CONCERT HALL ACOUSTICS

Bringing It All Back Home, Electronically
What Makes a Great Concert Hall

Tested:
Philips CD-V Player,
Rotel Tuner/Preamp,
Rockford Fosgate Power Amp,
& More!

JULY 1989
RISING ABOVE THE CD JUNGLE
For most people, buying a CD player is a lot like taking a short stroll along the Amazon. And forgetting your map. Sooner or later, you're going to get lost. That's because the "jungle of misinformation" about CD players makes it difficult to know what's really important. And what isn't.

Take a quick look at some of the claims—digital bit structures (what are they, anyway?) ranging from 1 to 45. Oversampling rates from 2x to (quick, who's got the latest?) 16x. All this for the sake of a numbers race. And not necessarily for the sake of the music.

Well, Onkyo offers you a real way through this undergrowth.

Of course, we have an impressive variety of both single- and multiple-disc players. With extraordinary levels of technology in even our most affordable models. For example, we individually calibrate the critical Digital-to-Analog Converters in our DX-1700 and DX-2700 players to fine-tune their linearity and minimize distortions peculiar to the digital process.

Most of our models also benefit from Opto-Coupling, an Onkyo-developed technology that transmits data optically rather than through conventional wiring for more accurate CD sound.

But for Onkyo, outstanding products are just the beginning. We'll make your journey through the CD jungle even easier with two indispensable guides.

The first is an in-depth explanation of digital bit structures and how they affect musical performance. The second is a down-to-earth journey through all the claims you're likely to run into, as well as the hard facts you'll need to master the CD jungle. And they're available at your Onkyo dealer now.

Onkyo. We'll give you more than just superb CD players. We'll also give you the knowledge you need. Because it is a jungle out there. And only the fittest survive.

ONKYO

200 Williams Drive, Ramsey, NJ 07446  201-825-7950
America's biggest name in audio presents a better way to enjoy the best in sound—the Realistic compact disc changer. You can load up to six discs in its magazine and enjoy hours of superb digital stereo. Or, program up to 32 selections from the discs to play in any sequence. Either way, you can pause, replay, program and search, using the wireless remote control.

The large LED display simplifies remote operation. Manual and automatic search make it easy to find selections.

This high-performance changer has a Tri-Spot laser pickup system for accurate tracking. Two-times oversampling provides super sound. And Radio Shack carries extra magazines so you can protect all of your CDs and have them loaded and ready for play.

Come in and try the Realistic CD-6000. It's affordably priced at only 359.95 and available today.

Exclusively at
Radio Shack
The Technology Store™
A DIVISION OF TANDY CORPORATION

Price applies at participating Radio Shack stores and dealers.

Protect Your Equipment Investment With the Tandy Service Plan—Details in Store
TEST REPORTS
Philips CDV-488 CD Video player ........................................ 19
Rockford Fosgate RF-2000 power amplifier .......................... 22
Rotel RTC-850 tuner/preamplifier ...................................... 26
Blaupunkt New York SCD-08 car tuner/CD player .............. 30
Sony CDX-R77 car tuner/CD player .................................. 33

AUDIO & VIDEO
SPECIAL TEST REPORT Shure HTS Theater Reference System.
A multicomponent system for decoding and playing movie soundtracks.
DAVID RANADA .......................................................... 36
The Basics of Concert Hall Acoustics. Why some halls sound great and
others are acoustical failures. JEFFREY BORISH .......... 40

MUSIC
CLASSICAL Rooted, But Not in the Past. John Eliot Gardiner, the
Francophile English farmer who started the Monteverdi Choir, has irons in
more than one fire/SCOTT CANTWELL ......................... 48
POPULAR/BACKBEAT Guilty Pleasures. Black Sabbath,
Olivia Newton-John, Barry White, Eddie Money, Queen, Marillion,
Gordon Lightfoot, Neil Diamond, and the Classics IV—all endorsed by
critics. The horror! The horror! ....................................... 52

On the cover: the Philips CDV-488
CD Video player (center, at top); the
Rotel RTC-850 tuner/preamplifier
(center, second from top); and
most of the Shure HTS Theater
Reference System, including the
HTS-5300 surround decoder, three
HTS-50SPA amplifiers, and
HTS-50LRS loudspeakers.

Cover design: Joanne Goodfellow
Cover photo: David A. Wagner

COLUMNS
Crosstalk What HQ circuitry does;
excessive concert volume and the
human ear; how to dub Dolby-
encoded tapes./LARRY KLEIN .............................. 14
Tape Tracks The new Dolby S
noise-reduction system.
ROBERT LONG ........................................ 16

Scan Lines Are advances in VCR
technology neglecting color?
DAVID RANADA .................................................. 17
Practicalities New: the practical
side of buying and enjoying equipment!
BETH C. FISHKIND ............................................ 18
Medley American orchestras on
parade/TEO LIBBEY
Critics—endorsed by a reader.
The wonder! The wonder!
PETER DOSKOEH .............................................. 55

DEPARTMENTS
Letters ................................................................. 5
Currents The factory-installed
Audiocore car audio system; M&K
Sound's pedestal-shaped subwoofer;
Minolta's new 8mm camcorders. .... 12
Classical Reviews Brahms and
Prokofiev from Mintz, Lutoslawski and
Stravinsky from Mutter; a nicotine fit
from Novak; and Porter songs from
Bolcom and Morris. ......................... 56

The CD Spread Debussy's Préludes,
long awaited from Benedetti
Michelangeli; Liszt's little-known
Requiem; Bernstein's On the Town. 65
Advertising Index ............................................. 79

Ikon Now (ISSN 0363-1455) is published monthly at 835 Seventh Ave., New York, N.Y. 10019, by ABC Consumer Magazines, Inc., Chilton Company, one of the ABC Publishing Companies, a part of Capitol Cities/ABC, Inc. © 1989 by ABC Consumer Magazines, Inc. The design and contents are fully protected by copyright and must not be reproduced in any manner. Second-class postage paid at New York, New York and
at additional mailing offices. Authorized as second-class mail by the Post Office Department, Ottawa, paid for at New York, N.Y. The publisher is not responsible for unsolicited manuscripts or other material submitted for publication. Single copies $2.50 (Canada $3.75); subscribers; send subscriptions, inquiries, and address changes to High Fidelity, P.O. Box 3235, Harlan, Iowa 51537. Change of address: Give old and new addresses, including
ZIP codes. Enclose address label from last issue and allow five weeks for change to become effective. POSTMASTER: Send Form 3579 to High Fidelity. P.O. Box 3235, Harlan, IA 51537.
YES,
WE DO OFFER
AN IN-DASH
COMPACT DISC SYSTEM.

WHY DO YOU ASK?

It must have been the richness and full clarity of the laser/digital sound that caught your ear. Or how faithfully full-frequency sound is reproduced.

That's what you probably noticed about our new in-dash compact disc system with integral receiver. It's one more example of the wide range of systems we offer to suit your taste in music. Which also includes the premium cassette/receiver with graphic equalizer. And even a Digital Audio Tape system for select GM cars.

They're all the result of the Delco Electronics "designed-in" philosophy. Designing sound systems to match specific car and truck interiors.

And that's just part of what we do at Delco Electronics. From music systems and engine controls to security systems and anti-lock brake controls.

We're working to help make the cars and trucks you drive more secure, more enjoyable, more comfortable and dependable. Through electronics.

Delco Electronics.
We give you the best seat in the house.

© 1988 GM Corp. All Rights Reserved.

Delco Electronics
Subsidiary of GM Hughes Electronics

It's who we are.
Almost 40 years ago, in the hills of Western Massachusetts, Milton B. Sleeper assembled the first issue of *High Fidelity*, or "High Fidelity, Devoted to the Interests of Audio-philes," as the cover said. During the intervening years, *High Fidelity* has maintained the highest standards of quality, insisting on the top reviewers, writers, and editors.

What we've covered across the decades has changed - changed as your interests have. From the screwdriver and soldering gun days we moved into the heady '70's, when hi-fi was king and the U.S. discovered high-quality, low-cost Japanese gear. The '80's has seen increased coverage of video, the emergence of the revolutionary Compact Disc, the as yet unfulfilled promise of digital audio tape (DAT).

For the past 17 years it has been my pleasure to be associated with *High Fidelity* in one way or another. As the consumer electronics market continually changes, so it is a time of change for *High Fidelity*.

This is the last issue "*High Fidelity*" will publish and you will now receive STEREO REVIEW magazine in its place. Although an interruption in service may occur, all issues due to you will be delivered.

To all of you loyal subscribers and readers, thank you for your support.

William Tynan  
Vice President  
Publisher/Editorial Director

REFERENCE VIDEODISC  
David Ranada's column on Reference Recording's LD-101 calibration and demonstration Laserdisc ("Scan Lines," April) got me all worked up, and I started craving a copy. The problem is: Where do I find one?  
Richard A. Lanzit  
Moraga, Calif.

If you can't find the LD-101 at your local Laserdisc emporium, write Reference

RECORDABLE DAT'S  
IN STOCK NOW

SHOEORNING HDTV  
There is an error in your discussion of how many HDTV stations can fit into the current VHF TV bands ("Aspects of HDTV: The Bandwidth/Interference Problem," April). The VHF region is, in fact, divided into three (not two) separate parts: the low band, 54-72 MHz (18 MHz total), the (Continued on Page 8)
Quality Time. Your moments together are too precious to waste. That's why Pioneer created the PD-M700 6-disc CD player. Now you can enjoy up to six hours of digital music without interruption, at the touch of a single button.

Pioneer invented the 6-disc CD magazine system. This innovative format offers you multiple programming options, cataloging capability and is designed to work in both Pioneer home and car multi-CD players. Simply put, no other CD format offers you so many features and is so easy to use.

Pioneer offers a complete line of 6-disc CD players, all with Non-Repeating Random Play. Now you can spend less time changing your music and more time enjoying it.
PARALYZING HDTV

It is certainly fitting in this day and age that HIGH FIDELITY should publish an article contributed by a lawyer ("HDTV: Keeping the Rabbit Ears Alive," April). After all, we are a society paralyzed by litigation and bewildered by legal parlance.

Imagine, for a moment, that the airplane had not been invented until just recently. Imagine, as well, that the Japanese are ready—now—to introduce an airplane to the market. U.S. companies are years behind, thanks to the weight of their legal departments, the shortsightedness of their MBA management, and the burden of miles of government red tape. National fortunes are at stake.

Somehow it has come to pass that the important point to consider is not whether there should be airplanes but whether there should be airports! Many participants in the controversy argue that airplanes must be capable of taking off and landing on city streets and highways without interfering with auto and truck traffic. "Compatibility" is what they call it. One congressman is quoted as saying, "Airports would prevent the underprivileged from hitchhiking on airplanes, and by God, that won't happen in my district until pigs fly!"

Oh, well. Rumor has it that someone has invented something called a helicopter. My lawyer thinks a controversy can be created over it, which will make him and his partners rich, if they start muddying the waters right now.

David W. Young
Bernalillo, N.M.

A NEW FURTWANGLER SOCIETY

It is with the greatest enthusiasm that I announce the formation of a society devoted to the art of Wilhelm Furtwängler. A previous society dedicated to the same purpose dissolved some years ago when its founder died. This newly formed organization shall endeavor not only to continue the concept of the defunct Southern California group, but also to unify those of us in America who deeply revere Furtwängler's art.

It is also our intention to work with existing societies in Great Britain, France, Germany, and Japan in a concerted, worldwide effort to publish important recorded material from live concerts (much of which still remains in private archives) as well as written documents. Only products of the highest artistic and technical quality will be allowed to carry this society's name. Since Complete Discs have superseded other forms of recordings, the society intends to publish most of its recordings on CD.

The Wilhelm Furtwängler Society of America has been organized as a nonprofit institution that will provide the general public with informal educational services about Furtwängler's unique contribution to culture. However, to those who join the society as supporting members, all its recordings, books, and other pertinent publications will be made available at special discount prices. Dues in the amount of $15 per year will be payable annually in January. Newsletters will be mailed out quarterly, they will contain reviews of new recordings, discussions of potential new releases, articles and selections from upcoming or recently published books, etc. Suggestions from members or letters of general interest will always be welcome.

The Wilhelm Furtwängler Society of America is fully supported and endorsed by the conductor's widow, Elisabeth, who has been very encouraging. She is pleased that a group is being formed to pick up where the former American society left off. Looking forward to hearing from you, I cordially invite you to join our organization!

Dade Thieriot
P.O. Box 620702
Woodside, Calif. 94062

RETOUCHED RACHMANINOFF

Paul Moor's review of Rachmaninoff's Second Symphony under Mariss Jansons's direction on Chandos [March] is, like so many of Mr. Moor's critiques, an eloquent plea for fidelity to the composer's wishes. To that end he takes a swipe at James DePreist's Delos recording of the same work for making use of some of Rachmaninoff's sanctioned cuts—excisions that account for an astronomical 2'39" difference in playing time.

Walter A. Sutton
Beaumont, Tex.
DON'T BUY ONE OF THESE UNTIL
YOU TAKE A HEARING TEST.

Warning: If you read this ad you'll wind up at your Sherwood dealer.

Why? Well, it won't be the fact that our current line of home components is the finest we've ever built. Or because our engineers didn't cut corners to assure excellent, long lasting performance. Or because you'll have enough jacks to handle an entire home entertainment center.

No, the reason you'll see your Sherwood dealer is to listen to these components for yourself. Because putting our sensibly priced components to the test is a heck of a lot more important than anything you'll find in an ad.

If you think they sound good now, wait until you hear them.

LIVE PERFORMANCE SOUND™

1985 INEL CORPORATION.
However, in praising Jansons' giving us "the uncut score," no mention is made of two of Jansons' indulgenes that considerably change Rachmaninoff's intentions. One is the addition of a timpani stroke to the first movement's final note, scored for cellos and basses alone. The addition makes an assertive gesture out of a characteristically pessimistic one. The other amendment is a cymbal crash heralding the last statement of the finale's great soaring theme—which undermines the shattering impact Rachmaninoff must have desired by saving his percussion for the brass chorale moments later.

According to the implied logic, the employment of a composer's own cuts is a far more flagitious sin than making additions to the orchestration that the composer never even dreamed of. Were these standards applied to the cinema, Mr. Moor approve Citizen Kane's colorization so long as all of its footage remained intact? Adam Stern
Delos International
Hollywood, Calif.

Classical Music Editor Ted Libbey replies: I happen to agree with you completely on the question of rescoring. No sooner had I dismissed Jansons as a serious interpreter on account of his violations than I ran across the new recording of the Second by Gennady Rozhdestvensky with the same timpani thwack at the end of the first movement. It seems to be something the Russian school likes to do.

Paul Moor's reply to your letter to the editor of MUSICAL AMERICA/OPUS, in which you took him to task for his review of the DePreist recording—which you yourself produced—appeared along with your letter in the May issue of that publication. Readers interested in his defense can pick up a copy and see for themselves.

WHO CD-V: YOU BETTER SLOW DOWN
Right on, Ken Richardson! In his April article "See 'em, Hear 'em," he is quite correct in noticing that some of the tracks on Polygram Music Video's Laserdisc—oops, 12-inch CD-V—of Who's Better, Who's Best are running quite fast. "Happy Jack," "I Can See for Miles," "Baba O'Riley," "Won't Get Fooled Again," and "Who Are You" have a blatantly manipulated sound that reeks of both time compression and a subsequent attempt at re-expansion. You see, in the program's earlier 60-minute incarnations—the U.S. videocassette, the Japanese videocassette, and the Japanese CD-V—the songs in question run even faster, unlistenable so. (Polygram's 75-minute CD-V, as Mr. Richardson explains, adds four songs.) I suspect that the program's original compilers were trying to squeeze the material to fit the 60-minute time slot.

As for the idea of buying the Wholesale Kids Are Alright in order to get "Baba O'Riley," "Won't Get Fooled Again," and "Who Are You" at their correct pitch, forget it. All videocassette versions are both speeded up and edited (most of "A Quick One While He's Away" is chopped out), and the film is not yet available on videodisc. Your best bet is to find someone who taped the film when it was shown on pay TV in the early '80s and get a copy made: These screenings were uncut and at correct pitch.

“They...Play Music And Make It Sound Like Music... Unobtrusively...At A Bargain Price.”
Julian Hirsch
Stereo Review, Sept. '88

Cambridge SoundWorks has created Ensemble, a speaker system that can provide the sound once reserved for the best speakers under laboratory conditions. It virtually disappears in your room. And because we market it directly, Ensemble costs hundreds less than it would in stores.

The best sound comes in four small packages.
Ensemble consists of four speaker units. Two compact low-frequency speakers reproduce the deep bass, while two small satellite units reproduce the rest of the music, making it possible to reproduce just the right amount of energy in each part of the musical range without turning your listening room into a stereo showroom.

Your listening room works with Ensemble, not against it.
No matter how well a speaker performs, at home the listening room takes over. If you put a conventional speaker where the room can help the low bass, it may hinder the upper ranges, or vice-versa.
Ensemble, on the other hand, takes advantage of your room's acoustics. The ear can't tell where bass comes from, which is why Ensemble's

What Henry Kloss tells his friends:
Every time I came out with a new speaker at AR, KLH, or Advent, my friends would ask me, "Henry, is it worth the extra money for me to trade up?" And every time I would answer, "No, what you've already got is still good enough."

But today, with the introduction of Ensemble, I tell them, "Perhaps now is the time to give your old speakers to the children."
Video companies are insulting the public’s intelligence by speedup material. Do they think we’re pitch deaf? Another example of this odious practice can be found on three songs from A&M Video’s tape of the Police’s Every Breath You Take: The Videos. “Every Little Thing She Does Is Magic,” “Spirits in the Material World,” and “Invisible Sun” are so ridiculously fast that, in “Magic,” Sting jerks around like a speedbreak marionette. And speaking of magic, the Cars song of that name, listed on the box for Vestron Music Video’s The Cars Live: 1984–85, isn’t even on the tape (though it’s present on the Japanese videodisc).

To these miserly video companies, I say we won’t get fooled again!

Phil Cohen
Bay Harbor, Fla.

Popular Music Editor Ken Richardson replies: Right on, Mr. Cohen! When I was reviewing Every Breath You Take: The Videos for our September 1987 issue, I did notice that the songs you mention seemed to run fast. However, I didn’t have the LP version handy for checking, and because this was the first time I had come across this kind of problem, I decided not to trust my memory and therefore did not mention the situation in my review. So I thank you, Mr. Cohen, for confirming my suspicions and helping us alert the public.

By the way, in my April comments on Who’s Best, Who’s Best, I had only enough space to say that “half of the 20 performances... appear here noticeably speeded up.” Now that Mr. Cohen has mentioned five of the affected songs, here, for the record, are the rest: “Substitute,” “Pinball Wizard,” “See Me, Feel Me,” “5:15,” and “You Better, You Bet.” Video releases with incorrect pitch are indeed odious. We promise to keep an ear on the problem and report any future occurrences we find to our readers.

AND NOW, SOME ACTUAL BEATLE LETTERS

I knew there was something I didn’t like about “She Loves You.” After I read the March letter about all the edits in the performance, I realized why. This is one of the few Beatle songs where Ringo’s cymbals are the best and most consistent rhythm instruments we find to our readers.

Thousands agree: the best show is your living room. We make it possible to audition Ensemble the right way—in your own home. In fact, Ensemble is sold only by Cambridge SoundWorks directly from the factory. Listen for hours without a salesman hovering nearby. If after 30 days you’re not happy, return Ensemble for a full refund. At only $499*, complete with all hardware and 100’ of speaker cable—Ensemble is the value on today’s speaker market.

Call 1-800-4-AKA-HIFI (1-800-252-4434)

Our toll-free number will connect you to a Cambridge SoundWorks audio expert. He or she will answer all your questions, take your order and arrange surface shipment via UPS. Your Cambridge SoundWorks audio expert will continue as your personal contact with us. We think you’ll like this new way of doing business.

In Canada, call 1-800-525-4434. Audio experts are on duty Mon.-Sat. 9AM–10PM, Sun., 9AM–6PM Eastern Time. Fax #: 617-332-9229.

CAMBRIDGE SOUNDWORKS
Suite 123R11-154 California St., Newton, MA 02158
0 Send more information and test reports.
□ Send Ensemble risk-free for 30 days, for $499*
□ Send an Ensemble Gift Certificate for $499*
□ I’m paying by □ Check □ MC □ Visa □ AmEx

Acc. Number ____________________ Exp. __________
Signature _______________________

Name ____________________________
Address ___________________________
City ___________________ State _______ Zip __________
Phone (Area Code) ___________ Number ____________

FOR IMMEDIATE SERVICE: 1-800-AKA-HIFI
We ship worldwide, including APO & FPO.
MA residents add 5% sales tax.

*Plus freight ($7-$24). Delivery time usually 2–7 days.

Ensemble is a Trademark of Cambridge SoundWorks, Inc.

Concerning the reader in your April “Letters” who is looking for Beatle books and booklets: I have a copy of the Magical Mystery Tour LP booklet, which I kept from an old copy of the album that I sold. I would be more than happy to sell or trade the booklet for a price or a CD. I am not a dealer, just a fan of good, quality music.

Chris Pietka
582 Holiday Dr.
Somonaui, Ill. 60522

I have a copy of the Get Back book from Let It Be. It is the 160-page original, not the 46-page bootleg, and it’s for sale.

H. Cummings
3927 W. 7th St., #4
Los Angeles, Calif. 90005

All letters should be addressed to The Editor, HIGH FIDELITY, 825 Seventh Ave., New York, N.Y. 10019. Letters are subject to editing for brevity and clarity.
Bose and Audi

The latest addition to the Bose fleet of customized automobile sound systems is Audi of America. The factory-installed Audi/Bose audio system is standard on the 1989 Audi 200 series and a $600 upgrade option on the Audi 100. Bose has developed other custom sound systems with General Motors, Nissan, Honda, and Acura.

Bose's system features a special Bose-modified Blaupunkt AM/FM receiver/cassette deck named Delta. The Delta is a dual-diversity FM receiver: It constantly switches to the best FM signal between the antenna in the front windshield and the antenna in the back windshield (there is no external mast antenna). The diversity system helps cut down on certain reception problems, such as multipath distortion.

The receiver also includes the Automatic Radio Information (ARI) system, a standby automatic broadcast system for traffic and emergency-information bulletins. ARI automatically interrupts the tape program or increases the volume of the radio for a broadcast of an ARI message.

Bose’s speaker package includes two 3-liter tuned, ported front-door enclosures holding 4-inch full-range drivers, each with its own separate amplifier/equalizer module. In the rear of the car interior are two 6-by-9-inch full-range speakers, each also having its own amplifier/equalizer module. The big advantage of a system of this type is that Bose and Audi engineers worked together developing it, tailoring it for the Audi environment. For example, the Audi’s door trim panels were redone to meet Bose criteria.

Components for the system will be built in Bose facilities in Framingham and Hopkinton, Mass., and Carrickmacross, Ireland. Completed systems will be installed in Audi’s assembly plant in Neckarsulm, West Germany. Initially, the Bose-equipped Audis will be for export to the United States only. Bose Corp., The Mountain, Framingham, Mass. 01701

Power Belles

The Belles 150 ($595) is a stereo power amp rated at 100 continuous watts per channel from 20 Hz to 20 kHz, with no more than 0.09-percent total harmonic distortion (THD) into 8 ohms (150 continuous watts per channel into 4 ohms). Maximum power before clipping is 120 watts per channel into 8 ohms and 185 watts per channel into 4 ohms. Maximum peak current is said to be 75 amperes. The solid-state unit uses complementary Class AB circuitry, power MOS FET output transistors, a 500-VA toroidal transformer, polypropylene capacitors, and 1-percent metal-film resistors. Internal components, such as Tiffany input connectors, gold-plated binding posts, and power supply, are mounted on a single circuit board. The company says this design nearly elim- (Continued on page 80)
GREAT NEWS FOR IBM, TANDY, & PC COMPATIBLE USERS

More Power.
More Excitement.
More Fun from your PC.

Get powerful and exciting new programs on disk in every big issue of COMPUTE!'s PC.

Start getting the most from your PC now—by saying “YES” to a discount subscription to COMPUTE!'s PC.

Each exciting new issue comes complete with disk—featuring powerful game and utility programs guaranteed to challenge, entertain and delight.

You'll also get our “buyer's guide” features, reviews of the latest hardware and software, valuable ideas, time and trouble-saving tips, and more.

Save over $37 with this discount subscription offer. Get 6 big issues, each with disk, for just $39.95. If you're not delighted, cancel at any time for a full refund of all unmailed issues. You simply cannot lose. So start getting more from your PC now. Return the attached reply card or complete and mail the coupon today.

MAIL TODAY TO: COMPUTE!'s PC, P.O. Box 3247, Harlan, IA 51593-2427

YES! Send 6 big issues of COMPUTE!'s PC, each with an all-new program-packed disk for just $39.95. I save over $37 off the cover price!

☐ Payment Enclosed

☐ Bill Me

☐ Send 5.25" Disk ☐ 3.5" Disk

FOR FASTER SERVICE, CALL TOLL-FREE 1-800-727-6937
HQ Query

Most of the new VCRs are advertised as having HQ circuitry, but I've never seen an explanation of what HQ is supposed to accomplish. Can you supply one?

R. Atkinson
Cerritos, Calif.

HQ stands for High Quality, and its technology was developed by the Victor Company of Japan (JVC) for VHS-system VCRs. Essentially, it is a collection of video-signal enhancement systems that includes circuits operating separately on various aspects of the signal. The HQ circuits are designed to reduce luminance- and chrominance-signal noise and, thereby, reduce snow or graininess and color patching or streaking, respectively. White-clipping level inadequacies are also reduced, with a resulting improvement in the edge sharpness of images.

Since different HQ circuits operate during recording and playback, some of the improved quality of HQ-recorded tapes will come through during playback of an HQ tape on a non-HQ machine. An older tape played on an HQ deck will also benefit, but to a lesser degree. The improvements are most obvious at the slower tape speeds, where it is claimed that tapes HQ-recorded in the slow-speed EP mode will have the visual quality of conventional standard-speed tapes. This claim isn't always lived up to, however.

One caveat: The HQ logo on a VCR does not necessarily mean that it has all of the different circuits included in the HQ array. Read the spec sheet or check with the manufacturer to find out which ones are used.

Concert Sound Levels

Judging from some recent live concerts I've been at, the people who control the sound systems seem to be involved in a game of acoustic one-upmanship. Is there no legal limit as to how loud they can turn up the sound, and can't excessive volume damage a listener's ears? Incidentally, how much amplifier power do those loud systems have?

Scott Robbins
Chillicothe, Ohio

No, yes, and a lot! Although several other nations do have laws regulating the maximum decibel levels at musical events, American ears are not so protected. I understand that various states, cities, and municipalities are considering restrictions based on the Federal Occupational Safety and Health Administration (OSHA) regulations that establish maximum legal sound levels in factories, but I don't know of any such laws presently on the books.

