renewal" and "Remembrance"; no "program" more specific than those general implications has been set forth.

Schuman, who has generally favored a tripartite layout in his orchestral works, advises that this one is not a virtuoso concerto, but simply "music which required a solo French horn to realize its intentions." The solo part, in any event, is every bit as full of challenges as any out-and-out concerto, and the work as a whole is powerful stuff. With each hearing it seems to touch a deeper level, through that directness that has been Schuman's consistently effective approach.

Both works, performed by the musicians for whom they were created, receive what may well be regarded as definitive performances, and the recording itself is first-rate. *R.F.*

DELIUS: Violin Concerto; Suite for Violin and Orchestra; Légende. Ralph Holmes (violin); Royal Philharmonic Orchestra, Vernon Handley cond. UNICORN-KANCHANA • DKP 9040 \$11.98, © DKP (CD) 9040 \$17 (from Harmonia Mundi USA, 3364 S. Robertson Blvd., Los Angeles, CA 90034).

Performance: *Superb*
Recording: *Excellent*

This was the last recording made by the English violinist Ralph Holmes, four months before he died in September 1984 at the age of forty-seven. The nature of the music makes it a touching valediction; it also brings some valuable

additions to the catalog. Holmes's feeling for Delius's music was splendidly manifest in his recording of the three violin sonatas with the composer's associate, Eric Fenby, as his keyboard partner (Unicorn UNS-258), but even that might not have prepared anyone for his eloquent authority in the concerto. This recording of it would have been welcome simply because there is none other in current circulation, but it happens to be the most persuasive account of the work yet offered on records. Vernon Handley realizes the beauties of the orchestral writing every bit as fully as

Beecham did on his old 78's, and the warmth and vividness of the new digital recording leave nothing to be desired.

The concerto dates from 1916, and, if still far from being a general repertoire work, it has been recorded a half-dozen times. The four-movement Suite of 1888 was not even performed in public until last year, and the *Légende*, of 1895, may not have been heard in this century—at least in its orchestral form—until this recording was made. These are not great works, probably not even "important" ones, but they are lovely and substantial ones—bitter-

Save up to \$25⁰⁰ on the quickest stereo improvement you can make.

Shure's Holiday Savings Rebate on Cartridges and Styli.

A new Shure phono cartridge on the end of your tonearm is the best investment you can make to improve the sound of your stereo system.

And from now through December 31, 1985, you can receive a cash rebate on a variety of Shure's most sought after cartridges — like the world-acclaimed V15 Type V-MR.

If you already own a Shure cartridge, you can "tune it up" with a genuine Shure replacement — or upgrade stylus, and earn a rebate too.

Whether it's a gift to yourself or someone you love, a new Shure cartridge or replacement stylus can really bring the sounds of the season alive. For the name of your Shure Dealer, call (312) 866-2553.

Cartridge and Stylus Savings

\$25 REBATE

V15 Type V-MR
Cartridge

\$30 REBATE

V15 Type V-B
Cartridge

\$45 REBATE

ML140HE
Cartridge

\$45 REBATE

ML120HE
Cartridge

\$10 REBATE

M111HE Cartridge

M110HE Cartridge

VN5MR Stylus

VN5HE Stylus

\$5 REBATE

VN45MR Stylus

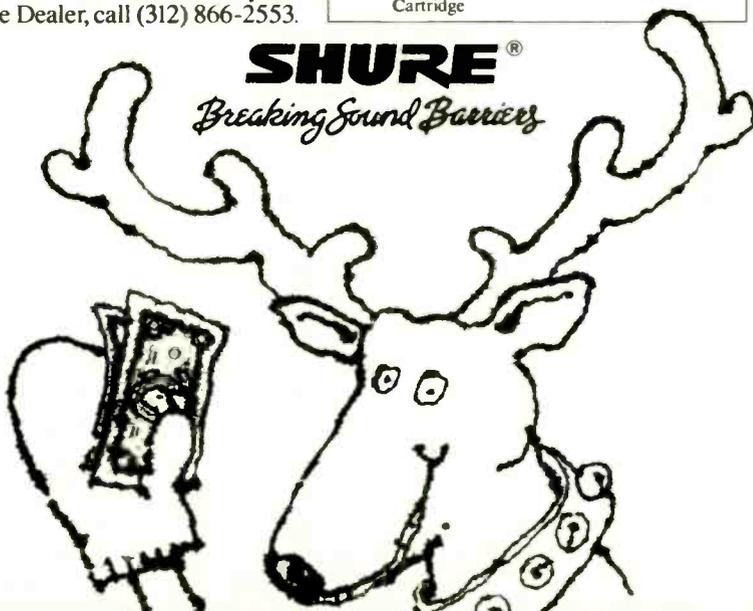
VN35MR Stylus

N97HE Stylus

N95HE Stylus

N95ED Stylus

N91ED Stylus



sweet and nostalgic in the most unmistakably Delian character. And there could be no finer performances of this music than you'll find here. R.F.

HANDEL: *O come chiare e belle; Clori, mia bella Clori; Amarilli vezzosa (Il duello amoroso)*. Patrizia Kwella, Gillian Fisher (sopranos); Catherine Denley (contralto); London Handel Orchestra, Denys Darlow cond. HYPERION A66155 \$11.98.

Performance: *Fresh*
Recording: *Crisp*

Titled "*Il duello amoroso*" ("The Amorous Duel"), this recording offers three utterly charming cantatas written, along with about a hundred others, while Handel was sowing his oats in Italy. The texts concern the usual denizens of Arcadia, and the music relies on a sophisticated melodic style that is clearly recognizable even this early in Handel's career.

Patrizia Kwella, the star of the album, sings in such a naturally pure style that the few vocal problems she has in no way detract from her performance. Catherine Denley sings with grace and ease, and the London Handel Orchestra under the direction of Denys Darlow offers confident support and some fine solo playing. The performances are as fresh as the music. S.L.

LULLY: *Dies Irae; Misere*. Soloists, Chorus, and Orchestra of the Royal Chapel, Philippe Herreweghe cond. HARMONIA MUNDI HMC 1167 \$11.98, © HMC 40.1167 \$11.98, © HMC 90.1167 \$17.

Performance: *Sumptuous*
Recording: *Splendid*

Highly esteemed by musicologists but rarely heard, Lully's thirty-some motets are even less widely known than his operas. Consisting of massed choral passages interspersed with arias, duets, and trios, all supported by full orchestra, the motets are written, as one would expect, in the grand manner. They are splendid music, each making a strong impression with dramatic settings of traditional texts and noble simplicity of texture.

The forces of France's Royal Chapel produce a sumptuous sound in the two motets recorded here, and Philippe Herreweghe brings out their full dignity in his spaciouly paced readings. In all, a welcome addition to the catalog. S.L.

MOZART: *Requiem (K. 626)*. Kathleen Battle (soprano); Anne Murray (mezzo-soprano); David Rendall (tenor); Matti Salminen (bass); Chorus and Orchestra of Paris, Daniel Barenboim cond. ANGEL ① DS-38216 \$11.98, © 4DS-38216 \$11.98.

Performance: *Pedestrian*
Recording: *Very good*

Except for Kathleen Battle's soaring soprano, this is a stodgy and thoroughly pedestrian performance of the Mozart

Requiem. It taxis around with swooping gestures but never takes off. In the liner notes, Kenneth Dommett makes an eloquent plea for continued use of the Süßmayr version of Mozart's last testament. I agree, but let's have a better performance. S.L.

MUSSORGSKY: *The Nursery*. TCHAIKOVSKY: *Songs*. Jan DeGaetani (mezzo-soprano); Gilbert Kalish (piano). NONESUCH ① 79103-1 \$11.98, © 79103-4 \$11.98.

Performance: *Enchanting, moving*
Recording: *Clear, crisp*

The "enchanting" above applies to Mussorgsky's *The Nursery*, the "mov-



MIKE EVANS/PHILIPS RECORDS

Zoltán Kocsis: in his element

ing" to the Tchaikovsky songs. There are ten of the latter, for the most part in the minor mode, introspective if not downright sad. They are songs as we would expect this composer to write them, characterized by beautiful melody and performed with affecting sensitivity by Jan DeGaetani. Among the titles are *A Summer Love Tale*, *Blue Eyes of Spring*, *The Sounds of Day Are Still*, and *From the Day That I Was Born*, as well as the obligatory *None But the Lonely Heart*.

The Nursery is what makes this disc important to collectors, however, for a whole new aspect of Mussorgsky's art is illuminated in this song cycle. The heavy, serious world of *Boris Godunov*, for instance, is replaced by the world of a little child caught up in the interests of little children—his nurse, a beetle, his doll, evening prayers, a hobby horse, a naughty kitten. No Tchaikovskian, flowing passages here, but rather a child's quick, sharp intuitions. The songs are exquisitely sung by DeGaetani, whose perceptive evocation of the child makes you almost believe he will come running through the room. Pianist Gilbert Kalish provides the fine accompaniments for the songs of both composers. R.A.

PURCELL: *Suites for Harpsichord*. Kenneth Gilbert (harpsichord). HARMONIA MUNDI 1158 \$11.98, © 40.1158 \$11.98, © 90.447 \$17.

Performance: *Intimate*
Recording: *Sensitive*

Purcell's harpsichord suites seem at first to be very short and rather bland. Upon further acquaintance, however, they are revealed as exquisite miniatures in which Purcell transformed the French keyboard idiom into something very English and very personal. In this recording Kenneth Gilbert brings out that intimate style as well as the lyricism of the more subdued pieces such as the improvisatory preludes, the smoldering allemands, and the sarabands. Although a bit too much of this approach carries over into the more robust dances, the general effect is excellent.

Gilbert plays a rare, late-seventeenth-century harpsichord, signed "Vaudry à Paris," that has been restored by Derek Adlam. Its exquisite tone is perfect for this repertoire. S.L.

RACHMANINOFF: *Piano Concerto No. 3, in D Minor, Op. 30; Piano Concerto No. 4, in G Minor, Op. 40*. Zoltán Kocsis (piano); San Francisco Symphony Orchestra, Edo de Waart cond. PHILIPS ① 651 4377 \$10.98, © 733 7377 \$10.98, © 411 475-2 no list price.

Performance: *Mercurial*
Recording: *Very good*

Zoltán Kocsis's recording of Rachmaninoff's Fourth Piano Concerto was released in the spring of 1984 paired with the First Concerto. The new entry on this Philips release, therefore, is the Third. Kocsis gives a swift and mercurial reading of its opening movement that does not well serve this most complex and subtle of Rachmaninoff's concerto movements. He also opts for the shorter cadenza. Similarly, I find a certain lack of the requisite poetic sentiment (*not* sentimentality) in the slow movement. In the more extroverted and brilliant finale, however, the young pianist is entirely in his element.

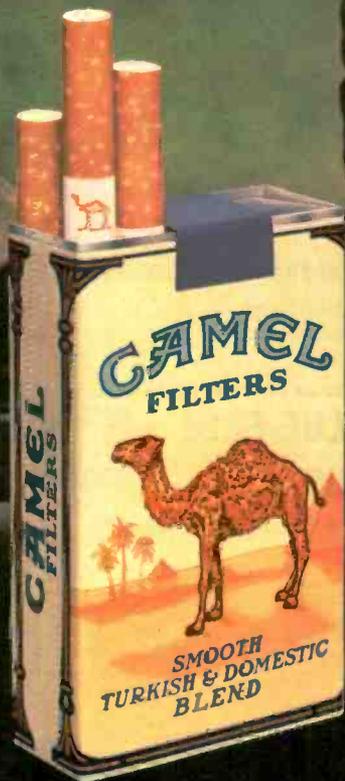
I have never been able to take to the G Minor Concerto, even in the classic 1958 Michelangeli recording on Angel. Only in the diabolical last movement does Rachmaninoff's inspiration take fire, and Kocsis responds to it with all the brilliance at his command. The piano sound on the Compact Disc is remarkably true to life, and the orchestra's sound is rich, detailed in texture, and well balanced both among its sections and with the soloist. D.H.

RESPIGHI: *La Fiamma*. Ilona Tokody (soprano), Silvana; Péter Kelen (tenor), Donello; Klára Takács (mezzo-soprano), Eudossia; Sándor Sólyom-Nagy (baritone), Basilio; Tamara Takács (mezzo-soprano), Agnese; Kolos Kováts (bass), Bishop; others. Hungarian Radio and Television Chorus; Hungarian State Orchestra, Lamberto Gar-

(Continued on page 127)

CAMEL FILTERS

It's a whole new world.



Today's
Camel Filters,
surprisingly smooth.

16 mg. "tar", 1.2 mg. nicotine av. per cigarette by FTC method.

**SURGEON GENERAL'S WARNING: Quitting Smoking
Now Greatly Reduces Serious Risks to Your Health.**

Soundcraftsmen

MADE IN U.S.A.

AMERICA'S PERFORMANCE-VALUE LEADER
IN STEREO COMPONENT SEPARATES...

GUARANTEED* TO IMPROVE AND ENHANCE YOUR LOW-POWER STEREO SYSTEM!

All the power you need to hear the Full Dynamic Range of the fabulous new Digital, dbx, Dolby and Compact Disc recordings—
without obsoleting your present stereo system...

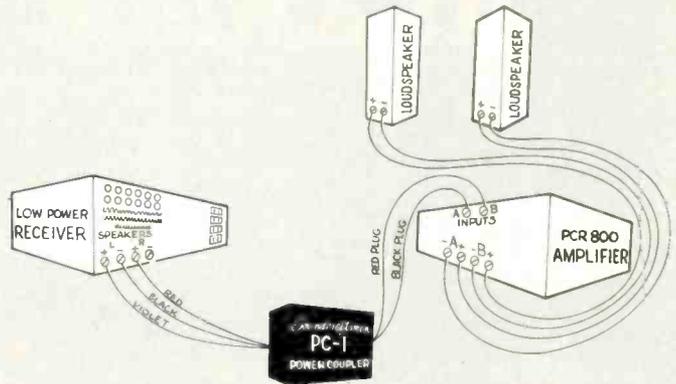
Add our new Power Coupler, the
PC-1...just \$39.00!

Don't sell or trade in your receiver just because you need more power!
The Preamp/Tuner section of your receiver can be instantly coupled to a Soundcraftsmen high-power amplifier with the amazing PC-1 Power Coupler.

You must HEAR it, to believe it!
The improvement is Fantastic!

It is well known that all Loudspeakers have, in addition to a "Static" Impedance, a far more important "Dynamic" Impedance that can extend as low as 2 ohms, and averages less than 4 ohms in most cases. Therefore, it is extremely important to consider the power and performance capabilities of an amplifier into loads as low as 2 ohms. The inability of an amplifier to fully drive such low-impedance loads is audible as a compression of the music signal, and as a distortion or roughness during high level passages.

Soundcraftsmen's new power amplifiers are specially designed to excel in the low impedance ranges, because this area is so vital to accurate reproduction of this breathtakingly powerful low and mid-range portion of the audio frequency spectrum. For musically full and accurate reproduction of the most demanding passages, your stereo system's loudspeakers need the continuous low impedance power that can only be supplied by an Ultra-High-Current amplifier. **Ask for a High Current demonstration with your favorite recording, and you'll hear music you've never heard before!**



PCR800 Power Mosfet Amplifier
205 watts/channel
@ 8 ohms, 20-20kHz < 0.05% THD **\$449.**
300 watts/ch. @ 4 ohms

**All Soundcraftsmen amplifiers
are Made in the U.S.A., and are High Current design!**

*That's a strong statement, we know...but we're sure you'll be amazed and delighted with your new High Power system's performance!...So sure, that we offer a 10-day money-back guarantee on your Soundcraftsmen PCR800, plus a Free PC-1, when purchased from any Soundcraftsmen authorized participating Dealer.

FREE PC-1 OFFER...

Take this Market Research Coupon to your dealer, ask for a demonstration of how a low-power receiver or integrated amp can play FANTASTIC music by adding the Power Coupler and the \$449.00 PCR800 (or ANY of our other high powered amplifiers). Then present the coupon for your FREE \$39.00 PC-1 when you buy ANY Soundcraftsmen amplifier from your participating dealer.

FREE \$19. TEST RECORD...

Phone (714) 556-6191, Write, or Circle Reader Card # below for name of your nearest participating Dealer and 16 Page Full Color Brochure, complete specs and prices...We'll also send you a Special Survey card for your Free Frequency Analyzer Test Record, a \$19.00 value. CIRCLE NO. 4 ON READER SERVICE CARD

\$39

COUPON—\$39.00 VALUE-FREE

Limited-time offer. Valid at participating Dealers only, and subject to cancellation without notice.

PC-1 POWER COUPLER

\$39

VALID ONLY IF PRESENTED AT TIME OF AMPLIFIER PURCHASE

CUSTOMER NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

YOUR RECEIVER MAKE & MODEL #: _____

DEALER NAME _____

BY: _____ DATE: _____

\$39

AMP MODEL PURCHASED: _____ SERIAL NUMBER: _____

Original coupon only is Dealer's authorization to give FREE PC-1 to Purchaser. If Dealer is out of stock, mail original coupon to Soundcraftsmen. We will send PC-1 direct to Purchaser if Coupon is completed and signed by Dealer.

\$39



FREE INFORMATION SERVICE

Here's an easy way for you to get manufacturer's information about products advertised or mentioned editorially in this issue. Just follow the directions below...and the literature will be sent to you free of charge from the manufacturer.

a Tear out one of the perforated postage-free cards. Please print or type your name and address where indicated. Use only one card per person.

b Circle the numbers on the card that correspond to the key numbers at the bottom of the advertisement or editorial mention that interests you. (Key numbers for *advertised products* also appear in the Advertisers' Index.)

c Simply mail the card. One card per person is all that is necessary. No postage is required.

d This address is for our "Free Information Service" only. All other inquiries are to be directed to, Stereo Review, One Park Ave., New York, N.Y. 10016.

FREE INFORMATION SERVICE

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135
136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160					

4 Please send me 12 issues of Stereo Review for \$4.99 and bill me. (Full subscription price \$9.98)

PLEASE PRINT— Use only one card per person.

SR11853

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

(Zip Code must be included to insure delivery.)

Void after January 31, 1986

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135
136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160					

4 Please send me 12 issues of Stereo Review for \$4.99 and bill me. (Full subscription price \$9.98)

PLEASE PRINT— Use only one card per person.

SR11852

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

(Zip Code must be included to insure delivery.)

Void after January 31, 1986

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135
136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160					

4 Please send me 12 issues of Stereo Review for \$4.99 and bill me. (Full subscription price \$9.98)

PLEASE PRINT— Use only one card per person.

SR11851

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

(Zip Code must be included to insure delivery.)

Void after January 31, 1986

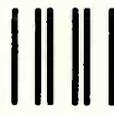


NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY CARD
FIRST CLASS PERMIT #27346 PHILADELPHIA, PA.

POSTAGE WILL BE PAID BY ADDRESSEE

Stereo Review
P.O. BOX 13878
PHILADELPHIA, PA. 19101

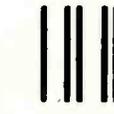


NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY CARD
FIRST CLASS PERMIT #27346 PHILADELPHIA, PA.

POSTAGE WILL BE PAID BY ADDRESSEE

Stereo Review
P.O. BOX 13878
PHILADELPHIA, PA. 19101



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY CARD
FIRST CLASS PERMIT #27346 PHILADELPHIA, PA.

POSTAGE WILL BE PAID BY ADDRESSEE

Stereo Review
P.O. BOX 13878
PHILADELPHIA, PA. 19101



Revised and updated!
Stereo Review's SRT14-A
STEREO
TEST
RECORD



THE EDITORS AND TECHNICAL STAFF OF STEREO REVIEW PRESENT THE MOST COMPREHENSIVE, ACCURATE, AND EASY-TO-USE TEST RECORD EVER DEVELOPED—REVISED AND UPDATED FROM THE ORIGINAL SRT14 VERSION.

This latest version contains everything you need to get the fullest, most realistic reproduction from your stereo equipment. You can actually perform a complete stereo system checkup by ear alone.

A test lab in a record jacket

Employing the most advanced recording, mastering, and pressing techniques, the Stereo Review SRT14-A is produced to strict laboratory standards. Engraved in its grooves are a series of precisely recorded test tones, frequency sweeps, and pink noise signals that enable you to accurately analyze and check your stereo system for:

- Frequency response.
- Stereo separation.
- Cartridge tracking ability.
- Channel balance.
- Hum and noise, including turntable rumble.
- Wow and flutter.
- Optimum speaker placement.
- Cartridge Tracking Force & Anti-skating.
- Musical Instrument Tuning Standards, and more . . . much more.

Step-by-step instructions

Included with SRT14-A is a detailed instruction manual, complete with charts, tables, and diagrams. It explains the significance of each test. It tells you what to listen for. It clearly describes any aberrations in system response. And it details corrective procedures.

For professionals too

Included on the record are a series of tests that call for the use of sophisticated measuring instruments, such as oscilloscopes, chart recorders, and distortion analyzers. These tests permit the advanced audiophile and professional to make precise measurements of transient response, recorded signal velocity, anti-skating compensation, IM distortion, and a host of other performance characteristics.

SRT14-A record contents

- CARTRIDGE TRACKING, HIGH FREQUENCY
- FREQUENCY RESPONSE, 20 kHz to 25 Hz
- SEPARATION, LEFT-TO-RIGHT / RIGHT-TO-LEFT
- CARTRIDGE TRACKING, LOW FREQUENCY
- CHANNEL BALANCE • LOW-FREQUENCY NOISE
- TURNTABLE FLUTTER • TONE-BURST
- CARTRIDGE AND SPEAKER PHASING
- FREQUENCY-RESPONSE SWEEP, 500 TO 20,000 Hz, LEFT AND RIGHT CHANNEL
- INTERMODULATION DISTORTION
- ANTI-SKATING ADJUSTMENT
- 1000-Hz REFERENCE TONES
- FLUTTER AND SPEED ACCURACY
- STEREO SPREAD • CHROMATIC OCTAVE
- STANDARD "A" • GUITAR TUNING TONES

The final step

Start getting the most out of your stereo system. Make the SRT14-A your next record purchase. Just complete the coupon and mail it along with your remittance . . . today!

CHARGE ORDERS—for your convenience
PHONE TOLL FREE 1-800-345-8112.
IN PENNSYLVANIA ONLY 1-800-662-2444.

Test Record, Dept. 30013
P.O. Box 603, Holmes, PA 19043

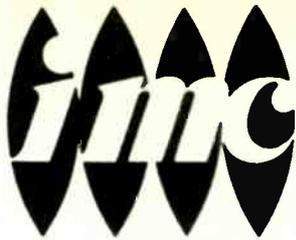
Please send _____ SRT14-A Stereo Test Records
@ \$9.95 each. (\$11.95 outside U.S.A.)

Enclosed is \$ _____

CHARGE: Visa
 MasterCard
 American Express

Account # _____ Exp. Date _____
Signature _____
Print Name _____
Address _____
City/State/Zip _____

*Residents of CA, CO, CT, DC, FL, IL, MA, MI, MO, NJ and NY State add applicable sales tax.



intercon music corp

454 MAIN AVENUE
WALLINGTON, NEW JERSEY 07057
(201) 778 8222 (800) 221 1574

NATIONAL DISTRIBUTOR
OF MANY FINE LABELS

LP's - Cassettes - CD's

"LISTEN TO OUR SOUNDS"



One Of Our Many Fine Labels

DISTINCTIVE, UNUSUAL CLASSIC RECORDINGS

BY

WORLD FAMOUS ARTISTS

CIRCLE NO. 42 ON READER SERVICE CARD

**Take your cue
from the 1985
TAPE RECORDING
BUYERS GUIDE**

If you're thinking about buying tape equipment or accessories, *think smart*. Get some sound advice from *Stereo Review's* 1985 *Tape Recording Buyers Guide*. In this new, fact-filled edition you'll find:

- Over 1,000 Product Listings: Decks, tapes, VCRs, mics, mixers.
- Directory of Manufacturers: Over 130 entries.
- Test Reports: Decks (Akai to Onkyo), VCRs and headphones.
- Special Feature Articles: All the facts and figures you need to know, to get the best buy.

ORDER YOUR GUIDE TODAY!

TAPE RECORDING BUYERS GUIDE

P.O. Box 603, Holmes, PA 19043
I enclose \$4.95 (\$3.95* plus \$1 post-
age/handling). Outside USA \$6.00.

Name _____
Address _____
City _____
State _____ Zip _____
*Please add your applicable sales tax.

delli cond. HUNGAROTON ● 12591-93
SLPD three discs \$32.94, ● HCD
12591-93 three CD's no list price.

Performance: *Intense*
Recording: *Bright*

La Fiamma (The Flame), Respighi's only opera to have achieved a measure of international renown, tells a demonic story. Set in Ravenna during the Byzantine era of the seventh century, the action, like that of *Il Trovatore*, is based on belief in witchcraft, but while we know that Azucena in the Verdi opera is mistakenly accused of the black art, in *La Fiamma* witchery is essential to the background and unfolding of the story. A second level of the narrative concerns aspects of passionate love.

The score reveals influences of Rimsky-Korsakov and, to a lesser extent, Richard Strauss, both of whom played a part in Respighi's musical development. It is muscular, sensual, passionate, and at times melodiously romantic, which accounts for its relative popularity in certain parts of Europe. If the opera as a whole is of a second order—challenging credibility dramatically and derivative musically—its composer was not. In *La Fiamma* we experience much of the excitement of his cycle of Roman tone poems.

The present recording, performed by Hungarian artists in virtually unintelligible Italian (the men are a bit more comprehensible than the women), is compelling. The artists sing with such conviction that we are caught up in the melodrama. Respighi's tessitura is sometimes cruel to the women's voices, a fact emphasized by the "Russian" quality of their singing, which is slightly sharp and cutting. The men fare better. The chorus is musically clean and dramatically impassioned throughout, and the orchestra under Lamberto Gardelli's precise direction plays well.

The producers of the album deserve praise for the accompanying notes and libretto (in six languages), which give a detailed account of the opera in the context of Respighi's other work and which enable the listener to follow the dramatic line easily. **R.A.**

RIMSKY-KORSAKOV: Capriccio espagnol (see STRAVINSKY)

SCHUBERT: Quintet in C Major (D. 956). Lindsay String Quartet; Douglas Cummings (cello). ASV ● DCA 537 \$11.98, ● ZC DCA 537 \$11.98 (from International Book and Record Distributors, 20-11 24th St., Long Island City, NY 11101).

Performance: *Wonderful*
Recording: *Lush*

The Lindsay Quartet and cellist Douglas Cummings turn in a warm, heart-felt performance of one of Schubert's masterpieces, the C Major Quintet. Following the drama of the work closely, they savor the lyric passages and pull out all stops for the stormy sections. Their sound is as sumptuous as the music,

UNOLESTEVE®

CALL TOLL-FREE
800-622-2340

NY, AK, HI call (212) 226-7229
343 CANAL ST. NEW YORK, NY 10013

WE SHIP C.O.D.

<p>HOME STEREO</p> <p>TECHNICS ANAI</p> <p>SA-170 99 AA-A25 115 SA-150 112 AA-A35 139 SA-351 149 AA-A45 199 SA-360 169 AA-B32 149 SA-465 199 GR-55 199 SA-500 359 GR-66 279 RSB-11 129 GR-ASX 164 RSB-14 92 HK-A18 54 RSB-18 113 HK-B44 139 RSB-24 119 RSB-28i 139 RSB-33W 162 KDV-100j 69 RSB-48i 139 KDV-120j 69 RSB-49i 179 KDV-300j 139 RSB-78i 249 KDW-400 199 RSB-933W 169 KDW-110 159 SL-11 113 KDW-110 159 SL-810W 64 KDW-55 199 SL-820W 75 RX-100 92 SL-850W 149 RX-110 109 SL-D93 99 RK-300 179 SL-P1 209 RK-400 319 SL-P3 299 RK-500 479 SL-P91 209 KLV-38 299 SL-M2 252 SL-1700i Mk II 289</p> <p>THORENS</p> <p>EQ-10 Mk II 92 TD-146 228 EQ-10 Mk II 92 TD-160BK 248 V-307 92 TD-166 W 172 V-330 86 TD-176 Bk 520 V-360 86 TD-318 V-400 469 W/comp 248 R-666 229 TD-320 325 A-3448 1199 TD-321 260</p>		<p>VIDEO RECORDERS</p> <p>FISHER JVC</p> <p>815 345 MRD-140 339 SHARP MRD-150 369 VC-388 619 ZENITH VC-5815 259 VP-2100 459 VC-583 285 VR-3010 459 VC-584 335 VR-6000 999</p> <p>TOSHIBA</p> <p>5020 309 5420 389</p> <p>RCA</p> <p>VJP-275 315 VJP-950 449 VKT-385 369 VLP-800 599 VKT-550 599 VLT-650 599</p> <p>PANASONIC</p> <p>PV-1330 279 PV-1545 579 PV-1340 259 PV-1730 660 PV-1430 452 PV-1740 559 PV-1431 465 PV-5800 469 PV-1540 499 PV-8500 699 PV-9600A 949 PV-700 1299</p>	
<p>HEADPHONES</p> <p>SONY SENNHEISER</p> <p>MOR-19T 11 MB-40 19 MOR-29T 13 HD-272 52 MOR-830L 25 HD-230 81 MOR-810SL 25 HD-410SL 276 MOR-W50L 21 HD-414SL 44 MOR-540 18 HD-470 49 MOR-550 27 HD-430 69 MOR-605 65 MS-100 31 MOR-E232 17 HD-425 64 MOR-200C 54 ARG MOR-855 42 R-4 59 MOR-877 51 R-240 62 R-340 115</p>		<p>VIDEO CAMERAS</p> <p>PANASONIC HITACHI</p> <p>PK-450 469 GP-84 375 PK-558 459 RCA PK-658 699 CKC-018 435 PK-959 749 CKC-071 715</p> <p>VIDEO DISKS</p> <p>PIONEER</p> <p>LD-700 445 LD-900 875</p> <p>VHS VIDEO TAPES</p> <p>ALL BRANDS</p> <p>T-120 4.79 T-120 HG 5.89</p> <p>SONY BETA TAPES</p> <p>L-500 4.37 L-750 4.94 L-830 5.88 L-750 UMG 5.89</p> <p>SONY U-MATIC VIDEO TAPES</p> <p>KCS-10K 11.25 KCA-30K 14.99 KCS-10BK 11.99 KCS-30BK 15.49 KCS-20 12.99 KCA-60K 18.99 KCS-20BK 13.99 KCS-60BK 20.99</p>	
<p>PHONO CARTRIDGES</p> <p>ORTOFON SHURE</p> <p>(Imp or Phono) M-104EE 19 OM-10 22 M-105E 29 OM-20 49 V-15 VMM 129 OM-311 89 V-15 VVP 99</p>		<p>AUDIO TAPES</p> <p>MAXELL TOK</p> <p>XLI-C-90 1.65 SA-90 1.60 XLI-C-60 2.17 SA-60 1.11 XLI-C-40 1.49 MA-90 1.89 XLI-C-60 1.99 MA-60 3.29 XLI-C-90 2.49 MAR-90 5.49 LN-C-90 85 MAR-60 4.39 LN-C-60 75</p>	
<p>STEREO-TO-GO</p> <p>AIWA</p> <p>HS-1007 92 SCA-7 39 HS-107 119 HS-P02 Mk II 82 CR-03 39 HS-P05 Mk II 45 CR-05 45 HS-P06 77 SCA-5 45 HS-S02 48</p> <p>SONY TOSHIBA</p> <p>WM-10BY 52 ETR-51 95 WM-F15 85 ETR-52 79 WM-T10 30 ETR-57 122 WM-B18 75 ETR-51W 69 WM-F15 78 ETV-53 15 WM-H5 119 RTR-51 96 WM-F12 52 RP-30 37 WM-H15 129 RP-39 39</p> <p>SANYO</p> <p>MG-P80 37 MG-P90 37 MG-P80 59 MG-1100T 89 MG-P10 19 RP-45 19</p>		<p>CAR STEREO</p> <p>BLAUPUNKT, PIONEER, SONY RADIOS & SPEAKERS ALL IN STOCK CALL FOR LOWEST PRICES</p> <p>SONY AUDIA</p> <p>ES-85 89 TR-10 225 ES-87 99 TR-100 275 ES-110 139 OTX-1000 385</p> <p>JENSEN SANVO</p> <p>RE-900 125 FTE-25 175 RE-920 139 FTE-07 189 RE-940 154 PA-8050 95 RE-960 164 PA-6100 115 RE-980 184 PA-6110 135 ATZ-200 175 PANASONIC ATZ-300 195 COS-970 179 ATZ-400 224 COS-884 205 ATZ-500 254 COS-934 225</p> <p>SHERWOOD EPI</p> <p>CRD-150 135 LSR-12 169 CRD-180 179 LSR-22 199 CRD-301 195 LSR-32 279 EQA-260 75 LSR-42 239 SCA-240 49 LS-55 39 SCA-2100 145 LS-60 65</p> <p>CLARION CONCORD</p> <p>6900R 105 HPL-101 125 6950R 105 HPL-117 214 8500R 134 HPL-516 205 8550R 134 HPL-518 209 8725R 164 HPL-520 279 9500R 235 HPL-550 439</p>	
<p>TELEPHONES & ANSWERING MACHINES</p> <p>PHONE-MATE UNIDEN</p> <p>IQ-850 109 EB-1020 51 IQ-915 109 EB-1040 79 IQ-2441 155 EB-3100 89 IQ-5800 89 EX-4100 99 IQ-5850 107 EX-4800 139</p> <p>SANYO RECORD A CALL</p> <p>TAS-1150 69 CAT-510 89 TAS-3000 79 CAT-425 94 TAS-8000 165 CAT-655 89 TM-5200 79 CAT-675 94 TM-5500 199 CAT-690 129</p>		<p>CAR SPEAKERS</p> <p>JENSEN</p> <p>J-3033 75/pr J-1365 56/pr J-3023 69/pr J-1369 43/pr J-3010 43/pr J-1401 57/pr J-3003 46/pr J-1405 37/pr US-630 46/pr US-620 42/pr US-420 35/pr</p> <p>CLARION</p> <p>SE-970 47/pr SE-530 46/pr SE-970 55/pr SE-520 36/pr SE-630 65/pr</p>	
<p>COMPUTERS</p> <p>COMMODORE ATARI</p> <p>64 135 130E 139 MPS-803 119 800EL 105 1541 165 1025 169 1702 184 1027 209 128 299 1050 162</p>		<p>FLOPPY DISKS</p> <p>TDC 55/DD 10 pk 16.50 Memorex 55/DD 10 pk 14.50</p>	
<p>CANON TYPEWRITERS</p> <p>Typewriter 5 139 Typewriter 6 179 Typewriter 10 139</p>		<p>RADAR DETECTORS</p> <p>Unden Bondit 55 117 Unden Cabro 3100 110 Unden Cabro 4100 139 Whistler Spectrum 179 Spectrum Remora 179</p> <p>BELTRONICS</p> <p>834 165 850 199 8345 179 860 149 837 169 861 89 841 162 864 79</p> <p>BEARCAT SCANNERS</p> <p>BC-201 159 BC-210XL 183</p>	

CIRCLE NO. 65 ON READER SERVICE CARD

and their playing is freely flowing yet always under complete control. A fine recording. S.L.

SCHUMAN: *Three Colloquies for Horn and Orchestra* (see CRUMB)

R. STRAUSS: *Songs*. Lucia Popp (soprano); Wolfgang Sawallisch (piano). ANGEL ● DS-38256 \$11.98, © 4DS-38256 \$11.98.

Performance: *Very satisfying*
Recording: *Clear; good presence*

The twenty-one songs here include the eight Strauss composed to the poetry of Heinrich von Gilm, an Austrian writer of little importance save that Strauss immortalized him in this cycle, from which *Zueignung* and *Allerseelen* are best known. In all of the songs, many familiar and others refreshingly less so, Lucia Popp sings with estimable musicality, her clear bright voice easily meeting Strauss's demands. Moreover, she sings the poetry as if she enjoyed it as well as the music. Particularly effective accompaniments are offered by Wolfgang Sawallisch, whose work on the piano is as dedicated and sensitive as his conducting from the podium, for which he is perhaps more famous. R.A.

STRAVINSKY: *L'Histoire du soldat, Suite*. RIMSKY-KORSAKOV (arr.

Blackwood): *Capriccio espagnol, Op. 34*. Chicago Pro Musica. REFERENCE RR-17 \$17.98.

Performance: *Skillful*
Recording: *Demonstration class*

Perhaps I've simply entered terminal curmudgeonhood, but I'm afraid I fail to see the need for this sort of thing. When the Compact Disc has virtually eliminated interruptions from even the longest pieces and the playing time of a great-sounding LP side has been stretched to forty minutes, why would anyone want to have to turn a record over to complete a twenty-five-minute work? And, while piano duet and other small-ensemble reductions of symphonic works served a purpose in the realm of home entertainment before the invention of the phonograph, why would anyone choose to hear a chamber-ensemble arrangement of so specifically orchestral a piece as Rimsky's famous *Capriccio* in these days of show-piece orchestral recordings?

The composer Easley Blackwood, who is the pianist in this group otherwise made up of Chicago Symphony members, has made a surprisingly effective setting of the *Capriccio* in which Rimsky's original solos are preserved, but it cannot help sounding like the substitution it is, no matter how well executed. It is done brilliantly here—more

convincingly, in fact, than the skillful but rather characterless performance of the Stravinsky. The sound itself is of demonstration quality, and perhaps that, rather than sheer musical pleasure, will be this disc's prime appeal. R.F.

STRAVINSKY: *Le Sacre du printemps; Symphonies of Wind Instruments*. Orchestre Symphonique de Montréal, Charles Dutoit cond. LONDON ● 414 202-1 \$10.98, © 414 202-4 \$10.98, © 414 202-2 no list price.

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

I would recommend this recording, in any format, for Charles Dutoit's elegantly hieratic, beautifully blended realization of the *Symphonies of Wind Instruments* in the original 1920 scoring. But the absence of background noise makes the Compact Disc the perfect medium for this work, in which moments of silence play a crucial role.

For sheer beauty of sound, Dutoit's *Le Sacre du printemps* (in the 1921 version) goes straight to the top of the heap, particularly for those who find the sound of Leonard Bernstein's Israel recording too dry (though I rather like *Le Sacre* that way). But Dutoit's interpretation is somewhat uneven and lacks the overall forward thrust of Bernstein's. Dutoit dawdles slightly in the introduc-

HEADROOM

Conventional design wisdom generally dictates a complex solution to a complicated problem: In this case, an Electrostatic headphone to reproduce the increased dynamic range, frequency response and fast transients of digital.

Beyer bypassed convention with the DT 880s by employing the most sophisticated version of the simplest design approach to create digital reference dynamic headphones. Using an advanced computer-modelled design with a proprietary Hostaphan™ diaphragm, we created phones that do more than reproduce increased dynamics, powerful transients and a wider frequency response. They reproduce music. With the increased psycho-acoustic "headroom" of an ambient listening environment.



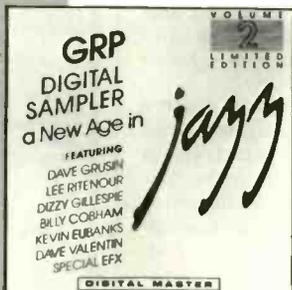
ACCURACY IN AUDIO

beyerdynamic

Beyer Dynamic, Inc. 5-05 Burns Avenue, Hicksville, New York 11801 (516) 935-8000

For Dealer Nearest You Call
TOLL-FREE 800-633-2252 Ext. 828
CIRCLE NO 52 ON READER SERVICE CARD

A NEW AGE IN JAZZ



From the hottest legends in jazz to the most innovative new age pioneers, celebrate a new era in artistic and technological mastery with the company that has made a science out of sound.

Music reproduction that reflects the highest state-of-the-art digital recording technology, from who else but GRP.



GRP RECORDS THE
DIGITAL MASTER
COMPANY

For a free color catalog write to:
GRP Records, Dept. C
555 W. 57th Street
New York, N.Y. 10019

CIRCLE NO. 63 ON READER SERVICE CARD

tion, but then his pace is just fine through the *Cortege of the Sage*. A fine sense of impenetrable mystery is generated in the so-called "Pagan Night" introduction to Part II, and *Glorification of the Chosen One* and *Evocation of the Ancestors* come off splendidly. As might be expected, Dutoit and his orchestra make the most of the concluding *Danse sacrale*.

Stravinsky's own recording of *Le Sacre* remains the standard by which all others must be judged, and by this measure Dutoit falls a little short. But, at least on CD, he and the London production staff, recording at the Church of St. Eustache outside Montreal, have worked wonders in clarifying the complex rhythmic and linear strands from which this masterpiece is woven. *D.H.*

TCHAIKOVSKY: Violin Concerto in D Major, Op. 35; Sérénade mélancolique, Op. 26; Mélodie, Op. 42, No. 3 (orch. Glazunov). Pinchas Zukerman (violin); Israel Philharmonic Orchestra, Zubin Mehta cond. CBS ● IM 39563, © IMT 39563, no list price.

Performance: *Soulful*
Recording: *Very good*

Surprisingly, this is only the second recording Pinchas Zukerman has made of Tchaikovsky's Violin Concerto (his first was made in 1969 with Antal Dora-

ti and the London Symphony). Zukerman's tone here is hot, and his reading is soulful but always within the bounds of good taste. The slow movement is a particular gem, and though the violinist brings plenty of brilliance to the finale, he does not push things too far. The performance was recorded in concert, and it is a very fine one overall, with Zubin Mehta and the Israel Philharmonic providing enthusiastic backing. The two slight filler pieces are played with a fine amalgam of fervor and finesse.

Not the least interesting aspect of this release is the unexpected warmth and spaciousness of the sound from Tel Aviv's Frederic R. Mann Auditorium, normally a locale noted for its tight, dry acoustics. *D.H.*

TCHAIKOVSKY: Songs (see MUS-SORGSKY)

TCHAIKOVSKY: Symphony No. 6, in B Minor, Op. 74 ("Pathétique"). Chicago Symphony Orchestra, James Levine cond. RCA ● ARC1-5355 \$12.98, © ARK1-5355 \$12.98, © RCD1-5355 no list price.

Performance: *Stoic*
Recording: *Good*

James Levine avoids tearing Tchaikovsky's passion to tatters in his reading of the *Pathétique*. The very slow

pace of the introduction to the first movement sets the stage for a portrait of Tchaikovsky more as stoic than as a victim of hysterical self-pity. But if Toscanini could bring a Verdian flair to performances of the *Pathétique*, certainly Levine is entitled to his approach.

The finest thing in this performance is the eloquent, superbly controlled *Adagio lamentoso*. The muted horns at the final climax snarl in truly blood-chilling fashion, and the funeral tam-tam stroke is as sepulchral as anyone could possibly wish. The recording itself is very full-bodied, though not as transparent in texture as Levine's recent RCA recording of the Dvořák Seventh, also with the Chicago Symphony. *D.H.*

VERDI: Requiem. Anna Tomowa-Sintow (soprano); Agnes Baltsa (mezzo-soprano); José Carreras (tenor); José van Dam (bass-baritone); Vienna State Opera Concert Chorus; Sofia National Opera Chorus; Vienna Philharmonic Orchestra, Herbert von Karajan cond. DEUTSCHE GRAMMOPHON ● 415 091-1 two discs \$19.96, © 415 091-4 two cassettes \$19.96, © 415 091-2 two CD's no list price.

Performance: *Grand but slow*
Recording: *Very good*

Herbert von Karajan's earlier recording of the Verdi *Requiem*, with the Berlin

American Acoustics

D-Series Digital Loudspeakers



Soundsational, Sensational Speakers

Soundsational High Fidelity

Feel the sound of live music. Clean, clear, electrifying sound at ALL listening levels.

Sensational Looks

D-Series speakers look great with any room decor. Brass grilled walnut woodgrain finish matches popular lines of audio, video and computer furniture.

Soundsational Digital Audio Reproduction

From a soft whisper to the roar of a 747 jet. D-series speakers handle the wide dynamic range of today's compact disc players.

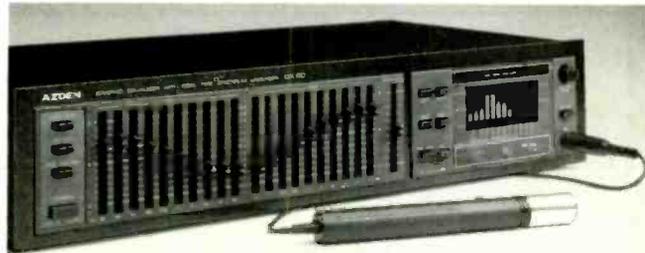
Sensational 10-Year Limited Warranty

You expect quality audio products from American Acoustics, a company with a heritage extending over 100 years. An outstanding 10-year limited warranty backs up this superior product quality.

American Acoustics

One Mitek Plaza Winslow, IL 61089
Phone: (815) 367-3811

D-Series speakers available at CMC locations in St. Louis, Kansas City, Houston, Memphis, Atlanta, Dallas, Indianapolis in Chicago area. At Alan's Creative Stereo.



All graphic equalizers are not created equal!

There's nothing in its price range that can compare with the AZDEN GX-50. Handsomely styled to complement the rest of your audio components, it has all the features you could possibly want.

- Stereo 10 Band Graphic Equalizer
- Real-Time Spectrum Analyzer
- Pink Noise Generator
- High performance Electret condenser microphone

For more information about AZDEN Equalizers, Phono Cartridges, Headphones, and Mixers write to:

AZDEN®

147 New Hyde Park Road, Franklin Square, New York 11010.

A division of Japan Piezo Co., LTD.

For Dealer Nearest You Call
TOLL-FREE 800-633-2252 Ext. 825
CIRCLE NO. 45 ON READER SERVICE CARD

Philharmonic and different soloists, is still in the catalog, but his new Viennese performance is superior in most respects, most conspicuously in terms of the sound on CD. The basic approach remains the same: very grand but very slow; perhaps "massive" would be the best term. But there is more of a sense of drama in the new version, with a luminous delicacy in the orchestral playing as well as plenty of power. The combined Viennese and Bulgarian choruses are quite marvelous, and for the most part the soloists are too. If some of the sheen seems to have faded from Carreras's high notes, he is nonetheless extremely persuasive, investing the "In-gemisco" with the simple dignity one knows better than to take for granted (and what gorgeous wind playing in this section!). The sound of the CD is exemplary in its balance, depth, and overall realism.

Some listeners may feel that the slowish pacing throughout tends to hold back the drama somewhat and suggests a certain degree of self-consciousness in the interpretation. There is a greater sense of momentum in several other impressive recordings of the work, if not quite the level of vocal and orchestral refinement of the new one. The seventeen-year-old recording with the same orchestra under Solti has been transferred to CD (London 411 944-2),

and, though the soloists are overall not as good as Karajan's and the general approach is far more extrovert, I can imagine that some may prefer it for its greater sense of sweep—its more operatic character in contrast to Karajan's more ceremonial one. But then, why shouldn't a requiem be ceremonial? The contrasts are sharp enough, in any event, to make a choice between the two CD versions fairly simple for the listener who knows what he wants. *R.F.*

VIVALDI: *The Four Seasons*. Amsterdam Guitar Trio. RCA ◉ HRC1-5466 \$9.98, ◉ HRE1-5466 \$9.98.

Performance: *Joyous*
Recording: *Fine*

If you like Vivaldi's *Four Seasons*, why not hear it played on guitars? If you like guitars, why not hear them play *The Four Seasons*? Either way, this record is a romp. The spirit, technique, and Vivaldi are all there. Enjoy! *S.L.*

Collections

KATHLEEN FERRIER. Chausson: *Poème de l'amour et de la mer, Op. 19.* Kathleen Ferrier (contralto); Halle Orchestra, Sir John Barbirolli cond. **Bach:** *Vergiss mein nicht (BWV 505); Ach, dass nicht die letzte Stunde (BWV 439).* Kathleen Ferrier (contralto); Millicent

Silver (harpsichord). **Brahms (orch. Sargent):** *Vier ernste Gesänge, Op. 121.* Kathleen Ferrier (contralto); BBC Symphony Orchestra, Sir Malcolm Sargent cond. LONDON ◉ 414 095-1 \$10.98, ◉ 414 095-4 \$10.98.

Performance: *Ferrier*
Recording: *Passable to awful*

The idea of previously unreleased Kathleen Ferrier recordings is exciting, and these performances are charged with the vividness and urgency that perhaps come only in "live" presentations. The Chausson, with Sir John Barbirolli conducting, is especially magical: singer and orchestra are clearly swept up in the music's enchantment. The 1951 air-check did not yield the happiest sonic results, and four bars of music are missing from the work's opening section, but the magic makes itself felt.

The Bach songs were taken down in another air-check, this time apparently on acetate discs instead of tape, at the end of 1949, and the sound is execrable. The Brahms, taped by the BBC itself in January of the same year, is much clearer, though it is not as good as the Chausson in orchestral detail. The performance is heartfelt, but Sargent's orchestration of the accompaniments—as much as I can make out of it here—seems less than successful, and the English text is less effective than the Ger-

NORTHEASTERN

Compact Discs and Cassettes

29 North Hillside Lane
Monroe, CT 06468

CLASSICAL CD's from \$11.00
POP/JAZZ/COUNTRY CD's from \$10.00

ORDERS ONLY

TOLL FREE

1-800-231-5811
FOR COMPACT DISCS AND CASSETTES

1-800-382-2242
FOR COMPACT DISCS, CASSETTES
COMPUTER SOFTWARE/HARDWARE

(203) 452-1490
FOR INQUIRIES AND CONNECTICUT ORDERS

- EXTENSIVE DOMESTIC AND IMPORTED SELECTION
- WRITE OR CALL FOR A FREE CATALOGUE
- ALSO CALL US FOR THE BEST PRICES ON COMPUTER SOFTWARE/HARDWARE



For Fast Delivery send cashier's check, certified check, or money order. Personal and company check allow 3 weeks to clear. Shipping —(\$1 minimum). C.O.D. add an additional \$1.90. Alaska, Hawaii, Canada, PO, APO, and FPO \$5.00 minimum. Mastercard & Visa include card no. and expiration date). Connecticut residents add 7.5% sales tax. We ship same day for most orders. Prices subject to change without notice. Defective merchandise replaced with the same item only. All sales are final.

man. In the absence of Ferrier's studio recording of the Brahms with John Newmark, though, this might be said to fill a gap.