Yes, there is no doubt that long-term exposure to high sound-pressure levels can cause temporary or permanent hearing loss—but because of individual variations and sensitivities, it is not clear as to how extended and high concert levels must be before permanent damage results. At the 1986 Audio Engineering Society convention in Los Angeles, more than one of its 200 members were given audiometric tests. The study revealed a small, but consistent, hearing loss among those tested. At least 10 percent showed a significant hearing loss in the critical 4-kHz midband area that could not be attributed to normal aging. It seems paradoxical that, for many of us, prolonged listening at high sound levels can ultimately disqualify us as critical listeners. It was the frightening implications of the AES study that prompted HIGH FIDELITY's July 1988 special section on hearing damage and protection.

To answer your third question: According to a recent editorial in the pro-audio magazine Recording Engineer/Producer, some of the larger touring sound systems are capable of sustained levels at or near 120 dB, the threshold of discomfort and above the level causing hearing damage with prolonged exposure. RE/P also noted that the latest heavy-metal concert held at Castle Donington in the English Midlands used the biggest sound-reinforcement system ever assembled. Its rating of 500,000 watts (!) made this year's Guinness Book of Records.

Dubbing Dolby

I've never been sure about which technique to follow when dubbing Dolby-encoded tapes. Should the Dolby play and record circuits be on or off if I want to end up with a Dolby-encoded tape? When making my copies, how can I convert between Dolby B and C encoding?

Roberta Deerfield
Canoga Park, Calif.

Although it may seem like redundant processing, the correct way to dub Dolby tapes is to fully decode the tape during playback and re-encode it during recording. If you want to switch between Dolby B and Dolby C encoding, the time to do it would be during the dubbing process. Set the playback machine to the required decoding and the recording machine to the desired encoding.

This decode/encode process is necessary because proper Dolby decoding can take place only when a machine's decoding circuits "track" the encoded tape's signal levels. If you were to attempt to copy Dolby-encoded material without decoding it first, the odds are that it would be re-recorded at a higher or lower level than on the original tape. In playback of such a copy, there would be shifts in frequency balance or increased noise. Recording studios and professional duplicators avoid these problems by recording standard Dolby-level test tones on their tapes and adjusting their recorders and duplicators according to them.

We regret that the volume of mail is too great for us to answer all questions.
"BBE made my audio system sound better than I ever dreamed possible!"

"Listening to music has been my vocation and avocation for a lifetime. I've spent countless hours sitting in front of bandstands while some of the world's greatest musicians mesmerized me with their artistry."

"Listening to recorded music, of course, falls short of the delights of listening to a live performance. I was therefore skeptical when told that BBE could make a dramatic improvement to virtually all audio systems and I had to hear for myself.

"I was amazed at how much better the BBE 1002 made my music system sound! There was a presence, a being there sense of excitement. The rich textures of the instrumental sounds, the subtle nuances and details in the music come through with clarity and authenticity."

"BBE is clearly one of the most important advances in the electronic reproduction of music to come along in my lifetime. Bravo, BBE! Encore!"

The Great Professional Music Magazines Love BBE

"The difference in processed audio and non-processed audio is like the difference between high-fidelity speakers with and without pillows placed in front of them."

— Radio World

"There was no doubt the BBE processor added more spatial quality, more transients and more clean highs. This is the first black box that actually helped make my music sound the way that I knew it should. The effect is shattering!"

— Music Technology

BBE Really Fits In

Measuring 16½" x 9" x 1¾", BBE fits perfectly into your audio rack. Then just plug it into your wall socket and standard tape loop.

Full Money-Back Guarantee

If you're not completely satisfied with the BBE 1002, return it within 30 days. We'll refund your money. No questions asked.

Full Warranty

All BBE products are backed by a full year's warranty on all parts and labor—and by our reputation for innovation and leadership in the audio and electronics industries.

Easy to Order

It's as easy as one, two, or three.

   In California, 1-800-558-3963.
2. Or, complete and send us the coupon at right.
3. Or, if you're in New York or New Jersey, pick up your BBE 1002 in any MACY's audio department.
Just when you thought the noise-reduction wars were over, there's a new combatant to tell you about: Dolby S. This time, however, the integration of the new system into our way of life promises to be less of a rough-and-tumble than it was in the days when DBX and Dolby C were first fighting for the hearts and minds of home recordists. In fact, I wouldn't be surprised if, in a very few years, Dolby S became the clear winner for all but the lowest-tech, most penny-pinching of applications.

Three years ago, Dolby Laboratories announced its Spectral Recording noise-reduction process, a.k.a. Dolby SR. A system strictly for pro use, like Dolby A, it purported to deliver analog recordings with nearly all the sonic benefits of digital media. SR involves special preemphasis, dynamic processing of high levels in four bands (with fixed and sliding passband frequencies for both highs and lows); a medium-level processor working in the same four bands; a low-level section affecting the two high-frequency bands only; and a stage of antisaturation processing at each end of the spectrum. And that's just for recording: In playback, each of these 13 elements must be undone. It didn't occur to me at the time that so complex a system could have any consumer applications. I should have thought again. The four-band Dolby A system yielded the one-band Dolby B, so why not a home version of SR?

Well, it's in the works. David Ranada broke the basic technical details of the system in last February's "Currents," and this spring Dolby Laboratories began discussing its plans for Dolby S with its consumer-equipment licensees. Preparations are underway for the first Dolby S integrated circuit, and decks incorporating it could appear as early as next year.

Why do we need them? There are a number of reasons. First, there's the question of effectiveness. Dolby B claims 10 dB of noise reduction, which it achieves only in the treble range, where the average human ear is most sensitive to noise. Dolby C claims 20 dB and spreads its advantages out over a broader spectrum. Dolby S is rated at 24 dB at high frequencies and 10 dB at low. That comes closer to closing the gap with DBX's 30 dB, though Dolby and DBX take such a radically different approach that comparing their noise-reduction figures can easily be misleading.

More important, I think, is that Dolby S is the first noise-reduction system to be engineered from the ground up specifically for the cassette. Dolby B and DBX were originally devised for open-reel decks; Dolby C began with the premise of adding another processing "layer" onto Dolby B. Dolby Laboratories says that S will be less sensitive than its predecessors to the errors in level matching and frequency response that are common in the cassette record/playback cycle. This is, of course, an area where the single broad and fixed band of DBX has an advantage over the level-dependent sliding band in Dolby B and C. At present, a Dolby B/C recorder that has behaved beautifully can too easily be compromised by the "latest and greatest" tape, which may be too sensitive and require too much bias current to deliver, respectively, the standard output level and flat frequency response required for best Dolby C tracking.

At the same time, Dolby Labs has announced that it will be tightening the performance specs required of decks incorporating Dolby S. In particular, it will be checking head azimuth on the samples submitted for license approval. Such is the marketing power of the Dolby name that when Dolby Labs withholds approval, the offending design vanishes rapidly. That fact has been the single most effective guardian of tape-deck quality.

Initially, at least, Dolby S will have its own dedicated IC chips that will not process Dolby B or C; deck manufacturers will have to use separate ICs for S and for B. I can't imagine an S home deck that won't include B; the countless millions of Dolby B cassettes, prerecorded and homegrown, that are out there will demand it for the predictable future. Dolby C is another matter. If Dolby S is a success, it could eventually preempt the place now occupied by C (and HX Pro, if Dolby S also contains antisaturation measures).

In a recent column, I touched on the make-do approach that Dolby permitted in the first year of Dolby C production: the use of dual Dolby B ICs instead of proper Dolby C chips until the latter were available. Perhaps competition from DBX—which at that time was making inroads into the home-deck field—induced Dolby Laboratories to push the C format with more energy than was really prudent. But once inclusion of a C model became the hallmark of leadership among the deck manufacturers, nothing could have stopped the tide. At any rate, a more circumspect approach might have produced more satisfactory results.

Since there will be—from the beginning—dedicated Dolby S chips, the only cause for misgivings of that sort this time around may be the status of DAT by the time Dolby S analog decks appear. DAT supplies could be ample and prices significantly reduced by next year. If Dolby Labs sees DAT as a competitor to Dolby S, it could feel the need to rush S through in the way it did C.

But I don't think it will work out that way. There are price floors below which DAT decks cannot drop because of their inherent complexity. Unlike analog tape, which can run the gamut from shirtpocket cheapie to sybarite special, DAT will, I believe, always be a relatively high-end, specialist-oriented product. Dolby S has the opportunity of doing yeoman service in the very broad middle ground. And that means us—you and me, as home recordists who may be reluctant to splurge on DAT, for all its glitter.

By Robert Long
The ultimate in sound...The ultimate in savings...

The Best Of Dire Straits: Money For
Central Park
Sim 8 Garfunkel: The Concert In
Tracy Chapman  Fast Car, Talkin Bout A
Dancing, etc. EMI
Pet Shop Boys: Introspective  Domino
The D.J., I'm The Rapper  Jive 264134
D.J. Jazzy Jeff 8 The Fresh Prince: He's
MCA 100602
ble, etc. EMI
Nova  Simply Irresistible
Robert Palmer: Heavy
London 1812 Overture & More
phonies: Tchaikovsky, Solti, Chicago Sym-
Welcome To The Jungle,
Guns N' Roses: Ap-
etc. RCA
Little Love, Love Is Alive,
The Judds: Greatest Hits  Give A
The Pink Panther, 18 more. RCA 173233
James Galway: Greatest Hits  Memory,
(I've Had) The Time Of My Life etc. EMI
Dirty Dancing/Original Soundtrack
Bites, more. Mercury.100927
Def Leppard: Hysteria  Women, Love
Warner Bros
Song 89, Get Up. Stand. etc.
R.E.M.: Green  Orange Crush. Pop
45* On CD, Vol. 1 Big Boppe'. Rick
Sabre Dance, more. RCA
Canadian Brass: More Greatest Hits
Sabre Dance, etc. RCA 164346
45's On CD, Vol. 1  Big Bopper, Rick
Nelson, Sheb Wooley, etc. Polydor 180044

Dirty Dancing: Live In Concert
Hungry Eyes, Yes, etc. RCA
Count Basie: April In Paris  Title song,
Shiny Stockings, etc. Verve 164004
Itzhak Perlman: French Violin
Showpieces  DG
Gordon Lightfoot: Gord's Gold  Folk
classical Reprise 224006
Elita Fitzgerald & Louis Armstrong: Ella
& Louis• April In Paris, etc. Verve 133381
XTC: Oranges And Lemons  The Mayor
Of Simpleton, others. Geffen
Shirl Vanilli: Girl You Know It's True
Title song, others. Arista
Charlie Parker & Dizzy Gillespie:
Bird And Diz  Leap Frog, etc. Verve 172413
Pat Webb Clive: 12 Greatest Hits  Fall To
Pieces, Crazy, more. MCA
Van Halen: OU812  When It's Love,
Black And Blue, etc. Warner Bros
Dirty Dancing/Original Soundtrack

10516

R.E.M.: Green  Orange Crush, Pop
Song 89, Get Up. Stand, etc.
Warner Bros 100715
Daf Leppard: Hysteria  Women, Love
Blues, more. Mercury 100927
The Best Of Dire Straits: Money For
Nothing  Sultans Of Swing, etc. Warner Bros 100710
Dirty Dancing/Original Soundtrack
I've Had) The Time Of My Life etc. EMI
The Traveling Wilburys: Volume One

SavE 50%

SAVE 50%

IN S T A N T H A L F - P R I C E B O N U S S AV I N G S !
SEE OTHER SIDE FOR DETAILS... AND 57 MORE HITS TO CHOOSE FROM

YES, please accept my membership in the BMG Compact Disc Club and send me the four compact discs I've indicated here, billing me for just shipping and handling under the terms of this ad. I need only one CD at regular Club prices during the next year—after which I can choose a FREE CD! That's 6 for the price of 1...with nothing more to buy ever! (Shipping & handling is added to each shipment.)

RUSH ME THESE 4 CDs (Indicate by number):

[ ] POP/SOFT ROCK 4  [ ] HARD ROCK
[ ] EASY LISTENING [ ] COUNTRY
[ ] CLASSICAL

I am most interested in the musical category checked here—but I may always feel free to choose from any (check one only):

[ ] POP/SOFT ROCK 4  [ ] HARD ROCK

IF MY NAME CHANGES, PLEASE INFORM BMG COMPACT DISC CLUB AND SEND ME THE FOUR COMPACT DISCS I'VE INDICATED...I AM MOST INTERESTED IN THE CATEGORIES CHECKED HERE...I MAY ALWAYS FEEL FREE TO CHOOSE FROM ANY OTHER CATEGORY...I AGREE TO YOUR PRIVACY POLICY...

Mail This Card Today!
Enjoy Spectacular Savings On Compact Discs!

GET 6 COMPACT DISCS for the price of 1...
...with nothing more to buy ever!

The Duke Ellington Orchestra:
- Digital Duke • GRP (163386)
- Elvira Piano: The Number One Hits
- Hound Dog, Don't, etc. RCA

Genesis: Invisible Touch • Tonight

Metallica: And Justice For All • One

Steve Winwood: Roll With It • Title song

The Cult: Sonic Temple • Fire Woman

Save 50%!

INSTANT HALF-PRICE BONUS PLAN

Unlike other clubs, you get 50%-off Bonus Savings with every CD you buy at regular Club prices, effective with your first full-price purchase!

START NOW WITH 4 COMPACT DISCS!

Yes, pick any 4 compact discs shown here! You need buy just one selection at regular Club prices (usually $14.98-$15.98) and take up to one full year to do it. Then you can choose another CD free as a bonus. That's 6 compact discs for the price of one and there's nothing more to buy ever! (Shipping & handling added to each shipment.)

HOW THE CLUB OPERATES

You select from hundreds of exciting compact discs described in the Club's magazine mailed to you approximately every 3 weeks (19 times a year). Each issue highlights a Featured Selection in your preferred music category, plus alternate selections. If you like the Featured Selection, do nothing. It will be sent to you automatically. If you'd prefer an alternate selection, or none at all, just return the card enclosed with each issue of your magazine by the date specified on the card. You will have at least 10 days to decide, or you may return your Featured Selection at our expense for full credit. Cancel your membership at any time after completing your membership agreement, simply by writing to us.

FREE 10-DAY TRIAL

Listen to your 4 introductory selections for a full 10 days. If not satisfied, return them with no further obligation. You send no money now, so complete the postpaid reply card and mail it today.

Enjoy 6 CDs for the price of one!
Precisely one year ago in this column I ran "The Story of S, or Chroma Phobia," in which I stated that videodiscs would not benefit from the separated luminance (Y) and chrominance (C) signals carried by the Y/C, or S, connectors first encountered on Super VHS machines. However, I've been proven wrong on this point by the Philips CDV-488 (see test report, p. 19). The benefits of its Y/C output are not always visible, but they do exist and can be quite striking at times.

A Y/C connection prevents the interference between luminance and chrominance that can result in "dot crawl" (color being decoded as fine detail) and moiré effects (fine detail being decoded as color). Because a videodisc carries a composite-video signal—one in which the luminance and chrominance spectra have been overlapped—I had thought that a Y/C connector would not confer any image-quality improvements, since the cross-interference caused by the spectral overlap could not be completely undone. VCRs, on the other hand, record luminance and chrominance in different spectra, and S-connector hookup maintains that separation.

However, in direct comparisons between the CDV-488's composite and Y/C outputs, the latter was often distinctly better. Even though dot crawl did not seem to be reduced, on the well-known color-bar test pattern the Y/C output provided much sharper and cleaner boundaries between colors. Moiré effects were reduced in the resolution-wedge and multiburst patterns. Images with a lot of color detail (such as a multicolored field of flowers) seemed clearer with the CDV-488's Y/C output.

A Philips white paper says that the player's comb filter—which separates the chrominance and luminance out of a composite-video signal—is of higher quality than that normally found in home video monitors. Since the player's comb-filter operation is locked to the same crystal oscillator as the disc-rotation rate, it can provide more accurate color decoding than a monitor's filter. The Y/C connection "avoids the vagaries" of a monitor's other composite-video circuitry as well as its comb filter.

Philips's paper also restates the important but little-appreciated point that the videodisc is the only consumer video medium that is capable of storing a full-bandwidth chrominance signal. A standard NTSC chrominance signal takes up about 1.5 MHz in bandwidth, which is equivalent to about 120 lines of horizontal resolution. Only the videodisc and some professional video formats are capable of storing this much color detail. All three high-luminance-resolution video formats (S-VHS, ED-Beta, and Hi8) have color resolutions unchanged from their original, low-resolution formats: 50 lines. Moreover, this is a theoretical maximum; because of noise problems, color resolution is typically only 30 to 40 lines.

Back when standard Beta, VHS, and 8mm were the only systems available, their limited luminance resolutions formed a close visual match to their limited color resolutions. While the recordings made on these systems have always been inferior to videodisc reproduction, their pictures were nonetheless visually "balanced." Noise levels and resolution for both luminance and chrominance were cannily gauged so that deficiencies in one area covered up faults in others. The low-luminance bandwidth typical of standard VCR formats (at best around 160 lines) helps disguise their high video-noise levels. The color bandwidth of a standard-format VCR is proportionately as inferior to a full-bandwidth NTSC signal as its luminance bandwidth. Both are less than half of what the videodisc is capable of delivering.

The three high-luminance-resolution home VCR formats do not embody such an elegant series of visual trade-offs. Obsessed with horizontal-resolution performance, VCR-format standardizers have gone overboard in obtaining improved luminance resolution specs for their new systems. The color performance remains basically unchanged and, in some ways, has become worse.

To me, the most important visual artifact made more obvious by the high-luminance-resolution VCR systems is what I call color fringing. This manifests itself as a tinted aura around a brightly colored object, especially when seen against a white or gray background. It's as if the color in that object somehow leaked outside its area on the image—the so-called "paint by the numbers" effect. Fringing has been exacerbated by the improvement in luminance resolution without a corresponding increase in chrominance resolution. With the new VCR systems, the edge of an object can be positioned with a horizontal luminance resolution of more than 300 lines. The color, however, still has a 40-line resolution; it can be positioned with ten times less precision than the luminance detail (it used to be only about three times less).

The situation is made worse by the use of certain types of processing in the decoding of videotapes. On top of the fringing effect, the use of unequal-length delay lines for luminance and chrominance causes the fringing to start "late" (a scan line or two beneath where the object starts), thus smearing the color even more. Just try to tape disco lights or a Christmas tree and not get these effects! Even Y/C connections won't help.

Now, don't get me wrong; I'm not going to recommend that any videophile stick with standard VHS, Beta, or 8mm. S-VHS, ED-Beta, and Hi8 all give image reproduction far superior to that of the standard formats. But in their race to improve luminance-resolution figures—because this is the one spec that seems to sell products—VCR manufacturers have again exposed their phobias about dealing squarely with chrominance. As seems to happen regularly in video, technical decisions made long ago are now coming back to haunt us. For high-quality playback of a movie, I'll take the videodisc any day!
T
here is more to buying, living with, and enjoying home-entertainment equipment than charts and graphs. So HIGH FIDELITY now brings you "Practicalities," a column devoted to subjects that don't necessarily have specs. This new column will appear every other month, alternating with "The Autophile."

A good example of what "Practicalities" is about came up in a recent conversation with a reader. He was looking for a new receiver and mentioned that he was going to buy it from whoever gave him the lowest price for cash. This is one way of getting the best price—but not always the best value.

Sometimes the products you buy at deep-discount retail or mail-order outlets are "gray goods": units that were intended for sale in other countries, not in the United States. That bargain-price unit you pick up may not have UL safety approval or be designed to run on standard 110-volt U.S. current. (Note, however, that it's possible for non-gray goods to lack UL approval, if they are not sold in locales that require it.) Furthermore, you get as far as a valid manufacturer's warranty is concerned—the warranty doesn't count in this country.

Gray goods are not "hot" merchandise, but buying and selling them is a gray area: There are court cases pending. Gray goods are legitimate merchandise procured through unauthorized channels. Usually, foreign audio companies have a separate American division that sells products built to this country's specifications through authorized dealers. But equipment can be bought outside this authorized network—it's still the real thing from the manufacturer whose name is on the unit, but not necessarily built to U.S. specifications and warranted here.

Manufacturers such as Yamaha, Denon, and Nakamichi are trying to create awareness of the gray-goods problem by advertising in magazines like HIGH FIDELITY. In the classified section at the back of this magazine, you'll find their notices.

My advice is: Ask questions before you buy—and don't be intimidated! Write a list so that you don't get sidetracked. Ask the retailer whether the store is an authorized dealer for the brand you are buying. (You can call the manufacturer to confirm the names of authorized dealers.) Another thing to look out for is: Does the equipment have a valid U.S. warranty from the manufacturer? (Be careful here. Some retailers may use an outside warranty firm, such as the U.S.A. Warranty Co., so that they can tell you, "Yeah, it's got a U.S.A. Warranty." There may be nothing wrong with such a warranty, but it's not from the manufacturer.) You should also ask whether the instruction manual is in English. And pay attention to model numbers, especially prefixes and suffixes, comparing them with the manufacturer's advertisements. In addition, be wary of serial-number tampering, which voids the warranty—even on American-designated equipment. If you're suspicious, check with the manufacturer. Last, ask whether there is a "repacking fee" if you should decide to return the merchandise.

In fairness, not all equipment from deep-discount retailers is gray goods. There are other ways to offer equipment at lower than specialty audio-retailer prices. And even some retailers who deal in gray goods now offer their own store warranty to make up for the voided original one.

I guess the moral is: There's no free lunch. To get the lowest price, you might have to make some compromises—the least of which may turn out to be the attention and service from a specialty shop. Sometimes it may be worth the extra money to buy from an authorized dealer. It's your option. But once again, ask questions and stick to your guns!

Believe it or not, I encounter many of the same hurdles as you do when I set out to buy new equipment. First, there's no magic way that I know exactly the right receiver, tape deck, or whatever to buy; I read up and ask around. However, I do have the advantage of talking with people inside the industry and getting to see and play around with a lot of new products. Still, we may bump elbows at the retail counter.

Surprised? It works like this: Most mainstream consumer-electronics products are so heavily discounted that I can often get a comparable deal or better at retail than through the manufacturer (if the manufacturer will sell direct at all). The industry accommodation price from a manufacturer is based on a single-unit quantity; some dealers buy in such large quantities—and usually the higher the volume, the lower the wholesale cost—that they can offer a retail price that beats my industry discount. What's more, when I buy direct from a manufacturer, I must usually write a check for the full amount, whereas at many retail stores I can use a credit card.

Have you run into any of the problems described above? Or is there a particular topic appropriate to "Practicalities" that you would like to see covered? You can write me about the troubles you've seen, or pass along some advice you feel might be helpful to other audio and music aficionados. For instance, if you've bought a product we have reviewed recently, have you discovered anything that we missed?

Address your mail to: Beth C. Fishkind, HIGH FIDELITY, 825 Seventh Ave., New York, N.Y. 10019. (Please, no phone calls.) In certain instances, I may wish to contact you for more information; if you're agreeable to that, please include a daytime phone number in your letter.

This summer, while you're relaxing and listening to some tunes, jot down your thoughts and tell me what's going on in your corner of home entertainment. Meet you back here in September!
Those who have been Laserdisc fans from Day One, as I have, will remember that one of the format's main claims to fame was its supposed ability to produce a perfect freeze frame. Indeed, that has always been true with CAV (Constant Angular Velocity) discs because these record one video frame on each revolution of the disc. Simply freezing the laser pickup stops the picture in its tracks. But CAV discs “waste room,” since the long-circumference outer tracks carry no more picture information than the short inner tracks. As a result, CAV discs provide a maximum of about 30 minutes playing time per side and, except for special purposes, have never been as popular as the “long-play” CLV (Constant Linear Velocity) discs, which have one hour of playing time per side. With CLV discs, angular speed varies with the track radius—it’s fastest at the innermost diameter and slowest at the outermost—to keep the linear speed constant. This affords a longer playing time, but the one-to-one relationship between frame rate and revolution rate is lost, and still frame and special effects are not so easy to come by.

Enter the Philips CDV-488, a CD Video player that handles six different types of discs: 3-inch and 5-inch audio CDs, 5-inch CD-Vs, 8-inch and 12-inch Laserdiscs, and the new 8-inch LD singles. (The last are a thinner version of the conventional 8-inch Laserdisc and provide 20 minutes of audio and video.) Thanks to its extensive use of digital video memory circuits (similar to those used in some “digital” VCRs), the CDV-488 provides a full range of video special effects—even with CLV discs.

Dimensions: 16 1/2 by 4 3/4 inches (front), 16 3/4 inches deep plus clearance for connections.
Price: $1,300.
Warranty: Two years parts and labor.
Manufacturer: Made in Japan for Philips Consumer Electronics Co., One Philips Dr., Knoxville, Tenn. 37914-1810
Now you can put more power behind your audio and video system—get the best components at the best price, with a money-saving subscription to HIGH FIDELITY.

Issue after exciting issue, HIGH FIDELITY delivers the latest news and analysis from the world of audio and video—with detailed test reports and sound buying advice on loudspeakers, digital compact discs, audio and video tapes, CD players, cassette decks, color monitors, VCRs and super VCRs, camcorders, amplifiers, equalizers and much, much more.

Say “YES” today and get 12 big issues for just $11.97. That’s less than $1 per issue—a savings of 60% off the cover price. So don’t delay. Get more power, more performance for less money with a money-saving subscription to HIGH FIDELITY. Return the attached card or mail the coupon today.
In addition to "mosaic" effects, the CDV-488 provides freeze frame, forward and reverse, slow and strobe motion, and bidirectional accelerated motion at up to ten times normal speed via a quasi-professional "jog" dial and a shuttle ring that lie on the RC-488CDV Universal Remote Commander. The RC-488CDV itself is an unusually competent control center and can learn the codes of as many as ten different audio and video components—including those of other than Philips origin.

Philips claims that its finest digital audio chips are used in the CDV-488, and the tests performed at Diversified Science Laboratories would certainly give one no cause to doubt the statement. As a CD player (or when it is reproducing the digital audio track of a Laserdisc), the CDV-488 is on a par with the best "straight" CD players I have experienced and is better than any other combination CD/Laserdisc player I've come across to date. Response is flat within 0.1 dB across the board, D/A linearity is equally perfect down to the -70-dB level and off by only about ½ dB at -80 dB.

As one might expect, given the converter's excellent linearity and its monotonicity down to the lowest level, distortion is better than average too: less than 0.1 percent down through -40 dB, 0.5 percent at -60 dB, and about 2 percent at -70 dB. And while I wouldn't want to demonstrate that I can hear the difference between 100 dB channel separation at 10 kHz and half that amount (or even much less!), as an engineer I can't help but be impressed by a design and layout that produce the excellent results that Philips has obtained in the CDV-488. Similarly, the near-perfect channel balance (within 0.02 dB) may be overkill from the point of view of what's necessary, but it is impressive nonetheless.

The Philips CDV-488 tracked all bands of the Philips "defect" test disc with nary a hang-up and, on the Pierre Verany test disc, stumbled only when the dropout reached 1 millimeter (0.770 milliseconds) in length. Output level and impedance present no problems whatsoever, and S/N (signal-to-noise ratio) is excellent.

The digital audio tracks on available Laserdisc test records are not nearly so complete as those available on CD. Still, those bench tests validate what one would expect: i.e., the CDV-488's digital audio performance on Laserdisc is essentially identical to its performance on CD.

On old-style "analog" Laserdiscs (in which the audio channels frequency-modulate a pair of carriers), the sound quality is no match for that of a CD, but in the case of the Philips CDV-488, it's a good bit better than par for the course. A-weighted S/N is 61 dB with the CX noise-reduction system off and more than 10 dB better with it on. Midband LAFR (AFM, CX off) was 71 1/2 dB, 800 µm.

**Compact Disc Playback**

All data were obtained using the CBS CD-1, Sony YEDS-7, Philips 410 055-2, and Philips 410 056-2 test discs.

<table>
<thead>
<tr>
<th>Frequency Response</th>
<th>CDV 488 (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>left channel</td>
<td>+0.1 dB, 20 Hz to 20 kHz</td>
</tr>
<tr>
<td>right channel</td>
<td>+0.01 dB, 20 Hz to 20 kHz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency Response</th>
<th>CDV 488 (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>left channel</td>
<td>+0.1 dB, 20 Hz to 20 kHz</td>
</tr>
<tr>
<td>right channel</td>
<td>+0.02 dB, 20 Hz to 20 kHz</td>
</tr>
</tbody>
</table>

**Audio Frequency Response**

<table>
<thead>
<tr>
<th>digital</th>
<th>± &lt; 0.1 dB, 20 Hz to 20 kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFM (CX off)</td>
<td>+0.0, -3 dB, 20 Hz to 19 kHz</td>
</tr>
<tr>
<td>Channel Separation</td>
<td>105 dB</td>
</tr>
<tr>
<td>digital</td>
<td>75 dB</td>
</tr>
<tr>
<td>AFM</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audio S/N Ratio</th>
<th>± 0 dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>digital</td>
<td>± &lt; 0.1 dB</td>
</tr>
<tr>
<td>AFM</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audio Frequency Response</th>
<th>digital</th>
<th>±0 dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFM</td>
<td>± &lt; 0.1 dB</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Audio S/N Ratio</th>
<th>digital</th>
<th>±0 dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFM</td>
<td>± &lt; 0.1 dB</td>
<td></td>
</tr>
</tbody>
</table>

**Videodisc Playback**

All data were obtained using the Pioneer M-1 and F-2 test discs.

<table>
<thead>
<tr>
<th>Digital Output</th>
<th>198 volts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headphone</td>
<td>3.91 volts</td>
</tr>
<tr>
<td>Headphone output</td>
<td>3.91 volts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Digital Output</th>
<th>220 ohms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headphone output</td>
<td>38 ohms</td>
</tr>
</tbody>
</table>

**The RC-488CDV Universal Remote Commander works with other manufacturers' components.**
Rockford Fosgate RF-2000 Power Amplifier

All data measured in the normal (stereo, unbridged) mode, with gain controls set to maximum.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Power (8 ohms)</td>
<td>23.0 dBW (200 watts)/channel</td>
</tr>
<tr>
<td>Output at 0 dB</td>
<td>24.6 dBW (290 watts)/channel</td>
</tr>
<tr>
<td>Dynamic Power (at 1 kHz)</td>
<td>25.3 dBW</td>
</tr>
<tr>
<td>Dynamic Headroom (re rated power)</td>
<td>28.5 dBW</td>
</tr>
<tr>
<td>Harmonic Distortion (THD; 20 Hz to 20 kHz)</td>
<td>29.2 dBW</td>
</tr>
<tr>
<td>Harmonic Distortion (THD; 20 Hz to 20 kHz)</td>
<td>23 dB</td>
</tr>
<tr>
<td>Harmonic Distortion (THD; 20 Hz to 20 kHz)</td>
<td>4.0 dB</td>
</tr>
<tr>
<td>S/N Ratio (re 0 dBW, A-weighted)</td>
<td>67.5/129</td>
</tr>
<tr>
<td>Sensitivity (re 0 dBW)</td>
<td>67/129</td>
</tr>
<tr>
<td>Input Impedance</td>
<td>18k ohms</td>
</tr>
<tr>
<td>Damping factor (at 50 Hz; re 8 ohms)</td>
<td>1.000</td>
</tr>
<tr>
<td>Channel Separation (at 1 kHz)</td>
<td>95 dB</td>
</tr>
</tbody>
</table>

As its name implies, Rockford Fosgate (not to be confused with the Fosgate, Incorporated, of ambience-recovery fame) is part of the Rockford group. So is the David Hafler Company, though Fosgate tells me there is no other connection between the two. Evidently Rockford Fosgate is jealously guarding its identity—which is all to the good if its products are to continue the individuality that marks this one.

And certainly the RF-2000 couldn't readily be confused with any Hafler power amp. Despite its billing as "the first in a series of high-performance home audio components," it is more in the tradition of commercial sound amps (many of which have been the darlings of home audio in their day) than are the Hafler designs: It is fitted with a cooling fan; the AC cord has a grounded plug; the fan, the thermistors shut down the amp because of overheating. And both channels are fitted with speaker-protection fuses.

But don't let all this talk of protection intimidate you. The mere mention of a cooling fan conjures up, in the minds of many audiophiles, the sonic image of a room air conditioner endlessly whirring away—or, worse, doing so intermittently and at the least welcome moments. Not only is this fan quiet, as such devices placed between amps and the speakers. The output switch bridges the two channels for maximum power into a single load. The ground switch couples the output ground to chassis ground. Floating output ground and stereo operation at both input and output are the normal modes, however, and our tests focused squarely on stereo use.

The hefty power supply is designed around a toroidal transformer rated at 1,000 volt-amps. Output is through 16 MOS FETs per channel. Their heat sinks control the fan, turning it on progressively as temperature rises. Additionally, the output devices are protected by a circuit that, in effect, calculates safe operating area, cuts back on the drive power when that area is exceeded, and turns the problem channel's front-panel LED red. A third (power) LED turns red if, despite the fan, the thermistors shut down the amp because of overheating. And both channels are fitted with speaker-protection fuses.

Edward J. Foster
go, but what amounts to a servo mechanism controls it so that it never suddenly fires up. Moreover, it never came on at all during our listening tests—only during high-power measurements on the Diversified Science Laboratories bench.

And it certainly can develop high power: DSL’s tests showed it edged up toward 30 dBW (one kilowatt) per channel on an instantaneous basis into a 2-ohm load. With its 200-watt continuous-power rating as a starting point, it is quite unrestricted in developing the additional power afforded by the reduced duty cycle of the pulse (dynamic) testing or by load impedances lower than 8 ohms—except in the 4-ohm continuous-power test. During that, the 5-amp speaker-protection fuses blew. DSL re-run the tests with 10-amp fuses—hurriedly, though the amplifier itself gave no sign of overloading. This retesting suggested that, but for the fuse, the reading might be 26.3 dBW (425 watts) or more per channel.

The fuses are not at the output itself, incidentally, which could compromise audible. Also inaudible are the distortion products, although the measurements aren’t exceptionally low. The sound is simply very clean and unfettered.

This is a fine amplifier, with plenty of headroom for even the most demanding power of CDs and plenty of current capability to handle oddball speakers or speaker hookups. It is also surprisingly petite for an amp of such capabilities (thanks, no doubt, to the toroidal transformer), having an appealing shape that makes it seem more “housebroken” than most other superamps. After experiencing the RF-2000, I expect nothing but the best from Rockford Fosgate.

Robert Long

Dimensions: 17 1/2 by 4 1/2 inches (front), 12 1/4 inches deep plus clearance for connections and ventilation.
Price: $1,198.
Warranty: “Limited,” two years parts and labor.
Manufacturer: Rockford Fosgate Corp., 613 S. Rockford Dr., Tempe, Ariz. 85281.
Classic Rock from the 50's, 60's & 70's

- Grateful Dead
- Black Sabbath
- Jimi Hendrix
- Led Zeppelin
- Pink Floyd
- Deep Purple
- The Who
- Yes

The age of CD sound is here—and you have a practical new way to find the CDs you want. As your introduction to the CBS Compact Disc Club, you can choose any 8 CDs listed in this ad for $1.10 each. Fill in and mail the application—we'll send your CDs and bill you for shipping and handling. You simply agree to buy 6 more CDs at regular club prices in the coming three years—and may cancel your membership anytime after doing so.

How the Club works: About every four weeks, you'll receive our CBS Compact Disc Club Club's music magazine, which describes the Selection of the Month and other featured selections. You may then cancel your membership anytime after doing so.

The CDs you order during your membership will be billed at regular club prices, which currently are $12.98 to $15.98 plus shipping and handling for all eight. I agree to buy six more selections at regular club prices in the coming three years—and may cancel my membership at any time; if you decide to continue as a member, you'll be eligible for our money-saving bonus plan. If it's a choice between you buy one CD at half price for each CD you buy at regular club prices.

10-Day Free Trial: We'll send details of the Club's operation with your introductory shipment. If you are not satisfied for any reason whatsoever, just return everything within 10 days and you will have no further obligation. So why not choose 8 CDs for $1.10 right now?

ADVANCE BONUS OFFER: As a special offer to new members, take one additional Compact Disc right now and pay only $6.95. It's a chance to get a ninth selection at a super low price!

SEND ME THESE 8 CDs FOR $1.10

- U2
- Aerosmith
- Bruce Springsteen
- Crosby, Stills & Nash
- Grateful Dead
- The Who
- Led Zeppelin
- Harry Chapin

Please accept my membership application under the terms outlined in this advertisement. Send me these 8 Compact Discs listed here and bill me plus shipping and handling for all eight. I agree to buy six more selections at regular club prices in the coming three years—and may cancel my membership at any time after doing so.

SEND ME THESE 8 CDs FOR $1.10

- U2
- Aerosmith
- Bruce Springsteen
- Crosby, Stills & Nash
- Grateful Dead
- The Who
- Led Zeppelin
- Harry Chapin

Please accept my membership application under the terms outlined in this advertisement. Send me these 8 Compact Discs listed here and bill me plus shipping and handling for all eight. I agree to buy six more selections at regular club prices in the coming three years—and may cancel my membership at any time after doing so.

SEND ME THESE 8 CDs FOR $1.10

- U2
- Aerosmith
- Bruce Springsteen
- Crosby, Stills & Nash
- Grateful Dead
- The Who
- Led Zeppelin
- Harry Chapin
The tuner/preamp is a superbly sensible idea. It combines in one chassis all the low-level circuitry for a stereo system and keeps it separate from the hum and heat that an included power amp inevitably imposes. It also leaves you free both to choose the amp on the basis of the power rating you'll need for your speakers and your room, and to place that amp—or those amps, depending on your setup—wherever may be most convenient, or even to use powered speakers (another superbly sensible idea).

Maintains its own factory in Taiwan as well, it nonetheless relies on British engineering for the sonic polish that is intended to carve out a special high-value/moderate-price niche among the me-too offerings of other Oriental companies.

The RTC-850 is handsome, if conventional, though the front-panel design won't win any ergonomics awards. Unless the unit is at or above eye level, the volume knob tends to obscure the three tuner switches below it and their markings: for band (AM/FM), stereo and muting suppression, and auto/manual tuning. And the neat bank of pushbuttons obscures the differences between some of the functions they control. One quickly learns where the salient controls are, however, making this minor inconvenience unimportant in the long run.

Around 1950, Radio Craftsman built a very successful tuner/preamp—mono, using tubes, of course—but it has been all downhill from there. Receivers, integrated amps, and separate tuners and preamps all have prospered, but there isn't a tuner/preamp I can remember in the intervening years that has caught the public's fancy—despite efforts by major component makers. Let's hope that Rotel's RTC-850, which is exceptionally capable in some important ways, breaks the losing streak.

Rotel has undergone a number of transformations over the years and is just now emerging from its latest metamorphosis. A Japanese company that
tor the output of a tape deck while it is recording—a serious design flaw for owners of three-head cassette decks.

Near the selector options is a muting switch. According to the manual (whose French and German texts are, I hope, clearer than the English), this switch causes "a large reduction" in output; in fact, it mutes it altogether. Another semantic quibble: the marking of the aux as an "AV" option, evidently in the expectation that a VCR will be connected to it, though there are no connections or switching for the video itself.

The supplied RRT-3 wireless remote, powered by two AA cells, addresses the major functions of the RTC-850. Included are power on/off, the main selectors (but not the Tape 1/Tape 2 switch), tuner presets, tuning band, manual tuning, mute, and volume. Additionally, on the 850's back panel there are basic transport controls for Rotel cassette decks that have a control interconnect for a DIN socket.

The 850 is fitted with dual output-jack pairs so that you can feed, say, a threaded F connector is provided that connections are the standard lightweight stick antenna and mounting bracket. The AM and 300-ohm FM antenna connections are the standard lightweight binding posts. For 75-ohm FM coax, a threaded F connector is provided that (unlike the unthreaded sort on most Japanese tuners) will mate with the cable or download connectors most prevalent in the United States.

The tuning process, whether on AM or FM, is assisted by a five-segment LED signal-strength indicator next to the frequency readout. Thresholds for FM re-

![Test Reports](image)

### FM Tuner Section

![Sensitivity & Quieting](image)

### ABOUT THE dBW

We currently are expressing power in terms of dBW—meaning power in dB with a reference (0 dBW) of 1 watt. The conversion table will enable you to use the advantages of dBW in comparing products to others for which you have no dBW figures.

<table>
<thead>
<tr>
<th>Watts</th>
<th>dBW</th>
<th>Watts</th>
<th>dBW</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>0</td>
<td>32</td>
<td>15</td>
</tr>
<tr>
<td>1.25</td>
<td>1</td>
<td>40</td>
<td>16</td>
</tr>
<tr>
<td>1.6</td>
<td>2</td>
<td>50</td>
<td>17</td>
</tr>
<tr>
<td>2.0</td>
<td>3</td>
<td>63</td>
<td>18</td>
</tr>
<tr>
<td>2.5</td>
<td>4</td>
<td>80</td>
<td>19</td>
</tr>
<tr>
<td>3.2</td>
<td>5</td>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td>4.0</td>
<td>6</td>
<td>125</td>
<td>21</td>
</tr>
<tr>
<td>5.0</td>
<td>7</td>
<td>160</td>
<td>22</td>
</tr>
<tr>
<td>6.3</td>
<td>8</td>
<td>200</td>
<td>23</td>
</tr>
<tr>
<td>8.0</td>
<td>9</td>
<td>250</td>
<td>24</td>
</tr>
<tr>
<td>10.0</td>
<td>10</td>
<td>320</td>
<td>25</td>
</tr>
<tr>
<td>12.5</td>
<td>11</td>
<td>400</td>
<td>26</td>
</tr>
<tr>
<td>16.0</td>
<td>12</td>
<td>500</td>
<td>27</td>
</tr>
<tr>
<td>20.0</td>
<td>13</td>
<td>630</td>
<td>28</td>
</tr>
<tr>
<td>25.0</td>
<td>14</td>
<td>800</td>
<td>29</td>
</tr>
</tbody>
</table>

(Continued on page 30)
Thanks to Pioneer's CD Changer system, this is

Before you buy a CD changer, there are two things you should consider: Your home. And your car.

Because Pioneer makes a compatible 6-disc CD changer system for both, now you can enjoy your favorite music wherever you go.

The key to home and car compatibility is Pioneer's ingenious 6-disc magazine, which works in all Pioneer home and car CD changers. It's the most convenient way to load, store and catalog your CDs.

All of Pioneer's home CD changers feature the latest innovations in digital
the only place you’ll be without your music.

As for versatility, you simply won’t find a better car CD changer system. A Pioneer car CD changer can either replace or be added on to your current car stereo, using one of four advanced CD controller units.

Of course, there are still some places where you won’t be able to enjoy Pioneer’s 6-disc CD Changer system. But we’re working on it.

For more information and the name of your nearest Pioneer Dealer, call toll-free 1-800-421-1404.
The "normal" mode (the default at Power 1.3 x 10^13), rather than the "Hi-Fi" mode, is used when you switch to it after having the New York in its Hi-Fi mode, where the response curve actually rises slightly at the very top. Without that comparison, though, the normal mode sounds quite good—and, of course, the rolloff helps to muffle any spitting sounds engendered by multipath.

For strong stations, Blaupunkt creates greater separation in the Hi-Fi mode and thus passes up about 4 dB of noise quieting, reducing S/N ratio from outstanding to merely excellent. Separation remains above 10 dB in the Hi-Fi mode down to a little over 40 dBf, but there still is no meaningful stereo sensitivity rating because (as in most of the car units we test) separation is negligible by the time S/N ratio has dropped to 50 dB.

Which mode is more listenable on the road? I vacillated on that point, tending to prefer whichever was current. After listening in Hi-Fi, the normal mode sounded flat and dull. Reversing the procedure, the Hi-Fi mode's extra noise sometimes disqualified it. Your answer will no doubt depend both on your tastes and on reception conditions in the area you are motoring through. In any event, each obviously is engineered with care and intelligence for its intended purpose.

Among the AM data, those for both

### FM Tuner Section

Unless otherwise indicated, measurements were made in the "normal" mode (the default at Power 1.3 x 10^13), rather than the "Hi-Fi" mode. Thus the first priority evidently is listenability under reception conditions that are less than ideal—and in that respect the normal mode acquitted itself very well, the "spitting" noises of the road test for fluctuating signal and multipath being relatively faint, infrequent, and muted.

In order to achieve this, stereo reception in any meaningful sense is discarded for all but very strong stations—above 65 dBf, which is the signal strength normally used for "full RF" testing. For this reason, DSL had to measure some characteristics at 75 dBf instead, in order to document behavior for strong stations.

At that signal strength and above, 1-kHz channel separation is about 30 dB in the normal mode; by 65 dBf it already has shrunk to barely more than 2 dB! But, as a result of the blend, quieting—which is outstanding at high signal strengths—remains excellent right down to the separationless "stereo" threshold.

The most noticeable difference between the two modes, however, is in frequency response. The high end is quite severely rolled off in the normal mode and therefore sounds distinctly dull when you switch to it after having the New York in its Hi-Fi mode, where the response curve actually rises slightly at the very top. Without that comparison, though, the normal mode sounds quite good—and, of course, the rolloff helps to muffle any spitting sounds engendered by multipath.

For strong stations, Blaupunkt creates greater separation in the Hi-Fi mode and thus passes up about 4 dB of noise quieting, reducing S/N ratio from outstanding to merely excellent. Separation remains above 10 dB in the Hi-Fi mode down to a little over 40 dBf, but there still is no meaningful stereo sensitivity rating because (as in most of the car units we test) separation is negligible by the time S/N ratio has dropped to 50 dB.

Which mode is more listenable on the road? I vacillated on that point, tending to prefer whichever was current. After listening in Hi-Fi, the normal mode sounded flat and dull. Reversing the procedure, the Hi-Fi mode's extra noise sometimes disqualified it. Your answer will no doubt depend both on your tastes and on reception conditions in the area you are motoring through. In any event, each obviously is engineered with care and intelligence for its intended purpose.

Among the AM data, those for both

### REPORT POLICY

Equipment reports are based on laboratory measurements and controlled listening tests. Unless otherwise noted, test data are provided by Diversified Science Laboratories. The choice of equipment to be tested rests with the editors of High Fidelity. Samples normally are supplied on loan from the manufacturer. Manufacturers are not permitted to read reports in advance of publication, and no report or portion thereof may be reproduced for any purpose or in any form without written permission of the publisher. All reports should be construed as applying to the specific samples tested. High Fidelity and Diversified Science Laboratories assume no responsibility for product performance or quality.
sensitivity and selectivity stand out as top-notch. The sensitivity figure is less unusual than that for selectivity; most unusual is finding two such good figures combined in the same tuner. Frequency response of this section is typically utilitarian. Noise is lopped off sharply above 3 kHz and, with it, any pretense to high fidelity. The deep-bass rolloff is more than compensated for by the sonic boom deliberately introduced by many AM stations. Again, Blaupunkt's top priority seems to be listenability, and the design achieves that goal admirably.

The tone controls have a more generous range than most, but otherwise they behave quite conventionally. The loudness compensation is applied only in the bass, following modern research on the subject that, nonetheless, is ignored by many prestigious manufacturers. At the test level (with the volume turned down 20 dB from full-on), the compensation adds almost 10 dB below 100 Hz or so by comparison with response throughout the treble.

At risk of offending my metropolitan colleagues, I would say Blaupunkt's New York is distinctly more elegantly self-effacing than its namesake. If you like flashing multicolor displays and lots of useless controls, you won't find them here. What you will find is thoughtful, thoroughgoing design. German engineers seem to seek the best way of doing things when their counterparts elsewhere are seeking the most competitive. More power to them. 

Robert Long

O
ne could argue that the CDX-R77 is as logically conceived as is possible for a car-stereo head unit. It combines a good AM/FM tuner with a good Compact Disc player and organizes its controls so that, as much as possible, each provides comparable functions for both modes, depending on which is in use. You can add a tape player if you want (though Compact Discs certainly are better designed to withstand the rigors of the automotive environment), and the choice and placement of power amp, crossovers, and what-have-you are left open.

Moreover, the controls themselves display exceptional logic. Sony has made no attempt to ape all the intricate programming and readout modes of home equipment, which are just about worthless in a moving car and contribute only clutter and confusion. The buttons are relatively large and well grouped and positioned for their respective functions.

The volume control (separate UP and DOWN elements) are oversized and built into a sort of flange that protrudes along the bottom edge, making them the easiest of all to find—as befits the control that gets used most frequently.

Flanking it are two especially useful and unusual features: a mute button and a "select" button. The select button enables you to preset three different volume levels as well as one user-default option apiece for balance, fader, bass, and treble so you can return to these settings automatically at power-on. Thus, for example, the tone controls can be used both for permanent speaker equalization and for manual adjustments away from those default settings. Instead of returning the controls to their detents, you simply revert to the preset settings.

There are no detents in any event, because settings are chosen by stepping through the menu of parameters with the select button, then adjusting the chosen
parameter at what normally are the volume buttons. (However, there are center-position display markings to help guide your adjustments.) The process of making temporary settings or saving adjustments is identical except for the use of the “repeat” button (tuner Preset 3) to memorize your setting. This sort of multiple use admittedly can lead to confusion. Sony has minimized that factor by the underlying logic of its choices and which raises the threshold of the seek tuning, plus a mono mode and a memory scan. There are six preset buttons, each of which can hold one AM and three FM stations. The CDX-R77 will, incidentally, retain its memory for days without power, which is unusual. Manual tuning is in full-channel steps on both bands: 0.2 MHz on FM, 10 kHz (or 9 kHz, for some parts of the world, via a chassis switch) on AM.

Other features include a clock display, a choice of amber or green illumination, repeat of the current CD selection, random (shuffle) CD sequencing, and timer radio-on (say, to pick up a scheduled traffic report). The presence of separate up/down auto-seek and manual tuning keys—which double as seek and scan keys for CDs—means that you don’t have to fumble for a tuning-mode change switch. And again, the similarity of function with the two sources is ergonomically important.

The tuner also offers a local option, by keeping the most-used functions the most straightforward.

The AM section delivers a little more output in the range around 2-3 kHz than is usually the case, but it filters more sharply above that range to exclude as much extraneous noise as possible. With that much filtration, it can’t be called high fidelity, but intelligibility is good. The FM section has a somewhat rising characteristic at the high end, though it doesn’t sound excessively sibilant. Channel separation (measured, as always, at 65 dBf) is exceptional. As Diversified Science Laboratories’ data show, separation diminishes rapidly at lower signal strengths and is down to a dB or two below 40 dBf. This keeps noise.
FM Frequency Response and Channel Separation

Frequency Response

Channel Separation

-25 dB, 20 Hz to 15 kHz
-20 dB, 22 Hz to 12 kHz

AM Frequency Response

CDX-R77 (3)

+1.3 dB, 76 Hz to 4.2 kHz

CD Frequency Response

CDX-R77 (4)

no de-emphasis

-0.1 to -1.4 dB, 20 Hz to 20 kHz

with de-emphasis

Sensitivity & Quieting

Stereo sensitivity (for 50-dB noise suppression)

14.8 dB at 98 MHz

Mono sensitivity (for 50-dB noise suppression)

91.25 dB

Capture Ratio

2.5 dB

Selectivity (alternate-channel)

68.10 dB

AM Suppression

62.70 dB

Harmonic Distortion (THD + N)

at 100 Hz 0.90%

at 1 kHz 0.75%

at 6 kHz 1.65%

AM Tuner Section

Sensitivity

4.1 mV

Selectivity

76.1/4 kHz

AVC Range

77.3/4 kHz

Compact Disc Section

Channel Separation (at 1 kHz)

80 dB

S/N Ratio (re 0 dB; A-weighted)

without de-emphasis 85.3/4 dB

with de-emphasis 87.1/2 dB

Harmonic Distortion (THD + N; 40 Hz to 20 kHz)

at 0 dB ≤ 0.025%

at -24 dB ≤ 0.89%

Linearity (at 1 kHz) no measurable error to -50 dB

Tracking & Error-Correction see text

Preampifier Section

Bass Control +9 3/4 to -9 1/4 dB at 100 Hz

Treble Control +10 dB at 10 kHz

Line Output Impedance 2,200 ohms

Maximum Line Output Level from FM (100% modulation) 1.36 volts

from CD (0 dB) 2.19 volts

Robert Long
Shure HTS Theater Reference System

Seldom has an audio manufacturer latched onto a single design concept and taken it as far as it can go. The last example I can recall was Acoustic Research's MGC-1 loudspeaker. But it has happened again with Shure's HTS Theater Reference System, which the company correctly claims is "the first dedicated audio system for the Home Theater." Shure's goal was "to re-create the theater experience in the home exactly as intended by the film studio—without so-called 'enhancements.'" To that end, the system starts off with a state-of-the-art surround-sound decoder and adds three special-purpose amplifiers and six matched speakers—almost precisely the gear needed to equip an actual movie theater for surround-sound playback.

In a full Reference System, the six speakers are laid out more or less as in a movie theater. There is one center-channel speaker placed beside, above, or below the system's video screen. The two other front speakers are placed in the left/right pattern familiar in a normal stereo system. The Reference System's two surround-channel speakers can be placed in any number of locations, starting from directly off to the side of the main listening position and working toward the back of the room. Shure recommends that the surround speakers be kept as far apart as possible and that they be elevated above the viewers and angled toward the "primary viewing area." The subwoofer can be placed anywhere convenient, though I usually prefer to keep such devices as close to the main speakers as possible.

The core of the Reference System is the HTS-5300 Acra Vector surround-sound decoder (available separately for $1,250). This unit is substantially the same in features, operation, and measured performance as its predecessor—the HTS-5200—reviewed in the February 1988 issue (which contains further details on the decoder operation). The 5300 is a plain, logic-steered surround-sound decoder, it makes no attempt to synthesize the acoustical environment of a real movie theater. That function is provided by other available devices, but, as regular readers of this magazine will remember, I have my doubts as to its utility: It's better to do things straight, like the HTS-5300.

Performance has improved over the 5200 in a couple of respects—most important, in signal-to-noise ratio (S/N). Diversified Science Laboratories' measurements of the 5300 show a 2-dB improvement in S/N for the main (front) channels and a significant S/N increase of 8 dB for the surround channels. Surround-to-center channel separation is at least 47 dB from 20 Hz to 20 kHz, which betters the 5200's figure by about 7 dB. The other channel-separation figures have remained about the same: left-to-right, greater than 50 dB, right-to-left, greater than 45 dB, surround-to-left or -right, greater than 30 dB. These figures all represent excellent performance for a logic-steered surround-sound decoder.