In any event, the Chausson alone, for anyone with the patience and imagination to compensate in the mind's ear for the substandard sound, makes the disc worthwhile. Sales are to benefit the Kathleen Ferrier Cancer Research Fund. *R.F.*

BARBARA HENDRICKS: Mozart Concert and Opera Arias. *Misera, dove son* (K. 369); *Non temer, amato bene* (K. 490); *Ah! lo previdi* (K. 272). **Lucio Silla: Fra pensier più funesti di morte. Idomeneo: Padre Germani, addio voi foste. Die Zauberflöte: Ach, ich fühl's. Le Nozze di Figaro: Dove sono.** Barbara Hendricks (soprano); Leslie Pearson (harpsichord, in *Idomeneo* aria); English Chamber Orchestra, Jeffrey Tate cond. ANGEL DS-38180 \$11.98, © 4DS-38180 \$11.98.

Performance: *Somewhat uneven*
Recording: *Clear, intimate*

It is always gratifying to follow the growing eminence of a young artist dedicated to the tasteful performance of great music. Such a singer is Barbara Hendricks, whose personality is appealing, whose feeling for music is sensitive, and whose voice is beautiful. If the per-

formance seems uneven, it is because some of these arias are so long and, from our present-day viewpoint, so formalistic, that they are difficult to sustain interpretatively.

Of the three so-called concert arias, the most effective is "*Ah! lo previdi*" (K. 272), which Hendricks sings with sustained conviction and purity of tone despite its length. The final two opera arias, however, Pamina's "*Ach, ich fühl's*" from *Die Zauberflöte* and the Countess's "*Dove sono*" from *Le nozze di Figaro* by themselves warrant the price of the record. Possibly because of the greater familiarity of these two selections, or possibly because of their readily understandable emotional content, the soprano is at her very estimable best in them. Jeffrey Tate conducts with taste and awareness of Hendricks's interpretive intent, and the English Chamber Orchestra under his direction plays very well indeed. *R.A.*

MARILYN HORNE. Arias. Saint-Saëns: Samson et Dalila: Mon coeur s'ouvre à ta voix. Gounod: Sapho: O ma lyre immortelle; Héro sur la tour solitaire. Massenet: Hérodiade: Venge-moi d'une suprême offense. And five other arias by Auber, Offenbach, Godard, Donizetti, and Cherubini. Marilyn Horne (mezzo-soprano); Orchestre Philharmonique de Monte Carlo, Lawrence Foster cond. ERATO/RCA NUM 75170 \$10.98. © MCE 75170 \$10.98, © ECD 88085 no list price.

Performance: *Efficient*
Recording: *Good*

This recording might well be titled "*Marilyn Horne Does Her Thing*," for it shows off this consummate singer at her technically dazzling best. The arias, all in French (and very good French, too) are of varying musical merit, but all are performed with the amazing coloratura, flawless trill, exciting chest tones, and other accomplishments we have come to associate with Horne. The opening aria, from Auber's *Zerline*, is sung with dash; Saint-Saëns's "*Mon coeur s'ouvre à ta voix*" is taken at such a slow tempo that you stand in awe at the singer's stamina of breath; Offenbach's "*Ah! que j'aime les militaires*" is delivered with great good humor; and at least the first part of Gounod's "*Héro sur la tour solitaire*" from *Sapho* is movingly interpreted. Still, although I am one of Horne's admiring fans, I have to label the performance "efficient" because she seems somehow not caught up in the music. Perhaps there is just not that much to be caught up in.

If only this great singer, now at the height of her powers, would be recorded in some full-length opera musically worthy of her. *R.A.*

illinois audio

SAVE MONEY • TIME • FREIGHT ON NAME BRAND STEREO

COMPONENTS

AKAI GXR-88 3HD, DOLBY B&C, AUTO-REV. CASS.	\$329.95
AKAI GX-7 3 HEAD DOLBY B&C CASSETTE DECK	229.00
KENWOOD KVR-A50 (45x2) VIDEO READY STEREO RECEIVER	169.95
AIWA ADF-330 DOLBY B&C, SOFT TOUCH CASS.	149.95
ADC SS-415X 10 BD PER CH. EQUALIZER with ANALYZER	CALL
SANSUI DW-10 SANSUI'S BEST DOUBLE CASSETTE DECK	CALL
SANSUI SX-1130 New! TOP RECEIVER W/AM STEREO	CALL
TEAC EQ-A20 10BD, PER CH. EQ. W/SPECTRUM ANALYZER	85.00
TEAC R-666XBL DOLBY B, C, & dbx & AUTO-REV. CASS DK.	198.00
TEAC V-350C DOLBY B&C CASS DK.	90.00
TEAC V-530X DOLBY B, C, AND dbx CASS DK.	150.00
TEAC V-900X 3 HEAD, DOLBY B, C, AND dbx CASS DK.	CALL
BSR 123 12" 3-WAY SPEAKER SYS. (PAIR)	98.00
TECHNICS SA-460 (50x2) TV, AM, FM STEREO RECEIVER	219.95
TECHNICS RSB-33W 'NEW' DOLBY B, C, AND dbx dubbing CASS	CALL
TECHNICS SL-J3 QUARTZ PROG. LINEAR TURNTABLE	149.95
TECHNICS RSB-78R AUTO-REV. DOLBY B, C, & dbx CASS DK.	CALL
TECHNICS RS-B11W 2-SPD, DBL CASS. W/AUTO TAPE SELECT.	149.95
SONY We Have a Complete Selection of SONY Products	CALL

PORTABLES

SONY WM-F75 NEW! AM-FM SPORTS WALKMAN CASS.	99.95
SONY WM-W800 DUAL CASSETTE WALKMAN 'NEW'	CALL
SONY CFS-5000 3-PC., AUTO REV., 5 BD. EQ.	99.00
JVC PCW-88JBK 3-PIECE PORT. SYSTEM W/dubbing CASS.	195.00

AUTOMOTIVE

SONY ES-R10 DIGITAL CASS W/AUTO-REV. & FADER.	149.95
JENSEN RE-980 AM-FM DIGITAL CASSETTE	179.95
JENSEN J-3033 6x9 TRIAX SPEAKERS (PAIR)	69.00
SONY FTE-D6 FOR GM, FORD & CHRYSLER, DIN-COMPATIBLE.	162.00
SANYO FTU-52 AM/FM CASS. W/DOLBY B&C, METAL CAPABLE	128.00

VIDEO RECORDER

AKAI VS-603 VHS STEREO HI-FI W/WIRELESS REMOTE	\$599.95
SANYO VCR-7500 BETA STEREO HI-FI W/WIRELESS REMOTE	549.95
SANYO VCR-7150 BETA HI-FI W/WIRELESS REMOTE	349.95

HEADPHONES

KOSS PORTA PRO NEW HEADPHONE	39.00
SONY MDR-M-77 'NEW' SONY MONITOR HEADPHONES	59.95
SENNHEISER MS-100 MINI-OPEN AIRE	35.00

TAPE—AUDIO & VIDEO

SONY UCXS-90 NEW HIGH BIAS CASSETTE TAPE	18.00/10
TDK SA-90 SUPER AVILYN CASSETTE TAPE	16.00/10
TDK SAX-90 DOUBLE COATED 'SA' TYPE CASSETTE	25.00/10
TDK D-90 LOW NOISE CASSETTE TAPE	11.50/10
BASF CRS II-90 CHROME DIOXIDE EXTRA	15.90/10
FUJI M-90 METAL CASSETTE	30.00/10
MAXELL XL 'S' 90 TYPE I OR II (PLEASE SPECIFY)	24.00/10
MAXELL UD 'S' 90 II NEW HIGH BIAS, (NOT 'XL')	20.00/10
MAXELL XL-II-90 TYPE I OR TYPE II (PLEASE SPECIFY)	22.00/10

CARTRIDGES

SHURE V-15 TYPE 5 MR NEW TYPE "5"	CALL
SHURE V-15 VP TYPE 5 "P" MOUNT	CALL
AUDIO-TECHNICA AT-155LC REGULAR MOUNT	79.95
AUDIO-TECHNICA AT-122EP "P" MOUNT	27.95

COMPACT DISC PLAYERS

AKAI CD-A77B 3-BEAM LASER, WIRELESS REMOTE, PROG.	340.00
TECHNICS SL-P1 PROGRAMMABLE AT 'NEW' LOW PRICE!	CALL
TECHNICS SL-P2 WIRELESS REMOTE, PROGRAMMABLE	CALL
SONY D-5 DELUXE PORTABLE AT NEW LOW PRICE	CALL
OTHER CD BRANDS AVAILABLE	CALL

SEE A BETTER PRICE? CALL US! WE WANT YOUR BUSINESS!!

UPS rates apply on these units. Prices and Availability Subject to Change



illinois audio

12 E. Delaware Pl., Chicago 60611

Phone Now
1-312-664-0020
Price Lists & Quotes

Hours:
10:00-5:00
Mon. thru Sat.

TOLL FREE
1-800-621-8042
Orders & Quotes



— send for free price list —

Name _____
Address _____
City _____
State _____ Zip _____

or use your address label

**TRY & BEAT
OUR PRICES
& SERVICE!**

**80 MAJOR
BRANDS**

**CALL OUR AUDIO/VIDEO
HOTLINE TOLL-FREE!**

800-221-0974

MON-FRI 9AM-10PM SAT 9AM-5PM E.S.T.

(ex. N.Y., AK., HI.)

In N.Y. State Call: (718) 253-8888

SHURE REBATE
V15-5MR CARTRIDGE
Dur Price: \$138
Mfr. Rebate 25
Your Net Cost
After Rebate **\$113**
(Offer expires 12/31/85)

Technics
SL-PJ91 CD PLAYER
• black finish
• 15 step programming
• 2-speed search
• random access
memory **\$210**

Sansui SX-V1000
AUDIO/VIDEO
CONTROL CENTER
• 80 watts per channel
• multidimension/the-
atre/hall • AV surround
mode
Call for price!

SONY
PERSONAL STEREO
WM-F10 II \$89
WM-F75 \$99
D-5S DISCMAN. Call
WM-F18 \$60
CFS-5000 \$95
FH-11W Call

TEAC
CASSETTE DECKS
V-900X \$325
R-666X \$180
V-530X \$119
V-360C \$69
Limited Quantities

NEC
VHS VIDEO RECEIVER
MODEL N-961
• hi-fi/MTS/SAP
• top-of-the-line
Call for price!

ADC
SS-425X EQUALIZER
• 12 band per channel
• computer memory
• built-in spectrum
analyzer **\$289**

Panasonic
VIDEO
PV-200
VHS CAMCORDER
2-hr. record & play-
back w/auto focus
Call for price!

Technics
SA-560 RECEIVER
• 70 watts per channel
• digital am/fm
stereo/t.v. tuner
\$350

**GREAT BUYS ON
AUDIO & VIDEO TAPE!**
VIDEO!
• FUJI T-120 \$4.47 ea.
• FUJI T-120 SHG \$5.64 ea.
• SONY T-120 \$4.60 ea.
AUDIO!
• FUJI FR-II C90 86 ea.
• SONY UCX-S90 \$1.75 ea.
(All tapes sold in cartons of 10
only.) *Price reflects mg.
rebate of .50c as of 10/1/85

All merchandise is brand new & fully warranted. Quantities limited. Prices
subject to change. Minimum shipping and handling charge \$5.

**• LET US BEAT ANY
PRICE YOU CAN FIND!**

**THIS IS JUST A SMALL SAMPLING
OF OUR GREAT PRICES!**

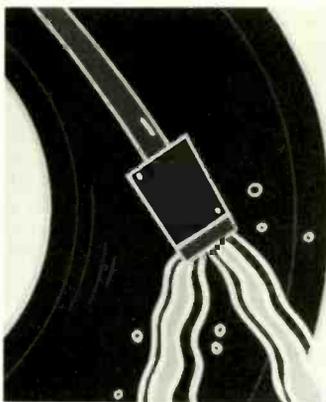
Call or write for **FREE** catalog.

MasterCard **STEREO** **VISA**
**CORPORATION
OF AMERICA**

Dept. 111 1629 Flatbush Avenue,
Brooklyn, N.Y. 11210

CIRCLE NO. 38 ON READER SERVICE CARD

NEW LIFE FOR OLD RECORDINGS
Continued from page 83



ord and when to punch in the recorder.

Since I was using open-reel, I recorded successive songs on alternate tracks. This enabled me to overlap the fade at the end of one song with the beginning of the next—and to go back and do it over easily if something went wrong. When all the songs for a cassette side were done, I simply mixed the two open-reel tracks together and dubbed them to the cassette, with some touch-up level-riding as I went. This technique only works, however, if you start with a blank open-reel tape and if your recorder can get into and out of the record mode absolutely silently. Most decks can get in quietly enough, but some will put a loud *pop* on the tape when you *stop* recording.

Step 4: The Recording

Prepare to spend a lot of time actually recording; at least three times the final running time, perhaps more. But don't begrudge the time; you want to get as close to perfection as possible, because even the tiniest flaw will drive you to distraction for years to come.

The following steps will have to be done individually for *each* record played—there are no shortcuts. First, clean the record you are about to record by the best method you have available. Then check the stylus and clean that if necessary. Dubbing old records is very effective at getting dirt onto a stylus, and I found I had to brush mine at least after every record, and often I had to apply cleaning fluid too.

Place the record on the turntable, put the stylus in the groove, and do a trial play. Watch the tone arm very carefully to see if it swings slowly back and forth; if it does, the record is off center and will have to be corrected. Those old 45's were

often very far from true, but the problem was usually with the center hole. The groove area was fine most of the time, so if you can somehow get a record to revolve without the arm wavering, the wow you would otherwise hear will be gone. Most 45-rpm spindle adaptors allow for some play, so you may be able to nudge the record enough to center it. If not, remove the adaptor completely and carefully center the record by hand. You may then be able just to play it, but it's advisable to use a record weight or clamp (they are available from several companies) to hold it in place. If you don't have such a device, a couple of pieces of tape on the edges of the record will fix it to the mat.

Next, set all your processing devices, if you are using them, to their neutral positions. On a trial run, gradually apply just as much correction as you need. It's not a bad idea to go back and listen to a bit of the previous song as well, to make sure the quality differences between them are not too extreme. Then find the loudest part of the song and set your recording level.

Setting levels can be tricky. While some singles have a reasonably wide dynamic range, most are very compressed. In the former case, you will probably want to do some manual level-riding so the quiet bits don't disappear. Be aware also that different sorts of music read differently on the meters, so strict adherence to the standard practice of peaking at 0 dB may cause apparent level differences. You should "cheat" the level up or down to match the preceding cut; after all, we're not too worried about minor levels of distortion in this exercise. You are unlikely to cause much distortion anyway since high-frequency energy is typically absent.

When your record is prepared for recording, listen to part of it, preferably a quiet passage. If it still sounds very noisy in spite of your cleaning and filtering, you might consider playing it *wet*. Dousing it with record-cleaning liquid or even water (one acquaintance uses methyl alcohol, which strikes me as a bit extreme) can sometimes do wonders for clicks, pops, and other noises. Wet playing is definitely not recommended for your audiophile records (many people claim it has long-term adverse effects), but in this case it is probably justified. You simply want one good, clean pass of the disc, and what happens after that is relatively unimportant.

Wet playing needs some attention, however, since the liquid will tend to flow out toward the edge of the disc rather than moving along with the stylus. A damp paper towel and a very light touch can help the liquid move toward the center of the disc, although you may also have to add more liquid as the record plays. The fluid you use will also have a tendency to combine with residual dirt on the record to make a kind of "concrete" that bonds to the stylus, so the stylus *must* be cleaned after each playing even if the next record you tape will also be wet.

Now is the time to use all you've learned in rehearsal, cue up the record, and actually put it on tape. If you suspect any problem with the start—a slight miscalculation of the turntable's run-up time, for instance, or a slow finger on the pause button—stop and do it over. If all is well, listen carefully to the record all the way through to make sure there are no hidden skips in its middle. When it's over, it's often a good idea to hasten the fade a bit so that the pause before the next song won't be too long. Then put the deck in pause and prepare to record again.

Ideally, when you finish recording the last song, you will have a perfect tape. If, like me, you have an interim open-reel step, you will still have to make your final mix, but that will allow you some slight corrections of things you may have missed during the original dubbing. I find that it's very useful to smooth out the levels a bit from one song to the next, and I have also experienced "creeping EQ" from time to time—I tend to have an increasingly heavy hand on, say, the low-frequency correction as the tape progresses. Even if you master the tape on cassette, a final dub may be a good thing for the same reasons, and with this sort of material a further tape generation is unlikely to make much difference to the sound quality. You may find that if the recordings remain a bit noisy, using a lower-grade tape for your final mix will roll off some of the highs.

To go through this whole process, you really have to want to hear those old records, and you really have to love tape recording. But if you qualify on both counts, you could end up with an enjoyable, listenable collection of golden oldies. I certainly have. In fact, I'm just starting into my second batch, to catch up on all those records I rejected the first time around!

W.D. Savings Service Satisfaction

CASSETTE DECKS

Teac W440C \$229
High Speed Dubbing
Teac V900X
3-Head
Below Dealer Cost \$369
Technics RSB33 \$189
High Speed Dubbing

DISC PLAYERS

JVC Disc Players \$199
Below Dealer Cost
Sony D-5 \$229
Portable Disc Man
Pioneer CLD900
Plays Cad and Laser Discs \$888
Pioneer LD700 \$549
Below Cost
AKAI CDA7 \$299
Below Dealer Cost

RECEIVERS

Protor 930 CALL
Digital Schottz Tuner
Technics SA-460 \$199
50 Wat/CH
AM/FM/TV Band
Marantz
1985 Models
All Below Cost



SPEAKERS

Koss M-80
Hand-Rubbed
Walnut Veneer \$62ea
"The Tower" \$119ea
by Sansui
3-way 160 watt
Sansui S-517
Floor Standing
3-way \$47ea

CAR STEREO

Concord 122R \$185
Digital with Dolby
Clarion 8500 \$129
Digital with Scan
Marantz Car 360 \$129
Digital Auto-Reverse
Jensen J3033 \$79pr
6x9 Triax II
Pyle Drivers
Best Car
Speaker Built Call

SPECIALS

Denon DP-37
Servo Tone arm
with Four Year
Warranty \$199
Audio Source EQ-II \$229
Spectrum Analyzer
and Mic

WDS

800-356-9514

or Call 608 271-6889

C.O.D.

SPECIALS

Teac EQA-10
EQ
With Spectrum
Analyzer
Proton Equipment
Specials
ADC SS-15X Call
Special Purchase
Denon Specials Call
On Many Models Call

TAPES

Maxell or Sony
L-750 or T-120 \$4.99ea
Maxell
HGXL-75C or T-120 \$5.99ea
Maxell
XLII 90 1.99
TDK
SA90 1.00

VIDEO RECORDERS

Panasonic PV9600A \$839
VHS HiFi Portable With Stereo Tuner
Sony S-HF600 \$639
Super Beta HiFi
Panasonic PV1545 \$539
4-Head HiFi
JVC GRClU
Top-Rated CamCorder
New Low Price
Sony KV2501 Call
25 Inch Monitor
Below Cost \$629

WISCONSIN DISCOUNT STEREO

2417 W. Badger Rd. Madison, WI 53713

MON-THURS 9-8 FRIDAY 9-8 SATURDAY 9-5

FREE details A DIFFERENT KIND OF RECORD CLUB

TREMENDOUS SAVINGS INCLUDING COMPACT DISCS...

on every record and tape in print—no "agree-to-purchase" obligation of any kind.

DISCOUNTS OF 20% TO 73% off mfg. suggested list... special catalog features hundreds of titles and artists.

MOST LABELS AVAILABLE including most imports through special custom ordering service—guarantees satisfaction

SCHWANN CATALOG lists thousands of titles.

DISCOUNT DIVIDEND COUPONS redeemable immediately for extra discounts.

NEWSLETTERS informational news and happenings in the world of music... special super sale listings.

DISCOUNT NEEDLE GUIDE most mfg. replacements available.

QUICK SERVICE same day shipping on many orders... rarely later than the next several days.

100% IRON-CLAD GUARANTEES on all products and services—your total satisfaction is unconditionally guaranteed

Discount Music Club is a no-obligation membership club that guarantees tremendous discounts on all stereo records, tapes and CD's and let you buy what you want...when you want...or not at all if you choose. These are just a few of the money-saving reasons to write for free details. You can't lose so why not fill out and mail the coupon below for immediate information.

DMC DISCOUNT MUSIC CLUB, INC. DEPT. 1185
481 Main Street, New Rochelle, N.Y. 10801

Name _____
Address _____
City _____
State _____ Zip _____

CIRCLE NO. 71 ON READER SERVICE CARD

NEW YORK WHOLESALE WAREHOUSE

PRICE • SERVICE • SELECTION • SATISFACTION

Here's a sample of our amazing prices!

HIFI/STEREO	VIDEO/TV
Yamaha R9 \$592	Sanyo Beta HiFi ... \$357
JVC RX500 482	Panasonic PV1330 ... 241
Aiwa ADF990 382	JVC HRD 725 631
Wakamichi LX5 588	Fisher FV810 234
B&W DM220 218	Sony 13" Color 286
Technics SLQ200 69	Sharp 19" Color 198
Tandberg TCD3014 1092	
Sansui SX1130 566	
Rogers LS3/5A 191	
Thorens TD320 342	
Stax SR-X III 337	
Misslan 737 234	
AR488 163	
Yamaha CDX2 292	
Denon DP45F 294	
Sony "Discman" 194	
M/K 490i 293	
Grace F9E 122	
	TYPEWRITERS/COMPUTERS
	IBM Selectric II \$588
	SCM Enterprise XT 184
	Royal 2001 199
	Atari 130XE 126
	Commodore C128 256
	CAR STEREO
	Alpine 7146 \$392
	Kenwood KRC929 467
	Yamaha YCR550 313
	Nakamichi TD700 633
	B&W LM1 159
	Sony XR75B 281
	Blaupunkt Houston 367

Call or write for all your home electronic needs. Computers/software/peripherals, personal/portable stereo, Casio synthesizers, Yamaha organs, calculators, Canon copiers, radar detectors, microwave ovens.

- Free International Monthly newsletter & price list
- Credit Plans available
- Friendly, knowledgeable people
- Same day shipment in most cases
- Full U.S. warranty on all goods.

For Fastest Service, call: **(212) 684-6363**

Hours: 9am-7pm EST Monday-Saturday

Or write our World Headquarters

2 Park Avenue, Dept. 12, New York, NY 10016

Prices subject to change without notice. We reserve the right to limit quantities. Offer may be withdrawn anytime.

CIRCLE NO. 70 ON READER SERVICE CARD

*Discs and tapes
reviewed by
Chris Albertson
Louis Meredith
Alanna Nash*

PAT BENATAR: *In Concert*. Pat Benatar (vocals); instrumental accompaniment. *Hit Me with Your Best Shot; Little Paradise; Love Is a Battlefield; Hell Is for Children; Looking for a Stranger; Heartbreaker*; and nine others. PIONEER ARTISTS PA-85-090 LaserDisc \$24.95.

Performance: *Typical*
Recording: *Good*

Originally taped for an HBO special, this 1983 concert at the New Haven, Connecticut, Veterans' Memorial Coliseum is guaranteed to delight Pat Benatar's many fans. I found the going a bit rough, however, partly because the lighting at the concert was unfit for video taping and partly because Benatar's material is not, on the whole, very interesting. For over an hour, she jumps around the large stage, a small leather-clad figure in spiked heels, while the band performs in an all too predictable fashion. There is pathos and feeling in *In the Heat of the Night*, but most of the program is high-energy stuff of little distinction, though the crowd is whipped into a frenzy by it. It's hard to imagine anyone jumping up and down and screaming to Benatar's recordings of the songs in this set, so you have to attribute a good portion of the enthusiasm here to the atmosphere created by a large, youthful concert gathering. If your LaserDisc player is equipped for random access, though, skip to the last track and enjoy *Love Is a Battlefield*, which is the cleverly conceived, well-produced Benatar video you might already have seen on your favorite music channel. *C.A.*

BLONDIE: *Live!* Blondie (vocals and instrumentals). *Rapture; Heart of Glass; Dreamin'; One Way or Another; Start Me Up; Call Me*; and five others. MCA 80060 VHS Stereo and Beta Hi-Fi \$29.95.

Performance: *Giving it their all*
Recording: *Good remote*

This is supposedly the last concert Blondie gave before splitting up several years ago. I don't know if that's true (there's nothing in the credits about where or when it was recorded), but the show does have a special excitement about it, and Deborah Harry and the boys really do perform as if there's no tomorrow. They also perform more like a real band than usual, instead of as a singer and her back-up.



PARAMOUNT PICTURES CORP.

STAR TREK III

THE latest *Star Trek* movie, *The Search for Spock*, directed with Vulcanian aplomb by Leonard Nimoy, is easily the most faithful to the feeling of the TV series of all the big-screen Treks so far. The plot, involving mysticism, reincarnation, and intergalactic warfare, doesn't really make a lot of sense, but the camaraderie and interplay between the series regulars is vastly entertaining (DeForest Kelly as the irascible Dr. McCoy is particularly funny), the special effects (courtesy of George Lucas's Industrial Light and Magic) are often breathtaking, and Christopher Lloyd (of TV's *Taxi*) is a great Klingon villain, a

Genghis Khan with a healthy sense of the absurd.