Output impedances for the 5300 remain on the high side (measurements of the main and center channels even show a slight increase), which means that low-capacitance cables should be used if long runs are necessary. The remote handset also remains the same and controls only the volume of the surround outputs, the overall master volume, and a system-mute (all outputs off) function. An optional accessory, the $99 HTS-60RX remote extender, can be used if the 5300 is located where infrared beams from the remote control cannot activate it. The 30-foot cord of the small 60RX box plugs into a jack on the 5300 back panel, and it serves as a sort of unobtrusive relay station for the 5300's handset commands.

Working outward from the 5300, one encounters three purpose-designed stereo power amps: the HTS-50SPA Signal Processing Amplifiers (available separately...
Shure's Theater Reference System: surround decoder (left), three power amps (bottom right and top center), subwoofer (center), center-channel speaker (right), and four satellite speakers (all others). The speakers normally have grilles.
for $1,650 each). Shure says that the highest power demands are presented by the center and subwoofer channels and that these two signals should be connected to two different amplifiers. So the company recommends that the center and left-surround signals be handled by one power amp and the subwoofer and right-surround signals by another.

The 50SPAs are large (16½ by 3½ by 13¼ inches) and hefty (27 lbs.) units, as befits their 100-watt-per-channel ratings. Most of the other special features of the 50SPAs relate to their use with the Reference System speakers. Each channel of the amplifier contains a rotary switch and the appropriate equalization networks for all of the HTS speakers. "For instance," runs the 5300 manual, "in the LRS or CF modes, the amplifier output is full-range and precisely complements the HTS-50LRS or HTS-50CRF loudspeaker responses, respectively." There is an SW setting for use with the HTS-50SW subwoofer, and there are separate LRS and CF settings for use in systems with (LRS, CF) or without (LRS, CF,) a 50SW subwoofer. A flat-response position is provided for driving non-HTS speakers. (All these frequency responses are shown in the accompanying graphs.) The built-in HTS equalizations are not suitable for use with non-HTS speakers, except possibly for the SW curve.

In addition to speaker-specific equalization, each channel of a 50SPA includes a dynamically variable limiter that "continuously measures the input signal and shapes the response, depending on the Operational Mode selection, to protect against distortion caused by overexclusion of the speaker connected to that channel." Another protection circuit "prevents long-term hard clipping." This feature is separately defeatable for each channel by front-panel switches, but was not turned off for most of the lab tests. Also included are self-resetting thermal and short-circuit protection devices.

The test results for the 50SPA show fine performance as a basic power amplifier. Output power just about doubles when going from 8-ohm to 4-ohm loads, indicating good current-delivering capability; distortion is low enough to be inaudible at all times; and the various input and output levels and impedances are all acceptable.
The extent of the response shaping for each HTS speaker type is notable.

There are three types of Reference System speakers: the HTS-50CF center-front unit; the LTS-50LRS used for the left, right, and surround channels; and the HTS-50SW subwoofer. All models feature magnetically shielded drivers, low-distortion removable grilles (dark-brown stretch cloth over plastic frames), genuine walnut-veneer finishing, five-way binding-post connectors, built-in fuses, and thickwalled, internally braced cabinets.

The HTS-50CF is a two-way unit with two 6¼-inch woofers in a closed-box (acoustic suspension) arrangement and a fluid-cooled 1-inch dome tweeter. The 50CF measures 20 by 13¼ by 8½ inches and weighs 37 pounds. It is intended to be placed—in a vertical orientation—above, below, or beside the system’s video screen. The HTS-50LRS (13¼ by 10 by 8½ inches) consists of one 6¼-inch acoustic suspension woofer and a fluid-cooled 1-inch dome tweeter. The subwoofer has one 12-inch driver in a floor-standing, vented cabinet measuring 18 by 23 by 14 inches.

All three of these speakers are available separately ($750, $500, and $650 each for the 50CF, 50LRS, and 50SW, respectively), but since each requires the services of a 50SPA amplifier to work correctly, it makes little sense to consider purchase of any of them apart from a Reference System amplifier. This situation also makes certain measurements the lab normally performs somewhat irrelevant. Power handling, impedance, and sensitivity, for example, are all subsumed under the Reference System design goal of providing at least 108 dB sound-pressure level on peaks at the ideal listening position—just as in a modern movie theater. The system certainly played as loud as I would want it to in our New York listening room.

DSL did make detailed measurements of the most numerous of speakers in a Reference System: the HTS-50LRS that is used as the left and right main speakers and as the two surround-channel speakers. This unit was chosen for testing because of its importance in both movie-sound and in plain (non-surround sound) stereo playback of music—only material, where it forms the primary sound source for the system, the center channel being deactivated during such operation.

One lab measurement tells all. As the graph shows, when a 50LRS speaker is operated from a 50SPA amplifier in its LRS setting (the one for a Reference System that includes a subwoofer), response falls off sharply below 100 Hz and gradually rolls off from its midrange level at 1 kHz by some 9 dB at 20 kHz (the dip at around 300 Hz is due to a floor reflection).

The low-frequency drop is deliberate and is a result of the response shaping of the 50SPA amplifier; when the amp is switched to its LRS, mode (for a system without a subwoofer), the bass response is extended downward about an octave (to 50 Hz) before dropping off. The high-frequency rolloff also is apparently deliberate and is even more precipitous in the off-axis response, which indicates some intentional beamforming (the speakers provide the "correct controlled polar patterns for [a] multi-channel theatrical sound field," says Shure).

It is the treble performance that dominates the sound of the speaker and, since the 50LRS is the most numerous of the units in a Reference System, the sound of the entire system—despite the audibly flatter response of the 50CF center-front loudspeaker. The differences in response between the 50CF center-front speaker and the 50LRS left and right speakers cause some image nonuniformity across the front soundstage. A pink-noise test signal panned from left through center to right distinctly changed sound quality as it moved. Furthermore, the high-frequency directivity of both the 50CF and 50LRS causes their sound to change depending on the aiming of their front panels and, more important, on their mounting heights.

But on the movie soundtracks with which I auditioned the entire system, such frequency-response anomalies were of little consequence: The Reference System sounded superb when accompanied by a video program. The 5300 decoder is the best in a line of decoders that produce surround effects that are, to quote our review of the 5200, "exceptionally good and remarkably subtle." Regardless of the complexity of the soundtrack, I never heard any untoward sonic-image shifts, pumping of background sounds or music, or incorrect image placements. Everything worked exactly as advertised, and the sound of the Reference System did indeed "rival the very best theatrical experience."

In some ways it was even better, since in a typical home listening room one doesn't have to contend with the acoustical anomalies that even top-drawer movie theaters exhibit (such as the hall's reverb covering dialogue). The center speaker did indeed fulfill its intended function of locking the dialogue onto the video screen when listening from off a central position (even though the 50CF cannot be ideally positioned behind the video screen). And the subwoofer added a stunning woofto space-opera explosions.

It is only when the Reference System is required to reproduce well-recorded music, without an accompanying video image and movie sound effects, that it audibly falters. The rolled-off highs of the HTS-50LRS satellite speakers then become obvious, especially if the stereo and defeat buttons on the 5300 decoder are pushed to turn off the surround and center-channel speakers (the subwoofer, if any, will continue to function, making the system still more bass-heavy). Even with the surround and center-channel speakers activated—the 5300 simulating surround-channel information in its stereo mode, and a picture running—the sound quality is sometimes not up to present music-oriented, rather than movie-oriented, standards. This was apparent with, for example, the digital audio videodisc version of Michael Jackson's Moonwalker music-video movie—a disc that, in any case, sounded better in the 5300's simulated-surround mode and not its Dolby Surround setting.

Beyond a doubt, I am expecting too much. Shure makes no claims that its Reference System is the ultimate system for reproducing both movie soundtracks and straight music or that the Reference System can replace one's present audio equipment. Shure did call the listening location the primary viewing area, after all. The problem is simply that at the complete system's $9,600 price level, only very few audio-video enthusiasts would be able to afford the Reference System as well as an equally definitive system for audio-only playback. As Shure states, the system is designed "for the serious audio/video enthusiast, and for the upscale consumer who wants the very best of everything in the home."

My suggestion? If you are interested in state-of-the-art surround-sound movie reproduction, but want to start small or to have a system suitable for both video-sound and music-only playback, look first at the HTS-5300 decoder as an accessory to your present audio system. Then, if you catch the bug and want only the best possible movie-sound reproduction—and have the space and the bucks—I see no simpler course to follow than adding to the 5300 the rest of the components of the Shure Home Theater Reference System. As a complete solution to movie-sound playback, it's one of a kind and unlikely to be equalized, let alone surpassed, in the near future.
Why some concert halls sound good and why others don't.
By Jeffrey Borish

Dream about designing the perfect concert hall: It would have large, well-padded seats with adjustable backs, signs requesting that patrons turn off their watch beepers and pagers, and free cough-drop dispensers. Since this is a dream, you can ignore such mundane matters as how to mount an air conditioner so that its vibrations are inaudible, how to isolate the hall from street noise, and how to choose upholstery that has the proper sonic properties... even though real architectural acousticians must think about these things. Besides, as long as you're dreaming, you can fantasize a staff that will take care of these "minor" details.
rooms. For the majority of music lovers, stereo sound reproduction is musical reality. But just as electronic pianos don't replace real pianos, stereo equipment doesn't replace concert halls. There's room for both. In fact, concert halls have proven to be essential to the development of audio equipment, because live music in real concert halls has been, to many consumers and audio critics (including this magazine's), the standard by which to judge sound-reproduction quality. The complete audiophile should therefore be at least familiar with what establishes the standards in concert-hall design.

First, we'll take a look at what many music lovers consider the be-all and end-all of acoustical design: reverberation.

Concert halls are not built just to keep rain off the audience; there are sounds in a concert hall that we don't get in our living rooms—and I don't mean just coughs and program rustling. Concert halls do something good to the sound: An enclosed space confines the sound, forcing it to return to the audience over and over again in a rapid, decaying succession of reflections known as "reverberation." Ideally, reverberation produces a number of remarkable effects: It gives listeners the sense that a performance is taking place in an enclosed space and makes them feel immersed in sound; it adds warmth and fullness to the tone quality of the instruments; and it increases the music's loudness. At an outdoor concert, some or all of these qualities will be lacking. But simply throwing up four walls and tossing on a ceiling will not suffice, for unless the hall is properly designed, reverberation will not produce all of these highly desirable effects.

"Reverberation time" is traditionally considered the single most important characteristic of reverberation. It is roughly the time it takes from when the sound from a source (such as a musical instrument) ceases until the sound in the hall decays to near-inaudibility. Formally, it's the time it takes for the sound-pressure level to fall by 60 dB (to one-millionth of its initial amplitude). The reverberation time of a hall depends, mostly, on the hall's spatial volume and on the amount of sound-absorbing material it contains (including people). The more absorbing material, the shorter the reverberation time; the larger the volume, the longer the reverberation time.

A closer look at the situation reveals a rule of thumb tying reverberation time to geometry even more directly. In most concert halls, the walls and ceiling are very reflective; most of the absorption is provided by the seats and the people in them. Usually the floor level is covered with seats, so the total absorbing power of the hall is proportional to the area of the floor. This of course means that increasing the volume of the hall by increasing the area of the floor produces a proportional increase in absorption, so that there will be no net change in reverberation time. Only by increasing the height of the hall can the volume be increased without an offsetting increase in absorption (this is the case with cathedrals). The rule of thumb is, therefore, that the reverberation time is proportional to the height of the hall—as, understandably, are construction costs.

Architectural acousticians usually employ more complicated formulas to predict reverberation time, but inaccuracies in the formulas lead to estimates that are often too high by 20 to 50 percent. To compensate, many acousticians design the hall to provide a reverberation time that is somewhat longer than desired, and then adjust the final product by introducing additional absorbing material (it is easier to reduce the reverb than to increase it). Furthermore, the adjustments supposedly make it possible to vary the acoustics to suit the style of music, although in practice such measures rarely produce the expected effects. The problem with reverberation formulas is that reverberation time depends not only upon a hall's volume and absorption but also upon its shape. Unfortunately, to take the latter into account, a computer must be used and the convenience of a simple equation is lost.

In an ideal hall, the reverberation time varies with frequency. A reverberation time that is somewhat longer at low fre-
frequencies than in the midrange creates a sense of sonic warmth. To provide a long decay at low frequencies, rigid reflecting surfaces are used to minimize the sound that escapes. For this reason, wooden walls can actually be detrimental to hall acoustics because they don’t easily provide the rigidity of other materials—for example, the concrete or plaster found in the best halls. On the other hand, the appearance of wood is warm and beautiful, so people often prefer it even when its acoustical merits are dubious.

Architectural acousticians these days are usually able to get the reverberation time of their designs into the range considered ideal for the type of hall being built (good opera houses have shorter reverb times than good symphonic concert halls). Yet many halls still don’t sound good. Obviously, there is more to the story than just reverberation time.

EARLY REFLECTIONS

A sound emitted in a room—concert hall or home listening room—travels along many paths from the sound source to the listener. First to reach the listener are the direct sounds, which travel from the source along straight lines to the ears. Following the direct sounds are sounds involving one or more reflections off the surfaces of the room. The first of these reflections are spaced relatively far apart in time (up to about 20 milliseconds)—far enough that our ears respond to each one individually yet not so far apart as to be heard as distinct echoes. But as the pattern of reflections accelerates, the individual reflections lose their identity, so that we respond only to their “average” characteristics. Accordingly, we can divide reverberation into two phases, each producing its own subjective effect. The first phase is the “early reflection pattern”; the later series of dense reflections is “continuous reverberation.” (The latter is what reverb time measures.)

Hard as it is to design a hall to provide a particular continuous reverberation, that is only half the battle, and, for one simple reason, it is the less important half. Consider: We hear the luscious, gradual decay of continuous reverberation primarily when the sound source stops. At other times, the earliest, loudest sounds—the direct sound and the early reflections—overpower the reverb. Sure, we can catch an auditory glimpse of the reverb between separated notes, but the early reflections have a strong impact continuously while the music is playing; they dominate our perception. For a concert hall to sound good, it must not only have an appropriate reverberation time at all frequencies, but a pleasing early-reflection pattern as well.

DOING IT WITH MIRRORS

But how do we decide whether a design will produce a reflection pattern that will be pleasing? To answer this question, the “image model” can be used. Sound reflects from a hard surface in much the same way that light reflects from a mirror. As a result, we can consider an angled sound path that includes a reflection from a surface to be equivalent to a straight path from an imaginary or mirror-image source whose position can be derived from the angle of reflection.

One way to think of these mirror-image sources is to suppose that they were not mere reflections but real, or virtual, sources, suspended in space surrounding the listener at distances proportional to their apparent visual size and in directions equivalent to their apparent direction. The smaller, more distant-appearing reflections are of distant virtual sources. All these virtual sources emit the same sound simultaneously, but the sound from the farther ones takes longer to reach the listener. Whenever the sound reaches the image of a boundary, a small amount is absorbed as it passes through, as if the boundary were a curtain. Consequently, a person hearing an array of virtual sources receives the same pattern of early reflections as a listener in the actual hall.

The subjective effect of the early reflec-
Concert Hall

ACOUSTICS

SHAPELY HALLS
Psychoacousticians—scientists who study how we perceive and respond to sound—have found that slightly delayed sounds that reach us from the side produce a pleasing subjective effect known as "spatial impression" (SI). The more lateral and loud, the greater the SI. Spatial impression is responsible for the feeling of being enveloped by sound in a concert hall. Whereas reverberation creates the sense that a performance is taking place in a closed space, SI creates the sense that one is actually inside the space. It also makes the sound source seem broader. We can use the image model to analyze the extent to which different concert-hall geometries succeed in making the delayed sounds reach us from the side.

Suppose you are perched high above a concert hall, looking down on it, and someone has conveniently marked large + signs in the parking lot at the positions of the image sources. There are obvious differences as you move through a sequence of idealized hall geometries: from fan (Fig. 3), to the traditional "shoebox" (Fig. 4), and finally to a reverse fan (Fig. 5). Notice that in the rectangular, shoebox hall the virtual sound-source images spread out to the sides along straight lines.

In the fan, the outward splay of the walls causes the sidemost images to curve away from the listener. Now, if we want sound to reach us from the side (for greater spatial impression), this curvature is bad news: The strongest reflections arrive from a narrower range of directions in front. Spatial impression is lower in fan-shaped halls. This is the fundamental reason why shoebox concert halls almost always sound better than fan-shaped ones. (For more on what makes a hall bad, see "Fallen Arches: Why Halls Fail," p. 44.)

In the reverse fan, on the other hand, the sidemost images curve toward the rear, enveloping the listener in lateral sound. As a result, the reverse fan produces an even greater spatial impression than the classic shoebox, making it an acoustically superior geometry. But from a practical standpoint, it presents challenges. One of the economic pressures in designing new concert halls is increased seating capacity. Because the width of the front part of the concert hall is constrained by the requirements of the performing groups, the reverse fan sacrifices seating capacity. Nevertheless, the geometry has been successfully applied in a few recent halls, such as El Pomar Great Hall of Pike's Peak Center and the Tampa Bay Performing Arts Center.

Despite its acoustical deficiencies for concert music, the standard fan shape is the predominant geometry for new halls because it allows more people to be accommodated within a given distance of the stage. For example, a rough calculation shows that splaying the walls of shoebox-shaped Boston Symphony Hall (one of the three greatest halls in the world and the best in the Americas) by only five degrees would increase its seating capacity from 2,631 to nearly 3,000—the target for many modern designs. But even a splay as small as five degrees would make Symphony Hall sound worse, according to mathematical modeling; many fan-shaped concert halls have splays that are significantly greater—often 30 degrees or more.

Many acousticians try to overcome the limitations of unsuitable geometries by suspending reflecting panels over the orchestra. As intended, these panels do provide some early reflections, but the reflections reach the audience from above, not from the side. Reflections that arrive from in front or overhead—in what psycho-
acousticians call the “medial plane”—decrease spatial impression. While it is probably better to have medial reflections than none at all, suspended panels cannot replace properly situated walls.

One way in which it might be possible to combine the acoustical advantages of the reverse fan with the practical advantages of the fan would be to segment the walls, with the segments positioned to provide an overall fan shape but oriented to correspond to the reverse fan. As shown in Figure 6, the virtual sources show the same tendency as in the reverse fan to curve around toward the sides, so the reverse fan and the segmented fan should produce comparable spatial impression. Ironically, segmentation of the walls is often applied in concert-hall designs, but usually the orientation is chosen to emulate a fan with a still larger splay, making matters worse.

It is intriguing to consider how the acoustics of the hall could be adjusted if such panels were allowed to rotate. By changing the degree of spatial impression,

Everyone agrees that Symphony Hall in Boston is the best concert hall in this country and one of the three best in the world (the other two are the Amsterdam Concertgebouw and the Grosser Musikvereinssaal in Vienna). If that’s the case, why don’t symphony boards of directors—with tens of millions of dollars at stake—simply copy Boston’s hall for their own orchestras and improve the odds of getting a good-sounding edifice? There are, unfortunately, several compelling impediments to cloning Symphony Hall:

Economics. Economic factors weigh heavily on new concert-hall designs. Building a concert hall today is an expensive proposition, often costing upwards of $60 to $70 million. A large seating capacity maximizes receipts that offset the costs of construction, maintenance, and operation, but the historically great concert halls have seating capacities considered inadequate for modern buildings. Vienna’s Grosser Musikvereinssaal, perhaps the best concert hall in the world, seats only 1,680 people, whereas modern concert-hall designs usually aim for 3,000 seats.

An obvious solution would be to scale the dimensions of the Musikverein upward to accommodate the desired number of seats. Unfortunately, our hearing doesn’t scale similarly. Scaling the dimensions changes the delay times of the early reflections, among other things, which changes our subjective response. The resulting hall might seat the required number of people, but it probably wouldn’t sound as good. It is unlikely that concert halls seating more than 2,600 to 2,800 will ever sound good.

Comfort. Modern audiences demand greater luxury than those of yore, and, at the very least, modern safety regulations require wider aisles than those in Symphony Hall. But leg/elbow room and wide aisles consume space and require a larger hall or fewer seats. Today’s concertgoers demand, in addition, greater visual intimacy with the performers. The consequence is that architects often choose shapes that result in visual intimacy at the expense of the acoustics.

The Victorian Arts Centre Concert Hall in Melbourne, Australia, is a fan-shaped hall that seats 2,700 (slightly more than the 2,631 of Boston’s Symphony Hall), yet the distance from the stage to the farthest seat in the balcony is only 112 feet as compared to Boston’s 135. But as we have seen, when visual intimacy is provided by adopting a fan shape, the acoustics suffer. Even worse acoustically, although better visually, are the “surround” halls, such as Boettcher Hall in Denver and the Philharmonie in Berlin, in which the audiences are also seated in back of the stage. In a surround hall, the distance of the walls from the stage makes strong early lateral reflections impossible.

Artistic Factors. Architects are artists. They like to display their genius with innovative designs. Regrettably, daring artistic leaps make bad acoustic science; prudence dictates only incremental changes from the admired prototypes. When a new design looks similar to its prototype, it probably sounds similar; and the impact of mistakes is limited. Furthermore, acousticians have a better opportunity to learn from the design: With only a few changes made, there is less confusion about which ones account for perceived differences.

Political Factors. Symphony boards, which ought to be primarily concerned with creating an enviable acoustical environment for their orchestras and audiences, often seem more interested in building only monuments. By choosing the architect first, they automatically assign a higher priority to appearance than acoustics—and the architect usually subcontracts the acoustician. Unfortunately, many architects don’t understand acoustics. Often they hand the completed blueprints for a new design to the architectural acoustician with the directive “Make it sound good.”

As we have seen, no amount of technical wizardry can overcome some architectural features (this was the lesson learned in New York’s original, fan-shaped, Philharmonic Hall, now rebuilt as Avery Fisher Hall). The only hope for outstanding acoustics is for the acoustician to be given sovereign power.

Science. Each new concert-hall design is an experiment in applied acoustics. Still, as experiments, they are far from ideal. It often takes 10 to 15 years from the initial planning to the completion of a concert hall—a long time to wait for results. During that time, an acoustician might initiate several other hall designs based on the same theories before getting any feedback from the first hall. If the theories were wrong, then all the newer halls will have the same problems. Furthermore, new designs usually differ in many ways from their prototypes, complicating the attribution of deficiencies to specific architectural features. Sometimes the wishes of the acoustician are sacrificed to economic constraints (“Put in more seats!”) or subjugated to artistic considerations (“I want a round interior!”). And, of course, the ultimate gauge of acoustical qualities is subjective, introducing the uncertainties of personal preference.

J.B.
this adjustment would provide a more meaningful control of the acoustics of a concert hall than adjustments to reverberation time. Mathematical modeling reveals that a change in the orientation of the panels in Figure 6 by only six degrees could produce a subjectively significant change in the sound quality.

HOW ABOUT THE PERFORMERS?
There is a second, smaller audience in a concert hall: the performers. Many of the design criteria for the audience get turned inside out for the performers. They are less concerned with reverberation than with onstage audibility. If an instrumentalist in an ensemble can hear only himself, the rhythmic accuracy of the performance will suffer. Early reflections are required to “amplify” the sound of the other musicians in order to produce a better balance. But, unlike the case out in the hall, amplification is the only effect sought—we don’t want the early reflections to create spatial impression.

One way to assure that the reflections will not produce spatial impression is to arrange for them to reach the performers in the medial plane, exactly the opposite of what one wants for the audience. A wall or shell behind the orchestra and overhead reflectors or a ceiling that isn’t too high provide the desired reflections. Walls are acceptable (and unavoidable) as long as they aren’t too far away. Unfortunately such constructions, especially orchestral shells, while helpful to performers, can be detrimental to the sound in the hall. Balancing the needs of the performers with those of the audience provides a classic dilemma for acousticians.

ELECTRONIC SIMULATIONS
As noted above, there are two applications for the image model. One is heuristic and produces the guidelines just presented for choosing a proper concert-hall geometry.

The other application is practical: the electronic simulation of a concert hall. Why would we want to do this? One reason is to assure, before construction, that a concert hall will sound good. Once the computer has determined the positions of the virtual sources, it can use this information to process a “dry” (reverberationless) audio signal, creating a recording that gives the impression that the sound had been emitted in a physical realization of the hall. Any deficiencies can be remedied before corrections become expensive.

Another application for concert-hall simulation is the addition of a reverberation effect to domestic audio reproduction. Accurate reproduction of the early-reflection pattern requires that sounds reach the listener from directions outside the range that normal stereo is capable of presenting. Rather than going back to the drawing board to develop a new multichannel recording and playback system, another valid route to higher fidelity is to synthesize, during playback, reverberant sounds that model the behavior of real performing spaces. This approach has the

A rear corner of the city of Boston's Symphony Hall—the best concert hall in America—showing its rectangular, "shoebox" interior. The statues are copies of Classical sculptures.
added advantage of allowing listeners to control the parameters of the reverberation according to their taste.

Is this distortion? Because we are adding sounds during playback that are not present in the original recording, many would claim that it is. However, in a more fundamental sense it is the original stereo recording that is distorted, because it omitted sounds present at the original performance. If the ultimate objective of high fidelity reproduction is the sonic recreation of a performance in a different space, then at-home concert-hall simulation corrects a deficiency of stereophonic recordings.

The situation is analogous to the use of Dolby noise reduction: Dolby encoding results in a recorded signal that is distorted, but the compression applied is reversed during playback by a complementary expander. Similarly, the "spatial compression" of stereo is reversed during playback by a concert-hall simulator.

In computer modeling for domestic concert-hall simulation, the image model is used to determine the positions of the virtual sources. It is also possible to use measurements of actual concert halls, from which their virtual-source positions can be computed. The results from either process could be used to position myriad

Razing the Roof: A Case Study

My local concert hall, Louise M. Davies Symphony Hall in San Francisco, makes a good case study for the principles presented in this article. In some ways the original design was a success. Although large—it seats 3,063—the hall provides visual intimacy: The farthest seat is 135 feet from the stage, as in Boston's Symphony Hall. It has a very low background-noise level, and the reverberation time is adjustable with retractable sound-absorbing banners. The reverb time is greater at low frequencies than at midband—which is good for warmth. So what's wrong?

Although the reverberation is adequately long, one doesn't feel immersed in it. There is little "spatial impression." It is difficult to hear instrumental articulation. The orchestral balance is poor and varies with position in the hall; in some locations the woodwinds can be completely submerged. Some seats receive distinct echoes. The sound is too quiet. The orchestra members have trouble hearing each other.

That litany of woes proclaims the problem: The fundamental geometry is wrong—Davies Hall is basically fan-shaped. To make matters worse, the hall has an audience terrace surrounding the stage that further weakens the lateral sound by absorbing it (people are highly absorptive, remember) or reflecting it upward (see diagram, showing the terrace and loge level of seats).

To correct for the resulting lack of early reflections, plastic "saucers" have been suspended over the stage. But as noted in the main article, only when early sounds reach listeners from the sides will they produce spatial impression. The lack of early reflections also accounts for the difficulty in hearing articulation. Curved walls in the rear of the hall focus the sound, accounting for the distinct echoes in some parts of the hall. New absorbing panels are now helping to control the echoes.

Fiddling continues in the hope of further improving the acoustics, but no amount of tweaking will correct the lack of spatial impression or the poor stage sound. The only known remedy for this degree of acoustical deficiency is demolition: Reorient the walls and eliminate the terrace.

When the New York Philharmonic asked George Szell what he thought they should do with the then new, original Philharmonic Hall, he replied: "Tear the place down and start again. The hall is an insult to music." The owners of that hall eventually took this bitter medicine and transformed it into Avery Fisher Hall, which, though not quite on the same plane as the halls in Boston, Amsterdam, or Vienna, is an excellent example of good concert-hall design. It remains to be seen whether music lovers in San Francisco have the same determination as New Yorkers when it comes to the acoustics for their orchestra.

J. B.
Concert Hall
ACOUSTICS

Balancing the needs of the performers with those of the audience provides a classic dilemma for acousticians.

and inappropriately shaped to boot (see "Razing the Roof: A Case Study," p. 46). What hope is there for music lovers? One possibility might be to supplement the acoustics electroacoustically. Electronic concert-hall enhancement has already been applied with some success. The most famous example is a system called Assisted Reverberance, first applied at the otherwise too "dry" Royal Festival Hall in London.

More recently, Silva Hall in Eugene, Oregon, received a system called ERES (Electronic Reflected Energy System), which provides some early reflections. Electroacoustic techniques could also be useful for adjusting the acoustics to accommodate different musical styles or even different cultural events: operas, musicals, plays, etc. The technology would be expensive, but not in comparison with the construction costs of a concert hall.

Despite the potential advantages of electronic enhancement, many difficult technical questions remain. For example, any enhancement scheme requires microphones, but how many are required and where should they be placed? The energy radiated by instruments varies with direction, so a single microphone won’t get a complete impression of the sound. But a panoply of microphones would be distracting in appearance and would require a mixing console. Likewise, loudspeaker positioning is a problem: To produce lateral sounds, they must be mounted on the side walls, but their output must not disturb nearby listeners. And there are also questions about acoustic feedback, as the sound produced by the loudspeakers returns to the microphones. These are tough problems and require serious research—which nobody is doing.

In addition to the technical problems of electronic fixes, there are aesthetic ones. Many music lovers object that if they’re going to listen to sounds generated by loudspeakers, they might as well stay home and listen to an audio system. And it is unlikely that an electronically enhanced concert hall will ever sound as good as a good, purely acoustical hall. But faced with a choice between a mediocre, electronically enhanced concert hall and a poor acoustical one, which would you select?

The only other future for music lovers will be to stay at home. Concert-hall simulators are getting pretty good and are relatively inexpensive for the increased realism they bring to even modest systems—and we’ve only seen the second generation of these products. With future wonders of digital processing, it’s possible that the concert-hall sound you get from your audio system will surpass the sound in the only concert halls that are economically feasible to build. If that happens, it would be unfortunate: A good concert hall is a great place to experience music, not only because the acoustics are (or could be) aesthetically pleasing but because of the emotional impact of a live performance and the camaraderie in sharing it with other music lovers. Let’s hope that architects, acousticians, and civic planners will find a way to resolve their multitudinous differences in order to prevent the sonic scandals of the recent past from ever being duplicated.

Jeffrey Borish is president of EuPhonics, an R&D firm specializing in digital audio and digital music synthesis. He is also the inventor of the NoNoise system marketed by Sonic Solutions, a company he cofounded, and worked on the SoundDroid system at LucasFilm. EuPhonics provided the concert-hall models used in the Lexicon CP-1 Environment Processor.
John Eliot Gardiner has one last request. At the end of a long conversation about his career and the components of his musical philosophy, his final words—half entreaty, half command—are: "Just don't call me an 'early music conductor.'"

Fair enough. For although Gardiner's international reputation thus far has been built largely on his recordings of music from Mozart backwards, he is also a conductor entirely at home in Verdi's Falsstaff and Debussy's Pelléas et Mélisande. Among his recent recordings is the operaetta Fortunio, by André Messager, and with the modern-instrument orchestra of the Opera de Lyon he's done the Schubert Eighth and Ninth symphonies.

Such excursions are representative of the "mainstreaming" of conductors who got their starts in the early-music movement. Christopher Hogwood, at one time thought of as a "mere" harpsichordist, now conducts music as modern as Dvořák and Stravinsky; Roger Norrington, who started out with Heinrich Schütz and his 17th-century contemporaries, is now well into Beethoven and Berlioz, and he has his eye on Schumann and Brahms.

Gardiner's first love was Monteverdi—and his longest musical association has been with the Monteverdi Choir, whose 25th anniversary is being celebrated this year. The choir's founding dates back to Gardiner's undergraduate years at Cambridge University. He had been fascinated by Monteverdi's 1610 Vespers ever since childhood and was determined to put together a performance of his own. So Gardiner and his Monteverdi Choir made their debut in no less grand a setting than the Chapel of King's College, Cambridge, a building whose spectacular fan vaulting had been set in place a century before Monteverdi polished off his psalms and antiphons.

"It took quite a lot of gall," he says, looking back on that momentous occasion. "The challenge was to use the best singers of Cambridge, all of whom were beautifully schooled in the English choral tradition, which is a very polite and disciplined, and to see if they were capable of singing this very difficult music with the appropriate élan and commitment and, above all, vocal color. Twenty-five years on, it seems it worked very well, because the professional musicians and critics who came to that concert all predicted a stunning future for the choir."

Gardiner's accomplishment was all the more remarkable for the fact that, at the time, he was essentially a self-taught musician. At Cambridge he was a history major who also studied Spanish and Arabic. But, as was the case with Roger Norrington, he'd been a beneficiary of a strong English tradition of amateur choral singing. Growing up on a farm in Dorset, in southwestern England, he had been surrounded by a family of nonprofessional—but keen—singers.

"We did a lot of singing at home, and that's where I developed a rudimentary knowledge of Renaissance and early Baroque-period choral music. It became quite a tradition in the house to attract other good amateur singers, and we actually did a concert tour in Germany and Austria and did some pretty adventurous programs. In 1962, we took the group to the Middle East: Lebanon, Israel, and Jordan."

As they finished their degrees, Gardiner and his musical collaborators filtered out of Cambridge in the years 1967 and 1968 and somehow coalesced in London. From there, says Gardiner—with a nod to the Anglican Book of Common Prayer—the Monteverdi Choir "just went from strength to strength."

"It was and is unique as a virtuoso chamber choir," he explains, "specializing—if in anything—in bringing Italianate music into the English choral culture. I was interested to bring the colors and intensity of Italian music to English music-making. It caught on with the BBC and the record companies, and by the late 1970s we were touring both Europe and the United States."

The Monteverdi Choir came to life during a period of burgeoning interest in music of the Baroque and before, and it became particularly associated with the works of Monteverdi, Schütz, and Purcell. Handel was another early and enduring specialty. Shortly after moving to London, though, Gardiner decided it was time for some formal training. So, alongside working as a freelance professional singer and running the Monteverdi Choir, he took a year-long postgraduate music course at the University of London, where he worked with the harpsichordist and musicologist Thurston Dart. Then he got a French government scholarship for two years' study with Nadia Boulanger. At the academy connected to the Dartington Summer Festival he worked on conducting with Antal Dorati and George Hurst, the latter a protégé of Pierre Monteux. And for two years he apprenticed with the BBC Northern Orchestra in Manchester.

Meanwhile, in 1968, Gardiner had founded a Monteverdi Orchestra to accompany his chorus, but not until 1977 did he jump on the original-instrument bandwagon. "Back in 1964, when I did the Monteverdi Vespers for the very first time, I used cornetti and sackbuts. Unfortunately, the standard of playing early instruments was so low in those days that it rather discouraged me, and I was dissuaded from using them in the Bach and Handel repertory."

"I switched round when I reckoned I'd gotten as far as I could with playing middle Baroque and early Classical music on regular modern instruments. So I persuaded a lot of my players to train in period instruments as well and to enlarge the pool of available players in London."

Thus was born the English Baroque Soloists, the period-instrument orchestra with which Gardiner's name has been associated ever since. Its players are now drawn from London's large pool of highly skilled freelancers—which means that the EBS overlaps a good deal with Norrington's London Classical Players, Hogwood's Academy of Ancient Music, Roy Goodman's Hanover Band, and the new Orchestra of the Age of Enlightenment. But, says Gardiner, "The principal groups really do sound very different from each other now. In the early days, there was a certain degree of uniformity in playing styles for early music, but that really has gone."
From Monteverdi to Messager, just as in the farmland of his native Dorset, conductor John Eliot Gardiner finds himself at home.

By Scott Cantrell
ROOTED, But Not in the Past

Another thing that has changed, even more dramatically, is the level of period-instrument playing. Says Gardiner: "I don't think there's a big difference at all in standards between so-called modern orchestra and period orchestra anymore. You get period orchestras that play out of tune, and you get modern orchestras that occasionally play out of tune. But basically the efficiency is very high, and that despite the sometimes colossal technical difficulties of the winds—and the gut strings, which are hydrotopic and can break."

For all his enthusiasm for old instruments and early performance styles, however, Gardiner is almost vehement in disclaiming the "authentic" label. "I don't believe in it. The whole concept of 'authenticity' is a chimera, a vain pursuit. It's worthwhile to get close, but to ever imagine that we can truly and 'authentically'—whatever that means—have the music exactly as it was heard and performed by the composers in question is nine-tenths illusion. It's not the antiquarian pursuit that's interesting, but the fact that it makes the music sound fresh to us."

To that end, Gardiner figures it's all to the good to come at, say, Beethoven, from a saturation in Mozart, and to Mozart from Bach. And it's a perspective he is prepared to take all the way through the 19th century. "I think it's a very good corrective to the old-fashioned way that regarded the 19th century as the exclusive repertory, with a token backward glance to those primitive precursors—which is totally wrong, as far as I'm concerned."

"Mozart and to some extent Haydn seem to me the summit of Baroque music. It certainly seems to me that one puts a false emphasis on Beethoven and Schubert—and also Schumann and Brahms—unless one has an awareness of their musical origins. The thing that has excited me recently is how passionate and knowledgeable Schumann and Brahms were about the music of the 17th century."

"For years, Brahms has suffered from being interpreted in the style of Wagner. I don't think he is about the same sort of thing. The characteristically sostenuto style that's so much a hallmark of Wagner is misplaced in Brahms. In common with Haydn and earlier composers, Brahms's music is based on dance rhythms. And that gets so much blurred in the stodgy, turgid performances of orchestras who play in a Wagnerian way."

Period-instrument Brahms isn't in Gardiner's plans right now, but he will soon record, for Archiv, the Schumann Piano Concerto with gut-strung fiddles, hand horns, and period winds; Malcolm Bilson will play an 1839 piano built by Johann Baptist Streicher.

One of Gardiner's projects at the moment is founding a new period-instrument orchestra in Paris, the Orchestre Révolutionnaire et Romantique, to play French music written "between 1828 and 1848." The first project is a video recording, with Erato, of the Berlioz Symphonie fantastique and its sequel, Lélio, in the hall where they were first heard, at the old Paris Conservatoire. Next year, they'll do the composer's Requiem in Les Invalides.

"The thing about Berlioz is that he used natural horns, natural trumpets, and trombones of narrow bore—which had not changed much in technology from the 17th century—alongside the newest instruments that Adolphe Sax was inventing: the cornets à pistons, the valved horns. Then there's the ophicleide, a kind of keyed serpent. But my orchestra will be very different from what Norrington did in London with his Berlioz Experience. He used Baroque strings, but I will be using modern instruments with gut strings."

French music has been another longstanding Gardiner enthusiasm. It may surprise many admirers that his earliest recording, made back in 1966, was of the Berlioz Irlande. But Gardiner's Francophilic inclinations—nurtured during his study with Burgunder—have been further indulged over the past decade in his association with the Opéra de Lyon.

Having spent two years as music director of the Canadian Broadcasting Company's Vancouver Orchestra (1980-82), Gardiner was hired in 1983 to create a new orchestra for the opera company in France's second city. In addition to conducting operatic performances, Gardiner has led many symphony concerts with the Lyon orchestra. And they have recorded several operas (including both the Gluck Iphigenies, three oratorios (including Berlioz's L'Enfance du Christ and La Damnation de Faust), and four symphonic releases—"not bad," boasts Gardiner, "for an orchestra only six years old." What with the press of other work, he relinquished the Lyon directorship last year, but he continues as the orchestra's chef fondateur, or conductor laureate. He is also giving up a ten-year position as artistic director of the Göttingen Handel Festival in Germany, the venue where his recent Handel Jephtha and Alexander's Feast recordings (on Philips) were taped in live performances.

Gardiner certainly won't be idle. Having recently completed a project of recording all the Mozart piano concertos with the English Baroque Soloists and fortepianist Malcolm Bilson for Archiv (the release of which should be completed this year), he's now doing the late Mozart symphonies for Philips. Back with Archiv, starting next year, he'll do the seven great Mozart operas.

One of his most recent projects was the realization of a long-time dream—and, in a sense, it brought his career full circle. After draconian negotiations, he secured the use of Venice's San Marco Cathedral to record the Monteverdi Vesperae in May. From here, it's on to Beethoven, launching a new series with the Mass in C major and Missa solemnis; next year, he'll start a cycle of the nine symphonies. Then there is the growing schedule of guest-conducting engagements with modern symphony orchestras on both sides of the Atlantic.

Despite his manifold commitments, at age forty-five Gardiner keeps going home again. And home is still the family farm in Dorset, where sheep, cattle, and wheat are raised and accounts are to be looked after. Even amid the annual rounds of Messiahs and Bach Passions, he tries to set aside time to help with spring lambing, and the London Proms and a few foreign festivals have to share his energies with the fall harvest.

Back at the farm—as in the concert hall and recording studio—he lives his life with violinist Elizabeth Wilcock, who plays first fiddle in the EBS and the Gainsborough String Quartet, an ensemble that does Classical-period music on authentic instruments. And, along with the sheep and cattle, there are three children to be looked after.

"Apart from my studies abroad—and the time in Vancouver and Lyon—I've never really left here," says Gardiner. "I've always maintained my roots here. In the stress of the music profession, it's valuable to have time now and again to touch base."

Scott Cantrell is music critic of the Rochester (N.Y.) Times-Union and a frequent contributor to national publications.
“I wouldn’t be without it!”

ANNOUNCING THE 1989 EDITION OF THE MUSICAL AMERICA INTERNATIONAL DIRECTORY OF THE PERFORMING ARTS—the one indispensable reference volume that can put you in touch with the international performing arts.

Act now and you can enjoy this sought-after reference source, commonly called “the bible” and “the source” to the entire performing arts industry.

More than 725 pages of facts at your fingertips.

COMPREHENSIVE LISTINGS OF

* Every orchestra in the U.S. and Canada, including capacity, phone, address, and more
* Opera and dance companies
* Music festivals, competitions, and schools
* More than 850 major facilities by city and state
* Media contacts
* Profile of the 1989 Musical America Musician of the Year
* And much, much more from Argentina to Yugoslavia
* Plus, reports from North America’s top artists managers

Softbound edition for only $60, or the deluxe hardbound edition for only $100 cover price.

☐ Yes, please send me ___ soft-bound Directories for $60 each (plus $3 postage and handling on U.S. orders. Outside U.S. add $10 for surface mail, $20 for air mail.)

☐ I’d prefer ___ copies of the deluxe hardbound limited edition for $100 each (plus $3 postage and handling on U.S. orders. Outside U.S. add $10 for surface mail, $20 for air mail. Shipped in rugged, corrugated protective box.)

I enclose $________

ALL ORDERS MUST BE PREPAID

☐ Check enclosed

Please charge:
☐ Mastercard ☐ Visa

CARD NO. ___________ EXP. ___________

SIGNATURE __________________________

Make check or money order (in U.S. dollars only, drawn on a bank with a U.S. address) PAYABLE TO MUSICAL AMERICA DIRECTORY.

Send form to MUSICAL AMERICA DIRECTORY, Single Copy Sales, 8th Flr., 825 Seventh Ave., New York, N.Y. 10019.

Directories will be shipped by UPS. Please provide street address.
GUlTY PLEASURES

OLIVIA

BARRY WHITE
Critics love stuff they're supposed to hate.

For those of you who think rock critics listen to nothing but Sonic Youth, welcome to true confessions. As a popular music editor with a mission of showing that critics are just normal folks, I asked several of my writers to tell the world they actually enjoy artists condemned by the critical community. We all have these guilty pleasures: Maybe, when no one's around, you still play Grand Funk Railroad. Write us, so we can fill our "Letters" department with your own choices of artists that, under any other circumstances, you'd be too embarrassed to admit liking. Meanwhile, in the spirit of good sportsmanship, I'll put my head on the block first, defending the dreaded . . .

**Black Sabbath**


Here was a marked band. "All albums have been gold discs," reported a 1975 forerunner to *The Harmony Illustrated Encyclopedia of Rock*. "Sabbath remain, however, an unfashionable band among rock critics." End of entry. Why bother saying any-
thing else? Well, I'm here to say that ever since 1971, when I first got Paranoid, I've loved the early thrashings of Black Sabbath. Why? Because when you get right down to it, rock isn't synths or strings or horns or even bass and drums and certainly not drum machines, it's guitars, loud and mean, and few bands give you more of 'em than...

But wait a minute. Black Sabbath. Witchcraft and demonology, right? Let's put this to rest. If you never believed the band members themselves, who always said their blackness was nothing more than a prop, you could simply check out the lyrics and get the message straight: "War Pigs" is anti-war. "Hand of Doom" is anti-drugs. "Lord of This World" is anti-devil. "After Forever" is pro-Christ. And "Children of the Grave" is not some Stephen King horrorfest but instead a rhetorical cry: "Show the world that love is still alive, you must be brave/Or you children of today are children of the grave." Finally, hear the closing words to "Spiral Architect," lines that are not only uncharacteristic of would-be sorcerers but also surprisingly moist and tender: "Of all the things I value most of all/I look upon my earth and feel the warmth and know that it is very good."

Meanwhile, I feel the heat of Black Sabbath metal and know that it is very good. You can have your Metallicas and your whatevers of 1989. I'm happy to go back to metal as originally forged: slow and heavy, gorged on riffs. After all, I was a proficient air guitarist, and Tony Iommi gave me plenty of lines and chord progressions to scrape and hammer. There are six major riffs in "War Pigs"—not bad, when you consider that another metal band of the time led off its second LP with a whole lotta one. Now don't get upset, 'cause I'm a Zeppelin fan, too, but let's give a little musical credit where it's due. Sure, Master of Reality wasn't as meaty, and Vol. 4 was tired and disorganized, but Sabbath Bloody Sabbath was a fierce, multidimensional revival that holds up well. Newcomers might want to start there before surrendering to Paranoid and most of Master. And don't forget the eponymous debut, which though plagued with wayward jamming does have the eponymous title track, all rain and thunder and tolling bell and chilling three-chord attack and Ozzy Osbourne's "Oh no, no, please God help me!," a climactic scream that must give Roger Daltrey the shivers. There was more to be heard after Sabbath Bloody Sabbath—all, unfortunately, less. And now it seems there is still more to be heard: I.R.S. has just released Headless Cross, with Iommi on guitar and Cozy Powell on drums, and though the chorus to "When Death Calls" is mighty impressive, the rest of the LP is stupid.

I recall better days, though—and I'm not the only one. When I recently bought a copy of one of those late-era disgraces (used, $1.99), the guy behind the counter glanced at the album cover and sighed, "Hmmm, not the same Black Sabbath. But they did save my life once." Pray tell. "In high school, I was totally depressed. But they did save my life once." Pray tell. "In high school, I was totally depressed. Black Sabbath cheered me up." Need we say more? Ken Richardson

Olivia Newton-John

A few weeks ago, I was stuck in traffic—late, frustrated, and feeling guilty about everything, including saying yes to this assignment—when the good Lord moved my hand to push the right button, and the car suddenly filled with the guttural guitar and sweet steel that introduce "If You Love Me (Let Me Know)," the soundlike follow-up to the wonderful "Let Me Be There." What an amazing ersatz hillbilly soul song! What a concept: A very nearly perfect creature, a subject of Her Britannic Majesty who'd never been within an ocean's length of a tent revival in her young life, pretends to be wracked by the heartlessness of her beloved and is supported in her lamentation of vulnerability and exasperation by the $3 Bill Quartet, massed for the white gospel-style BIG chorus. What an exquisite, stirring phony! A veritable Ms. Elvis. My faith in man and womankind renewed and my burdens lifted, I pushed on through the traffic. Yes I said yes I will Yes.

I have never been quite able to account for my 15-year fascination with all the stages of Olivia Newton-John's superfine career. From mushy folk to carpetbag country to mealy-mouthed MOR to "Let me hear your body talk!"—"Sade (Le Marquis, not la chanteuse) would have loved it. In a few short years, a pristinely beautiful, denim-bedecked folkie from England by way of Australia is miraculously transformed into the femme fatale of Hollywood electrodance-fluff, a Catherine the Great with better teeth. Snort if you wish, but the charts don't lie; and Ms. N-J (don't drop that hyphen, son) has tallied no fewer than 15 Top Ten hits, with nary a cloven hoofprint in sight.

The dark pact, I think, was with her recently replaced career-long producer, former substitute Shadow (trust me, that meant something in the U.K.) John Farrar, and it seems to have involved Olivia's extraordinary determination to be the ultimate all-purpose product, the isolated soy protein of pop radio. So, faster than Ms. Ciccone could say "tease," Olivia had stopped peddling threadbare platitudes—who could ever forgive or forget "I Hon... (Continued on page 70)
American Beauties

They don't make as many records as they used to, but America's orchestras are still the elite of the musical world. Now and then, even foreigners have to admit it. Recently, the San Francisco Symphony and its American-born music director, Herbert Blomstedt, made believers of the Académie Charles Cros and received the academy's Grand Prix du Disque for their recording of Carl Nielsen's Symphonies Nos. 4 (The Inextinguishable) and 5, available on London (421 524-2). In recognizing the San Franciscans for their achievement, the French were only slightly behind the Musical Press Union of Belgium, which had already honored the same disc with its Caecilia Prize.

Recognition from the press is nice, but when recognition comes from the Kremlin, that's news in itself. In April, the National Symphony Orchestra and its music director, Mstislav Rostropovich, made headlines when they received an invitation to perform in Moscow and Leningrad this coming February. Rostropovich, who left the Soviet Union in 1974 and had his citizenship revoked in 1978, is one of the most celebrated musicians in history; with the arrival of glasnost, his absence had become an embarrassment in Soviet political and cultural circles. It was known for some time that an overture would be made, but since Rostropovich had steadfastly maintained that he would not return to his homeland until artistic freedom was a reality, things had to be done discreetly. But expect the reaction of Soviet music lovers—who adore "Slava"—to be anything but discreet.

One orchestral area in which America has lagged behind Europe has been period-instrument performance, but that is beginning to change. On May 10, America's first full-size Classical orchestra of period instrumentalists, fittingly called the Classical Band, gave its debut concert at Columbia University under the direction of Trevor Pinnock. Without playing a note, the band already had won a six-year contract with Deutsche Grammaphon that called for a minimum of 18 discs.

In other news, Roger Norrington was in New York at the end of March to announce a festival devoted to the study and performance of Mozart's piano concertos that he is organizing in conjunction with the University of Michigan. The festival, scheduled to take place in November, will bring together eleven fortepianists to play ten of Mozart's concertos, and will involve numerous scholars and performers in discussions of various aspects of the works and their history. Norrington will conduct three concerts at the "MozartFest," which is being produced by the University Musical Society, one of America's oldest and most highly regarded concert organizations.

Ted Libbey

Explore: Adopt a Critic

During my senior-year job hunt, I happened across a potential vocation that the career counselors hadn't mentioned: rock critic. It seemed perfect. I'd get paid for listening to records all day and jotting down a few witty and insightful remarks. It certainly beat investment banking. And the influence I'd have! I envisioned my readers marveling at said wit and insight, then hurrying out to buy everything I'd recommended. And record-company execs, aware that a bad word from me could doom a new release to the cutout bin, would nervously await my reviews like prisoners awaiting a jury verdict.

Honest. I really believed that.

And then I thought of my favorite recording artists. Folks like Richard Thompson, the Feelies, and Captain Beefheart. For years, they've received universal good-to-great reviews yet made nary a dent in the best-seller charts. (And not simply because they're inaccessible; Thompson, I'm convinced, would sell gobs of records if AOR gave him half a chance.) I realized that rock critics, even more so than their literary and cinematic counterparts, have no power. I suspect that several truckloads of rave reviews will sell fewer copies of an album than, say, an MTV video with lots of cleavage. And that's a shame.

I'm not suggesting that you shouldn't like a given record just because it is panned, or that you force yourself to listen to Sonic Youth simply because the band turns many reviewers into salivating idiots. But there's a lot of wonderful music out there that's passing you by merely because you're never exposed to it. Here's where critics earn their keep.

Go to the library and read as many music magazines as you can (except, of course, HIGH FIDELITY, to which you should subscribe). See what individual reviewers like. Some place particular emphasis on originality, others look for emotional conviction, still others are suckers for witty, insightful lyrics. Find a critic you usually agree with, and next time he or she recommends an album you've never heard of, buy it.

I know, I know: At 15 bucks a CD, buying something unheard is risky. But think of the potential rewards. It's exciting to "discover" an excellent but obscure artist, one whose music you may enjoy the rest of your life. It's fun to challenge yourself as a listener. And if the artist is so obscure that you've never heard of him, chances are he needs your money more than you do.

Or, in addressing these thoughts to HIGH FIDELITY readers, am I preaching to the converted?

Peter Doskoch

Mr. Doskoch, one of our readers, is a resident of Goshen, New York.

Edited by Ted Libbey and Ken Richardson
NEW VIEWS on BRUCKNER

BRUCKNER: Symphony No. 4, in E flat ("Romantic").
BRUCKNER: Symphony No. 6, in A.
⊙ Berlin Philharmonic, Muti. David Groves, prod. Angel EMI CDC 49408 (D).
BRUCKNER: Symphony No. 7, in E;
Overture in G minor.
⊙ Czech Philharmonic Orchestra, Peek Jaroslav Rybcii, prod. Supraphon CO 72647 (D). (Dist. by Denon.)

It's wonderful to see the music of Anton Bruckner being performed and recorded by a new generation of conductors, especially when the results are as sympathetic as they are in these three performances. Giuseppe Sinopoli, the youngest of the maestros under consideration here, seems to be earning a reputation for eccentricity based on his tendency to play Puccini as if it were Bruckner. Fortunately, he doesn't play Bruckner as if it were Puccini. His performance of the Eighth Symphony with the London Philharmonic at Carnegie Hall last season was first-rate, and so is this new recording of the Fourth.

Sinopoli adopts generally slow tempos and maintains them with admirable steadiness, but he doesn't quite sustain the music's tension over the longest spans—as Karl Böhm and Otto Klemperer were able to do. The Dresden State Orchestra brass are not the world's strongest section—the horns in particular could ring out with more gusto in the Fourth's marvelous scherzo—and the recording is a bit cavernous, but these are minor quibbles in what is basically a fine job all around. Indeed, the only substantial complaint I have about it is that it could do with more excitement and, well, eccentricity.