The whole thing is space opera at its most rousing, and, with the exception of one sight gag involving an attempted Vulcan nerve pinch by McCoy, it translates extremely well to the small screen. Even better, the sound on the laser-disc version is sensational: realistic and clean as a whistle. *Louis Meredith*

STAR TREK III: THE SEARCH FOR SPOCK. William Shatner, DeForest Kelly, James Doohan, George Takei, others. PARAMOUNT LV-1621 laser video disc \$29.95, 01621 VHS Hi-Fi and Beta Hi-Fi \$29.95.

The production values are good, the pacing of what amounts to a set of the group's greatest hits is tight, and at fifty-five minutes the video is just the right length. There aren't many groups around today that have the magnetism Blondie had when Debby Harry was really revved up, and this video captures it all pretty well. Definitely worth having. *A.N.*

LAURA BRANIGAN. Laura Branigan (vocals); instrumental accompaniment. *The Lucky One; Satisfaction; Gloria; Don't Show Your Love; Self Control; How Am I Supposed to Live Without You; All Night with Me; I Wish I Could Be Alone*; and two others. PIONEER ARTISTS PA-85-101 LaserDisc \$24.95.

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

There is no real substitute for live music, and even the video of a live concert rarely does the event full justice. Laura Branigan's first extended video

release, recorded last year at Caesar's Tahoe, is a case in point. The producers have spliced brief video clips into *The Lucky One* and *Solitaire*, but the effect is to make these two tracks look like rough cuts awaiting an editor.

Nevertheless, Branigan is in fine voice, and her performances translate well to the electronic home medium. I especially liked the emotion-charged *Ti Amo*, which in the wrong hands could so easily become maudlin, and the tears you see on Branigan's cheeks in *How Am I Supposed to Live Without You* can also be heard in her voice.

I was less taken by the long version of *Gloria*, Branigan's launch pad, made even longer by the inevitable introductions—not only of her band and back-up singers but also the light man, monitor man, janitor, and so on. That sort of thing is okay if you're there, but it is boring when you're forced to view it repeatedly on a video disc or tape. The program ends with the surrealistic *Self Control*, a wonderfully imaginative pro-

ORDER TOLL-FREE
800-221-8180

J&R MUSIC WORLD

23 PARK ROW NEW YORK, NY 10038

IN NEW YORK, ALASKA
AND CANADA
CALL: (212) 693-0396

"TOP TEN" SPECIALS OF THE MONTH

\$5 OFF
SAVINGS CERTIFICATE

SHOP at HOME and SAVE
10% to 50%
AND MORE... ON QUALITY MERCHANDISE
- FULLY GUARANTEED

BASF BONUS PACK CHROME CASSETTE CASE
4 \$1.95 Value Free
With 1/2 Purchase Of
4 CREI90'S Chrome Cassettes
\$7.29

BASF T-120 OR L-750
-chrome Video Tape
Your choice **\$4.89** each

TOP 10' RECEIVERS

Shuremodel S-2660
•50-Watts Per Channel Receiver
•Digital FM/AM Tuning
•10-Station Presets
\$299.95

MARANTZ SR640 45W Ch Dig 16-Preset Black **\$229.95**
MARANTZ SR940 100W Ch Dig Remote Black **\$379.95**
NIKKO NR750 45W Ch Dig 28-Preset Black **\$249.95**
SANSUI SX1130 150W Ch Dig AM&FM Ster **\$649.95**
SHUREWOOD S2680 70W Ch Dig 16-Presets **\$339.95**
TECHNICS SA150 75W Ch Dig 14-Presets **\$119.95**
TECHNICS SA360 30W Ch Dig TV/FM All **\$179.95**
TECHNICS SA650 30W Ch Dig TV/AM/FM **\$209.95**
TECHNICS SA560 70W Ch Dig AM/FM/TV Black **\$379.95**

TOP 10' TAPE DECKS

TEAC V-530X
•2-Motor / 2-Head Cassette Deck
•Dolby B & C Noise Reduction
•15-Program Music Search
\$149.95

AKAI HX42 Soft Touch Dolby B & C **\$69.95**
AKAI GX40000 Reel-To-Reel 3-Heads **\$249.95**
SANSUI DW98 Double-Deck Black **\$299.95**
TEAC R555X Dolby B/C 3-Motor A/R **\$179.95**
TEAC R666XBL 3-Motor Dolby B/C dbx Black **\$239.95**
TEAC V360C Soft Touch Dolby B & C **\$149.95**
TEAC V707RX 3-Head A/R Dolby B & dbx **\$139.95**
TECHNICS RS811W Double-Deck **\$149.95**
TECHNICS RS878R A/R Dolby B/C & dbx **\$259.95**

We Carry A Complete Selection Of

SONY

PRODUCTS. PLEASE CALL OR WRITE FOR OUR PRICES

TOP 10' CARTRIDGES & TURNTABLES

SHURE V-15 TYPE VMR
•Micro Ridge Stylus
\$134.95

AUDIO TECHNICA 152LP P-Mount **\$79.95**
PICKERING 625D Disc Use **\$29.95**
SHURE V15 TYPE VB **\$109.95**
STANTON 680EL Disc/W/Ext Stylus **\$44.95**
TECHNICS SL8D1 Manual Belt Drive **\$59.95**
TECHNICS SL1200MKT Manual Quartz DD **\$299.95**
TECHNICS SLJ3 Auto-Linear DD Prog **\$149.95**
TECHNICS SLD03 Auto-Quartz **\$99.95**
TECHNICS SLX300 Auto DD Ortz Pitch **\$159.95**

TOP 10' SPEAKERS & SPEAKER STANDS

AUDIOSOURCE LS1 Micro-Size 2-Way Black pair **\$79.95**
TEAC 6110 3-Way pair **\$179.95**
TECHNICS SBX300 3-Way Honeycomb pair **\$199.95**
TECHNICS SB132 10" 2-Way pair **\$149.95**
TECHNICS SBLS52 10" 3-Way pair **\$129.95**
*SHIPPED U.P.S. OR PARCEL POST

PLATEAU SPEAKER STANDS

PLATEAU L10 Height-5'25" pair **\$119.95**
PLATEAU L30 Height-7'25" pair **\$134.95**
PLATEAU L40 Height-10'5" pair **\$139.95**
PLATEAU L50 Height-16'25" pair **\$149.95**
PLATEAU L70 Height-25" pair **\$149.95**

TOP 10' EQUALIZERS & MIXERS

ADC SS-315X **\$199.95**

•10-Band Per Channel Equalizer
•Built-In Spectrum Analyzer
•With Pink Noise Generator
•Two-Way Tape Dubbing

ADC SS5115X 10-Band Ch EQ w/LEDs **\$129.95**
AUDIOSOURCE EQ14 10-Band Ch EQ Aniz **\$259.95**
NUMARK DM1650 Mixer/Pre-AMP EQ **\$189.95**
NUMARK DM1800 Disc/Mixer/Pre-AMP EQ **\$269.95**
NUMARK EQ2600 10-Band Ch EQ **\$169.95**
TECHNICS SBH025 7-Band/Channel EQ **\$84.95**
TECHNICS SBH055 12-Band Ch EQ Aniz **\$219.95**
TECHNICS SBH065 33-Band Per Chan EQ **\$349.95**
TECHNICS SBH066 12-Band Ch Control **\$119.95**

HOW TO ORDER BY MAIL: For prompt and complete shipment, send money by check or money order. A check is acceptable if you include full name, address, phone number, and signature. DO NOT SEND CASH. PERSONAL AND BUSINESS CHECKS MUST BE FOR FULL RETAIL PRICE. PROCESSING: \$25 MINIMUM ORDER. Shipping handling & insurance charges extra. Canadian orders add 15% shipping with a \$15 minimum charge. For shipments by air, please double the charges. SORRY, NO C.O.D.'S. NEW YORK RESIDENTS PLEASE ADD SALES TAX. ALL MERCHANDISE SHIPPED BRAND NEW, FACTORY FRESH AND 100% GUARANTEED. WE ARE NOT RESPONSIBLE FOR ANY TYPOGRAPHICAL ERRORS.

TOP 10' COMPACT DISC PLAYERS

Technics SLP2
•Front Loading CD Player
•Remote Control
•15 Step Programmable
•In Your Choice Of Black or Silver
\$289.95

AKAI CDA7T Prog. Black or Silver **\$349.95**
HITACHI DA6000 Programmable Black **\$299.95**
HITACHI DA500 Programmable Black **\$299.95**
SANSUI PCV750B Programmable Silver **\$259.95**
SONY D5deuxe Portable Home CD Player **\$229.95**
TECHNICS SLP1 Programmable **\$229.95**
TECHNICS SLPSK Remote Prog. Black **\$349.95**
TECHNICS SLPJ1 Mid-size Black **\$229.95**
TECHNICS SLPJ1 Programmable **\$229.95**

TOP 10' HEADPHONES & MICROPHONES

SONY MDR-M77
•Semi-Open Dynamic Headphones
•Suitable For Digital Music Source
\$59.95

BEYER DT880 Semi-Open Air **\$99.95**
SENNHEISER HD410SL Open-Air **\$54.95**
SENNHEISER HD400 Open-Air **\$29.95**
SONY MDR232 Stereo Earphones **\$179.95**
SONY MDR232 Stereo Earphones **\$19.95**
SONY MDR232 Stereo Earphones **\$19.95**
AUDIO TECHNICA AT9100 Dynamic Mic **\$69.95**
SHURE SM57 Dynamic Mic Dual-In **\$4.95**
SONY ECM339LL 1-Point Stereo Mic **\$79.95**

TOP 10' AUDIO ACCESSORIES

discwasher* DiscKit
•Total Record Care System includes Stylus Care System, Zerostat Record Care System & Walnut Base With Dust Cover
\$32.95

ALLSOP 71300 Tape Head Cleaner **\$6.95**
AUDIO TECHNICA AT6002 Dust Bug **\$6.99**
AUDIO TECHNICA AT605 Insulators **\$19.95**
DISCWASHER Record Care System **\$18.95**
DISCWASHER DISCSET RCS 502 Tray **\$9.95**
DISCWASHER Record Care **\$12.95**
MAXELL HE44 Cassette Head Demag **\$12.95**
SHURE SFC2 Stylus Pressure Gauge **\$7.95**
TDK HD-01 Cassette Head Demag **\$12.95**

TOP 10' STEREO-TO-GO

SONY WM-F75
•Splash Resistant Sports Walkman
•AM/FM Stereo Cassette
•Auto-Reverse, Dolby B
•Auto Tap/Selector
•Folding Headset
\$109.95

PANASONIC RSX35 FM Cass. Dolby Metal **\$74.95**
SANYO MCR66 AM/FM Stereo Cassette **\$29.95**
SONY WM101 Mini-Size Dolby Metal Tape **\$59.95**
SONY WM115 Rec. Play A/R Dolby Metal **\$119.95**
SONY WM75 Water-Resistant Dolby A/B **\$79.95**
SONY WMDC2 Pro Walkman Dolby B & C Rec **\$149.95**
SONY WMDC2 Quartz, Dolby B & C MR **\$249.95**
SONY WMF101 AM/FM Cass. Dolby Metal Tape **\$89.95**
SONY WMW800 Double-Walkman Dolby **\$149.95**

'AKAI SPECIAL PURCHASE Below Original Deal Cost

AAA-25 Receiver
•30-Watts Per Channel
•Quartz Lock Tuning With 16-Presets
•In Your Choice Of Black Or Silver
•Manufacturer's Suggested Retail Price: \$199.95
\$109.95

AAA-35 Receiver
•48-Watts Per Channel
•Large Fluorescent Display
•In Your Choice Of Black Or Silver
•Manufacturer's Suggested Retail Price: \$199.95
\$139.95

TOP 10' CORDLESS PHONES & TELEPHONES

NEW From PANASONIC VA-8120
Style Line Telephone **\$44.95**

•Tone or Pulse dialing
•13-Number Memory
•Hold Function
•In Your Choice Of Red, Toast or White

AT&T NOMAD 4000 1000' Pulse Reel **\$99.95**
COBRA CP460 Cordless Tone Pulse Sqr **\$149.95**
PANASONIC KXT7130 2x Mem Auto Re-dial **\$74.95**
PANASONIC KXT2203 10x Mem Tone Pulse **\$34.95**
PANASONIC KXT2221 32x Mem Tone Pulse **\$59.95**
PANASONIC KXT2340 30x Mem Sqr Tone Pulse **\$59.95**
PANASONIC KXT7150 2-Line Sqr Tone 2x **\$129.95**
PANASONIC KXT3821 Cordless Tone Pulse **\$89.95**
UNIDEN EXT4800 1000' Intercom 10x **\$149.95**

TOP 10' ANSWERING MACHINES & DIALERS

PHONE-MATE MiniMate 5000
•Beepless Remote Answering Machine
•Microcassette, Voice Activated
•Toll Saver
•Miniature Size **\$89.95**

CODE-A-PHONE 2530 Beepless Remote **\$134.95**
DICTOGRAPH DIALER #100 Portable **\$59.95**
INSTADIAL 25 Home-Portable Dialer **\$49.95**
PANASONIC KXA70 Portable 30x Dialer **\$59.95**
PANASONIC KXT1215 16x Dialer **\$59.95**
PANASONIC KXT1355D 60x Dialer **\$89.95**
PANASONIC KXT1415 Remote VCR **\$149.95**
PANASONIC KXT1425 Beepless Remote **\$99.95**
PANASONIC KXT2325 Phone Rem Answ **\$189.95**

TOP 10' VIDEO RECORDERS

Panasonic PV-1545 **\$599.95**

•4-Head VHS Hi-Fi Recorder
•14-Day 4-Event MPX Outputs
•21-Function Remote

BETA

SANYO VC7250 Super Beta Hi-Fi Remote **\$379.95**
SANYO VC7500 Hi-Fi Stereo-Tuner Rem **\$429.95**
SONY SLH600 Super Beta Hi-Fi Remote **\$349.95**
SONY SLH600 Super Beta Hi-Fi Ster-Tuner **\$689.95**

VHS

JVC HRD725 Hi-Fi Dolby Cable PLL Tuner **\$679.95**
JVC HRD235 Silver or HRD235 Black **\$459.95**
PANASONIC PV1340 4-Head Dolby Stereo Recorder **\$329.95**
PANASONIC PV1740 Hi-Fi 210 Bev 4 HD **\$879.95**
RCA VLT600 Hi-Fi Cable 14-Day 4-Event **\$529.95**

TOP 10' VIDEO ACCESSORIES

SSI SURROUND SOUND M-360
•Motion Picture Sound Effects Decoder with Dolby Stereo, Audio Time Delay & Internal Audio Amplifier
\$269.95

ADC V200 Video Enhancer **\$89.95**
NORTONICS VCR130 VHS Headcleaner **\$11.95**
NORTONICS VCR135 BETA Headcleaner **\$11.95**
RECYTON V601A Enhancer With RF Mod **\$84.95**
RECYTON V604A Still Enhancer RF Mod **\$84.95**
RECYTON V612A B&S Switcher **\$129.95**
RECYTON V615A Stereo Processor **\$179.95**
SANSUI AV778 Audio Video Processor **\$269.95**
VICIRAF DETERMINER III Detector **\$199.95**

Scotch
T-120EXG OR L-750EXG

•Extra High Grade
Your Choice
\$6.79 each
SCOTCH T-120EC each \$4.79

TOP 10' CAR STEREOS

CONCORD HPL-520 **\$299.95**

•Digital Tuning With 12-Presets
•12.5-Watts Per Channel
•Dolby B & C, DC Servo
•Tape Drive

BLAUPUNKT ASPEN SOR A/R Dig **\$229.95**
BLAUPUNKT HOUSTON A/R Rem Dig **\$419.95**
SANYO EQ400 30Watts, 7-Band Equalizer **\$74.95**
CLARION 6900RT/6950RT A/R Dvdy/PB **\$129.95**
CLARION 8500/8550 Dig A/R APC **\$139.95**
JENSEN AT2500BL Black 19W Ch B/C MR **\$339.95**
JENSEN AT3258 A/R 19W Ch Metal **\$69.95**
SANYO FT50A A/R Dvdy C/AMSS **\$199.95**
SONY ESR100 Dig 12-Preset A/R AMS **\$159.95**

TOP 10' CAR SPEAKERS

JENSEN JTX-300
•6" X 9" Triax Speakers
•150 Watts Max per Channel
\$74.95

CLARION SE152 4" x 10" Coax 50Watts **\$49.95**
CLARION SE970 6" x 9" Coax 50Watts **\$49.95**
JENSEN J3013 6" x 9" Coax Thin-Mount **\$49.95**
JENSEN J3023 6" x 9" Triax Thin-Mount **\$59.95**
JENSEN J3033 6" x 9" Triax **\$79.95**
SONY ES-592 6" x 9" Coaxial **\$59.95**
VISONIK 05001 Little DAVID Surface-Mount **\$164.95**
VISONIK 05200 SLIM DAVID 2-Way **\$139.95**

We Carry A Complete Selection Of

PIONEER

CAR STEREO, AUDIO & VIDEO PRODUCTS. PLEASE CALL OR WRITE FOR INFORMATION

TOP 10' RADAR DETECTORS & CAR SECURITY

WHISTLER* SPECTRUM
•Quadravne Radar Detector
OR
SPECTRUM REMOTE
•Remote Quadravne Radar Detector
Your Choice **\$189.95**

BEL 834 Super-Het Visor Dash **\$179.95**
COBRA RD4010 Super-Het **\$149.95**
FOX SUPERFOX Remote Super-Het **\$179.95**
INTELL BANDIT-95 Rem Super-Het **\$149.95**
AUDIOSAFE HL-11M Car Ser-Lock **\$34.95**
PAGE ALERT PA4400 Pager **\$79.95**
PAGE ALERT PA4444 Deluxe Pager **\$89.95**
UNGO TL4000 Remote Car Alarm **\$339.95**
UNGO TL3000 Alarm System **\$249.95**

TOP 10' AUDIO TAPES

SONY UCX-S90
•Euy 10 And Get 2 FREE From Sony
\$17.95 UCX-S 90

BASF CREI90-2PK Chrome 2-Pack **\$3.99**
MAXELL XLIJ-90 Hi-Level **\$2.49**
MAXELL XLIJ-90 Hi-Level Bias **\$1.79**
SONY HFS-90 2PK Normal Bias **\$3.49**
TDK ADX-90 Super Normal Bias **\$1.99**
TDK AC-90 Super Audio **\$1.69**
TDK SAX-90 Super Hi Bias **\$2.49**
TEAC C0C-90 Normal Reel-To-Reel Cassette **\$3.29**
TEAC CRC-90 Hi-Bias Reel-To-Reel Cassette **\$3.49**

TOP 10' VIDEO TAPES

FUJI T-120XG Mastering Tape **\$8.99**
MAXELL HCXL-750 High Grade **\$5.99**
MAXELL T-120 **\$4.99**
RCA T-120 **\$4.89**
SCOTCH L-750 **\$5.49**
SONY L-7500XG Ultra High Grade **\$5.99**
SONY T-1200XG Ultra High Grade **\$5.99**
TDK HGEXT-120 Ultra High Grade **\$5.99**
TDK T-120HF Hi-Fi **\$3.99**
TDK T-120HF Hi-Fi **\$7.49**

NOTE: WE CARRY A FULL LINE OF AUDIO, VIDEO AND COMPUTERS IN EVERY MAJOR BRAND. THIS LISTING IS JUST A SMALL SAMPLE IN OUR 10,000,000+ INVENTORY. PLEASE CALL US TOLL FREE OR WRITE TO US FOR PRICES ON ITEMS NOT LISTED IN THIS AD.

DEALERS / INSTITUTIONAL INQUIRIES CALL (800) 221-3191

duction directed by William Friedkin, who receives credit on neither the disc nor the sleeve. C.A.

ELTON JOHN: *Night and Day: The Nighttime Concert*. Elton John (vocals, piano); Nigel Olsson (drums); Dee Murray (bass); Davey Johnstone (guitar); other musicians. *I'm Still Standing*; *Your Song*; *Saturday Night's Alright for Fighting*; *Goodbye Yellow Brick Road*; and nine others. VESTRON 1011 VHS Hi-Fi and Beta Hi-Fi \$29.95.

Performance: *As usual*
Recording: *Good*

Shot in 1984 at Britain's cavernous Wembley Stadium, this new concert video by rock's Mad Hatter is largely indistinguishable from any other concert video now before the public. Elton is in good form, musically, and the song selection, nicely balanced between the star's Seventies and Eighties material, should satisfy even the most rabid of his fans. Unfortunately, the man has never had a particularly riveting presence, and his veteran sidemen, who are not aging gracefully, radiate all the enthusiasm and charisma of the executives of a funeral home.

Director Mike Mansfield gives us lots of shots of swaying fans and resorts to so-so computer graphics when things get particularly dull, largely to no avail.

I think it's time we all faced up to it: barring the presence of a genuine *auteur* at the helm (Martin Scorsese, Jonathan Demme), concert videos almost never come off. L.M.

MICHAEL NESMITH: *Television Parts Home Companion*. Michael Nesmith (vocals, comedy routines); instrumental accompaniment. *The Voyage of Kona Tiki*; *Life with Roger*; *Duelling Lounge Pianos*; *Chow Mein and Bowling*; *Total Control*; and five others. PACIFIC ARTS PAVR 526 VHS Hi-Fi and Beta Hi-Fi \$29.95.

Performance: *At times priceless*
Recording: *Fine*

Michael Nesmith's "Television Parts Home Companion" derives from the similarly titled NBC series, which, at this writing, may or may not become a fixture of the upcoming TV season. Some of the sketches here were apparently deemed unsuitable for broadcast, although I can't figure out why. Like the show itself, the tape is a mixed bag, interspersing comedy sketches with brief blackout bits and rock videos. It's uneven, but Nesmith is so utterly charming that you almost don't care. The musical numbers are warmhearted, funny, and a treat to look at, and one long sketch—in which Nesmith, as the urbane Cole Porter, visits his Okie rela-

tives back in the Dust Bowl—is hilarious. All in all, worth a look. L.M.

MADONNA. Madonna (vocals); other musicians. *Burning Up*; *Borderline*; *Lucky Star*; *Like a Virgin*. PIONEER ARTISTS PA-85-M019 LaserDisc \$12.98.

Performance: *Pneumatic*
Recording: *Very good*

Sure Madonna's act is exploitative. Sure, she's selling sex. But 99 percent of all rock stars since time immemorial have gone the same route, and rapping Madonna for her updated Eighties tease act smacks ever so slightly of a double standard. The real problem with Madonna, at least as demonstrated in these videos, is that she's colossally uninteresting, a woman with all the depth and substance of a Jordache girl.

There is only one recurring visual image here: the star's navel. The rest, save for an attractive fashion shoot in Venice that forms the basis for *Like a Virgin*, is routine MTV fodder. Madonna is viewed dancing clumsily (I find it difficult to believe she ever made it into the Joffrey Ballet), singing in her inimitable Brenda Lee-on-helium voice, and flaunting a physical appeal that, like Pia Zadora's, is at best an acquired taste. The LaserDisc sound, for what it's worth, is excellent. L.M.

VAL-U
FROM AMBICO
FIRST NAME IN
VIDEO ACCESSORIES

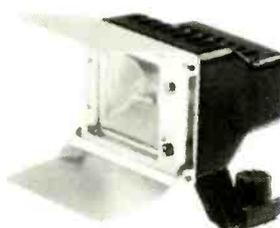


VAL-U LENS KIT
V-3000



VAL-U TRIPOD
V-5000

VAL-U LIGHT
V-1000



VAL-U POWER
V-8000

Call our
Toll-Free Number
1-800-231-0031
In NJ call
201-767-4100

AMBICO FIRST NAME
IN VIDEO
ACCESSORIES
50 Maple Street, Norwood, NJ 07648

LABELLE

ASK ABOUT OUR EXPRESS SHIPPING

CAMERA & STEREO OF MAINE

CAMERA DEPARTMENT AUDIO/VIDEO
1-800-341-0783 1-800-443-1927

Call Toll Free Anywhere in Continental USA & Hawaii, Virgin Islands, Puerto Rico.

CELEBRATING LABELLE'S NEWEST STORE IN LAWRENCE, LI, NEW YORK

GRAND OPENING SALE

SVOSSETT 224 W. JERICHO TPK LI, NEW YORK 515-496-2235
LAWRENCE BAY HARBOR MA, L 3-25-65 ROCKAWAY TPK LI, NEW YORK 516-371-1320
PRICES AND PRODUCTS IN EFFECT OCT 26 THRU NOV. 25
SEND ALL MAIL ORDERS TO 50 INIP DRIVE INWOOD, NEW YORK 11696 516-371-2800

OPEN SUNDAYS 10 to 8
CLOSED SATURDAY
 VISA
 AMERICAN EXPRESS
 MASTER CARD
 DINERS CLUB

SHOP NOW FOR CHRISTMAS!

CALL FOR SHIPPING AND HANDLING CHARGES. ASK ABOUT DETAILS ON COD ORDERS. MONEY ORDERS ACCEPTED. ALLOW 4 WEEKS CLEARANCE ON PERSONAL CHECKS.

OPEN MON. THRU FRI. AND SUNDAY, 10AM-8PM EST. CLOSED SATURDAY

NEW YORK AND MAINE RESIDENTS ADD LOCAL SALES TAX • ALL MERCHANDISE IS NEW AND GUARANTEED. SEND \$1 FOR LABELLE'S CATALOGUE

AM-FM STEREO RECEIVERS

TECHNICS SA-150 25 watts per ch. Quartz synthesized digital tuning **109.95**

AKAI AA-A35 48 watts per channel • Quartz lock digital tuning **147.50**

Akai AA-A25 (32 watts) 117.50
 Akai AA-A45 (65 watts) 179.95
 JVC-RX 220 (45 watts) 169.95
 JVC-RX 330 VB (55 watts) 219.95
 Technics SA351 (45 watts) 149.95
 Technics SA560 (80 watts) 339.95
 Technics SUV-6X (100 watts) 249.95
 Technics SA460 (50 watts) 209.95
 Nikko NR 750 (48 watts) CALL
 Scott 359RS (45 watts) 169.95

TURNABLES

Technics SLQD-3 Fully auto. quartz lock direct drive. **84.95**

Technics SLJ-3 Linear tracking, fully auto. quartz lock, programmable. **129.95**

Technics SL1200 MKII PRO DISC TURNTABLE **289.95**

Technics SLBD-1 54.95
 Technics SLBD-2 59.95
 Technics SLQD-2 74.95
 Technics SLQD-3 84.95
 Technics SLQX-200 114.95
 Technics SLQX-300 129.95
 Technics SL-J2 109.95
 Technics SL-J1 79.95
 Technics SL-2 119.95
 Technics SL-L3 139.95
 Technics SLD-500 149.95
 JVC LFX4 79.95
 JVC OLF X5B 99.95
 JVC OLL 20B 139.95
 AKAI AP-X1 54.95
 AKAI AP-A201 69.95
 AKAI APO-A50 99.95

CASSETTE DECKS

AKAI HXA3X 129.99 Dolby B, C, DBX, timer, start switch, HD heads

AKAI GXR66 209.95 3-way noise reduction system, DBX, Dolby B, C, twin field super GX heads, Auto reverse, Programmable.

Akai HX-A11 59.95
 Akai HX-A21 79.95
 Akai HX-A31 139.95
 Akai GXR-60 199.95
 Akai GXR-70 269.95
 Akai GX3 329.95
 Akai HX3-40 159.95
 Akai GXA EX 189.95
 Akai GXR 99 519.95
 Technics PSB 33W 189.95
 Technics PSB-14 39.95
 Technics PSB 18 124.95

Technics RSB 24W 129.95
 Technics RSB 11W 139.95
 Technics RSB 49R 189.95
 Technics RSB 78R 254.95
 JVC KDV 55J 229.95
 JVC KDV-6J 229.95

STEREO-TO-GO

SONY WM-10 MK2 Super Walkman stereo cassette player with Dolby B **\$59.95**

WMF-65 109.95
 WMF-75 109.95
 WMF-15 99.95
 WMF-18 79.95
 WMF-12 44.95
 WM-75 89.95
 Aiwa HSJ-400 139.95

WMD2C 139.95
 WMD6C 239.95
 SRF-201 89.95
 WA-200 129.95
 SRF-5 49.95
 WM-12 29.95
 IC-7600A 99.95
 Aiwa HSF07 99.95

CARTRIDGES

ortofon \$59.95 TM-14 Made in Denmark • Frequency response 20 to 20,000 • Elliptical styles • Fits all P-mount turntables

AUDIO-TECHNICA \$89.95 HR-401 EU • Frequency response 10-30,000 • Linear contact • Fits all P-mount turntables

STANTON PRO-3000 29.95
 PRO-4000 59.95
 PRO-5000 79.95
 PRO-96 89.95

EPC PSB TECHNICS \$47.95 • Frequency response 10-35,000 • Channel separation 25 db's

SHURE DT-15P 39.95
 DT-25P 59.95
 DT-35P 74.95
 V-15VMR 39.95

COMPACT DISC PLAYERS

Technics SLP-2 \$249.95 3 beam laser system, full function wireless remote control, quick access system, instant program location system, 1C-K input programming.

AKAI CD-A7T 3 beam laser system, 27 function wireless remote, instant program location system, auto-play selected repeat **\$309.95**

Technics SL-P1 205.95
 Technics SL-P3 315.95
 Akai CD-7T 299.95
 JVC XL-V300 248.95

Hitachi DA 4000 239.95
 Sanyo DA D8 179.95
 Sony D5 209.95
 Technics Portable (new) CALL

VIDEOS

PANASONIC PV-1330 259.95
 PV-1340 339.95
 PV-5800 459.95
 PV-1545 579.95
 PV-8500 659.95
 PV-8000 459.95
 PK-959 729.95
 PK-450 429.95

ZENITH VR-2150 399.00
 VR-1800 289.00

RCA VLT-385 319.95
 VLT-470 449.95
 CLCQ-20 629.95
 VLT-600 HF 499.95
 VLT-625 HF 569.95
 VLT-950 HF 949.95

JVC HRD-150
 HRD-725
 HRS-100U
 HITSACHI VT-74
 VT-5P
 GKN 80

INCLUDE WITH JVC Call for other makes and models.

BLANK TAPES

maxell. XL-II C90 1.79
 T-120 4.79
 T-120HGX 5.99

TDK SA-90 1.79
 SAX-90 2.29
 T-120 4.79
 T-120 EHG 5.99

Minimur 10 Tapes

Panasonic PV-200

ALL-IN-ONE VHS VIDEO CAMERA Autolocus 6:1 Power Zoom, 10 Lux

PRICED TOO LOW TO MENTION!

Radars Detectors

WHISTLER SPECTRUM \$189.95

Quadradyne Radar Detector
 Whistler Spectrum remote 189.95
 Whistler 3 119.95

BEL 834-S/ Super Hetrodyne Radar Detector (rated #1) 189.95

BEL 861 99.95
 BEL 860 134.95
 BEL 837 179.95
 BEL 720 79.95
 BEL 864 89.95
 BEL 841 169.95
 Bell 834 169.95

EQUALIZER/MIXERS

ADC \$199.95 ADC SS315X Equalizer and Spectrum Analyzer w/microphone.

AudioSource EQ-1 Series 2 269.95
 AudioSource EQ-8 w/spectrum display 119.95
 AudioSource RT-A1 139.95
 TEAC EQA-10 89.95
 TEAC EQA-20 99.95
 Technics SH-8055 229.95

NUMARK DISCO MIXERS DM-500 89.95
 DM-1550 179.95
 DM-1800 289.95
 DM-1150 139.95
 DM-1650 209.95

HOME SPEAKERS

BOSE ALPHA II w-way bookshelf speaker - 100 w/پر ch. coin. woofers **\$199.95** pair

ADVENT BABY 2-way bookshelf speakers, exceptional quality in a compact size **\$129.95** pair

SCOTT 177 DL 3-way SCOTT 177 DL 3-way bookshelf speakers 120 w total **\$139.95** pair

SONY TYPEWRITERS

BROTHERS EP-22 16 Character Display Computer Adaptable & Works on AC/DC

B&W WATCHMANS FD-20A 139.95
 FD-20A AEB 169.95
 FC-30A 179.95
 FC-40A 179.95

COLOR TV KV-5300 429.95
 KV-1365 319.95
 KV-1396R 349.95
 KV-1307R 349.95
 KV-177R 429.95
 KV-196E 399.95
 KV-196E 399.95

KV-1972 479.95
 KV-1976 509.95
 KV-1996 479.95
 KV-2670R 679.95
 KV-267E 769.95
 KV-2680 929.95
 KV-2690 699.95

CALL FOR OTHER BRANDS AND MODELS

CANON Typewriter 5R 159.95
 CANON Typewriter 5 139.95
 CANON Typewriter 6 219.95
 CANON Typewriter 10 149.95
 Panasonic RKT-40 339.95
 Panasonic RKT-400 249.95
 Panasonic RKT-35 269.95

SANYO FTE-25

CAR STEREOS All night illumination Dolby B & C. AM SS 9.5 watts per channel, fader clock, auto reverse AM SS music search. **\$179.95**

FTE-15 129.95
 FTE-20 149.95
 FTE-30 139.95
 FTE-40 160.95
 FTE-50 199.95
 FTE-60 229.95
 FTE-D4 149.95
 FTE-D6 169.95

FTE-07 199.95
 FTU-45 119.95
 FTU-55 129.95
 FTU-42 119.95
 FTU-52 134.95
 PA6500 99.95
 PA6100 119.95
 PA6110 139.95

JENSEN ATZ-500

NEW LOW PRICES! Dolby B Band C noise reduction, programmable tape, intro take scan, LCD quartz **\$259.95**

ATZ-300 199.95
 ATZ-200 179.95
 EQA-5000 89.95
 EQA-2500 69.95

RE-980 189.95
 RE-960 169.95
 RE-940 159.95
 RE-900 129.95

BLAUPUNKT TUCTION

AM-FM digital stereo, push button tuner auto reverse Dolby B noise reduction, fade **\$339.95**

AM-FM CAR STEREOS Frankfort 119.95
 Seattle 179.95
 Richmond 219.95
 Manhattan 219.95
 Asper SQR 24 219.95

Sacramento 279.95
 Washington Sq 439.95
 New Yorker 53 519.95

Clarion 8500R

Digital AM-FM stereo tuner auto reverse tape separate base and treble **139.95**

8550R 139.95
 8100R 109.95
 6900R 129.95
 6300R 109.95
 9500R 239.95

4100R 59.95
 200EQB-2 79.95
 6700R 109.95
 6100R 99.95
 8725R 169.95

SONY WOW!

ESR10 \$159.95

- Digital Readout
- Auto-reverse
- Electronic Scan
- Fader Control
- 10 Watts
- Separate Base & Treble

JENSEN JCX300

JCX300 JENSEN 6"x9" Triax 150 watt 3-way car speakers **\$69.95** pair

AUTOMOTIVE SPEAKERS

JENSEN J3013 6 1/2" coax 75w 44.95 pr.
 J3003 4 1/2" coax 50w 49.95 pr.

US-630 5 1/2" triax 65w 49.95 pr.
 US-620 5 1/2" coax 55w 44.95 pr.
 JX-200 4 1/2" coax 35w 37.95 pr.

US-209 6x9" coax 150w 54.95 pr.
 J3033 6x9" triax 100w 79.95 pr.
 J3023 6 1/2" triax 75w 89.95 pr.

CALL FOR OTHER MODELS

SONY ES-S 92 6"x9" Coax 80 watts 59.95 pr.
 ES-52 5 1/2" Coax 40 watts 39.95 pr.
 ESS-42 4 1/2" coax 40w 39.95 pr.

BLAUPUNKT DL 3530 3 1/2" 30 watts 34.95 pr.
 CL 4635 4 1/2" Coax 30 watts 69.95 pr.
 CL 5050 5 1/2" Coax 35 watts 69.95 pr.
 CL 4145 4" x 10" 50 watts 69.95 pr.
 CL 4145 4" x 10" dual cone 45 wt 49.95 pr.

MITSUBISHI CZ-757 **\$259.95** includes 100 Watt AMP.

PIONEER CAR STEREO AUDIO & VIDEO PRODUCTS PLEASE CALL OR WRITE FOR INFORMATION

20 day return policy. All returns must be phoned in for prior authorization and must be received within 20 days from receipt of original shipment. All products must be returned in original factory packaging, clean and unscratched, and blank warranty card. Do not tape, or deface manufacturers' original cartons. Shipping and handling charges not refundable. Pictures are for illustration only, and do not represent the product exactly as shown. Rainchecks available upon request. Please call and reserve your purchases if you plan to pick up at store. Quantities are limited and subject to availability.

CIRCLE NO. 30 ON READER SERVICE CARD

DUPING CABLES AND ENHANCER ALL-IN-ONE
**NOW! Make Dupes so Close
 to the Original You Can Hardly
 Tell Them Apart!**



Is it the original
 or "Super Dupe"?

**NOW IN
 STEREO!**
 SEE COUPON
 FOR DETAILS

**Boosts and
 Enhances Video and Audio Signals**

To make professional quality tape-to-tape copies, you need more than just cables, you need "Super Duper"...duping cables and enhancer all-in-one.

"Super Duper" regains signal loss by boosting and enhancing video signal a powerful 3 dB...audio signal a booming 20 dB!

You can't make a dupe tape that's exactly like the original, but—with "Super Duper"—your dupes are so close to the original, you can hardly tell the difference.

To make dupe tapes that look and sound so close to the originals—order your "Super Duper" today!

- Separate video and audio controls
- AC power supply included
- All gold connectors for optimum conductivity
- Measures only 3³/₈" x 2¹/₄"
- Perfect for duping movies and music videos

ORDER TODAY
CALL TOLL FREE
1-800-231-0031



AUDIOVOX HI-COMP HCC 2250
 Continued from page 30

switching to mono. I sorely missed a manual mono button, though. AM broadcasts were nearly unlistenable even in strong reception areas because of the very limited bandwidth and high noise levels. One of my favorite exercises in road testing is to try to distinguish between AM stations by their signal quality alone, but I had to forgo it with the HCC 2250 since every station sounded the same—dreadful.

Tape playback was noticeably brighter in reverse than in the forward direction, which made tapes recorded with Dolby B sound dull and unmusical when decoded in forward play. Some very well-recorded tapes exhibited continual slight but audible treble shifts in reverse play, which leads me to suspect that either the tape guiding or the playback-head azimuth was not consistent. The player passed all tape-handling tests with no sign of danger even to my oldest, most fragile cassettes, but it showed a certain susceptibility to shocks and vibration from rough pavements or washboard surfaces. It should be pointed out, however, that for our road tests we clamp the unit firmly to the car in a way that presents it with stronger vibrations than normal in-dash mounting does.

The loudness control boosted the high treble enough to make hiss and static rather prominent, but I was glad to have it. It helped equalize my car's midrange acoustics nicely. Having both scan and seek tuner controls is useful, as any traveler knows, and it was simple to use them. Despite being the same size and just above the main tuning buttons (UP and DN), the scan and seek buttons offer enough resistance to make accidental activation unlikely. In general, this versatile receiver's controls are thoughtfully arranged and easy to locate. The pop-out tone controls are an especially nice touch, as is the ignition-off tape-eject system.

The amplifier had sufficient muscle to drive two sets of speakers to high listening levels without audible strain, though the face-plate illumination dimmed with peak power demands. Used with a straightforward, efficient, four-speaker car system, the HCC 2250 would have little need for an add-on booster amplifier. That can't be said for many car stereo cassette/receivers we have seen.

C.G.

Circle 146 on reader service card

**10 DAY
 HOME TRIAL**

We are so sure that you will be delighted with this product, we make this guarantee: If, for any reason, you do not feel that the unit is all we say it is, you may return it for a full refund (exclusive of shipping) within 10 days—no questions asked. So, order yours today!

TOMORROW TODAY, INC.
 4 New Hyde Park Rd., Franklin Square, NY 11010

Please send me _____ (qty.) I understand that if I am not completely satisfied, I may return the Super Duper Enhancer(s) for a full refund (exclusive of shipping) within 10 days.

- Super Duper only \$49.95 plus \$2 shipping (Total: \$51.95).
- Stereo Super Duper only \$69.95 plus \$2 shipping (Total: \$71.95).

Send check or money order (no C.O.D.s) payable to: Tomorrow Today, Inc.

or Charge it: Visa MasterCard Amex

Acct. # _____ Exp. Date _____
 NY State residents please add appropriate sales tax.

Name _____
 Address _____ Apt. # _____

City _____ State _____ Zip _____

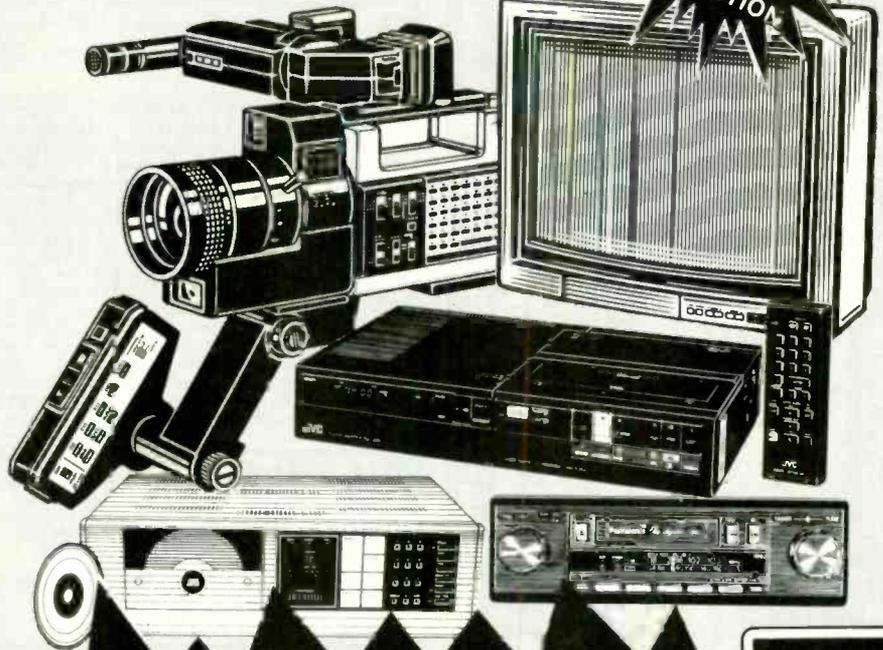
Enclose \$1.00 for Video Accessories Catalog. Dealer inquiries invited. Write on your letterhead for information.

NATIONWIDE VIDEO DISTRIBUTORS

YOUR
#1
HIFI
AND
VIDEO
CONNECTION

**EVERYTHING
IN
ELECTRONICS**

**PANASONIC
RCA
JVC
GE
QUASAR
AKAI
SHARP
BASF
TDK
ALLSOP 3
HITACHI
VIDICRAFT
MAGNAVOX
PIONEER**



**CALL TODAY FOR
THE LOWEST PRICE
NATIONWIDE**

WE STOCK MOST
MAJOR BRAND NAMES

FREE 60 PAGE BUYERS GUIDE

MAIL TO:
NATIONWIDE VIDEO
DISTRIBUTORS
7591 N.W. 55th ST.
MIAMI, FL 33166

Name _____

Address _____

ENCLOSE \$1 FOR SHIPPING AND HANDLING

**RECEIVERS-TURNABLES-TAPE DECKS-SPEAKERS
CAR STEREOS-VIDEO RECORDERS-TV SYSTEMS-ACCESSORIES**

DISCOUNTS FOR CHECK OR MONEY ORDER

ALL MERCHANDISE SOLD WITH FULL MANUFACTURER'S WARRANTY,
FACTORY-FRESH CARTONS & MOST DOUBLE-BOXED FOR ADDED PROTECTION.

OPEN MONDAY THRU FRIDAY 9 A.M.-6 P.M. EST

SATURDAY 9 A.M.-12 P.M. EST



**CALL TOLL FREE TODAY!
1-800-327-3558**

IN MIAMI: 592-5886

STEREO REVIEW CLASSIFIED

EQUIPMENT

audio-technica

DIAMONDS ARE NOT FOREVER!

When was the last time you changed your stylus? If you can't remember, then it may already be too late!!

We specialize in phono cartridges, factory original replacement styli, headphones & record care items only!!

(800) 221-0906

CALL TOLL-FREE FOR FREE PRICE QUOTES VISA/MC/C.O.D. ORDERS N.Y. State (516) 599-1112

SEND SELF ADDRESSED STAMPED ENVELOPE FOR OUR FREE CATALOG.

LYLE CARTRIDGES

Dept. SR, Box 158
Valley Stream, N.Y. 11582

Phones Open Mon. - Sat. 9am - 8pm

ortofon SHURE STANTON

TIPTOES
LAST
MONSTER_CABLE

Dynavektor
Bang & Olufsen
PICKERING

CALL TOLL FREE! 1-(800) 826-0520 for NAD, Hafler, Denon, Dahlquist, Tandberg, dbx, 3D, Proton, Nittygritty, B&W, VSP, Thorens, Grace, CWD, Monster, M&K, Grado, Belles, Oracle, Talisman, Duntech, Stax, Astatic, Tiptoes, Audioquest, DCM, Proac, Dynavektor, Last SOUND SELLER, 1706 Main, Marinette, WI 54143. (715) 735-9002.

BANG & OLUFSEN, ADS, Luxman, NAD, Thorens, Kyocera. Reasonable prices. Soundcrest Inc., (201) 756-4858.

THEY DON'T DISCOUNT IT? WE DO! GET LOW PRICES on ALL types of audio equipment—including high-end and even esoteric products not normally discounted! Now we can save you money on the equipment you REALLY WANT. Extensive selection—no need to settle for second choice. Thousands of satisfied customers nationwide. Call us for price quotes or friendly, expert advice. Catalog \$1. (616) 451-3858. VISA/MC/AMEX. THE AUDIO ADVISOR, INC., BOX 6202, GRAND RAPIDS, MI 49506.

CONNECTICUT: APT-Holman, Boston Acoustics, B&W, DCM TIME windows, Dynavektor, Fourier, Hafler, Kef, Mitsubishi, Proton Ortofon, Panasonic, Pioneer, Quad, Robertson, Sanyo, Signet, Thorens, Walker, Pioneer Video, Mitsubishi Video. Will ship prepaid. SOUNDS INCREDIBLE, 39 Federal Road, Brookfield, CT 06804. PHONE QUOTES ONLY CALL: IRA, (203) 775-1122.

PAY DEALER COST

On Home & Car Stereo...Video Equipment also Satellite T.V. All top brands. No deposit, same day shipping, no lemon guarantee. Full lifetime service. Call 9am to 9pm daily, 'til 5pm Saturday.

1-301-488-9600

INTERNATIONAL HI FI DISTRIBUTORS

Moravia Center Industrial Park
Baltimore, Maryland 21206

HAFLER, YAMAHA, BOSE, MCINTOSH, etc., in stock. Trades welcomed. Audio Exchange, 57 Park Place-SR, NY, NY 10007. (212) 964-4570.

PIONEER, PIONEER, PIONEER, PIONEER, PIONEER, PIONEER. Home audio, car stereo. FREE catalog. THE STEREO FACTORY, 1010 10th St., Huntington, W. VA 25701.

PHILIPS, AUDAX, PEERLESS, FOCAL, AND DYNAUDIO LOUDSPEAKERS in stock with good prices and competent service. Crossover components also. MADISOUND SPEAKER COMPONENTS, 8982 Table Bluff, Box 4283, Madison, WI 53711. (608) 767-2673.

UNPRESSURED, PERSONALIZED CONSULTATION and lowest prices on a variety of superb components. COMMUNITY AUDIO, 318 West Duval, Philadelphia, PA 19144. (215) 843-9918.

DISCOUNT PRICES on woofers, mids, tweeters, crossovers, grille cloth, plans, much more. Send \$1.00 for information packed catalog. UNIVERSAL SOUND, Dept SRD, P.O. Box 36052, Sarasota, FL 33583. (813) 953-5363.

TOLL FREE **1-800-221-5678** SEVEN DAYS 24 HOURS

ALL BEST BRANDS - LOWEST PRICES - Credit Cards Accepted - Cash on Delivery

Video Recorder - Video Camera - Compact Disc Player - Receiver - Amp - Tuner - Casst. Deck - Record Deck - Spkrs. - Blank Tape - Accessories

NEC, 27 Rockland Plaza, Route 59
Nanuet, NY 10954 Phone (914) 624-3610

Speakerkit Catalog—30 proven designs for home, cars & (and) pro. JBL, Audax, Hafler, polypropylene drivers, & crossovers. \$2. Gold Sound, Box 141SR, Englewood, CO 80151.

Audio Tape at Wholesale!

TDK SA90	\$1.75
MAXELL XLI or XLI90	\$1.75
MAXELL XLIS or XLIS90	\$2.19
NEW HIGH BIAS:	
MAXELL UDSI or UDSI90	\$1.59
MAXELL MX90	\$3.75
MAXELL HE44 HEAD DEMAG.	\$11.95
FUJI FR190	\$1.75
KONICA GM190	\$1.59
KONICA METAL 90	\$2.99
JVC FI/60	\$.59
MAXELL LN90	\$.89

MIN. ORDER \$25

Universal Wholesale Inc.

12 Commercial Road, Albany, NY 12205
(518) 438-8040

All in-stock orders shipped 24 hours. All phone orders rec'd by 12 noon (EDT) shipped same day. COD orders OK

We sell Stereo & Video Components Also — Send \$1 for Catalog

FREE CATALOG—LOWEST DISCOUNT PRICES on Stereo/esoteric components and accessories for the home and car: Sony, Bose, JVC, AR, SAE, other "high quality" brands. AUDIO UNLIMITED, 1203 1/2 Adams Ave, La Grande, Oregon 97850. (503) 963-5731, 10-6, M-Th, 10-4 Pacific Time.

ARE YOU INTERESTED in Quality Preowned Audio Equipment? Subscribe to "The Sound Trek," published 6x annually, your listings of items for sale or wanted, \$8/yr. Call or write: Play it Again Sam, 12611-R, Madison Avenue, Lakewood, Ohio 44107. (216) 228-0040. MC/VISA.

Stereo Express

CALL NOW (714) 594-5749

CALL FOR PRICE FAST & FRIENDLY SERVICE
Most Orders Shipped Within 48 Hours

HOME AUDIO
YAMAHA, ADS, BOSE, HAFLER, HARMAN KARDON, INFINITY, AR, ALTEC, SONY, DBX, JBL, JVC, AIWA, TECHNICS, AKAI, SAE, MICRO SEIKI, ADCOM, TEAC, STAX, ADVENT, AUDIO SOURCE, AND MANY MORE

CAR AUDIO
ADS, ALPINE, BLAUPUNKT, CONCORD, SONY, KENWOOD, PIONEER, CLIFFORD ALARMS

VIDEO
SONY, JVC, RCA, PANASONIC

709 Brea Canyon Rd., Suite 9, Walnut, CA 91789

AUDIO DISCOUNTS offers quality audio equipment including esoterics and car stereo at DISCOUNT PRICES! Monday thru Saturday call: (301) 593-8833. AUDIO DISCOUNTS, 1026 McCeney, Silver Spring, MD 20901. VISA, M/C, C.O.D. for your convenience.