In addition to being the venue for Sinopoli's account of the Eighth, Carnegie Hall last season played host to two different performances of Bruckner's Sixth: one from the Cleveland Orchestra and Christoph von Dohnányi, the other from the Philadelphia Orchestra and Riccardo Muti. Given the strength of the latter performance, it's a pity that EMI feels it necessary to record Muti's Bruckner with the Berlin Philharmonic, for the Philadelphia is a finer orchestra, with a brass sound better suited to the music. That said, Muti manages to coax the Berliners into making some uncharacteristically idiomatic noises, granting the brass and timpani much more prominence than in other recent recordings. (It is interesting that Herbert von Karajan's new recordings of Bruckner's Seventh and Eighth Symphonies, due for release later this year, have been made not in Berlin but with the Vienna Philharmonic.)

Muti's Sixth is a far more successful performance than his earlier account of the Fourth, and it is given a vastly superior recording. The first movement takes some time to catch fire and concludes with a rather lethargic coda, but this works to the symphony's long-term advantage, inasmuch as it prevents the finale from sounding like an anticlimax. The second movement is magnificent, distinguished by a particularly brooding reading of the "funeral march" third subject, for the scherzo Muti adopts an ideal tempo, not too quick, as in Karajan's performance with this orchestra. The finale is again magnificent: a genuine culmination rather than the appendage it sometimes becomes in other versions. There is something of the wildness of the unrevised Fourth Symphony in this movement, and Muti responds by emphasizing its raw, almost primal power. Overall, his account can be easily recommended, along with Gunter Wand's on EMI/Deutsche Harmonia Mundi—at least until Klemperer's Philharmonia recording appears on CD. That performance still blows away the competition and is one of the very greatest Bruckner symphony readings ever preserved for posterity.

The Czech Philharmonic is among the world's finest orchestras, and even when it plays for a conductor of limited interpretive insight, its recordings ought to be collected on principle. Fortunately, Libor Pešek is a musician of tremendous gifts, and his interpretation of Bruckner's Seventh stands with Klemperer's and Karajan's as one of the three greatest ever recorded.

The sheer sound of this orchestra is a revelation from the symphony's first bars: Never has the opening melody, moving in one sweeping phrase, had such a vibrant lift. Instead of Karajan's spiritually grand but emotionally detached vision, Pešek presents Bruckner as vital, earthy, even rustic—and teeming with vigor. Every strand in the musical texture shimmers in
Listen to the way the basses gently propel the music toward the big first-movement climax that precedes the dancelike third subject, and note the way Pešek times that entrance perfectly, selecting precisely the right tempo.

The Czech conductor's account of the slow movement may excite some controversy; it is easily the quickest on disc. But how fresh and flowing it sounds! Bruckner's adagios so often become the subject of an "anything you can play I can play slower" sweepstakes, but here the warmth of the strings, combined with a solemn glow from the majestically played Wagner tubas, allows the music to make all the necessary points without becoming unduly protracted. Bruckner's cockcrow scherzo lets those superlative winds make their presence felt, and with the finale, the reading as a whole passes one of the most crucial Brucknerian tests with flying colors: Having underplayed the conclusion of the first movement slightly, Pekk here allows the coda to open out triumphantly, thus crowning the entire edifice. Never has the music sounded less choppy and more rhythmically alive.

To make matters even better, Pešek's is the only account of the Seventh on CD to find room for a filler, the sole recording available in any format of Bruckner's early (1863) but by no means immature Overture in G minor. The piece is solid, pre-symphony Bruckner, offering lots of ungrateful string writing as the accompaniment to beautiful passages for brass and winds, and ending with a thoroughly characteristic peroration. Supraphon's sound is very attractive, with a natural balance and good sense of depth.

This disc is an essential purchase; all three are, in fact, a cause for cheer. Bruckner's muse would seem to be in good hands these days. Playing times: 66:58 (Deutsche Grammophon 423 677-2); 56:55 (Angel EMI CDC 49408); 72:15 (Supraphon CO 72647). David Hurwitz

Bruckner's muse would seem to be in good hands these days. Playing times: 66:58 (Deutsche Grammophon 423 677-2); 56:55 (Angel EMI CDC 49408); 72:15 (Supraphon CO 72647).

David Hurwitz
(Deutsche Grammophon 415 683-2; review, January 1987) but particularly in the recently released Fauré sonatas (DG 423 065-2). Yet I was unprepared for the stunning impact of their Prokofiev sonatas. The brooding, icy F minor is filled with atmospheric timbral effects made possible by Mintz's control of vibrato and bow stroke and Bronfman's skillful pedaling. Mintz avoids the temptation to emphasize Prokofiev's harsh, abrasive surfaces. Instead, although everything is bracingly articulated, the violinist's tone is robust and his demeanor poignant. One need only compare this traversal with Nadja Salerno-Sonnenberg's 1982 recording of the same sonata, which is strident and piercing to an almost painful degree (Musicasters MMD 60022Y), in order to appreciate Mintz's achievement here.

Bronfman's playing of the powerful piano part is clearly etched, even bell-like; rather remarkably, he keeps it from sounding muddy or overbearing. These two are quite a team, and I hope their repertoire will continue to expand—in the direction of the Bartók, Shostakovich, and Brahms sonatas—in coming years. Playing times: 52:30 (423 617-2); 55:23 (423 575-2).

K. Robert Schwarz

**COPLAND: Piano Fantasy; Piano Sonata; Piano Variations.**

*HIGH FIDELITY*— reviews of the recent releases by Aaron Copland and Andrew Litton. Andrew Keener, prod. Virgin Classics VC 90727 (D). *Ravel: Boléro.*

**RIMSKY-KORSAKOV: Scheherazade, Op. 35.**


The Piano Fantasy (1955-57), in common with Copland's somewhat later orchestral work Connotations (composed for the inauguration, in September 1962, of Philharmonic Hall in New York), is based on a tone row. The composer's conversion to the compositional fashion of the moment does not seem to have grown out of an inner need (as it did, a few years earlier, in the case of Roger Sessions) but out of the fact that Stravinsky had finally gotten around to flirting with the same style. It is sad that the best-known serious American composer of his time—who fully deserved his reputation—was still in thrall to a pecking order established in Paris some 40 years earlier under the watchful eye of Nadia Boulanger. But unlike Connotations, the Piano Fantasy is fully convincing music: a summation of Copland's habitual combination of virtuosic, openly expressive, and rhythmically vital elements in the same composition.

A fascinating by-product of hearing these three works one after the other is the recognition that Copland's piano writing remains true to a single inner vision. The layout, sonorities, and juxtapositions of blocks of sound are unmistakably Coplandesque in all three, regardless of stylistic changes and difference in the basic materials of each piece.

David Lively's playing differs from that of most interpreters of this music in that he refuses to become percussive. His tone production is by no means extraordinary, but his pedaling is superb and bathes everything in a lightly resonant glow. Although there is no denying that certain passages in the Piano Variations and the Fantasy seem to demand a cooler, more metallic sound to achieve their intended effect, it is amazing how well these pieces respond to Lively's approach. The recording is very natural. Playing time: 63:58.

Paul Turok

**ELGAR: "Enigma" Variations, Op. 36; In the South (Alassio), Op. 50; Serenade for Strings, in E minor.**

ELGAR: "Enigma" Variations, Op. 36; In the South (Alassio), Op. 50; Serenade for Strings, in E minor.

**Ravel: Boléro.**


The young American conductor Andrew Litton made his debut on the Virgin Classics label with a very fresh and attractive coupling of Mahler's First Symphony and Songs of a Wayfarer. His Elgar is in the same class as his Mahler: fresh and unaffected, yet intelligent, full of nuance, and finely detailed. In fact, Litton's Enigma is now one of the very finest available, offering an especially delightful "Dorabella," as well as an "E.D.U." finale that strikes the perfect balance between grandeur and explosive vigor. Praise must also go to Virgin's recording, which gives the best balance between orchestra and organ that I've ever heard in this piece.

The two shorter works, In the South and the lovely Serenade for Strings, receive similarly successful treatment, though in the former the Royal Philharmonic brass have not quite the weight that can be heard on Sir Alexander Gibson's thrilling Chandos recording with the Scottish National Orchestra (CHAN 8309). Litton's is,
**SavE moNeY, tIme And FReIGHT ON FAMOUS BRAND STEREo EQuIPmEnt**

**illinoiS Auuio**

(800) 621-8042 / (312) 664-0020

12 E. DElAReY PlACE • CHICAgO, I1 60611

---

### LOUDSPEAKERS

- **TECHNICS SBL-36**
  - Powerful Loudspeaker System
  - Linear Phase 2-Way System
  - Large Diaphragm 10" Woofer
  - Anti-resonance cones
  - Atrractive Woodgrain Finish

**CALL FOR PRICE**

- **E.P.I. CD55**
  - 3-Way Speaker System
  - 12" Bass Driver
  - Wide Frequency Response
  - Constant Dispersion
  - 2-Way, Special Design Enhanced High Efficiency

**CALL FOR PRICE**

- **TECHNICS SBS407**
  - 3-Way Speaker System
  - 12" Woofer
  - Horn Super Tweeter
  - High-Resolution Efficiency Bass Driver
  - Heavy Duty Anti-Resonance Cabinets

**CALL FOR PRICE**

### CASSETTE DECKS

- **TEAC V-285CHX**
  - Stereo Cassette Deck
  - Dolby B & C / HPX PRO / N / Bass Fine Tuning
  - Full Auto Stop Pitch
  - Memi Tape Counter
  - 2-Tape Port Select
  - 6-Digit Tape Counter

**List $99.95** **Sale $99.95**

- **TEAC R455X**
  - Auto Reverse Cassette Deck
  - 6 Directional record playback
  - Auto reverse
  - Segment
  - Dolby B & C / UX Pro
  - Timer Reg. Play

**List $139.95** **Sale $139.95**

- **TECHNICS RST-TR555**
  - Double Quick Auto Reverse Cassette Deck
  - Auto Reverse on both tape decks
  - 24 hour clock
  - Built-in Tuner
  - Radio Stereo
  - Strobe Start & stop & mute

**CALL FOR PRICE**

- **TEAC W660R**
  - Double Auto Reverse Cassette Deck
  - Dolby B & C
  - One-touch high speed dubbing
  - Continuous Play
  - Memory playback/dubbing
  - Holds automatic lock control

**List $199.00** **Sale $299.95**

### RECEIVERS

- **TECHNICS SA-160**
  - Quartz Synthesizer AM/FM Stereo Receiver
  - 50 Watt (4ohm)
  - 24 preset station files

**List $209.95** **Sale $147.95**

- **TECHNICS SA-160**
  - Quartz Synthesized Remote Controlled Receiver
  - AM / FM Stereo Receiver
  - 160 Watts R.M.S.
  - Full Remote Control
  - 24 Presets
  - 8 Band EQ
  - 3-Band Equalizer
  - 4-Aux Inputs plus 2 Aux - VHF Inputs

**CALL FOR PRICE**

### CD PLAYERS

- **SHARP DX670**
  - Compact Disc Player
  - 3-Band Equalizer / Programmable Memory
  - Cue Review

**List $249.95** **Sale $188.00**

- **TEAC AD-4**
  - CD Player/Cassette Deck Combo
  - Remote Control
  - 5挽救16 track random playback

**List $99.95** **Sale $275.00**

### PORTABLES

- **TOSHIBA KT4048**
  - AM/FM Stereo Radio Cassette Player
  - Digital Filter
  - AM/FM Stereo / Cassette
  - 10" Special Design
  - Built-in Speaker
  - Belt Clip Included

**List $55.00** **Sale $125.00**

### HEADPHONES

- **SONY WMPF100II**
  - Sony Super Walkman
  - AM/FM Stereo Cassette Player
  - Small Size
  - Auto Reverse / Quick Set
  - Belt Clip

**List $199.95** **Sale $124.00**

### AUDIO TAPE

- **MAXELL XLII-100**
  - 100 minutes perfected for GD recording
  - Improved performance at lower noise

**List $24.95** **Sale $19.95**

- **SONY UX-PRO 90**
  - High bias, perfect for live or digital recordings
  - 10" X 7.5"

**List $49.95** **Sale $34.95**

### CARTRIDES

- **SHURE M37**
  - Balanced microphone use
  - Phantom power
  - Remote control of CD player

**List $195.00** **Sale $150.00**

### AUDIO TAPE

- **MAXELL MXII-100**
  - 100 minutes perfected for GD recording
  - Improved performance at lower noise

**List $24.95** **Sale $19.95**

- **SONY UX-PRO 90**
  - High bias, perfect for live or digital recordings
  - 10" X 7.5"

**List $49.95** **Sale $34.95**

### CD PLAYERS

- **TECHNICS SLP999**
  - Remote Controlled CD Player
  - With The Works
  - 20 bit 32 track programmability
  - 600 Disc Capacity
  - Full Remote Control
  - 4-Band Graphic Equalizer
  - 3-Dimensional Speaker System
  - Multi Scan
  - Digital Filter

**CALL FOR PRICE**

### HEADPHONES

- **Koss PRO/450**
  - Sound Isolating / Dual Element dynamic driver
  - Precision Performance
  - Perfect for digital music

**List $175.00** **Sale $138.00**

### TUNABLES

- **TEAC SAR377**
  - Quad Beam Laser Pickup
  - Programmable Digital Tuner
  - Random Access program up to 31 stops
  - Dolby Pro Logic

**List $599.95** **Sale $399.95**

### CAR TRUNK TUNABLES

- **JVC RX-701VBK**
  - Surround Sound Receiver
  - AM/FM Stereo Digital Receiver
  - 100 Watt (4ohm)
  - Dolby Surround Sound
  - Built-in Synthesizer / Tuner
  - 40 Memory Presets
  - 7 Band EQ
  - 2 PR Speaker Connections

**CALL FOR PRICE**

- **JVC RX-901BVK**
  - Remote Controlled Receiver
  - 210 Watt (4ohm)
  - Dolby Pro Logic
  - Adaptable digital delay / 3 Video Inputs
  - Programmable Tuner / Band Select / Digital Synch
  - 80 presets / Memory Scan

**CALL FOR PRICE**

### CD PLAYERS

- **TECHNICS SAR377**
  - Remote Controlled Receiver
  - AM/FM Stereo Digital Receiver
  - 100 Watt (4ohm)
  - Dolby Surround Sound
  - Built-in Synthesizer / Tuner
  - 40 Memory Presets
  - 7 Band EQ
  - 2 PR Speaker Connections

**CALL FOR PRICE**

### ALTEC 503-1

- **Compact Audio Cassette Player**
  - Programmable / Remote control
  - Random Access program up to 32 stops
  - Dolby Pro Logic

**CALL FOR PRICE**

### DUAL 503-1

- **Turntable**
  - 1-Band.@ 33 rpm / S.F.
  - 4-Beam Laser Pickup
  - MultiSpeed Belt Drive

**CALL FOR PRICE**

### TURNTABLES

- **TEACXLM701BK**
  - CD Multi-Player
  - Built-in CD Changer
  - Remote control
  - Random Access program up to 32 stops
  - Multi Speed Belt Drive

**CALL FOR PRICE**

### CD PLAYERS

- **TECHNICS SLP300**
  - Multi-Disc CD Changer
  - Programmable 8 Disc Changer
  - 8-Band Random Access Program
  - Quad Beam Laser Pickup
  - Digital Filter

**CALL FOR PRICE**

### CAR TRUNK TUNABLES

- **TECHNICS SLLJ33**
  - Quartz Linear Tracking Turntable
  - 8-Band random program
  - 8-Band speed setting
  - Remote control capability
  - 256 Channel Synchro-Scan
  - Car Audio System

**CALL FOR PRICE**

### AUDIO TAPE

- **TECHNICS SLL25**
  - Fully Automatic Linear Tracking Turntable
  - Remote control capable
  - Large display
  - 8-Band Random Program
  - Front panel operation on sub unit
  - Woodgrain finish

**CALL FOR PRICE**

---

**16 YEARS OF MEETING THE NATION'S STEREo NEEDS WITH THE ABSOLUTE BEST PRICES ON TOP NAME NATIONAL BRANDS**

Call Mon thru Sat. 10 to 5 (312) 664-0020 • 1 (800) 621-8042

**Prices in this ad are for mail-order only. Freight charges not included. All merchandise shipped brand new factory fresh with full warranty. Not responsible for typographical errors.**

**NOTE:** This is just a partial listing of our extensive inventory, please call for quotes on additional items or to request a free price list.

---

**SONY ES-902**

- 6" x 3" Car Speakers
  - D-Cross / AC Power
  - Dual Drive
  - 80 Watts Max Power Handling

**List $39.95** **Sale $37.95**

**SHERWOOD CRD350**

- Car Stereo with Cassette Deck
  - AM/FM Stereo / Cassette Receiver
  - Full Logic Control
  - 3-Band Equalizer
  - Double Cassette Player
  - Built-in Amp
  - Balance & Fader
  - 4-Way Disc Switch
  - Preset Scan
  - Clock
  - Security Cover

**List $329.95** **Sale $182.00**
Joan Morris and William Bolcom: They’re “the top” in selected songs of Cole Porter.

David Hurwitz

Joan Morris and William Bolcom: They’re “the top” in selected songs of Cole Porter.

Be So Nice to Come Home To: You’re the Top.
Joan Morris’s latest recital of American popular song, released on Seymour Solomon’s new Omega label, is devoted to the music and lyrics of Cole Porter. She slips adroitly from familiar standbys like “Night and Day” (also the album’s title; 1932) and “You’re the Top” (1934) to witty rarities like “No Lover” and “Nobody’s Chasing Me” (both 1950). Her interpretations are sensitive, her diction sparkling, her spirits high, her infectious personality impossible to resist. William Bolcom’s piano playing is perfection itself—Porter himself could hardly have played more stylishly than does Bolcom on this CD.

Having heard Morris accompanied by the Philharmonia Virtuosi at a recent concert at New York’s Town Hall, though, I can’t help thinking that it is about time she recorded an album of theater songs with authentic pit-orchestra accompaniments. Gershwin? Berlin? Rodgers and Hart? Weill? Bernstein? The possibilities are endless.

Next spring, for The New Grove Dictionary of Music and Musicians, I have written an entry on “Ragtime” with a discussion of the music and history of ragtime. The piano music of Scott Joplin is a prime example. I thought it might be a good idea to include the best playing of this music, so I invited the pianist to record some Joplin music. What she plays is not simply the best recorded, but the best I have heard to date. She is perfection itself—Porter himself could hardly have played more stylishly than does Bolcom on this CD.

Bolcom is featured on another new recording from Omega, a collection of Scott Joplin’s piano music called Euphonic Sounds. Bolcom is, of course, a ragtime authority (he wrote the “Ragtime” entry for The New Grove Dictionary of Music and Musicians), and his choice of material is impeccably representative. Having heard him give what might politely be described as underrehearsed performances of Joplin rags on more than one occasion, I’m pleased to report that the brisk and lively playing on this album is technically secure, if not as cleanly executed as the electric performances preserved on Bolcom’s 1973 Gershwin solo album (None such 79151; the CD includes a number of songs, also with Morris).

Bolcom’s liner notes say nothing about his use of ornamentation, which appears to be derived from Joplin’s own piano rolls and other period recordings; most of it sounds convincing enough, if a bit excessive. On the whole, I prefer the straighter, more lyrical playing offered by Joshua Rifkin on his Joplin CD (None such 79159) to Bolcom’s snappier approach. Still, there is nothing at all wrong with Bolcom’s more extroverted—and, one suspects, more authentic—playing. Good sound, but Omega should have taken the trouble to have Bolcom’s piano tuned and voiced. Playing times: 73:35 (OCD 3001); 73:22 (OCD 3002).
In Anne-Sophie Mutter, composer Witold Lutoslawski may have found his perfect interpreter.

VeniaticGames; Funeral Music; Little Suite.

Witold Lutoslawski has never been as popular in the West as his younger compatriot, Krzysztof Penderecki. Unlike Penderecki, who first attracted international attention with his eerie sound-color works of the late 1950s and subsequently turned to fashionable neo-Romanticism, Lutoslawski has never sought public acclaim. Since he achieved maturity as a composer, he has rarely diverged from his course—which emphasizes integrity of line rather than Penderecki’s massed sonorities—but he shares with other Eastern Europeans a grim, dark-hued tonal language.

In the early 1960s, Lutoslawski began to incorporate in his music sections with spontaneity—a “aleatoric counterpoint”—freely intertwining melodic lines whose details are fully notated but whose exact superposition is left up to the performers. There is one good reason to purchase Lutoslawski disc. Jakowicz is burdened with an indistinct recorded sound that buries him within the already muddy orchestral fabric. Although he is less concerned with tonal beauty (and more willing to sacrifice it for visceral effect), he gets little help from his colleagues: The Filharmonia Pomorska’s playing is surprisingly timid and its coordination uncertain. Again, comparing the two CDs seems unfair: Mutter’s performance of both individual imagination and technical finesse is his ideal interpreter. She possesses the emotional scores. So flexible and fiery are Mutter’s performances that one feels she lives and breathes this music, much as a gypsy fiddler lives and breathes his demonic improvisations.

In Anne-Sophie Mutter, composer Witold Lutoslawski may have found his perfect interpreter.
appear surprising. Since she is incapable of either a rough attack or a dry tone, she imposes a lush, vibrato-laden timbre on this leanest, most objective of concertos. But she compensates for her subjectivity by an unfallingly precise, crisply articulated treatment of rhythm, and she brings an uncanny sense of coordination to the performance, in which Sacher leads the Philharmonia Orchestra.

I must admit that until now I have underestimated Anne-Sophie Mutter. But it has become obvious that, besides technique, she possesses musical insight and genuine personality. Playing times: 56:08 (DG 423 696-2), 54:08 (Thorofon CTH 2041).

K. Roberi Schwartz

MORRICONE: Chamber Works (7).

1. Unnamed performers. Ennio de Melis, prod. Virgin 90996 (A) +
Distinzze: Musica per due violini; Quadrupi pezzi per chitarra; Ricercare per pianoforte; Sestetto; Suoni per Dino; Tre studi.

MORRICONE: Film Music, Vol. II.

1. Unnamed performers. Ennio de Melis, prod. Virgin Movie Music 90901 (A) +
Music from "Fear Over the City": "A Fistful of Dynamite"; "Free My Love"; "God With Us"; "The Marginal"; "The Mission"; "Moses the Lawgiver"; "My Name Is Nobody"; "Ogro"; "Once Upon a Time in America"; "Once Upon a Time in the West"; "The Professional"; "La venexiana."

Among appreciators of film music, the Italian composer Ennio Morricone is so highly regarded as to be almost a cult figure. Morricone's music for the concert hall, however, remains something of a mystery, and it seems that Virgin Records is determined to keep it that way: Unlike the insert for the album of film music, the drawings of Hokusai's Views of Mt. Fuji.

Fortunately, the performance and recording offered here do the work full justice. Under the sympathetic guidance of František Jilek, the Brno State Philharmonic Orchestra sounds absolutely world-class, while the Brno Madrigal Singers make an enchanting moment of their wordless vocalise toward the ballet's end. This is a major masterpiece by a major composer, and the best thing about it is that it was conceived as the second half of a 1930 Prague double bill. The first work in the series, Novák's Signorina Gioventa, will be available by the time this notice sees print. Don't deprive yourself for a moment by waiting for the next review. Playing time: 52:34.

David Hurwitz

WUORINEN: Concerto for Piano and Orchestra No. 3*; The Golden Dance.

Ohllsson *; San Francisco Symphony, Herbert Blomstedt, cond. Marc Aubort and Joanna Nickrenz, prIs. Nonesuch 79185 (D).
Both of these powerhouse works date from Charles Wuorinen's tenure (1985-89) as composer-in-residence with the San Francisco Symphony, which under Herbert Blomstedt's leadership continues to get better and better. Garrick Ohlsson's international career took off when he, a mere American, had the temerity to win the 1970 International Chopin Competition in Warsaw. He lives part-time in San Francisco, and Wuorinen (himself an excellent pianist, and the soloist in his previous two concertos) tailored this one to Ohlsson's imposing measure.

Wuorinen, as intellectual a composer in his own way as Elliott Carter and Milton Babbitt are in theirs, has made no secret of his disdain for the postwar Webernists who stripped their works to the very bone. He has dismissed that cult as a "grotesque exaggeration, done mainly for the purpose of having something to sloganise." He vastly admires Stravinsky (particularly the later works) and Schoenberg and has spoken of "the inexhaustible treasures" of what he called his "patrimony": the twelve-tone system. As both the expansive works under review make plain, he also shuns the minimalist vogue in favor of the grand, sweeping gesture.

The concerto gets off to a no-nonsense start with a staggering cadenza for the pianist, building to a slam-bang climax that also shows off the virtuosity of the San Francisco Symphony's nimble percussionist Jack Van Geem. The first and third movements exude power and vitality; the second affords a pause for introspective, lyrical reflection. Ohlsson has by now played the work repeatedly, and I agree with his assessment of it as "an instant impact piece." Wuorinen has himself fittingly described his finale as "a hip-swinging wing-ding." The virtuoso repertory holds no terrors for a pianist of Ohlsson's formidable technical endowment, but even he forthrightly calls that movement "hard as hell . . . a bit like an aerobics class."

Wuorinen calls the second work here "golden" not only because of California's reputation as the Golden State and San Francisco's Golden Gate but because, in the piece's second half, he has made modified structural use of the ancient Greeks' "golden section"—a mathematical aesthetic formula (approximately 382:618) with the smaller part in the same proportion to the larger as the larger is to the whole. Never mind the fancy reference; in this energetic reading by Blomstedt (to whom Wuorinen dedicated the piece), The Golden Dance holds its own as vital, at times exciting music.

This recording exists thanks to the Meet the Composer Orchestra Residency Program. This praiseworthy organization "fosters the creation and performance of orchestra music by American composers.

Resident composers in the program write a major work to be premiered and recorded by their host orchestra, organize concerts of new music, review scores, and meet regularly with host music directors, staff, and orchestra musicians as advocates for new music. Meet the Composer promotes the music of American composers and supports over 9,000 composer events yearly."

It, in turn, deserves our own support—especially when it produces things as excellent and interesting as this brilliant recording. Playing time: 53:08.

Paul Moor

---

Before you do crack, do this.

ORGAN DONOR AUTHORIZATION

Pursuant to the Uniform Anatomical Gift Act, I hereby give, allocate and/or provide any of my body or body parts for medical research.

Signature of Donor: ____________________________
Date: ________________

Hey, it's no big deal. It's a simple legal form, that's all. Take a minute. Fill it out. Sign it. Carry it with you. It's the least you can do. Then no one can say you didn't do anything worthwhile with your life.

Partnership for a Drug-Free America, N.Y., NY 10017

---

Recitals and Miscellany

DAVID BRITTON: Organ Works.


MICHAEL FARRIS: French Organ Works.


With these releases Delos continues an admirable, adventurous series that brings to—(Continued on page 79)
Guaranteed Low Price

- We get the BEST volume discounts
- LOW OVERHEAD—To sell at best discounts
- We shop the competition to ensure the best price

10-Day Return

- Returns accepted within 10 days (must be called in for prior authorization). Products must be in original condition. Returns subject to restocking fee. Shipping and handling not refundable.

Most Major Brands

- THIS IS ONLY A PARTIAL LISTING
- IF YOU DON’T SEE IT LISTED—CALL!