HIGH-END SPEAKER KITS, raw drivers and auto speaker systems from the world's finest manufacturers. For beginners and audiophiles. Audax, Becker, Dynaudio, Dalestford, Jordan, JVC, SEAS, Morel, Siare, Peerless, Focal, Scan-Speak. Free price list. A&S SPEAKERS, Box 7462S, Denver, CO 80207. (303) 399-8609.

Luxman
Harman Kardon
Tandberg
Boston Acoustics
Audio Control
Sherwood
Infinity
Denon
Revox
Kenwood Car
Ortofon
Hafler
Thorens

ADS
AIWA
GRACE
M & K
B & O
SME
And More!

Get It Free!

We Deliver Free Anywhere In The U.S.

The SOUND Approach
6067 Jericho Tpke., Commack, NY 11725
Charge it ... CALL (516) 499-7680

NAKAMICHI, CARVER, REVOX, CROWN, Bang & Olufsen, Tandberg, Kyocera, NAD, Thorens, Harman/Kardon, B&W, DBX, E-V, ADS, DCM, Klipsch, and other quality components. Best prices—Professional consultation. All products covered by manufacturer's U.S.A. warranty. Amerisound Sales, Inc., East: (904) 262-4000; West: (818) 840-0878.

DIGITAL AUDIO SPEAKERS

All NEW digital-ready speaker KITS from Speakerlab

- high efficiency and power handling
- Inverse Axis Alignment
- polypropylene drivers
- 18 dB/octave filters
- EASY-TO-BUILD KITS with or without prebuilt enclosures
- great for video monitor use



HAVE THE BEST FOR LESS. BUILD A LEGENDARY SPEAKERLAB KIT.

For a FREE catalog call 1-800-426-7736 or write:

speakerlab

Dept. SR56, 735 N. Northlake Way
Seattle, WA 98103

SR511. Include \$1.25 for fast 1st class mail.

LOWEST PRICES, Bose, DBX, JBL, B&O, Nakamichi and more. Dynamic Sound, Box 168, Starkville, MS 39759. (601) 323-0750. 2pm-9pm.

AUDIOPHILES! HEAR JSE infinite slope loudspeakers on 7 day trial auditionings. Also Hafler and Thorens dealers. SOUND UNLIMITED, 178 Main Street, Bristol, CT 06010. (203) 584-0131.

SAVE UP TO 75%! Esoteric loudspeaker kits, acoustic foam, drivers, enclosures, capacitors etc. Catalog \$2.00. Refundable. Audio Concepts, 1631 Caledonia St., LaCrosse, Wisconsin 54602. (608) 781-2110.

ULTRA HI-END SPEAKER SYSTEMS using the best from Europe: Dyn Audio-Vifa-Siare-Audax-M.B. Low prices on kits or fully assembled systems for home, car and truck. Save \$\$\$ For FREE info. pak write - DNL Sound Co., 10 Bellam, San Rafael, CA 94901.

NEEDLE 1 CORPORATION OFFERS THE LOWEST PRICING ON ALL GENUINE NEEDLES (STYLII) & CARTRIDGES BY MOST MAJOR BRANDS. ONE DOLLAR BILL FOR CATALOGUE. PRICES & TO ORDER: 1-800-N.E.E.D.L.E.1 (am/ex) OUR ADDRESS: P.O.B. 431, BROOKLYN, NY 11219.

\$100 REWARD IF WE CAN'T BEAT ANY PRICE IN THIS MAGAZINE. Merchandise must be in stock. Huge product selection. Mid-Fi to state-of-the-art. This month's special. Sony D-5 Disc Player \$229.00. SSD (201) 575-8910.

QUALITY TUBES / SEMICONDUCTORS / KITS / SPEAKERS / REPAIRS. Dynaco, Phase-Linear specialists! FREE information; specify your needs. SCC, Box 551 SR, Dublin, OH 43017.

BEAT THE PRICE FIXERS with low discount prices on: Carver, ADS, Bang & Olufsen, Revox, Nakamichi, Hafler, Kyoocera, Tandberg, Luxman, H.K. Manufacturers U.S.A. warranty on all. ISLAND AUDIO, INC. (904) 253-3456.

"GETTING YOUR SHARE OF AUDIO BARGAINS: Prices have fallen! FREE information packet. STEREO COST CUTTERS, Box 551 SR, Dublin, OH 43017.

WE BUY/SELL/TRADE McIntosh. Large selection of tube and solid state. AUDIO RESOURCE, 51 Metairie Court, Metairie, LA 70001. (504) 833-6942.

STEREO CLEANER. All purpose cleaner to keep stereos looking new. Save for metals, plastics, wood—2oz. trial bottle send \$1.50 postage and handling. ICOE, POB 263, Daisytown, PA 15427.

J.S. AUDIO offers home, car, digital, & esoteric audio components at extremely competitive prices. Call (301) 890-3232 or write to J.S. AUDIO, One Childress Court, Laurel, MD 20707. MC-VISA.

CAUTION NAKAMICHI BUYERS! Nakamichi goods not intended for sale in the United States are being sold by unauthorized dealers. NAKAMICHI USA CANNOT BEAR ANY RESPONSIBILITY FOR SALES OR WARRANTY SERVICING OF UNITS NOT COVERED BY OUR APPLICABLE WARRANTY. For the name of your nearest authorized Nakamichi dealer, 1-800-421-2313. In California call 1-800-223-1521.

ROLEX WATCHES—Heuer, Breitling, Porsche, Tudor, Seiko, Chronosport, Lassale, Authorized dealer. (800) 247-2499; in Michigan (616) 343-8069.

ORDER TOLL FREE 1-(800) 222-3465. AR * AIWA * AMBER * B&W * BOSE * GRADO * HARMAN KARDON * HAFLER * JVC * LAST * NITTY GRITTY * PREMIER * SHURE * SONY * TALISMAN * AND MORE. HCM AUDIO, 1600 BX MANGROVE, CHICO, CA 95926. (916) 345-1341.

Nakamichi; BX 125 \$339, BX 150 \$349, RX 202 \$499, RX 303 \$699, RX 505 \$839, Dragon \$1299, TD 1200 Mark 2 \$999, TD 700 \$679, TD 500 \$499, Yamaha: R9 \$649, C80 \$549, M80 \$749, CD2 \$489, CD3 \$479, CDX2 \$319 A1020 \$479, T1020 \$259, DXT \$1399, Tascam: Porta 1 \$479, 38 \$2395, Sony TCD5M \$399, WMDGC \$199 New USA Warranty. VISA/MC/AMEX/Diners COD. Taskamichi Audio, (206) 221-2977, (206) 361-2455.

SAVINGS TO 40%: Nakamichi Home/Automobile, Revox, NAD, KEF, B&W, Yamaha, Highphonics, Mission, Denon, Plus 100 others, SASE Required, Box 18009, Seattle, WA 98118. East 1-202/723-7404, West 1-206/325-7601.

CONCERT SOUND HAS MOVED. LINN SONDEK—Naim—NAD—REGA—MORDAUNT SHORT—GRADO. 7103 BLANCO (NW CORNER LOOP 410) 340-1224.

LOWEST POSSIBLE PRICES ANYWHERE! FULL WARRANTY—Most Audio brands!! C.D.'s—Car Products—Computers (Hardware—Software)—Most Video Brands!! ELECTRIFIED DISCOUNTERS, 996 Orange Ave., West Haven, CT 06516, MC/VISA (203) 937-0106.

Quality Tapes

BELOW WHOLESALE PRICES

YDK	MAXELL	VIDEO
D 80 85	UR 60 New 99	TDK T-120 4.75
D 90 99	UR 90 New 1.08	TDK T-120 HMG 6.29
AD 80 1.39	UD-5 80 1.39	MAXELL T-120 4.69
AD 90 1.59	UD-5 90 1.69	MAX T-120 HMG 6.69
SA 60 1.59	XL II 80 1.39	MAX T-120 GOLD 7.89
SA 90 1.85	XL II 90 1.69	SONY T120 4.59
ADX 80 2.09	XL II 80 2.19	SONY T120 HMG 5.85
ADX 90 2.29	XL II 90 2.29	SONY L750 4.59
SAX 80 2.19	MX 60 3.39	SONY L750 HMG 5.85
SAX 90 2.39	MX 90 3.39	SCOTCH T120 4.89
HXS 60 3.39	UD 35-90 4.89	SCOTCH T120 HC 6.89
HXS 90 3.89	XL 135-900 6.39	
MA 80 3.49		PUJAI
MA 90 3.99		FR METAL 90 3.39
MAR 80 4.89	HF 80 75	FR II 90 1.79
MAR 90 5.75	HF 90 85	
	HF 120 1.59	DISCWASHER
	HFS 90 1.89	DISKIT 29.95
	UCXS 80 1.89	DISCSET 14.49
	UCXS 90 1.89	D'MAG 12.49
		TAPE CARE 9.49

CALL NOW: 718-434-8417 OR ORDER BY MAIL
 SHIPPING COST IS ONLY \$4.50 FOR ANY ORDER IN USA.
 INSTITUTIONAL ORDERS WELCOME. NO EXTRA CHARGE FOR VISA/MC.

QUALITY TAPES
 864 East 7th Street, Dept. SR 11, Brooklyn, NY 11230

AUDIOVISION authorized dealer for ADS, B&O, Carver, Dahlquist, Denon, Grado, NEC, Polk, Nakamichi, Yamaha, Pioneer Video, Ortofon, Audiovision, 210 South Main, Moscow, ID 83843. (208) 882-3505.

VIDEO recorder, camera owners. FREE video accessory catalog. Discount prices. Tomorrow Today Inc., Dept. SR, 4 New Hyde Park Rd., Franklin Square, NY 11010 (800) 231-0031.

SUBSCRIPTION TELEVISION RECEIVERS complete detailed plans for home construction by anyone. \$5.00. Jansen Electronics, POB 168R9, Dundee, OR 97115.

ELECTRA-CRAFT features: Aiwa, AR, Audioquest, B&O, Dahlquist, DCM, Denon, Grado, Hafler, Klipsch, Mitsubishi, Monitor, PS Audio, Revox, RH Labs, Signet, Sota, Spica, Sumiko, Tandberg. ELECTRA-CRAFT, 400 Cedar St., Sandpoint, ID 83864. (208) 263-9516.

DISCO/STAGE LIGHTING, dimmers, color-organs. Foggers, mixers. Professional sound. Send \$1.00 large wholesale catalog. P.O. Box 20395, Bowling Green, KY 42101.

RCA—JVC—MAGNAVOX—PIONEER—VCR'S—CAMERAS—CAMCORDERS—MONITORS—Home & Car Audio. The Stereo Factory, 1010 Tenth St., Huntington, W.V. 25701. 1-800-GET-VCRS orders only. 1-304-526-0132 information.

CONCERT SOUND HAS MOVED. Linn Sondek—Naim—NAD—REGA—Mordaunt Short—Grado—Magnepan. 7103 Blanco (NW Corner loop 410). San Antonio. 340-1224.

JINGLE BELLS, JUNGLE BELLS!!! The holiday season is here again and so is Direct Sight and Sound... Five years and 40,000 customers later, we continue to offer the best in audio, video, and auto sound including esoterics at incredible prices! We sell and service only U.S. warranty merchandise!... Our staff is not only knowledgeable, but helpful and courteous in choosing the right component for you. Call 404-351-6772. Direct Sight and Sound, 3095 Bolling Way, Dept. S, Atlanta, GA 30305. MC/VISA/AMEX. COD with deposit. Free catalog.

AMERICANS LARGEST DEALERS IN HIGH END USED STEREO. We buy by phone. STEREO EXCHANGE, 687A, Broadway, between 3rd & 4th St. (opposite Tower Records) NYC 10012. (212) 505-1111 and (800) 833-0071.

POLYACOUSTIC FOAM RUBBER speaker grilles. Re-placement, custom, OEM. Information 25¢. Custom Sound—SR1185, Algonac, MI 48001.

Sling with the world's best bands! Device removes vocal from most records \$395.00. For free brochure and demo record, call LT Sound, Inc. at (404) 493-1258 ext C-41.

CALL US! WE ARE THE BEST IN THE U.S. Conrad-Johnson, Hafler, Perreux, PS Audio, Proton, Revox, Crown, ADS, Klipsch, Dahlquist, Duntech, Oracle, M&K, Sony, Celestron, Technics Professional, APT, Bar Audio Pro, dbx, Ohm Acoustics, Infinity, Monster Cable, Harman/Kardon SAE, Stax, Amber, Denon, VSP Labs, Adcom, DCM, Tandberg, Thorens, Grace, Grado, Dynavector, Nitty, Gritty, VPI, more. **AUTOMOTIVE:** Concord, Sony, Proton, Zapco, Ungo Box and much more. Friendly expert consultation. Fast, free shipping, Member of Better Business Bureau. MC/VISA. REFERENCE AUDIO SYSTEMS, 18214 Dalton Avenue, Gardena, CA 90248. (213) 398-4205, (213) 391-2679.

CARVER

ATTENTION CARVER BUYERS!

Some organizations are offering for sale CARVER products whose factory serial numbers have been defaced, modified, or removed. These units may not be covered by Carver Corporation's Limited Warranty.

For the name and location of the nearest authorized CARVER Dealer, please contact CARVER CORPORATION, P.O. Box 1237, Lynnwood, WA 98046 - (206) 775-1202.

OASIS SPEAKER PEDESTALS

By: Rich Acoustic Labs

Oasis Speaker Pedestals are designed with proper tilt alignment and height to improve the total tonal balance, imaging, and base response of your speaker system.

— Dealer & Rep Inquiries Invited —

SOLID OAK OR WALNUT (NO VENEERS)



6-1/2" H. x 11-1/2" W. x 10-1/2" D.

Send \$39.95 plus \$3.00 shipping to: Rich Acoustic Labs, 2401 Ross Clark Circle, Dothan, AL 36301. For C.O.D., Visa, MC, AE, call (205) 793-4746.

GREAT SOUNDS!

"Earfriend FM" a compact FM radio for your active lifestyle! No cord, fits easily on either ear. Includes battery. Great gift for the jogger, cyclist, skater, fisherman. Mail \$19.95 SIGNATURE PRODUCTS, 521 S. Andrews Ave., Suite 11-FM, Ft. Lauderdale, FL 33301. MONEYBACK GUARANTEE!

ATTENTION HAFLER, DYNA, CROWN OWNERS, We build new higher performance circuits in Hafler, Dyna, Crown audio components. Not "modifications", but new PC cards and stable, non-slewing circuits that drive real world loads with music signals. Write or call for free catalog and sample of Audio Basics, our monthly newsletter. Jensens Stereo Shop, 2202 River Hills Dr., Burnsville, Minn. 55337. (612) 890-3517.

BEST PRICE DIGITAL:

Call for the lowest prices on CD Players & Digital-Ready Gear.

JVC RX-500B Stereo Receiver. Fully automatic. Remote Control. Receiver w/15. And 15 Preset Digital Tuner. 100 Watts RMS per channel Super A Amplifier. 7 Band Memory Equalizer with Computer Control. The Ultimate Receiver. \$379	SONY CD-P70 Compact Disc. 16 Program remote capable. black. \$229
TECHNICS SL-P2 Compact Disc. Programmable Laser Compact Disc Player with Remote Control. \$269	MARANTZ Portable Stereo Cassette. # PMD-430. 3 Head True Monitoring. Dotry B. DBX Noise Reduction Systems for wide dynamic range. Pitch Control. Bass Fine Adjust. AC Adapter. Runs on 3 "D" Cells. "a studio the size of a book." \$269

CALL

ORDERS ONLY 9-6 M-F 1-800-225-8656

WORLD WIDE ELECTRONICS DISTRIBUTORS

5 Commonwealth Ave., Woburn, MA 01801

MAIL ORDER: For rapid service, send certified check or money order. All prices reflect cash discount. No cash discount on MC/VISA! Personal checks require approx. 14 days for clearing. Add \$7 shipping & handling for orders under \$100, 7% for orders over \$100. C.O.D. MASS residents add 5% sales tax. Mass. Orders (617) 933-1440

Experienced friendly advice, ACOUSTAT, PS, Hafler, SAE, QUAD, KLIPSCH, THORENS, GRADO, FRIED, ADCOM, MONSTER CABLE, CD PLAYERS, More. Immediate, FREE shipping! READ BROTHERS STEREO, 593-B King St., Charleston, South Carolina 29403. (803) 723-8276.

REMOTE CONTROL OWNERS. Now available Command Center. Newest discovery in remote control holders. Securely holds 1 to 4 units. Easy operation, maximum protection. Send for FREE information. National Luxury Marketing, 3243 Arlington Ave. Suite 201C, Riverside, CA 92506.

MOVIE FILM/VIDEOTAPES

WE CONVERT OVERSEAS VIDEOTAPES to American standards, Visa-Versa, lowest prices. Appel Audio, 74-18 37 Ave., N.Y., NY 11372. (718) 507-5800.

1,000,000 VIDEOTAPES/SOUNDTRACKS! Video Catalogue—\$1.00. Soundtrack catalogs: \$1.00. RTS/SR4. Box 1829, Novato, California 94948.

VIDEO MOVIE TAPES. Everything imaginable! All ratings. VHS. Beta. Giant catalog \$2.00. Tower, Dunkirk, MD 20754-0213.

AUDIO SPECIALTY SHOP

AUDIOPHILES/VIDEOPHILES! We have the widest selection of audio/video equipment available. Kyocera, Allison, Adcom, Infinity, NEC, Thorens, Harman-Kardon, Soundcraftsman, Canton, Hafler, Klipsch, Luxman. VHS Hi-Fi Call for information. CONTINENTAL SOUND, 98-77 Queens Blvd., Rego Park, NY 11374. (718) 459-7507. Immediate delivery. MC/VISA/AMEX.

RECORDS

COLLECTORS' Soundtracks, Mint. List \$1 (refundable). Jemm's, P.O. Box 157, Glenview, Ill. 60025.

ORGAN AND CHORAL RECORDS. For free catalog write: Gothic Records, P.O. Box 1576-F, Tustin, CA 92681.

FREE RECORD, CASSETTE AND COMPACT DISC CATALOG: Features a tremendous selection of remastered LP and cassette values in all musical categories. Compact disc, cassette and LP new releases at discount prices. Many imports and smaller labels offered. Prompt delivery. Rose Records, Dept. SR, 214 S.O. Wabash Avenue, Chicago, IL 60604.

LIVE OPERA PERFORMANCE ON DISCS-VIDEOS. Unbelievable treasures—free catalog. Legendary Recordings, Box 104, Ansonia Station, New York City, NY 10023.

SEND FOR A FREE CATALOG of many rare Moisewitsch recordings. Rara Avis, POB 357, Fairfax, CA 94930.

DON'T BUY Mobile Fidelity, Nautilus, Telarc, etc. from anyone but us... or you'll pay too much! FREE LP & CD catalog. Satisfaction Sounds Inc. 2888 Bluff St., Suite 381B Boulder, CO 80301. Toll free 1-800-443-0100 ext. 588B.

OPERA-HISTORICAL PERFORMANCES. VIDEO & DISC. Most comprehensive selection. Catalog \$1.00. LYRIC, Box 622, Merrick, NY 11566.

FREE CHAMBER MUSIC RECORD CATALOG! FREE record offer! Brass! Strings! Woodwinds! CRYSTAL RECORDS, Sedro Wooley, WA 98284.

MIDNIGHT! The Rock Mall Order Specialists—Rare imports by all major artists—The latest in worldwide independent release—largest selection of 50's & 60's rock & R&B. Send \$1 for giant catalog. Next day service. Amex welcome, or visit our store: Midnight International Records, 255 West 23rd St., New York, New York 10011. (212) 675-2768.

OLDER DISCONTINUED LP RECORDS—All categories, quarterly catalog \$4.00 (refundable). Write or Call: Rampage Records, POB 24, Camden, AR 71701. (501) 836-8310.

RAY'S RARE MUSIC FACTORY. Scarce Records. Tapes. Send requests w/phone #: 115 East 9th-8K, NYC 10003.

RECORD COLLECTORS SUPPLIES. REPLACEMENT JACKETS, Inner sleeves, 78 RPM sleeves, opera boxes, etc. COMPLETE CATALOG. Cabco, Box 8212, room 640, Columbus, Ohio 43201.

COMPACT DISCS

COMPACT DISCS! Most \$11.99-\$13.99. 3000 plus titles in stock. Free catalog plus monthly updates. OZ RECORDS, 5246 Memorial Drive, Stone Mountain, Georgia 30083. (404) 292-5452.

COMPACT DISCS & ACCESSORIES. Call TOLL FREE 1(800)-ALL-DISC, (in CT. 1 452-0203), for FREE CATALOG M-F 10-8, Saturday 10-6. ALL DISC MUSIC INC., 41 Monroe Tpke., Trumbull, CT 06611.

COMPACT DISCS! Over 3000 titles priced from \$9.49. Send \$2.00 for catalog. DISC HAVEN, Box 602, New London, CT 06320.

COMPACT DISCS!!! FREE CATALOGUE!!! 2000+ titles—100's at \$11.99!!! Call Lasersounds Unlimited (415) 964-1148. 24 Hours-7 Days! Thanks!!!

COMPACT DISCS AND LASER VIDEO DISCS. Nice prices—free lists. MC/VISA. SIGHT & SOUND INC., 18 Bennett St., Boston, MA 02135. (617) 787-4465.

COMPACT DISC, AUDIOPHILE ALBUMS! DISCOUNT PRICES! Prompt shipping. Catalog \$200 refundable with orders. FOR THE RECORD. Box 21201SR. Columbus, OHIO 43221.



COMPACT DISC CENTER
P.O. Box 6165, Clifton Park, NY 12065
NY (518) 664-2550
Outside NY—To Order Only
Call 1-800-232-3687
Many Discs \$12.99
Quantity 10 and over only \$11.99
\$2.00 Cont. U.S. shipping
FREE CATALOGUE

COMPACT DISCS—Classical, Opera, Jazz—over 1,300 titles IN STOCK—detailed catalog \$1.00—ETHEL ENTERPRISES, P.O.B. 3301, Dept. SR, Falls Church, VA 22043.

LOWERING COST—\$9.95 year membership. Purchase all CD's at wholesale cost for year. Prices start \$6.95 Classical, Jazz, Popular, Imports and Exports. \$2.00 catalog and further details. Tivoli Entertainment, 725 S. Gilbert, Iowa City, Iowa 52240.

COMPACT DISC/AUDIOPHILE AND IMPORT ALBUMS. Large selection, fair prices, fast service, detailed monthly BULLETIN. 20% discount on initial purchase. Call 1-800-525-2514 for FREE catalog, or write The Essentials Marketing, Dept. 585, POB 3366, Lynnwood, WA 98046.

USED & NEW CD'S. SAVE MONEY. Audio House CD Club, 4304 Brayan, Swartz Creek, MI 48473. (313) 655-8693.

COMPACT DISCS AT DISCOUNT PRICES. Send \$2 for a quality, up-to-date catalog to: Cat's Compact Discs, Dept. SR, POB 22773, Nashville, TN 37202.

NORTHEASTERN COMPACT DISCS & CASSETTES. Lowest prices. Widest Selection. Order Today! CALL TOLL FREE 1-(800) 231-5811 (In Connecticut 1-(800) 452-1490). 7 days/week: 9:AM to 11:PM EST. VISA/MC/COD accepted. Northeastern Compact Discs & Cassettes, 29 N. Hillside Lane, Monroe, CT 06468. See our ad in the front of this issue.

4500 TITLES/ROCK/JAZZ. CLASSICAL AND MORE Suppliers to the industry. Phone orders preferred. Call CD Establishment at 1-800-328-0073. MN. residents 612-645-8589, or send \$1.00 (refundable) for the most extensive CD catalog ever! CD Establishment, 1451 University Ave., St. Paul, MN 55104.

"THE GREAT JAZZ CD SALE"—Featuring Delos (\$9.95), Windham Hill (\$10.95), GRP (\$11.95), DMP (\$12.95). The CD Deli, 5706 7th Ave., Brooklyn, NY 11220. (718) 439-3324. "We carry all CD labels."

IMPROVE SOUND OF YOUR CD SYSTEM—BYPASS THE PREAMP. Easy how-to-steps plus helpful tips. \$6.00. Money back guarantee. J. Pann, 5818 Santa Cruz Ave., Richmond, CA 94804.

CD SUPERMARKET—PRICES SLASHED. Most compact discs \$12.49. Prompt delivery. Large selection. For information or phone orders call TOLL FREE 1 (800) 382-1985. CA. residents call 1 (800) 322-1985. CD SUPERMARKET, 12525 Aviation Blvd. Suite B210, Redondo Beach, CA 90278.

WHOLESALE PRICES on many Import and audiophile labels. Largest selection of Jazz CD's in stock anywhere! Free newsletter, or send \$2 for 4500 CD catalog (with complete Japanese discography). CHICAGO, 905 S. Oak Park Ave, Oak Park IL, 60304. (312) 383-5810.