CALL US TOLL FREE

PHONE HOURS

SAT 8 a.m. - 5:30 p.m.
SUN 11 a.m. - 5 p.m.
Central Time Zone

1-800-356-9514
MINI-REVIEWS OF THE LATEST COMPACT DISCS

By Robert E. Benson, Thomas L. Dixon, David Hurwitz, Paul Moor, Terry Teachout, and James Wierzbicki

DVOŘÁK SYMPHONIES NOS. 7, 8: CONCERTGEBOUW, DAVIS
Sir Colin Davis made a number of memorable recordings with the Amsterdam Concertgebouw Orchestra in the 1970s; this well-filled CD contains two of the finest. Davis's interpretation of Dvořák's Symphony No. 7, in D minor, Op. 70, is powerful and noble, an eloquent expression of the work's brooding majesty. The Symphony No. 8, in G, Op. 88, receives a radiant performance—surely among the best extant recordings of this music—that features the Concertgebouw brass in dazzling form in the finale.

Most competing accounts of the symphonies are inferior to Davis's both interpretively and sonically. I have owned the LP versions of both of these recordings since they were issued; it is remarkable how much the sound has improved on Compact Disc. There is a satisfying solidity and new depth and warmth, plus some of the most natural string sound I've ever heard. The limpid performances, superb remastering, generous playing time (most other accounts are available on individual CDs, often without filler), and midline price of this disc are hard to beat. Program notes are limited to two pages; a 16-page listing of other Philips Silver Line CDs is part of the packaging. Playing time: 73:40. (Philips 420 890-2.)

R.E.B.

BERNSTEIN "ON THE TOWN": COMDEN, GREEN, BERNSTEIN
Jerome Robbins' Broadway, the hottest ticket in New York, blasts off with the opening scene of On the Town, Leonard Bernstein's second collaboration with Broadway's greatest choreographer. (Fancy Free came first.) It's a high-stepping wonder—one that makes you want to see the whole thing. Impossible, but at least you can hear the whole thing, courtesy of CBS's long-overdue CD reissue of its celebrated On the Town recording. In 1960, producer Goddard Lieberson reassembled original cast members Betty Comden, Adolph Green, Nancy Walker, and Chris Alexander, with baritone John Raridon brought in to sing the ballads. Then Bernstein himself decided to take over the baton from veteran Broadway conductor Lehman Engel.

The resulting recording, though not ideal, leaves no doubt as to why the show was such a smash hit in 1944. Great ballads like "Some Other Time" (with great lyrics by Comden and Green) rub shoulders with witty comedy numbers like "Come Up to My Place." Best of all is the dazzling ballet music, a sophisticated amalgam of Copland, Gershwin, and Stravinsky that somehow adds up to pure Bernstein. Although producer John McClure has done his best by the sound, it remains harsh and shrill. What's needed now is a modern recording of On the Town, with younger voices, a better orchestra, and digital sound. Until then, grab this CD as fast as you can. Playing time: 60:04. (CBS Masterworks CK 2038.)

T.T.

MOZART WIND CONCERTOS: ORPHEUS CHAMBER ORCHESTRA
The conductorless Orpheus Chamber Orchestra from New York is fast becoming one of my favorite presenters of music from the late 18th century. Its sound is sleek and thoroughly modern, yet its readings seem so attuned to the Classical style that it makes one wonder what the "authenticity" fuss is really all about. This latest release showcases three of the Orpheus wind players in concertos by Mozart: William Purvis in the Second and Third concertos for horn (K. 417 and K. 447); Randall Wolfgang in the K. 314 Concerto for Oboe; and Frank Morelli in the K. 191 Concerto for Bassoon. Each soloist provides his own cadenzas—which in most cases are both extended and adventurous.

Playing time: 68:41. (Deutsche Grammophon 423 623-2.)

J.W.

LISZT REQUIEM: MALE CHORUS OF THE HUNGARIAN ARMY, FERENCISK
This curiosity will probably puzzle and even startle those Liszt fans not already familiar with it. One wonders about Liszt's reasons, unconscious as well as conscious, for making his Requiem so strikingly one of a kind. He dispensed with female voices entirely, and also with instruments, except for the organ (plus some timpani that turn up unexpectedly to reinforce a dramatic passage). The ending, at first encounter, left me wondering whether Liszt might have left the work unfinished; a sort of organ afterthought merely trails off—and on the dominant, at that. Liszt sided aesthetically with a group of contemporaneous composers who aspired to return liturgical music to its archaic origins. In the case of this work, such endeavors resulted in a queer mélange of pre-Baroque and Wagnerian harmonies.

The chorus of men from Hungary's army sounds rather less refined than rough and ready, but these singers press the performance with conviction, as do the soloists, and conductor János Ferencisk keeps the musical tension high. Playing time: 50:32. (Hungaroton HCD 11267-2. Dist. by Qualiton Imports, Ltd.)

P.M.

DETT PIANO WORKS: OLDHAM
It is interesting that the primary influence on the folksong-rich music of the black American composer R. Nathaniel Dett was not so much the songs themselves as their distillation by a foreigner. Dett was already an accomplished composer when he was a student, in the first decade of this century, at the Oberlin Conservatory in Ohio, but apparently it was not until he encountered the Opus 96 string quartet of Antonín Dvořák—the so-called American Quartet—that he found his voice. Inspired by Dvořák, Dett saw his purpose clearly: to "take the loose timber of Negro themes and fashion from it music...in choral form, in lyric and operatic works, in concertos and suites and salon music." The pieces recorded here—the Magnolia Suite, In the Bottoms, and Eight Bible Vignettes—fall into the latter category and get an appropriately light touch from pianist Denver Oldham. Their simplicity of melody is balanced by sophistication of harmony and structure; and the results are invariably—at the very least—lovely.

Playing time: 69:12. (New World NW 367-2.)

J.W.

HAYDN "THE SEASONS": VIENNA SYMPHONY, BÖHNM
Anyone who thinks of Karl Böhm as a somewhat stiff and humorless interpreter ought to hear this classic performance of Haydn's The Seasons (1801), recently reissued on two midprice CDs. Despite the fact that this oratorio has never been as popular as its predecessor, The Creation (1798), there's no reason why it should not be recognized as an equally fine piece. Haydn obviously felt that the subject matter of The Seasons was less lofty than the story of God's work, and he pretended to despise the many passages of pictorial

(Continued on page 68)
Cassette Deck Specials

Teac V-570
IC Logic Control Cassette Deck
• Dolby B/C, 10-track record, 10-track play
• Memory playback, random playback
• Remote control
• Monitor volume
Sale $100.00 Retail $200.00
(TEC 55250)
Teac V250CHX
Dolby B/C & Pro, LCD display, one touch record, 10-track play
Sale $200.00 Retail $400.00
(KEC 55260)

Stereo Dual Cassette Decks

Teac W-660R
Double Auto Reverse Cassette Deck
• Dolby B/C, 10-track record, 10-track play
• Memory playback, random playback
• Remote control
• Monitor volume
Sale $200.00 Retail $400.00
(TEC W600)

Stereo Receivers

Technics SA-R450
Remote Audio/Video Stereo Receiver
• 7.5 watts per channel x 4 
• Multi A/V surround system
• 4.5 watts per channel x 2
Sale $399.00 Retail $799.00
(TEC S450)

Audio Add-Ons

Terk FM-9500
Indoor FM Electronic Antenna
• Automatic tuning, single button tuning, 13 channels
• Memory playback, random playback
Sale $150.00 Retail $300.00
(TEC SAR430)

Amplifiers, Preamp & Tuners

SAE A-202
High Resolution Power Amplifier
• 35 watts per channel, 44 watts per channel
• Complementary amplifier design delivers greater stereo imaging and reduced phase shift
Sale $200.00 Retail $400.00
(TEC S202)

Graphic Equalizers

ADC SS-525X
Computerized Graphic Equalizer
• 2 bands per channel, Automatic room equalization for flat room response
Sale $100.00 Retail $200.00
(ADC SS525X)

Turntables

Dual CS-2100A
Belt Drive Turntable
• Conventional semi-automatic, Auto return operation
• Flexible semi-automatic turntable operation
Sale $200.00 Retail $400.00
(DOY 52110A)

Phono Cartridges

Shure V-15 Type V-MR
Deluxe Micro Bop Pipe Phono Cartridge
• Dynamic pickup, non-contact pickup
• Automatic feedback, 10-band equalization
Sale $129.95 Retail $259.00
(SHM V15 MR)

Speaker Systems

The Bose Acoustimass AM-5
• A new technology for the home
• Clean sound & low distortion system contains 2 cube speakers with 1 acoustic module that can hidden almost anywhere
Sale $119.00 Retail $239.00
(BOS 55410)

Also Available:
• Billie Holiday: The Quintessental Billie Holiday Vol. 1 1946-47 (CBS 44443)
• Benny Goodman: Small Groups 1941-45 (CBS 44447)
• Miles Davis: At The Blackhawk Volume 2 (CBS 44449)
• Louis Armstrong: The Hot Fives, & Hot Sevens Volume III (CBS 44445)
• Bossa Smith: The Collection (CBS 44441)
• J.J. Johnson: The Trombone Master (CBS 44443)
• Lombardi Hendricks & Ross: Everybody's Roppin' (ICB 45020)
Your Choice

Columbia Jazz Masterpiece Sale

Also Available:
• Billie Holiday: The Quintessental Billie Holiday Vol. 1 1946-47 (CBS 44443)
• Benny Goodman: Small Groups 1941-45 (CBS 44447)
• Miles Davis: At The Blackhawk Volume 2 (CBS 44449)
• Louis Armstrong: The Hot Fives, & Hot Sevens Volume III (CBS 44445)
• Bossa Smith: The Collection (CBS 44441)
• J.J. Johnson: The Trombone Master (CBS 44443)
• Lombardi Hendricks & Ross: Everybody's Roppin' (ICB 45020)
Your Choice

Speaker Systems

The Bose Acoustimass AM-5
• A new technology for the home
• Clean sound & low distortion system contains 2 cube speaker arrays with 1 acoustic module that can hidden almost anywhere
Sale $119.00 Retail $239.00
(BOS 55410)

Also Available:
• Billie Holiday: The Quintessental Billie Holiday Vol. 1 1946-47 (CBS 44443)
• Benny Goodman: Small Groups 1941-45 (CBS 44447)
• Miles Davis: At The Blackhawk Volume 2 (CBS 44449)
• Louis Armstrong: The Hot Fives, & Hot Sevens Volume III (CBS 44445)
• Bossa Smith: The Collection (CBS 44441)
• J.J. Johnson: The Trombone Master (CBS 44443)
• Lombardi Hendricks & Ross: Everybody's Roppin' (ICB 45020)
Your Choice

Columbia Jazz Masterpiece Sale
**Super Specials!**

**VHS Video MOVie Specials!**

**Fine Arts From Homevision**

- Abduction From The Seraglio (Pavarotti)
- Aida (Verdi)
- Barber Of Seville (Pavarotti)
- Madam Butterfly (Gary) (Merklo)
- Nabucco
- La Traviata
- Il Trovatore
- DANCE
- ABT in San Francisco
- Alvin Alley, Evening With
- Masters Of Tap
- ART
- Degas (MET)
- Gauguin
- Georgia O'Keeffe
- Picasso

**Headphones**

- Sennheiser HD-540: "Gold Limited Edition" — Special hand-made limited edition headphones are exclusively signed by Di Sennheiser himself. Improved high performance drivers — Comes in a wood case
- Price: $249
- Sale: $199 (SEN HD540-GOLD)

**Audio Accessories**

- Recoton W-100: Wireless Stereo Speaker System
  - Eliminate the need for room-boom wires
  - Store inside the battery-powered control unit
  - Speakers plus 20 convenient wall outlets anywhere

**Portable CD Players**

- Gemini MX-6200: Stereo Graphic Equalizer Mixer
  - Digital equalizer, handle high power amplifiers
  - 7 band equalizer, echo circuit, 3 phono
  - 12-digit readout, full track memory

**Personal Stereo**

- Sony WM-F200III: Super Walkman with MegaBass
  - Auto reverse/cassette player (includes 2 min. tape with one-point mic)
  - Auto reverse/cassette player (includes 2 min. tape with one-point mic)

**FAX Machine**

- Parsion RX-DTSO: AM/FM Cassette CD Portable System
  - Bluetooth, extra long battery life
  - Programmable effects playback
  - Built-in 25 watt per channel amplifier
  - LCD function remote and CD display

**Portable Cassettes**

- Panasonic PV-4768: VHS Hi-Fi Video Recorder
  - 4-speed Hi-Fi, hi-fi, and Hi-Fi stereo

**Camcorder Specials**

- Panasonic PV-1100: VHS-C Camcorder
  - Light weight, easy-handling design
  - Built-in light sensitivity of 7 Lux

**Home Office Specials**

- Panasonic RX-DTSO: AM/FM Cassette CD Portable System
  - Bluetooth, extra long battery life

**FAX Machine**

- Sharp UX-180: Fax Machine
  - 1-Line Interface, Q (includes 2 min. tape with one-point mic)
  - Auto reverse/cassette player (includes 2 min. tape with one-point mic)

**Audio Accessories**

- Recoton W-100: Wireless Stereo Speaker System
  - Eliminate the need for room-boom wires

**Camcorder Specials**

- Panasonic PV-1100: VHS-C Camcorder
  - Light weight, easy-handling design
  - Built-in light sensitivity of 7 Lux

**Blank Audio/Videotape**

- TDK SA-100: Extended Length High Bias Cassette
  - New 300 minutes for long-length recording
  - Built-in microphone sensitivity, high sensitivity
  - Anti-resonance mechanism, High Revolution

**Camcorder Specials**

- Panasonic PV-1100: VHS-C Camcorder
  - Light weight, easy-handling design
  - Built-in light sensitivity of 7 Lux

**FAX Machine**

- Sharp UX-180: Fax Machine
  - Perfect For Business Use - (includes 2 min. tape with one-point mic)
  - Auto reverse/cassette player (includes 2 min. tape with one-point mic)

**Audio Accessories**

- Recoton W-100: Wireless Stereo Speaker System
  - Eliminate the need for room-boom wires

**Camcorder Specials**

- Panasonic PV-1100: VHS-C Camcorder
  - Light weight, easy-handling design
  - Built-in light sensitivity of 7 Lux

**FAX Machine**

- Sharp UX-180: Fax Machine
  - Perfect For Business Use - (includes 2 min. tape with one-point mic)
  - Auto reverse/cassette player (includes 2 min. tape with one-point mic)

**Audio Accessories**

- Recoton W-100: Wireless Stereo Speaker System
  - Eliminate the need for room-boom wires

**Camcorder Specials**

- Panasonic PV-1100: VHS-C Camcorder
  - Light weight, easy-handling design
  - Built-in light sensitivity of 7 Lux
ELGAR "ENIGMA," "FALSTAFF":
PHILHARMONIA, HALLE, BARBIROLLI

MESSIAEN "QUATUOR POUR LA FIN DU TEMPS": TASHI
The celebration of Olivier Messiaen's eightieth birthday last year produced a good crop of recordings, including some reissues of material whose "flow" is considerably improved by the CD format. One of the first works committed to vinyl by the group called Tashi (pianist Peter Serkin, violinist Ida Kavafian, clarinetist Richard Stoltzman, cellist Fred Sherry) was Messiaen's ethereal Quatuor for the End of Time. The music dates from 1941, when the composer was a prisoner in a German camp; the recording was made in 1975, and while the interpretation may not be to everyone's taste—too aggressive, perhaps, or too hasty?—the performance certainly remains a fine one. Playing time: 47:25. (RCA 78352-2.) J.W.

CHOPIN PRÉLUDES, OTHER SOLO PIANO WORKS: CORTOT
Recent reissues by both British EMI and Music and Arts of Alfred Cortot performing Chopin provide a listening experience just short of enchanting. A door on the past is opened for all young collectors, would-be Chopinists, and other pianophiles (except for those already Brendel-ized or Pollini-ized). The refreshment offered by these two discs is comparable only to listening to the sublime Artur Schnabel after overdosing on "modern" Beethoven.

For those unwilling to purchase both releases, either because of budgetary constraints or the duplication of some of the Preludes, I would—if really pressed—suggest the EMI disc, but only for its somewhat cleaner sonics; the performances themselves are not vastly different. However, what a joy it is to hear a true artist, without infallible fingers, and to encounter genuine interpretive exploration after living so long with the polished Chopin of Artur Rubinstein. Cortot made many recordings, none better than these. Now one awaits the resurrection of all of his Schumann, especially his 1934 performance of the Piano Concerto. Playing times: 68:27 (EMI CDH 61050, dist. by Allegro Imports); 70:20 (Music and Arts Programs of America CD 317, dist. by Allegro Imports).

BERNSTEIN, GERSHWIN FOR GUITAR:
BARBOSA-LIMA, ISBIN
Concord Jazz, one of the top jazz labels in America, has started a new line called "Concerto," which, so the company says, is "dedicated to presenting the finest artists with a Contemporary approach to Classical music, and a Classical approach to Contemporary music." This CD, a collection of music by Leonard Bernstein and George Gershwin arranged for two guitars and performed by Carlos Barbosa-Lima and Sharon Isbin, appears to be exactly what the folks at Concord Concerto have in mind. Not to put too fine a point exactly what the folks at Concord Concerto have in mind. Not to put too fine a point exactly what the folks at Concord Concerto have in mind. Not to put too fine a point on it, the results are strictly for easy listening. Whatever you've been waiting all your life to hear what Rhapsody in Blue sounds like on two guitars. On the other hand, the playing is exquisitely tasteful, and Barbosa-Lima's arrangements, particularly his West Side Story suite, are clever and imaginative. If you're looking for music to relax by, you could do a whole lot worse than this attractive disc. Playing time: 47:37. (Concord Concerto CCD 42012.) T.T.

COUPERIN FAMILY HARPSICHORD WORKS: LEONHARDT
Louis Couperin (1626-1661) was the uncle of Francois; Armand-Louis, born almost 60 years after Francois, was Louis's grandson and Francois's second cousin. If the CD had enough space, harpsichordist Gustav Leonhardt might also have included works by six or seven other members of the very musical, and very large, Couperin clan. Although few of them had the genius that earned for Francois the nickname "le grand," even Armand-Louis did his part to maintain the family tradition. The author of the Couperin article in The New Grove Dictionary of Music and Musicians says that Armand-Louis's music "lacks the muscle and discipline that struggle might have imparted to it," but as played here by Leonhardt—with incisive ornamentation and robust rhythmic lilt—the selections from his 1751 Pièces de clavecin hardly come across as the work of a wimp. Like so many of Leonhardt's recordings, this one is sonically and musically excellent. Playing time: 61:36. (Philips 420 939-2.) J.W.

SIBELIUS TONE POEMS:
SUITE ROMANDE, STEIN
This disc gets my "Sleeper of the Month" award. When was the last time you thought of Sibelius in association with Horst Stein and L'Orchestre de la Suisse Romande? Well, it's high time to start. Playing time: 65:10. (EMI CDH 61050, dist. by Allegro Imports). T.T.

DEBUSSY PRÉLUDES, BOOK TWO:
BENEDETTI MICHELANGEI
Arturo Benedetti Michelangeli, who records exactly what he wants exactly when he wants and releases it at his pleasure—if at all—has finally given us a recording of Book Two of Debussy's Préludes to go with the recording of Book One he recorded for Deutsche Grammophon 11 years ago. It's about time. For all his notorious eccentricities, Benedetti Michelangeli is still capable of the most beautiful playing imaginable, and Debussy brings out the very best in him. Certain moments on this recording (listen to the left-hand shading in Feuilles mortes or the breathtakingly varied articulation in the opening of Feux d'artifice) hardly seem to be the work of human hands playing a man-made instrument. This is the kind of music-making for which the word "great" should be carefully reserved. Playing time: 39:09. (Deutsche Grammophon 427 391-2.) T.T.
SUPER VHS CAMCORDERS

CANON F1000 10:12

- SUPER VHS 8:1 ZOOM w/FLYING ERASE HEAD
- SUPER VHS FULL SIZE TIME/DATE 8x ZOOM
- SAME AS ABOVE w/DIGITAL EFFECTS
- 8mm SPECIAL EFFECTS 420 PIX. SLOW MOTION
- HI-FI, 1200 SHUT

BEST VALUE:
- PANASONIC PV430
- RICOH R630
- OLYMPUS VX803
- OLYMPUS VX3405KU
- CANON E806
- CANON E77
- JVC GR707
- JVC GR60
- HITACHI VM5200
- RICOH R60
- RCA CC320
- JVC CC310
- GE GE9825

SUPER PRICE REDUCTIONS:
- CANON E708
- CANON E708
- HITACHI VM5200
- MINOLTA C50
- JVC GR577
- RICOH R630
- RCA EP70
- JVC GR707
- CANON E808

MOST POPULAR FEATURES:
- VHS-C 6:1 ZOOM S-LUX
- 8mm S-LUX KD1700 FLY ERASE H-FI
- VHS FULL-SIZE CAM TIME/DATE 6:1 ZOOM
- VHS-C FLY ERASE
- VHS FULL-SIZE CAM TIME/DATE 8:1 ZOOM
- VHS-C 1 E1 FLY ERASE w/CH GEN

8mm HI-BAND

SONY PRICES — CALL

OLYMPUS VX5405
OLYMPUS VX803

SPECIAL EFFECT & CHARACTER GEN.

EDITING PROCESSOR

TV'S

20" REMOTE COLOR TV MTS STEREO

SUPER VHS 30" TV

$299

$1299

FAX MACHINES

TOSHIBA
MURATA

M1200 $69
M1600 $99

COMPETITIVE PRICING... CALL NOW FOR YOUR BEST DELIVERED PRICE!
Though never what you would call a dancing fool, I had my favorites in the disco era. Who would have thought that ten to 15 years later, Barry White would outrank them all in my personal cosmology?

Not me, but Barry White's Greatest Hits, from the big balla's three biggest years (1973-75), never really left my turntable. Simple, but elegant, gold record jacket. Liner notes by wife Glodean, whose prose conjures up the halcyon days when Dzondira Lalsac was behind the typewriter at Duke-Peacock Records. "Spiritual adviser" credits to Larry Nunes, who by now is no doubt peddling herbal remedies on late-night cable. Then there's the music. What's perhaps most surprising is that as a ballad singer on something like "I've Found Someone," White reveals himself to be a strict disciple of Lou Rawls. Still, he made his mark with the dance numbers and the love-man jive.

When, after Barry's breathy, Torch intro, introductory sexual incantations, the album picks up a full head of steam on the opening "What Am I Gonna Do with You," I'm thinking the words to "Can't Get Enough of Your Love, Babe." And no wonder: The former is a follow-up to the latter and uses basically the same melody. It's a little more memorably each time out. Barry divulges, "Oh I know when we get every night, and the overall level of craftsmanship is hardly knew it-one could get into his club, for his was only something other than Glamour. That's why he had the most blue-collar audience in all of disco. And yeah, a working-class hero is something to be. Barry, we hardly knew ye.

John Morthland

---

**Eddie Money**

All I know about Eddie Money's personal life is: (1) He used to be a New York cop. (2) The tabloids claim he's now fully recovered from a bunch of vague but apparently serious vices that I gather wreaked considerable havoc on his pocketbook and love life, but I guarantee when the discussion turns to wild 'n crazy rock-star hoodlums, Mr. Money isn't the first person who comes to mind. Tiffany is. (3) He's arranging to expose glasnost-ites to the big beat, but so is everybody else. (4) His mouth appears to be positioned toward the side of his face, exactly like this bozo's in my high-school German class. (Everybody called him "Sidecar.")

When Eddie Money first materialized, he pulled this sub-Bruce studley-from-the-docks stich, and I paid very little attention. Always pretty much despised "Two Tickets to Paradise," and though I remember kinds enjoying some boogalooed fugitive tale that rhymed "water" with "Mexican border," I can't recall its name, nor can I recall which Yoko Ono song he covers on Every Man Has a Woman Who Loves Him. Likewise, though the recent
“Walk on Water” did revitalize Eddie’s recurrent dihydrogen-oxide motif; it was just too gushy to hold up, and I expect more than mere gush from this man. He’s obviously a boring dolt, but in the ’80s he has unleashed a quartet of truly world-class singles, a total that puts him on a plateau with such hallowed artists as A Flock of Seagulls and Billy Squier, places him within slingshot range of geniuses like the Bellamy Brothers and Poison, and bears the living pants off Leonard Cohen.

“Think I’m in Love” (1982). Its traction comes from how the initial mythological acoustica lures you sirens-style toward the hard-boiled fuzz riff, which comes and goes. Trapped between walls of sod, Ed essay navigation: “It surrounds me, moves in like a sea of madness.” (More dihydrogen oxide!) His diction on “it surrounds me” could also be construed as “it’s a rat race.” As well it is, but his life’s looking up.

“Shakin’” (1982). Drums start slow, loud, non-metallic, warlike: Imagine banging your desktop and walls with two huge rubber mallets. The guitar’s from Skynyrd’s “Saturday Night Special” and murderous as anything radio has accepted this decade; naturally, the sweet hijacker who kidnaps our hero immediately turns it up full-blast, blows out his speakers. They burn rubber at 80 with no particular place to go, but suddenly she brakes fast, and everything gets quiet. Rosanne starts undressing. Nervous Ed starts having second thoughts: “I’m always talking, maybe talking too much.” Like, look what a fine mess I’ve gotten myself into now.

“Take Me Home Tonight” (1986). First words are mumbled, but the production’s a Phil Spector symphony. Ed’s serenading you, pleading with you, but he knows his case has been stated before more persuasively. So for his Cyrano, he gets Phil’s wife. “Be my little baby,” Ronnie coos, and not even an era of old gold can keep that lovely voice from snagging you.

“I Wanna Go Back” (1987). The way Eddie emphasizes that line “I can’t go back, I know,” it’s like while he’s singing, out of the blue the big 200-watt bulb atop his head lights up and he realizes, monog, this is it, it’s over, a frightening thought for anybody whose livelihood depends on youth, only this guy doesn’t feel like Seger or Cougarcamp—more like Sinatra in “It Was a Very Good Year,” or maybe George Jones, not merely soaked in self-pity but drowning in it. Of course, my youngest sibling says I wouldn’t like this song so much if I weren’t getting on in years myself. But, um, you’re not gonna fall for that one, are you? Chuck Eddy

No, not the whole corpus: We’re talking guilt, not insanity. And no, not the early stuff, where the heat of guilt would be mitigated by detectable traces of archival cool. Yesterday’s embarrassments (and yawns) are today’s hip artificats. And finally, truth be told, I could live a full and happy life without hearing the damn hits again... okay, maybe another one bites the dust, one more time.

Essentially, what I’m coping to is not just liking a suspect band, but having a taste for what is generally agreed to be its worst stuff. But a little more qualifying before I come clean. I have never gotten the impression from any of Queen’s records that this group is actually a real band that plays together. Rather, the feeling is that the various parts have been worked over, polished, and, after being

**Queen**

Enough surly digression, let’s cut to the grooves. Take the second side of Jazz, the neglected half of Queen’s most maligned album. “In Only Seven Days” and “Leaving Home Ain’t Easy” foretell the type of ballad that all metal bands now realize they must come up with in order to justify the artist’s latest move. But in the rock arena, genre-hopping is most often looked on as a mark of phoniness (few creatures being as relentlessly intolerant as a rock crit in search of sincerity).