LASER VIDEO DISCS

Laser Video Discs

Largest selection in the U.S., with over 1,400 titles. We STOCK what others just list! 10% discount on all titles. C.O.D.—personal check, VISA, MASTER CHARGE, and telephone orders accepted. No time limit on warranty returns. FOR FREE CATALOG, write: Starship Industries, 905 Utterback Store Road, Great Falls, VA 22066. Or call (703) 430-8692 or (703) 450-5780.

LASER DISC HOTLINE

Recorded message on new laser disc releases available 24 hours a day. (703) 430-0330.

BUSINESS OPPORTUNITIES

ERASE DEBTS with little-known law—CREATE wealth! Details FREE—WealthKit, No. DD11, Billings, N.Y. 12510.

MAIL ORDER OPPORTUNITY! Start profitable home business without experience or capital. Information free. Mail Order Associates, Dept 785, Montvale, NJ 07645.

POCKET HUNDREDS Mailing Circulars! Spare/full time. Sincerely Interested rush self-addressed envelope: Headquarters-MGG, P.O. Box 870, Woodstock, IL 60098.

WANTED—INDEPENDENT Home and car audio dealers. Franchise opportunity available. Call now! (201) 882-0268.

WHY NOT MAIL CIRCULARS? Work part or full time. Have capability of 5500 weekly. Hurray! Limited offer. HOWELL COMMUNICATIONS, 508 West Park, Waxahatchie, TX 75165.

SECOND INCOME mailing circulars. Senoff Enterprises, M.R., 1589 Albion, Rexdale, Ontario M9V 1B6. Proven successful. Start immediately.

ELECTRONIC REPRESENTATIVES NEEDED! Lowest possible prices!! Over 100 brands! Audio, Video, Car Stereo, Computers, Electronic Experts, 1000 Orange Ave., West Haven, CT 06516.

INSTRUCTIONS

YOUR OWN RADIO STATION! AM, FM, cable, licensed, unlicensed, low-cost transmitters! Free information: Broadcasting, Box 130-R11, Paradise, CA 95969.

BE A RECORDING ENGINEER! New classes quarterly. Institute of Audio/Video Engineering, 1831 Hyperion, Dept L, Hollywood, CA 90027, (213) 666-3003.

FOR INVENTORS

INVENTORS! AIM wants—Ideas, Inventions, New Products, improvements on existing products. We present ideas to manufacturers. Confidentiality guaranteed. Call toll FREE 1-800-225-5800.

INVENTORS! Can you profit from your idea? Call AMERICAN INVENTORS CORPORATION for free information. Over a decade of service. 1-800-338-5656. In Massachusetts call (413) 568-3753.

BOOKS & MAGAZINES

Complete Satellite Listings

Send \$1 for sample copy, or call 800-358-9997 in U.S. 800-556-8787 in Ca. 707-725-2476 all others

satellite TV week
P.O. Box 308Z FORTUNA, CA 95540

AMERICAN RECORD GUIDE. Reviews of classical recordings. Bimonthly, \$19.50/year. FREE SAMPLE ISSUE. Write RD#2, South Road, Millbrook, NY 12545.

FOR SALE

... European Auto Dealers List! ... IMPORT CONSULTANTS! is divulging their sources for European cars. Buy your next Mercedes, Porsche, BMW, or favorite import directly from Europe. ELIMINATE THE MIDDLEMAN and save thousands of dollars. Furthermore, should you decide to use our facilities for the necessary E.P.A. and DOT conversion, IMPORT CONSULTANTS will not only help arrange the payment, shipping, bonding, insurance, customs clearance, and warranty of your car for no fee, but will also refund the price of this book. For your list of over 5,000 European dealers send \$24.95 to: IMPORT CONSULTANTS, POB 15, Plumsteadville, PA 18949. For Visa/MC call (215) 766-7676.

EDUCATIONAL OPPORTUNITIES

LEARN WHILE ASLEEP. Hypnotize! Astonishing details, strange catalog free! Autosuggestion, Box 24-ZD, Olympia, Washington 98507.

TAPES

OLD TIME RADIO—original broadcasts on quality tapes. Free catalog. Carl Froelich, 2R Heritage Farm, New Freedom, Pennsylvania 17349.

1930-1962 RADIO PROGRAMS. Beats Television! Tapes, \$1.00 Hour! Established esteemed dealer. Informative 275 page catalog. \$1.25. AM Treasures, Box 192SR, Babylon, N.Y. 11702.

TAPE WORLD 1-800-245-6000

+	TDK	T/120/L750	HG	SONY UCX-90	1 99	MX-90	3.89	
MAR-90	6.79	TDK-MDPRO	—	8.99	SONY HF-90	95	XL115-90	2.99
MAR-90	2.99	MARELL	4.75	8.99	FUJI FR11-90	1.69	XL111-90	1.75
SA1-90	2.40	MARELL GOLD	—	7.99	FUJI METAL 90	3.39	XL111-46	1.69
ADX-90	2.00	SONY	4.99	8.99	BASF METAL 1204-99	—	UD511-90	1.70
SA-90	1.85	—	—	—	—	—	UR-120	1.89
SA-90	1.40	—	—	—	—	—	UR-90	99
AD-90	1.50	—	—	—	—	—	UR-60	95
D-90	.35	—	—	—	—	—	XL125-800	9.40
D-60	.85	—	—	—	—	—	UD35-90	4.80

48 HR SHIPPING

WE WILL BEAT ANY PRICE OF THE TOTAL ORDER INCLUDING ALL SHIPPING & HANDLING CHARGES BY 1% 3% SHIPPING ANY SIZE ORDER, C.D.D. ADD 1% SCHOOLS & GOVT. ON P.O. GIVE US A TRY! 220 SPRING ST. RUTHER, PA. 16001 COMPLETE LINE OF TDK AND MAXELL IN STOCK

M-F 9:30-5:00 412-283-8621

AMPEX PROFESSIONAL SERIES AUDIO TAPE SALE. High quality open reel 1800' or 2400' on 7" reels, used once. Case of 40, \$45.00. 10 1/2 x 3600' and cassettes. MC/VISA, Valtech Electronics, Box 6-SR, Richboro, PA 18954. (215) 322-4866.

CLUBS

CLASSICAL MUSIC LOVERS' EXCHANGE. Nationwide link between unattached music lovers. Write: CMLE, Box 31sr, Pelham, NY 10803.

212 503 5999

To place a response generating money-making ad call us collect or send your copy to:

Stereo Review
Classified Advertising
1 Park Avenue, 5th Floor
New York, NY 10016

Rates:
Regular Classified—\$4.95 per word, minimum 15 words or \$74.25
Display—\$595 per inch, 3 inch maximum

Frequency discounts and other exciting options available. Call collect for information.

Charge your ad to American Express, Diners Club, MC, Visa

RENT THIS SPACE
in Stereo Review's Classified section.
You'll reach over 575,000 prime prospects for your mail-order products and services—at affordable low rates. To place your ad, or for further information, call Lois Price collect at: (212) 503-5999

STEREO REVIEW MANUFACTURERS' DIRECTORY

HIGH PERFORMANCE AUDIO KITS

- ♦ Enjoy Surround Sound at home... P-250-DL \$249 assem/\$179 kit
- ♦ Reduce tape noise 30 dB... P-522-NR \$139 assem/\$79 kit

Call or Write for a FREE full line catalog
PHOENIX SYSTEMS Dept 201 M/C & VISA
P.O. Box 338-B (404) 934-9626
Stone Mtn., Ga. 30086 add \$1 for First Class

STEREO REVIEW REGIONAL MAIL ORDER MART

NORTHEAST

LOWEST PRICES

On over 125 Brands

STEREO/ESOTERIC COMPONENTS, VIDEO, CAR STEREO, ACCESS.

Call or write for free price list today!

AUDIO UNLIMITED
1203 1/2 E Adams Avenue
La Grande, Oregon 97850
(503) 963-5731

10-6 p.m. M-TH, 10-3 Fri. (Pacific Time)
Call or write for free price list today!

DURACELL

12AA - 4 PACKS \$22.00

Add \$2.50 shipping Texas resident add 5% VISA/Mastercard Checks

Sesame Enterprises
2101 Myrtle Ave. • El Paso, Tx. 79901 • (915) 542-1638

*All batteries imported. Duracell is a registered trademark of Duracell Inc.

SOUTHEASTERN

MUSIC LOVERS-Whatever Your Taste

ANY ALBUM or CASSETTE-current or old \$2-\$3

Also great list and prices on compact discs. Send the names of your favorite artists for complete details to:

MUSIC and MUSIC Inc.
PO Box 6698
Birmingham, AL 35210

Stereo Review tunes in proven retail customers for your message

Yes—83% of Stereo Review subscribers plan to purchase audio and/or video equipment in the next 12 months.* So your regional ad in Stereo Review's GUIDE TO AUTHORIZED RETAILERS can get great reception among thousands of ready-to-buy customers every month—at low regional rates.

Call Collect for details.
Lois Price—(212) 503-5999

* 1983 Stereo Review Subscriber Survey

"PRICE BREAKTHROUGH"

PURE POWER! 400 WATTS \$399

HIGH-POWERED "MUSCLE" 400 WATT-STARVED CD SYSTEMS!

MADE IN THE USA

200/200 WATTS* OF ULTRACLEAN POWER. IDEAL "COMPACT DISC" SYSTEM AMPLIFIER—CDs demand up to TEN TIMES the power of conventional LPs and tapes! Now the high power you really NEED is affordable too—the Sound Values "Model 400."

COMPARE. Compare sound, quality of materials, workmanship, and warranty. Even to amplifiers costing FAR more. Built expressly for us using proven circuitry and premium parts, the Sound Values Model 400 achieves a new level of "superamp" cost effectiveness... without compromising. #A400 Power Amplifier—\$399.00 (Add \$12.75 for packing, shipping, and guaranteed delivery.)

- 2-YEAR LIMITED WARRANTY ON PARTS & LABOR
- MASSIVE 25-LB TRANSFORMER—FOR TREMENDOUS HIGH CURRENT CAPABILITY
- FAN-COOLED + ELECTRONIC CIRCUIT PROTECTION
- ABSOLUTE STABILITY
- DIMENSIONS: 16 1/2" W x 14 1/2" D x 7 1/4" H; NET WEIGHT: 45 lbs. COLOR: Satin Black.
- COMPLETE... READY TO PLUG IN AND ENJOY!

*200 watts per channel into 8ohm (300 watts @ 4ohm). 20 to 20kHz, both channels driven, at less than 0.05% THD.

ORIGINAL MASTER RECORDINGS

\$5 MFSL \$5

THE "SONIC BARGAIN OF 1985"
—SUPERFIDELITY MOBILE FIDELITY LP... JUST \$5!

We bought another dealer's stock of out-of-print MFSL "collector" titles. While they last, choose any or all of the following at the prices shown. (Please add \$2.45 packing, shipping and guaranteed delivery to your total record order.)

- ♦ (popular) MFSL #1-028 MELISSA MANCHESTER "Melissa" (single lp) \$5
- ♦ (classical) MFSL #2-501 BOULT/LONDON PHILHARMONIC "Elgar/Falstaff" (double lp) \$8
- ♦ (jazz) MFSL #2-503 DON SEBESKY "3 Works for Jazz" (double lp) \$8
- ♦ ALL 3 TITLES [5 records]: GREAT GIFT IDEA FOR YOURSELF OR OTHERS JUST \$19.95

TUBE CORNER

Quality European tubes

- 6CA7/EL34 Mullard (matched pair) \$19.95
- 12AX7 Tunggram (single tubes) \$2.99

(Add \$2.45 packing, shipping and guaranteed delivery to your total tube order.)

VISA/MASTERCARD ORDERS ONLY: PHONE
1-800-443-4548 (OUTSIDE OHIO)
1-614-889-2117 (IN OHIO)
HOURS: 10 AM-4 PM Eastern

MAIL ORDERS: Clip this Ad/Coupon, check the items you want and send your check, money order or Visa/Mastercard Info (Be sure to include shipping charges: Ohio Residents Only. Add 5.5% Sales Tax)

TO:

SOUND VALUES

SOUND VALUES, Box 111,
6931 Rings Road, Amlin, OH. 43002

OUR "GOOD FAITH" GUARANTEE

If for any reason you're not completely satisfied with your purchase, simply return it to us within 30 days of receipt for a prompt and friendly refund or exchange, whichever you prefer.

Kindly allow 2-4 weeks for delivery. Thank You!

STEREO REVIEW GUIDE TO AUTHORIZED RETAILERS

SOUTHEASTERN

NORTHEAST



YOU CAN AFFORD SOMETHING BETTER AT HI FI BUYS

WE CARRY THE BEST STEREO & VIDEO AT THE BEST PRICE!

- | | | | |
|--------------------|----------------------|-------------|-------------|
| • ADS | • Dynavecator | • Nakamichi | • Sherwood |
| • Bang & Olufsen | • Hafler | • Ohm | • Sony |
| • Belles | • Infinity | • Perraux | • Systemdek |
| • Carver | • InterAudio by Bose | • PS Audio | • Thiel |
| • Denon | • Kenwood | • Robertson | • Thorens |
| • Desktop Speakers | • Mission | • Sharp | • NEC |
| • Mitsubishi | • Quasar | • Minolta | • AND MORE! |

10 ATLANTA LOCATIONS • (404) 261-4434

WHAT YOU DON'T KNOW ABOUT
AUDIO COULD HURT YOU
UNLESS YOU VISIT

Leonard Radio

AUTHORIZED DISTRIBUTOR

- | | | |
|--------|-------------|-------------|
| ADCOM | DUAL | OHM |
| ADS | DYNAVECTOR | ORTOFON |
| ALPINE | GRACE | PROTON |
| B&O | GRADO | REVOX |
| B&W | HARMON- | SOUND- |
| CROWN | KARDON | CRAFTSMEN |
| DAYTON | JB | STAX-SUMIKO |
| WRIGHT | LUXMAN | TANDBERG |
| DBX | McINTOSH | THORENS |
| DENON | • NAKAMICHI | • YAMAHA |

55 WEST 44TH ST. NYC (212) 840-2025
69-34 51ST AVE. WOODSIDE, QUEENS, NY
(718) 803-1111

LEONARD RADIO OF NJ INC.
160 ROUTE 17, PARAMUS, NJ
(201) 261-5525

*Available in Paramus only
VISIT OUR SHOWROOMS FOR
LOWEST POSSIBLE PRICES

polkaudio

The Speaker Specialists®

AUTHORIZED DEALERS

SOUTHEAST

ALABAMA Birmingham: HomeWood Audio • Hertzville: Campbell Audio Video • Mobile: Fidler Hi Fi • Tuscaloosa: Gayler's • Montgomery: The Record Shop

DISTRICT OF COLUMBIA Myer Emco

FLORIDA Miami: Audio By Carlos • Ft. Lauderdale: Audio Insight • Ft. Walton Beach: Audio International • Altamonte Springs, Orlando: Audio Spectrum • Jacksonville, Orange Park: Audio Tech

Tampa: Audio Vision • Boca Raton, Ft. Lauderdale, Miami: Capl Video • W. Palm Beach: Electronic Connection • Pensacola: Fidler Hi Fi • Clearwater: Pyramid Audio • Ft. Pierce, Lakewood Sound Shack • Melbourne, Merritt Island: Southern Audio • Tallahassee: Stereo Store • Daytona Beach, Holly Hill: Stereotypes • Miami: Sympathetic Ear • Gainesville: Tech Electronics

GEORGIA Savannah: Audio Warehouse • Augusta: Stereo City • Atlanta, Duluth, Morrow, Smyrna, Tucker: Stereo Village

KENTUCKY Owensboro: FM High Fidelity • Louisville: Hi Fi Boys • Lexington: Stereo Shoppe

MARYLAND Frederick: Evergreen Audio

• Rockville: Myer Emco • Baltimore: Soundstage • Annapolis: Spaceways Sound

MISSISSIPPI Gulfport, Pascagoula: Empress • Jackson: Waller Audio

NORTH CAROLINA Raleigh: Audio Boys • Asheville: Mr. Road's Stereo Video • Jacksonville, Wilmington: Southeastern Electronics • Charlotte: Stereo Video • Chapel Hill, Greensboro

Raleigh, Winston Salem: Stereo Sound

SOUTH CAROLINA Anderson: John Brookshire • Greenwood, Spartanburg, Columbia: Stereo Shop

TENNESSEE Chattanooga: College Hi Fi • Nashville, E. Madison: Hi Fi Boys • Knoxville: Lindsey Ward • Johnson City, Kingsport: Mr. Road's Stereo Video • Memphis: Opus II

VIRGINIA Roanoke: Audiophonics • Virginia Beach: Digital Sound • Leesburg: Evergreen Audio • Richmond: Gary's Stereo • Richmond: Lindsey Ward • Bristol: Mr. Road's Stereo Video • Falls Church: Myer Emco • Charlottesville: Sound Machine

WEST VIRGINIA Barboursville, Beckley, Huntington: Pied Piper • Morgantown, Princeton: Sound Post • Wheeling: Wheeling Sound

NORTHEAST

Custom Designed Audio Systems by James Gala

Many audiophiles who desire high quality audio systems are misled by well-meaning but misinformed friends, salesmen, and magazines, whose understanding of acoustics is superficial or compromised in some other regard. As a result, many expensive "mistakes" are made.

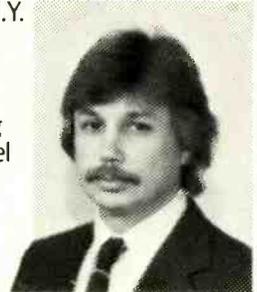
GALA SOUND, located in Rochester, N.Y. and established by pianist/acoustician James Gala, sells musically accurate and superbly crafted audio components.

Audiophiles, music lovers, and recording studios interested in achieving the highest level of sound reproduction now rely on GALA SOUND for state-of-the-art audio systems custom designed for their specific needs, listening environments and budgets. These systems are second to none.

If you're serious about sound, you can own the finest: a custom designed audio system from GALA SOUND.

Phone, (do not write) Jim Gala at (716) 461-3000.

KEF • B&W • QUAD • MAGNEPLANAR • THRESHOLD
MARK LEVINSON • McINTOSH • PERREAUX • BRYSTON • REVOX • BELLES



GALA SOUND

3122 Monroe Avenue, Rochester, New York 14618 • (716) 461-3000

NORTHEAST

MONSTER CABLE & INTERLINK at LOWEST POSSIBLE PRICES

Authorized Dealers for:

- | | |
|--------------|--------------------|
| Onkyo | DCM |
| JBL | Jensen |
| Hafler | Pioneer |
| Bose | Aiwa |
| Dahlquist | Grado |
| Signet | Sony |
| Nitty Gritty | Precision Fidelity |
| Systemdek | *Kenwood: Car, |
| *Carver | Home, Basic |

TROLLEY STEREO

364 Trapelo Road (617) 484-7847
Belmont, MA 02178

*not available via mail order. in store only
"YOU'RE ON THE RIGHT TRACK WITH TROLLEY"

STEREO REVIEW GUIDE TO AUTHORIZED RETAILERS

NORTHEAST

The Heart Of Any Fine Audio System



At Performance Audio/Video, we recognize the importance of speakers in any audio or video system. With this in mind, we have collected several of the world's best sounding speakers in all categories for you to audition.

Now, you no longer need to shuttle from store to store to audition speakers while attempting to remember the sound you heard two hours or two days earlier.

It is very rare to find an audio dealer who gives you the opportunity to audition so many fine products in one store. Why not take advantage of this? Also, see how much easier the selection of fine components can be in the presence of great speakers.

STOP CHASING SOUND. FIND IT AT PERFORMANCE AUDIO/VIDEO

ALSO FEATURING

- Denon • Tandberg • Kyocera • Proton-Audio & Video • Systemdek • Harman/Kardon
- Dual • Soundcraftsmen • Thorens • VSP • Alphason • VPI • Robertson • Audioquest
- Grado • JBL • Sony • Signet • Advent • Bose • Monster Cable • Triad • Discrete Technology
- AR • Amber • Adcom • Tlptoes • C. J. Walker • DCM Time Window and Time Frame
- & other fine lines ...

Call Harold Minto, Proprietor



Tel (516) 378-4389

365 South Bayview Ave. (Corner Atlantic Ave.), Freeport, Long Island, New York 11520

Showroom Hours: Mon.-Fri. 12 Noon to 7 p.m. Sat. 11 a.m. to 6 p.m.

WELL WORTH A TRIP FROM ANYWHERE

M/C
VISA
AMEX

RETAILERS' EXCLUSIVE!

Network with *proven* customers in your region
via *Stereo Review*

Now for the first time, *Stereo Review* helps you beam your sales message to *proven*, ready-to-buy customers in your region. With no "interference" from mall order advertising.

83% of Stereo Review subscribers plan to buy in the next 12 months.

Over four-fifths of *Stereo Review's* young, affluent, educated subscribers plan to buy equipment in the next 12 months. And your advertising can connect you with these desirable customers every month in *Stereo Review's* GUIDE TO AUTHORIZED RETAILERS.

An effective, exclusive regional network—at reasonable cost.

This ideal new medium is open *only* to authorized retailers.

And unlike ads in local media, your message in *Stereo Review's* new GUIDE TO AUTHORIZED RETAILERS is virtually guaranteed to tune in the *proven customers* in your region. So you target your true market as never before—at very reasonable cost: \$600 per 1/9 page regional insertion (minimum size), additional inches \$200 each. Discounted rate for 6 insertions, \$575.

Call Collect: (212) 503-5999

To place your ad or for more information, call today. We're waiting to connect you!

* 1983 Stereo Review Subscriber Survey

**SAVE
ON STEREO AT
PERDUE'S**



PERDUE RADIO CO.

SALES & SERVICE SINCE 1922

10 South Park St., Montclair, NJ

(201) 744-4343

1103 Bloomfield Ave., W. Caldwell, NJ

(201) 575-8264

Electrified

203-937-0106

Lowest Possible Prices!!

**MOST MAJOR AUDIO &
COMPUTER BRANDS!!!**

- CD'S — HI-END AUDIO — CAR PRODUCT
- COMPUTERS — (HARDWARE-SOFTWARE) — TAPE
- VIDEO (VHS & BETA) — HEADPHONES
- MOBILE TELEPHONES — PORTABLES
- RADAR DETECTORS — CB'S — SCANNERS

FULL WARRANTY — PROMPT SERVICE



996 ORANGE AVE.
WEST HAVEN, CT. 06516



audio den ltd.

THREE AUDITIONING ROOMS

Authorized Sales and Service
AUDIO AND VIDEO COMPONENTS

- ACCUPHASE
- ADKOM
- A.R. TURNTABLES
- CLASSE
- CONRAD JOHNSON
- DUAL
- DYNAVECTOR
- GRACE
- JENSEN
- GRADO
- HAFLER
- INFINITY
- J.H. MICHELL
- KLIPSCH
- KOETSU
- MAGNEPLAN
- MAGNE PLANAR
- MONSTER CABLE
- NAKAMICHI
- N.E.C.
- PEARL CORDER
- PROTON
- POLK
- ROOGERS
- S.A.E.
- STAX/SUMIKO
- SOTA
- SYSTEMDEK
- THORENS
- V.P.J.
- YAMAHA
- ZETA

RENTALS • TRADE-INS • DISCS & TAPES

SMITH HAVEN PLAZA
2021 NESCONSET HWY. (RT. 347)
LAKE GROVE, N.Y. 11755
(ADJ TO SMITH HAVEN MALL)

(516) 360-1990

NEW PRODUCTS



Audio Control

Audio Control's Phase Coupled Activator is designed to re-create the low-bass frequencies in music that may have been rolled off during the original recording or by the playback equipment. Digital logic circuitry analyzes incoming signals, and missing fundamental tones in the lowest two octaves are digitally reconstructed. The unit can be connected to any preamplifier, integrated amplifier, or receiver that has a tape-monitor or signal-processing loop

(it includes a replacement input/output loop).

Other features include an infrasonic filter with an 18-dB-per-octave slope and a built-in electronic subwoofer crossover with a relative level control. Signal-to-noise ratio is given as 118 dB and frequency response as 5 to 100,000 Hz. Price: \$259. Audio Control, Dept. SR, 6520 212th St. SW, Lynnwood, WA 98046.

Circle 128 on reader service card

Acoustic Research

The ES-1 turntable, part of Acoustic Research's Connoisseur Series, has a die-cast T-bar with a three-point sprung suspension that acts as a decoupled chassis for the platter and tone arm. Driven by a twenty-four-pole synchronous motor, the ES-1 has speeds of 33 $\frac{1}{3}$ and 45 rpm. The platter uses a close-tolerance, precision-honed journal-and-shaft sleeve bearing. The jeweled thrust bearing is polished to optical standards to reduce rumble, which is rated as -78 dB (DIN 455398 weighting). Wow-and-

flutter is given as 0.04 percent (DIN 45507).

The optional tone arm has an effective length of 9 inches and an effective mass of 13 grams. Turntable-base finish options are Brazilian rosewood or North American cherry veneers. Price: \$625 in rosewood with tone arm, \$500 without; \$475 in cherry with tone arm, \$350 without. Teledyne Acoustic Research, Dept. SR, 330 Turnpike St., Canton, MA 02021.

Circle 129 on reader service card



Adcom

Rated at 200 watts rms per channel into 8 ohms from 20 to 20,000 Hz with less than 0.09 percent total harmonic distortion, Adcom's GFA-555 power amplifier is designed to remain stable under the extreme operating conditions created by some exotic speakers, including loads varying from 40 to 2 ohms. The GFA-555 has a transient output capability of more than 800 watts per channel into 2-ohm loads.

Eight high-current output transistors in each channel can deliver more than 20 amperes into low-impedance loads. The amplifier was designed with a minimum of components between input and output. A 700-watt toroidal transformer with dual secondaries minimizes interaction between the channels. Price: \$599.95. Adcom, Dept. SR, 11 Elkins Rd., East Brunswick, NJ 08816.

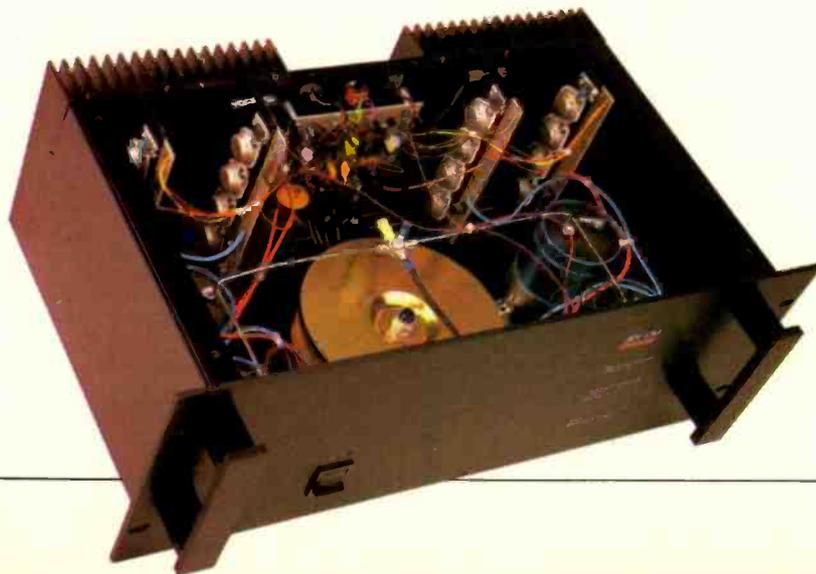
Circle 130 on reader service card

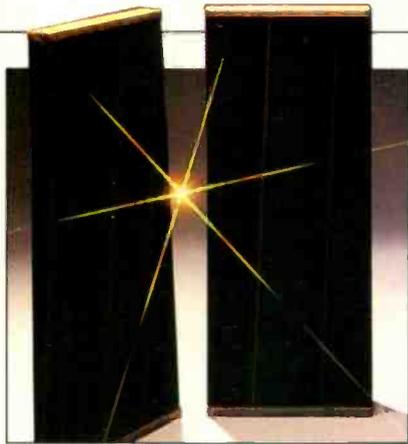


NEC

The CD-509E Compact Disc player from NEC can be programmed to play fifteen tracks in any order or to repeat any user-defined segment of a disc. Digital filtering is used to eliminate phase and time-delay distortion, and high-speed C-MOS switching is said to eliminate switching distortion. Fast-forward and reverse operate in two speeds with the program remaining audible, and other controls allow skipping to the start or end of the current track. There is a front-panel headphone jack with adjustable output level. Track number, index number, and elapsed time are shown in the digital display. Price: \$449. NEC Home Electronics, Dept. SR, 1401 Estes Ave., Elk Grove Village, IL 60007.

Circle 131 on reader service card





DCM

DCM's Time Frame TF 500 speaker is a slender column finished with walnut-stained, solid-oak end caps and a dark-brown fabric grille. The folded, tapered transmission-line enclosure houses a 6½-inch woofer and a ¾-inch soft-dome tweeter. Rated sensitivity is 90 dB, and nominal impedance is 8 ohms. The speaker is 41 inches high, 17 inches wide, and 6¾ inches deep. Price: \$499 per pair. DCM Corporation, 670 Airport Blvd., Ann Arbor, MI 48104.

Circle 132 on reader service card

Pioneer

Pioneer's two automotive Compact Disc players, the CDX-1 and the more elaborate CDX-P1 (shown), resist mist-tracking caused by vibration with circuits that memorize the changing position of the laser pickup. Both players have two parts, an operating module that fits into the dash and a processing module that can be installed elsewhere, such as behind the dash. Convenience features on both players include search, skip search, scan, track repeat, and disc repeat. Both models have a display for elapsed playing time, total playing time, remaining playing time, number of the track being played, and the total number of tracks on the disc. If the players become excessively hot, the disc mechanism automatically disengages to pro-



tect the laser pickup. Protection from scratches and cigarette smoke is provided by the doorless, dust-proof disc slot.

The CDX-1 is designed for use in a Pioneer Centrate autosound system. The CDX-P1 is compatible with most other car stereo systems and includes controls for bass, treble, volume, and balance. Prices: CDX-1, \$549.95; CDX-P1, \$599.95. Pioneer Electronics, Dept. SR, 5000 Airport Plaza Dr., Long Beach, CA 90815.

Circle 133 on reader service card



Digital Audio Control

Connecting Digital Audio Control's Model 50/2000 infrared remote-control system to an amplifier or receiver enables a user to switch four inputs, adjust volume, balance, treble, and bass, and perform other control functions from up to 45 feet away. The receiving unit connects in the tape-monitor loop of an

amplifier or receiver and has its own replacement loop for connection of a tape deck. It can also be connected between a preamplifier and power amplifier, or it can itself serve as a preamplifier for high-level sources.

The remote unit includes on/off buttons for power, loudness compensation, tone-control defeat, and audio mute as well as the source selectors, stereo/mono selector, and the adjustable controls. There is also a timer control for turning the system off automatically after 30 or 60 minutes. The volume-control range is 75 dB. The treble control's range is ± 10 dB centered at 10,000 Hz; the bass control boosts or cuts frequencies around 100 Hz by the same amount. The system's frequency response is given as 20 to 20,000 Hz ± 0.5 dB. Price: \$155. Digital Audio Control, Dept. SR, P.O. Box 67, Mountain View, CA 94042.

Circle 134 on reader service card

ADVERTISERS' INDEX

READER SERVICE NO.	ADVERTISER	PAGE NUMBER
45	AAL (American Acoustics)	129
12	Aiwa	70
	AKG	27
7	Ambico International	138
20	Audio-Technica U.S., Inc.	110
	Azden	129
64	Bang & Olufsen	118
52	Beyer Dynamics	128
	Bose Corporation	31
	Bose Corporation	35
	Bose Corporation	37
33	Canton	17
49	Carver Corporation	22-23
5	CBS Records	99
	Chrysler Corporation	48-49
	Crutchfield Corporation	116
	Delco Electronics	19
27	Denon America, Inc.	55
27	Denon America, Inc.	C3
71	Discount Music Club	133
10	Discwasher	36
	Finlandia	14
63	GRP Records	128
13	Hitachi	92
	Illinois Audio	131
43	Intercon Music Club	127
39	J&R Music World	137
24	Jensen	91
	Kenwood Electronics	8-9
	Kenwood Electronics	104-105
2	Klipsch & Associates	29
30	LaBelle Camera & Stereo	139
	Marlboro	65
	Maxell Corp. of America	63
32	McIntosh Laboratory Inc.	120
	Memorex Corporation	94-95
	Merit	10-11
50	Mission Electronics	C4
	Mitsubishi of America	32-33
	Mitsubishi	108-109
31	NAD USA	115
60	Nationwide Video	141
19	NEC Home Electronics	51
19	NEC Home Electronics	100
70	New York Wholesale Warehouse	133
67	Northeastern Software	130
16	Ortofon	103
9	Panasonic	25
9	Panasonic	59
	Pioneer Video	38
37	Polk Audio	40-43
17	Proton Corporation	7
35	Pyle Industries	69
	Radio Shack	2
	R. J. Reynolds/Camel	123
	R. J. Reynolds/Salem	107
	R. J. Reynolds/Vantage	56-57
	R. J. Reynolds/Winston	47
44	Sansui Electronics Corp.	26
11	Sanyo	67
54	Sennheiser Electronic Corp.	69
	Shure Brothers	121
62	Sony Audio	20-21
53	Sony Tape	12-13
4	Soundcraftsmen	124
38	Stereo Corp. of America	132
47	Studer Revox	102
22	Tandberg of America	113
48	TDK Electronics	5
21	Teac Corp. of America	C2
1	Technics	60
1	Technics	97
7	Tomorrow Today, Inc.	140
57	Toshiba America, Inc.	117
65	Uncle Steve	127
56	Wisconsin Discount Stereo	133
14	Yamaha International Corp.	111

NOVEMBER

More New Products on page 15



by Christie Barter
& Steve Simels



PHILLIP RAMEY

Lerner, Copland: gala

THE young American pianist **Bennett Lerner**, whose few recordings to date are available on the Etcetera label, makes his New York Philharmonic debut in a performance being carried by the PBS network on November 14 in its Live from Lincoln Center series. Since the occasion is a birthday celebration for **Aaron Copland**, who will be eighty-five on that day, Lerner will play Copland's Piano Concerto, a work the composer himself introduced with the Boston Symphony under **Serge Koussevitzky** nearly sixty years ago. **Zubin Mehta** will conduct the Philharmonic in this telecast performance.

Lerner's latest record for Etcetera, released by the Dutch-based company last month and being brought in by Qualiton Imports, is a follow-up to his LP debut, which was an album of American piano music. This second volume includes short works by **Paul Bowles**, **Marc Blitzstein**, **Roy Harris**, and **William Schuman**.

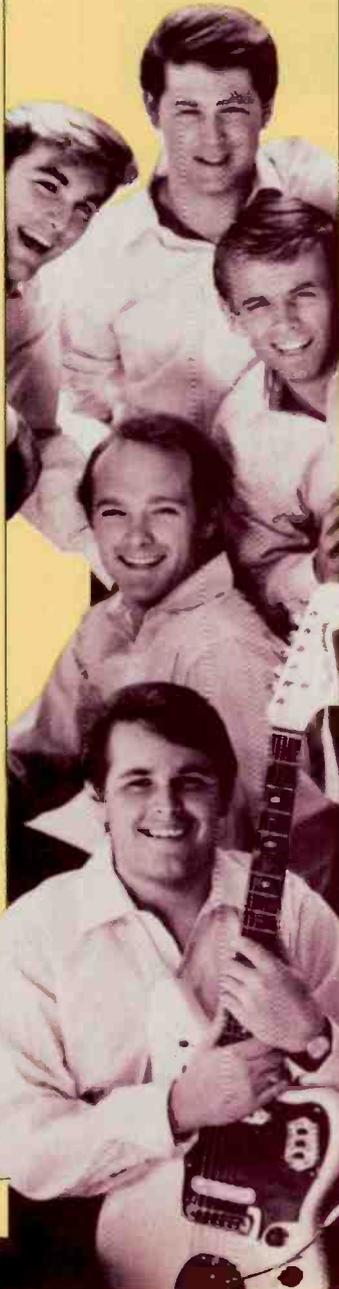
Prior to the Copland gala, Live from Lincoln Center is offering the enthusiastically received New York City Opera production of Puccini's *La rondine*. The air date is October 30. □

THE two performances of **Stephen Sondheim's** musical *Follies* presented in concert form by the New York Philharmonic right

after Labor Day were recorded by RCA, with LP's due in stores by the end of October. Headliners on the two-record set include **Licia Albanese**, **Carol Burnett**, **Barbara Cook**, **Erie Mills**, **Lee Remick**, **George Hearn**, and **Elaine Stritch**. □

SURFERS RULE, OKAY? They may look like refugees from the cast of *Happy Days*, but they're really the original Beach Boys in all their early-Sixties glory. That's the way they looked when they made "Surfer Girl," to be released by Mobile Fidelity in its Original

The Beach Boys: classic

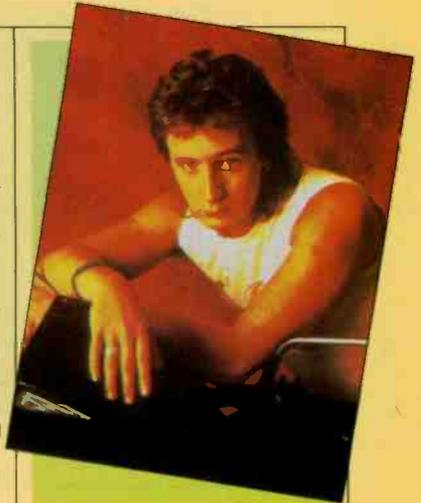


Master Recordings series. The Boys' classic album, dating from 1963, includes such **Brian Wilson** faves as *Catch a Wave*, *Little Deuce Coupe*, and *In My Room* as well as the title tune. This is, to our knowledge, the first audiophile version of any authentic surf music (Telarc's Beach Boys tribute on CD by contemporary soundalikes the California Project notwithstanding). "Surfer Girl" will be available on LP and cassette; no word yet on a Compact Disc. □

DEUTSCHE GRAMMOPHON is not generally big on artist-oriented retrospectives, but someone there must have figured the company couldn't let 1985 slip by without honoring **Dietrich Fischer-Dieskau** on his sixtieth birthday this year. DG has just released seven CD's containing the *creme de la creme* of the great baritone's catalog. □

APENSIVE-LOOKING **Julian Lennon** contemplates the forthcoming release of *Stand by Me*, a long-form video portrait of the artist during his recent debut American tour. Filmed from March through May, the documentary includes rehearsal and concert footage from both the opening (San Antonio) and closing (San Francisco) shows. Thirteen songs are included, mostly from Julian's "Valotte" album, as well as two tunes associated with Julian's dad, **John** (*Day Tripper* and *Stand by Me*). Directed by **Martin Lewis** after original director **Sam Peckinpah** died unexpectedly, the MCA Video tape runs an hour and will be available in time for Christmas. □

AHIGHLIGHT of *The Willie Nelson Special*, airing on the Nashville Network on Saturday, November 2, is a duet **Willie Nelson** sings with **Ray Charles** in Austin, Texas, in their first on-stage appearance together. The tune is *Seven Spanish Angels*, one of ten tracks on Charles's Columbia LP "Friendship," where Nelson was his guest. In "Friendship," chosen as one of our "Best of



Lennon: video debut

the Month" recordings last November, **Charles** teams up for duets with ten friends who also happen to be ten of the biggest names in the country-music business, including, in addition to **Nelson**, **Hank Williams Jr.**, **Ricky Scaggs**, **Chet Atkins**, and **Johnny Cash**. Our reviewer, **Alanna Nash**, found the whole thing "irresistible."

Another album-related cable offering, this one featuring **Freddie Hubbard**, is the final show in the Arts & Entertainment Network's Jazz in October series. *Studio Live with Freddie Hubbard*, airing October 27, was taped in 1981 during a studio session for Hubbard's album "Ride Like the Wind" on Elektra Musician. □

AS they used to say out front in the old vaudeville houses, "The show ain't over 'til the fat lady sings." Well, the beloved musical parodist **Anna Russell** was recently ringing the curtain down on her international career of many years with a series of farewell concerts. One of them, taped at Balti-

Charles, Nelson: friends



ATLANTIC RECORDS

THE NASHVILLE NETWORK

CAPITOL RECORDS



more's Museum of Art last November, resulted in "Anna Russell: The (First) Farewell Concert," which has been released by Video Arts International in both VHS and Beta formats. The program includes such Russell standards as *How to Compose Your Own Gilbert and Sullivan Operetta*, *Wind Instruments I Have Known*, her essay on English folk songs, and, of course, her famous analysis of Wagner's *Ring* cycle. Her *Ring* routine was recorded by CBS at a Town Hall performance in April 1953 and released on LP later that year. It

ly acclaimed series of recitals in London, she is now recording them for Philips. The third album in the sonata series was issued in the United States this summer, and the fourth is scheduled for January release.

Fittingly, Uchida made her New York debut this summer at the Mostly Mozart Festival, playing the popular Concerto No. 21. Philips has announced that it will record Uchida in a complete cycle of the Mozart piano concertos with the English Chamber Orchestra conducted by Jeffrey Tate. □

vin, who grew up in Los Angeles and has been a frequent guest conductor with

time, recordings by Emanuel Ax of the five Beethoven piano concertos, also conducted by Previn. □

LOS ANGELES is also the site right now of the sixth annual New Music America festival (October 31 to November 10). More than eighty-five composers and three hundred musicians are taking part in the festival, and many of the thirty-five scheduled events will feature premieres by West Coast composers. KUSC-FM is broadcasting the evening concerts in LA and will offer the programs to some three hundred stations around the country. □

BACK in 1066 when William the Conqueror took over what we now know as

YOU may have missed it during the Live Aid telecast, but not to fret. David Bowie and Mick Jagger's duet on the venerable Motown classic *Dancing in the Street* will be appearing in movie theaters throughout the country by the time you read this. All proceeds from the clip, which features Jagger and Bowie desperately trying to upstage each other, will be donated to the Live Aid foundation, and it's scheduled to open in over 5,000 theaters, reputedly a record for any theatrically released video. The music track, incidentally, has been substantially remixed since the clip's initial television appearance. □

THE Indianapolis Symphony under John Nelson is scheduled to record for New World Records this month, one group of sessions being devoted to works by the Pulitzer Prize-winning composer Ellen Taaffe Zwilich. Featured on the forthcoming album is Zwilich's Symphony No. 1 (Three Movements for Orchestra), which won her the Pulitzer in 1983. Also included are her Prologue and Variations for string orchestra and a piece titled *Celebration*, commissioned by the Indianapolis Symphony for the opening of its new concert hall, the Circle Theatre, in October 1984. □

THE same piece, Zwilich's *Celebration*, figured in André Previn's inaugural program as the new music director of the Los Angeles Philharmonic on October 10. Pre-

the orchestra is only the ninth conductor to head the Philharmonic in its sixty-six-year history.

He is also leading the orchestra in a new series of recordings for Philips. Scheduled to be recorded within the next year are Prokofiev's Fifth Symphony and an album of short works by Tchaikovsky, Mussorgsky, Smetana, and others.

Philips has just released a Gershwin album in which Previn performs as conductor and piano soloist with the Pittsburgh Symphony, a coupling of Mozart's Piano Concertos Nos. 17 and 24 in which he serves in the same two roles with the Vienna Philharmonic, and a recording of Brahms's Piano Quintet in which he joins the Musikverein Quartet of Vienna Philharmonic string players.

Due from Angel is a coupling of the two Ravel piano concertos with Cécile Ousset as soloist and an album of Mozart arias sung by Kathleen Battle, with Previn conducting in both instances. And from RCA will come, in

Bowie, Jagger: dancing



Previn: going home

England, there wasn't even a British Broadcasting Corporation, let alone home video. When William ordered a complete survey of his new domain, it was recorded painstakingly by hand. Completed in 1086, the survey was compiled in the *Domesday Book*. Now, to celebrate the nine-hundredth anniversary of that event, the BBC has embarked on a new survey of the land, flora, and fauna of England, which is scheduled for completion in 1986.

The new *Domesday Book* will run to about two million pages of text, charts, graphs, maps, and photographs, all of which will be stored on two video discs. Philips is supplying the technology. No list price has been announced. □



Russell: farewells

has been an active title in the CBS catalog ever since.

VAI has also released Pier Paolo Pasolini's *Medea* for home video in both VHS and Beta. With Maria Callas in the title role, it is the only nonmusical theatrical film made by the late soprano. □

JAPANESE pianist Mitsuko Uchida grew up in Vienna and got her musical training there. She won first prize in a Beethoven piano competition in Austria and second prize in a Chopin competition in Poland, and although she plays the work of those two composers often, she has specialized in the music of Mozart.

Having played all of Mozart's piano sonatas in a high-

MARYLAND PUBLIC TELEVISION

CHRISTIAN STEINER/PHILIPS RECORDS

MILTON GREEN/LOS ANGELES PHILHARMONIC

by Ralph Hodges



*There Will Always
Be a McIntosh*

THIRTY years ago, the U.S. high-fidelity market virtually belonged to Scott and Fisher, if you had to respect a budget, and Marantz and McIntosh if you did not. Ownership of either of the M's was so unassailable "high end" that the less fortunate were not permitted even to question its desirability when ladies were present.

Today, the first three companies have become essentially offshore enterprises, justifiably proud of their names and histories but with the ubiquitous Made in You-Know-Where legends on their products' rear panels. But McIntosh? McIntosh components are still made in Binghamton, New York, just as they used to be and probably ever shall be. And to say "made" there is no exaggeration.

According to Gordon Gow, McIntosh's chief executive officer and one of the company's founders in 1949, "We of course acquire knobs, switches, controls, tuning capacitors, and the like from the Far East, because we can't find their equivalent here, and it would not be practical or important to make them ourselves. But all our chassis

components, our front panels, our transformers, our speaker-driver assemblies, and the rest of the crucial elements originate on the premises." And so they do. The complex of three buildings—one of them a converted bowling alley that now houses a respectably large anechoic chamber and a complete photo-production studio ("We were never happy with outside work")—represents the kind of vertical manufacturing facility that is rare to vanishing in this country.

With a preamplifier, a tuner, several power amplifiers, a receiver, a remote-control system, several speaker systems, and a CD player (an elaboration of a Philips design and apparently the only thing of significance for which an outside supplier is vital), McIntosh is, astonishingly, our last remaining full-line audio manufacturer. And there is much more to come. A projection-TV audio/video complex is now running in prototype form, and the company has taken what is called a "serious" stockholders' position in Compusonics, the Palo Alto organization that is trying to record audio on floppy discs via a novel digital transform and expects to be waging successful battle against digital audio cassettes in a few years.

But what is McIntosh that the high-end audiophile should pay attention to it? The company advertises only enough to keep the cognoscenti aware that it's still alive (and McIntosh executives freely admit there have been times when it almost wasn't). It does not solicit magazine test reports and, in fact, has a long history of resisting them. It is obsessed with cosmetic details—perhaps, one worries, to the exclusion of other, weightier matters. Possibly worst of all, its products are eagerly bought by doctors and lawyers without ever really being listened to, just as the same consumer group buys Rolls Royces without ever really driving them.

But there's another side of the coin. Even if those doctors and lawyers don't really listen, McIntosh's own people tend to, if record collections of 2,000 and living rooms littered with CD's are any indication. Although the expense of a McIntosh system can be truly hideous, there is no evidence that any McIntosh ex-

ecutive ever lost sleep over it, the prices being honestly representative of what was built in. The philosophy of "pay a little less, hear a little less" seems alien in Binghamton. People blink at you and change the subject. Every McIntosh product is the best statement on the technology McIntosh can make at the time, and the pricing comes later, an attitude that apparently engenders respect and a comfortable confidence in McIntosh worshippers.

So do the cosmetics, which are extravagantly designed to outlive the owner. When an especially antique McIntosh comes in for service, the folks from the front office turn up to admire it. And if it isn't all that admirable (there are stories of amplifiers that have taken bullets from outraged wives who thought new shoes for the children a greater priority), it will be before it leaves, and for a charge that makes your dry-cleaning bill seem exorbitant.

McIntosh's vacuum-tube technology is the oldest and among the most venerated in the business. Yet at a time when tube gear enjoys considerable high-end popularity, nothing new in this line comes from Binghamton. To ask why produces general weeping, wailing, and wall-pounding. "It's the tubes," explains Gow. "It kills us to recondition one of our classic old products and have to send it back with the *original* tubes, but we cannot find replacements that will serve. Certainly we could not justify a new product based on today's tubes. Our customers would haul us into court, and they'd be right!" What this says about manufacturers who *do* use today's tubes is debatable. But what it says about circuit design that permits tubes to be still usable after twenty years or so is impressive.

In any case, what does an all-McIntosh system of today sound like? On the basis of hearing two of them, I'd say expensive, potent, polite (too polite?), and somewhat underdamped in the low frequencies. The sophistication of the high-frequency array for the XRT 18 speaker system may be hard to touch with anything much short of a well-executed ribbon design. As for the low bass, I suspect it will serve McIntosh owners, present and future, very well. □

BETTER. MUCH BETTER. NONE BETTER.

Improving on the sonic performance of the Denon DCD-1800 was no easy task, considering that reviewers in the U.S., West Germany, and Japan claim "never to have heard a better sounding CD player." Yet Denon set out to build players that exceed our original performance level *and* make them more affordable.

We began with the compact DCD-1000, a Denon CD Player at an unthinkable low \$359.95.* Yet it includes Denon's unique DDAC, the world's only digital-to-analog convertor that's hand-tuned for reduced D/A transfer distortion. And it has Denon's Real Time phase correction circuitry.

Better still is Denon's DCD-1100. This full-sized machine has the same high-performance DDAC, the same Real Time phase correction, and adds wireless remote control with a 10-key pad for direct track access.

The deluxe DCD-1500 uses two separate 16-bit DDAC convertors (one for each channel), and computer-analyzed linear-phase filtration for perfectly flat frequency response. Its wireless remote even features volume adjustment.

Now, no matter how much or how little you plan to spend for a CD Player, you can own one from the Company that *invented* digital audio in the first place. Denon.



DENON

D E S I G N I N T E G R I T Y

* Suggested retail price.

For Dealer Nearest You Call TOLL-FREE 800-633-2252 Ext. 830

Denon America, Inc., 27 Law Drive, Fairfield, N.J. 07006

CIRCLE NO. 27 ON READER SERVICE CARD

MISSION ELECTRONICS

European technology at affordable prices



Mission Electronics Corp. of America 5985 Atlantic Drive, Unit 6, Mississauga, Ontario L4W 1S4 Phone: (416) 673-3777

CIRCLE NO. 50 ON READER SERVICE CARD