Enough surly digression, let’s cut to the grooves. Take the second side of Jazz, the neglected half of Queen’s most maligned album. “In Only Seven Days” and “Leaving Home Ain’t Easy” foretell the type of ballad that all metal bands now realize they must come up with in order to justify the artist’s latest move. But in the rock arena, genre-hopping is most often looked on as a mark of phoniness (few creatures being as relentlessly intolerant as a rock crit in search of sincerity).
Don't Forget!

Send for the latest edition of the free Consumer Information Catalog. The Catalog lists over 200 selected federal publications of consumer interest on subjects like health, nutrition, federal benefits, money management. The Catalog is free and so are many of the booklets. Just send your name and address, no strings attached. Write today.

Consumer Information Center
Dept. DF, Pueblo, Colorado 81009

U.S. General Services Administration

Partnership for a Drug-Free America
tune that puts Brian May's too-fat guitar sound to good use for a drowsy chorus. "Don't Stop Me Now" could serve as a respectable pre-intermission finale for any Broadway musical of the last 30 years (lead singer Freddie Mercury coulda been another Chita Rivera). The LP's closer, "More of That Jazz," has drummer Roger Taylor singing like Lennon c. the Plastic Ono Band and, amid off-center rhythms and harmonies, reveals a cynicism as deep as you always suspected: "Only football gives us thrills/Rock 'n' roll just pays the bills/Only our team is the real team" (this last no doubt a mocking nod to the many sports teams that have adopted "We Will Rock You"/"We Are the Champions" as an anthem). Then the perfect touch toward the end of the song, as they scuttle all pretension with a tacky medley/reprise of the LP's highlights. Of course, it all makes sense: Scathing self-revelation is just another lick in their repertoire of star turns. Only saps with limited imaginations make whole careers out of such single moves. All of this is calculated to give pleasure. How can you not like it? Still, I doubt I'll change any minds. Maybe it's just that a heavy dude like me needs a place to go when the mood is: Be a knucklehead. (Geez, I can't believe I said that.)

Richard C. Walls

---

**Marillion**

I've been known to enjoy a lousy movie or a trashy novel, likewise, I have my share of guilty musical pleasures. Some fall into the category by virtue of their being too mainstream, appealing to all types of undesirables with whom I'd rather have nothing in common. Others are cult acts that can be shared with fellow cultists but are best not mentioned to the rest of the world. But the guiltiest of pleasures must be the ones enjoyed alone. And I like Marillion.

Even the most broad-minded of my music-loving friends have turned thumbs down and noses up at this British band-out-of-time, and critics are always writing them off as a self-indulgent throwback. Indeed, they're derivative—and worse, they derive from an extremely unfashionable style, the sort-of-early-Genesis stuff that had yet to discover the American marketability of short-form pop. As an unabashed admirer of '70s art rock, I loved soothing mellotrons, long solos, and complex concept albums—and loved them guilt-free—when the pioneers first fleshed out the progressive genre. But what happened to those guys? King Crimson keeps disappearing. The commercialization of post-Moon Pink Floyd and post-Gabriel Genesis has taken much of the pleasure out of listening to those bands. And Yes has evolved into a shadow of its former self—or, with separate projects expected from personnel representing different periods in the band's history, two shadows.

Marillion filled the void by reviving the original prog-rock feel with updated production values. Their first few releases were far from perfect, but it was uncanny how much Scottish vocalist Fish sounded like Peter Gabriel, how guitarist Steve Rothery recalled peak-Genesis axeman Steve Hackett. And they were better than just a tribute band doing covers: They had their own mystical melodramas to unfold.

Marillion may never do anything as uncomplicatedly satisfying as Genesis gems "Supper's Ready" or _The Lamb Lies Down on Broadway_, but their third album, 1985's _Misplaced Childhood_, comes close. This moody tale of lost love and search for self is sweetened with just the right formula of spacey guitars, classically influenced keyboards, and majestic crescendos. The lyrics are oblique enough to suggest something deep without crossing the line to the more embarrassing would-be profundities of, say, the Moody Blues. The first verse on _Misplaced Childhood_, "Huddled in the safety of a pseudo silk kimono," is probably the best metaphor for Marillion's appeal: This music, after all, is masquerading as something classier than it really is, but it's still pretty, and the fortune-cookie philosophizing is reassuring on some lightweight agnostic level.

With the recent departure of Fish for a solo career, the amusing parallel to Genesis continues. Now Marillion will probably conquer America, and I'll lose interest. Until then, I plead guilty.

Andrew Nash

---

**Gordon Lightfoot**

It's a summer Sunday afternoon in 1972, and I'm hanging out at the Mariposa Folk Festival, held each year on an island off Toronto, and though the weekend celebration is in its final hours, none of the several thousand people are leaving, 'cause all these superstars keep popping up and playing unannounced sets, like during the past few hours both Joni Mitchell and Neil Young have appeared out of nowhere at workshop stages, and now Bob Dylan has been spotted and the entire festival has ground to a frenzied halt 'cause everyone
is following him around figuring he's going to play, too, only Dylan doesn't want to play, and as this isn't Newport '65, he doesn't have to listen to folk people anymore, and so he finally just leaves on a private motorboat and now everybody's getting really bummed out, and suddenly what do I hear wafting my way from under a tree but a pretty good version of "If You Could Read My Mind," and I figure, you know how it is at these festivals, lotsa folks bring guitars and sit under trees and play, and some of 'em do pretty good imitations of known artists, but then I look and damned if it isn't Gordon Lightfoot himself in the proverbial Canadian flesh, and soon about a hundred people are sitting cross-legged in a semicircle and he's playing every single great song he's ever written—and he's writ a toqueload of'em over the years, eh?—and he's actually asking people what songs they want to hear and then he's actually playin' 'em, and after a while a few hundred more people are sitting under the tree, and before you know it everybody who hasn't left after the Dylan fiasco has come and sat down under that tree, too, and now Gordon's doing sing-alongs fer chrissakes, and I'm half expecting a campfire and some marshmallows to break out any minute, and my whole uneasy faith in folk music winds up being restored 'cause, hey, Gordie (dig it, had he been a hockey player and not a musician, that's what he'd be called, 'cause that's what Canadian guys named Gordon are called if they're hockey players) is a folksinger, and here he is, big hits and all, just singing for folks like it's no big deal, and maybe that's why I've always liked him, 'cause he's NO BIG DEAL and has stayed such through thick and thin, whether or not he's having hits like the aforementioned Top Tenner (written, if memory serves, as the theme for a Canadian film called Paperback Hero, which starred Keir Dullea as a coal-mining-town hockey star and, in turn, was spoofed by SCTV in the form of Billy, starring John Candy as hockey goon Billy Stenhalovichki and featuring Eugene Levy as the Lightfoot-style minstrel—see how that country protects its own?) or "Wreck of the Edmund Fitzgerald" (only hit song ever written about the Great Lakes?) or "Sundown," which shouldn't be confused with John Denver's shoulder-pad "Sunshine," especially since Gordon tends to write more about down than up, as evidenced by his numerous songs with "rain" in the title, like "Early Morning Rain" and "Rainy Day People," . . . nonetheless the guy's into natural things, which reminds me that my all-time favorite Lightfoot song is "Knotty Pine" and has lines like "She's my knotty pine . . . all her sap runs free and sticks to me" and "Sometimes she nettles me but I don't mind"—and anyway, I just think he's real neat, that's all.

Billy Altman

Neil Diamond

Those who are less enlightened see Neil Diamond as a windbag responsible for some of the most pompous schlock of all time. They're absolutely right, but what they fail to realize is that these are his good points. In the '60s, when everyone else was copying Clapton licks and writing about the Chicago 7, Diamond stuck by his Brill Building pompadour and recorded future wedding-reception anthems like "Sweet Caroline." Later, during the back-to-basics singer/songwriter vogue, he toured with strings and went platinum with the soundtrack to Jonathan Livingston Seagull, the MOR equivalent of Tales from Topographic Oceans. These are the marks of a mind so twisted and self-centered that one can't help but be humbled by it. And when you combine these qualities with attitude, presence, and a gift for songcraft, you have Neil Diamond, arguably the gutsiest mainstream icon in pop history.

I didn't always feel this way. I can recall being utterly appalled when, for my 13th birthday, my sister bought me Diamond's Stones, home of "I Am . . . I Said." Even as a naive teenager, I sensed that beneath Diamond's long hair and bell-bottoms was the ultimate square. His subsequent work, which built on the pomposity of "Song Sung Blue" instead of the rhythmic drive of "Cherry, Cherry," didn't do much to alter my opinion.

Then, on a recent trip to a record store, I noticed His 12 Greatest Hits, which compiles his singles for Uni and MCA. I'd always had a soft spot for "Cracklin' Rosie," and the "hands . . . touching hands" part of "Sweet Caroline" always gave me chills. So I bought the record and heard what I'd been missing all those years: the staggering grandiosity of "Holly Holy," the sweeping string section on the bridge of "Shilo," the deadpan-cool opening of "Brother Love's Traveling Salvation Show," not to mention the seductiveness of his baritone and his fondness for minor chords and deft percussion. Soon after, I snapped up Classics: The Early Years, a collection of pre-Uni singles for Bang ("Cherry, Cherry," "Kentucky Woman") that are all so tightly wound it's scary.
Today, both albums wind up on my turntable more often than all those boring Robyn Hitchcock and John Hiatt records gathering dust on my shelves. Friends are always surprised when I tell them this, and I don't know why. "Sweet Caroline" and "Play Me" are as seductive as great pop records get, and the Hits album, taken as a whole, tells the story of one man's search for self, with the help of an orchestra.

In recent years, Diamond's arrogance has soured. His fertile period ended with 1976's Robbie Robertson-produced half-success Beautiful Noise, and today he has almost completely lost the touch: His current album, The Best Years of Our Lives, is a hackneyed attempt at "rock." None of that, though, has spoiled "Cracklin' Rosie" for me. I must have heard this song a few hundred times since it was released in 1970, but I never tire of the graceful guitar-and-trumpet intro, the swinging rhythm, the sawing cellos in the bridge, or Diamond's exuberant (and very uncharacteristic) "bow-ba-bow" improv during the fadeout. The song was reportedly inspired by an American Indian tribe that had more men than women, forcing the lonely prairie-dwellers to seek comfort with a "store-bought woman" (i.e., wine). That makes as much sense as my fondness for Neil Diamond, but some things you just don't question.

David Browne

Let's get real for a moment. Anyone can enjoy, and write about, good music: Our entire cultural bias shoves us in that direction. Garbage is easy to deal with, too: We revile it, laugh at it, ignore it.

Then there's the stuff in the middle. At its best/worst/truest, schlock is the toughest to handle, because it calls into question many of the assumptions we use to get by. Most of us improve at making judgments more quickly, more assuredly, as we go along. Trouble is, you take that too far and soon you notice the steady hum of a machine rather than the responses of a functioning person. Schlock, if it serves no other purpose, jams the machinery, shows it for the jury-rigged contraption it is.

So why the Classics IV featuring Dennis Yost? Because 20 years after they had their brief, largely forgotten chart run, the hand trembles on the lever that would consign them to the pit. I won't perversely argue at length over the minor virtues of "Spooky" and "Stormy." Anyone who wants to dismiss their stuff outright, go ahead. Back there in an age when rock's horizons were widening on an almost daily basis, the Classics IV offered merely a few simple, decently crafted songs with some mellow saxophone thrown in. If you had your radio on during those moments, your life was not going to be changed.

I have no idea whether the Classics IV believed for a moment in anything they did, or whether they indeed were consummate pop hacks (the fact that a couple of them went on to form the Atlanta Rhythm Section probably settles the issue). But who wants to know, anyway? In the only sense that matters, the answers are still up for grabs each time "Traces" unexpectedly comes over the late-night airwaves of an oldies station, or catches the eye in a bin of 45s at a garage sale, or gets played on a jukebox deep into your third beer.

No matter how many times you listen to schlockmeisters like the Classics IV, they're not going anywhere; Dennis Yost won't be replacing, say, Van Morrison in the pantheon anytime soon. Yet listening to them—or anyone else caught up by the demands of craft and marketplace and the miserable limitations of average talent—has its purpose, serving as a way of slowing down that process by which judgments are made automatically, without full consideration. In a way that even the best stuff doesn't, this keeps me honest.

Excuse me, I feel a "Straight Up" marathon coming on.

Wayne King
ACCESSORIES
FREE DIAMOND NEEDLES FOREVER JOIN OUR electronic accessories club. $10.00 lifetime membership (REFUNDABLE). Includes catalog & free needle clittle. Applehill. Box 317, Lincoln, Ill. 62689. 312-634-1226.

AUDIO/VIDEO SPECIALTY SHOP

BUSINESS OPPORTUNITIES

CLUBS/SINGLES
CLASSICAL MUSIC LOVERS’ EXCHANGE. Nationwide Link Between Unattached Music Lovers. CMLE. Box 31, Polhemus, VT 05860.

COMPACT DISCS
COMPACT DISC - AT LOW WAREHOUSE prices. Now in our fifth year. Send $2.00 for catalog, OZ Warehouse, 1575P Hwy. 29, Lawrenceville, GA 30043.


CABLE DESCRAMBLE LIQUIDATION. Major makes and models available. Industry pricing! (Example: Hamlim Combo’s, $44.00 each, minimum 10 orders). Call West Coast Electronics. (618) 709-1758.

CABLE TV DESCRAMBLERS & CONVERTERS
Your best buys and warranty’s start with a free catalog from M.D. Electronics call toll free or write us today! All products guaranteed we accept Visa, M.C., COD. 115 New York Mall Ste. 133H. Omaha, NE 68114.

EQUIPMENT FOR SALE

DISCO LIGHTING. DJ SUPPLIES, FOG MACHINES, STAGE lighting effects at wholesale prices. Send $1.00 for catalog. Ross’ Stereo & Video Exchange, 2423 Morena Blvd. San Diego, CA 92110 (619) 275-3632.

ELECTRONICS
“STEREO WORLD” IS YOUR DISCOUNT mailorder source with super deals on Audio/Video & Car Stereo. Lines like: Magnavox, JVC, TEAC, AIWA, Technics, Pioneer, Koss, Sonneheiser, Pinnacle, TDK, Maxell, Panasonic, Advent, ADC. Car Stereo lines like: Pyle, Clarion, Sherwood, Philips, Sony, Pioneer, G&S design amps, JVC, Panasonic, Technics, Blaupunkt, AIWA & more! Call or write for FREE catalog! Call for closeout specials! FREE shipping! P.O. Box 20395, Bowling Green, KY 42101.

FREE JAZZ CATALOGUE
CD’S, LP’S, CASSETTES AND VIDEOS
Daybreak Express Records, P.O. Box 150250-Dept HE, Van Brunt Station Brooklyn, NY 11215-0005 THE JAZZ SPECIALIST SINCE 1975.

FREE BROCHURE AND DEMO RECORD.
FOR SALE
THE FINEST IN HOME AUDIO, CAR STEREO & VIDEO EQUIPMENT
*ADS
*ADVENT
*Akai
*ALTEC-LANSING
*AMERICAN EXPRESS
*ANALOG
*B & W
*bdx
*DENON
*GUL
*HAFIER
*INFINITY (CAR)
*JVC
*KENWOOD
*KICHER
*SERIALS
*CRUNCH
*FORD
*ST numberWith y
*YAMAHA
*MAGNAVOX
*MARSHALL
*ION
*OLYMPUS
*POLK AUDIO (CAR)
*PROTON
*SAE
*SANSUI
*SURROUND SOUND
*SNOOPIN
*SONANCE
*SOUND
*CRAFTSMEN
*TERK ANENNAS
*CLESTION
*CERWIN VEGA

WE SELL SECOND HAND HIGH QUALITY AUDIO/VIDEO WITH money back guarantee! Send your name and address for FREE monthly inventory. Ross’ Stereo & Video Exchange, 2423 Morena Blvd. San Diego, CA 92110 (619) 275-3632.

SINGERS! REMOVE VOCALS FROM RECORDS AND CDs!
Sing With The World’s Best Bands! An Unlimited supply of Backgrounds from standard stereo records! Record with your voice or perform live with the backgrounds. Used in Professional Performance yet connects easily to a home component stereo. This unique product is manufactured and sold Exclusively by LT Sound! Not sold through dealers. Call or write for a Free Brochure and Demo Record. LT Sound, Dept. H/F3-3, 7980 LT Parkway Lithonia, GA 30058 (404) 482-4724 Manufactured and Sold Exclusively by LT Sound 24 HOUR PHONE DEMO LINE: (404) 482-4845
EXPERIENCED FRIENDLY ADVICE!
THORENS, FRIED, STAX, CWD, PS,
MONSTER CABLE, GRADO, AUDIRE,
SPICA, MIRAGE, SUPERPHON,
STRAGHTWIRE, QUAD, more. Immediate,
FREE shipping. READ BROTHERS STEREO,
593-C King Street, Charleston, South
Carolina 29403. (803) 723-7276.

CARVER, NAKAMICHI, BANG & OLUFSEN,
A.D.S., CROWN, REVOX, HAFLER, ADCOM,
MISSION, MERIDIAN, N.A.D., HARBAN/
KARDON, KYOCERA, YAMAHA, LUXMAN,
DENON, KLIPSCH, & W. POLK, KEF,
D.C.M., E-V, J.B.L., INFINITY, D.B.K.,
AKG, BEST PRICES PROFESSIONAL CON-
SULTATION, AMERISOUND SALES, INC.

ORDER: 1-800-622-HIFI (4434) NAKAMICHI,
YAMAHA, KYOCERA, DENON. HARMAN/
KARDON, JBL, NAD, CARVER, DBX,
MISSION, LUXMAN, KEF, ADCOM. ONKYO,
& B&O. Manufacturers USA warranty, factory
fresh, 15%-35% off list. Tax free (except
Wash. Res.). Most equipment received
within 2-7 days. 7 day defective exchange.
VISA/MC, Discover, Diners, Amex, COD.
Warranty information, service or order,
please call: 1-206-747-9999, TASKAMICHI

CAUTION, YAMAHA BUYERS!! Some
dealers are offering Yamaha products for
sale that are not designed for use or sale in
the U.S.A. These units may not carry the UL
approval for safety nor are they designed
for usage on 110 volt U.S. current. YAMAHA
Electric Corporation, USA

ATTENTION DENON CUSTOMERS
Not everyone offering Denon
products for sale is an authorized
Denon dealer. This has great
significance to you as a potential
Denon customer. Denon America's warranty applies
to the original purchase only. Denon
products sold by non-authorized
dealers are not covered under this or
any other warranty.

Lowest Prices on over 120 high
quality famous brands esoteric/car/video.
Wide selection means you get what you
want. Thousands of happy satisfied
customers. For specials list only—call 800-
233-8375. prices 503-963-5731. Audio
Unlimited, 1203B Adams, La Grande,
Oregon, 97850.
HELP WANTED
EASY WORK! EXCELLENT PAY! ASSEMBLE PRODUCTS at home. Call for information. 504-641-8003 Ext. 5037.

INVENTIONS
INVENTORS! AIM small—ideas. INVENTIONS. NEW products. Improvements on existing products. We submit ideas to manufacturers. Confidentiality Guaranteed. Call in U.S. or Canada Toll Free 1-800-225-5800 for information kit.

MISCELLANEOUS
IS IT TRUE JEEPS FOR $44 THROUGH THE GOVERNMENT? Call for facts. 1-312-742 1142 Ext. 4671.

MUSICAL INSTRUMENTS
WE BUY USED BRASS & WOODWINDS. Top $. Send INF.

SCHOOL & INSTRUCTION

WE BUY USED BRASS & WOODWINDS, Top $. Send INF.

GOVERNMENT? Call for facts, 1-312-742 1142 Ext 4671.

IS IT TRUE

products. Improvements on existing products. We submit

at home. Call for information 504-641-8003 Ext. 5037

EASY WORK, EXCELLENT PAY! ASSEMBLE PRODUCTS

444-7079 fax (818)-444-6863.

end items — vintage speaker systems. Charlie Dripps (818) 444-7079 fax (818)-444-6863.

MAHANIZ. & MINUSH I UBE EQUIP, all late model high-

CD's: Classical, Rock, Jazz, Etc. U.S.A.'s

TOP DOLLAR PAID — LP's, CASSETTES, &

FREE catalog, -LEGENDARY RECORDINGS, INC., P.O. Box 104, Ansonia Station, NY, NY 10023.

RECORD STORAGE
THE BEST RECORD RACK IN AMERICA
Stackable, portable, oak units hold LP's, CD's and tapes
Free Mailorder Brochure (please mention High Fidelity)
Per Madsen Design (415) 928-4509
P.O. Box 330101, San Francisco, CA 94133

VIDEO ELECTRONICS
HIFI VCR'S - UTILIZE VIDEO WHILE MAKING AUDIOPHILE Recordings. On Screen Video Indexing Software IBM, PC w/RCA video output required $5.99. R. Tong, 12518 Monterey Street, El Monte, CA 91732

RARE OPERA & CLASSICAL PERFORMANCES on CD, Records, Tapes, & Video. The most detailed & complete catalog of live & historical performances. Fast & dependable service,—discounts. Write for
FREE catalog,—LEGENDARY RECORDINGS, INC., P.O. Box 104, Ansonia Station, NY, NY 10023.

WANTED TO BUY

WANTED TO BUY

WANTED TO BUY

TAPES & RECORDS
CASSETTE CATALOG— ALL CATEGORIES. OVER 7000 titles. Cheapest prices anywhere. Send $1.00 for postage. Music by Mail. P.O. Box 090066-Dept. HF. Ft. Hamilton Station, Brooklyn, N.Y. 11209-0002.

SHOW ALBUMS— Rare, out-of-print lps. 64-page list $1.00. Broadway-Hollywood Recordings. Georgetown, Ct. 06829.

SOUND OF NAHAMOB REFERENCE CASSETTES
Individually duplicated in Real-Time on the finest TDK Metal Tapes from the finest analog and digital masters. The only challenge to the Compact Disc and the finest source for high-end mobile cassette systems. Labels represented WINDHAM HILL, SPINDLETOP, GPR, PRO ARC, A&M, DELOS, GOOD VIBES AND SHEFFIELD LAB. All titles available in Dolby B or C. For a catalog or more information contact PACIFIC CASSETTE LABORATORIES, P.O. BOX 6148-SF, Torrance, CA 90620, (213) 616-4267. Dealer inquiries welcome.

RECORD COLLECTORS SUPPLIES. REPLACEMENT Jackets: inner sleeves, 50 rp sleeves, opera boxes, CD supplies, etc. Free brochure. Cabco, Room 301-6, Box 8212, Columbus, Ohio 43201.

FROM EDISON TO ELVIS (AND BEYOND) LP's, 78's, 45's, etc. Visit or mail in wants, The Olde Tyme Music Scene, 915 Livingston St., Honeoye Falls, NY 14472. Best source of rare and hard-to-find jazz, classics, blues, country records, etc. Search service.


SEND 40% ON HIGH-END HOME SPEAKERS, subwoofers, amplifiers. FREE CATALOG RTRD-1, 3021 Sangamon Ave., Springfield, Ill. 62702. (217) 529-8793.

SPEAKER COMPONENTS

SPEAKERS, subwoofers, amplifiers. FREE

FREE catalog, -LEGENDARY RECORDINGS, INC., P.O. Box 104, Ansonia Station, NY, NY 10023.

RECORD STORAGE
THE BEST RECORD RACK IN AMERICA
Stackable, portable, oak units hold LP's, CD's and tapes
Free Mailorder Brochure (please mention High Fidelity)
Per Madsen Design (415) 928-4509
P.O. Box 330101, San Francisco, CA 94133

VIDEO ELECTRONICS
HIFI VCR'S - UTILIZE VIDEO WHILE MAKING AUDIOPHILE Recordings. On Screen Video Indexing Software IBM, PC w/RCA video output required $5.99. R. Tong, 12518 Monterey Street, El Monte, CA 91732

RARE OPERA & CLASSICAL PERFORMANCES on CD, Records, Tapes, & Video. The most detailed & complete catalog of live & historical performances. Fast & dependable service,—discounts. Write for
FREE catalog,—LEGENDARY RECORDINGS, INC., P.O. Box 104, Ansonia Station, NY, NY 10023.

WANTED TO BUY

WANTED TO BUY

TAPES & RECORDS
CASSETTE CATALOG— ALL CATEGORIES. OVER 7000 titles. Cheapest prices anywhere. Send $1.00 for postage. Music by Mail. P.O. Box 090066-Dept. HF. Ft. Hamilton Station, Brooklyn, N.Y. 11209-0002.

SHOW ALBUMS— Rare, out-of-print lps. 64-page list $1.00. Broadway-Hollywood Recordings. Georgetown, Ct. 06829.
The French program concentrates on vocal music. The voices, as well as the recording, are quite pleasant without drawing attention to themselves. Playing time: 59:49.

Paul Moor

SEQUENTIA: English Songs, Instrumental Works of the Middle Ages (13). 0 Sequentia, Klaus Neumann, prod. EMI/Deutsche Harmonia Mundi CDC 49192 (D). (Dist. by Allegro Imports.)

The Sequentia ensemble for medieval music has here gathered together some of the earliest surviving English songs in a varied program of secular and quasi-sacred works. Those accustomed to hearing this repertoire solid musicianship as well. Britton tends toward a certain sluggishness and metrical unincisiveness (the “Postil” section of the Bach almost lumbers along), but he brings off the flashier pieces with considerable élan. Playing times: 73:29 (DCD 3077); 60:05 (DCD 3049).

Farris plays with electrifying virtuosity, and particularly in the Franck he demonstrates solid musicianship as well. Britton tends toward a certain sluggishness and metrical unincisiveness (the “Postil” section of the Bach almost lumbers along), but he brings off the flashier pieces with considerable élan. Playing times: 73:29 (DCD 3077); 60:05 (DCD 3049).

Paul Moor

There are a number of surprises in these songs, such as the unusual polyphonic closing of St. Godric’s Ode to St. Mary, Christ, and St. Nicholas, or the seemingly deranged text to Fiuweles in the frith that appears to contradict the mildness of its music. Most of the songs are on religious themes, often cautionary or confessional in tone. Generally the more sorrowful pieces come off best, with The milde Lamb, a melancholy ballad-style work, and Ar ne kuth ich sorghe non, the moving plaint of the unjustly persecuted, most successful. A number of relatively tame instrumental works punctuate the program but do not really break the sense of monotony that occasionally creeps in. The voices, as well as the recording, are pleasant without drawing attention to themselves. Playing time: 59:49.

Christopher Rothko

CLASSICAL REVIEWS
(Continued from page 63)

gather some of this country’s finest organists playing carefully chosen, especially suitable instruments in programs of unusual musical interest. Michael Farris plays the Casavant Frères instrument in the Cathedral of St. Peter in Erie, Pennsylvania, and David Britton the Rosales organ (“Op. 11, 1987”) of Trinity Episcopal Church in Portland, Oregon. John Eargle, obviously an organ buff himself, has not only produced both recordings but also engineered them in an exemplary manner—although you may find that the bass gives your speakers quite a workout.

The French program concentrates on music reasonably familiar to anyone who knows that repertory and that type of organ—which paved the way for the Mighty Wurlitzer of the American silent-movie era. The other program manifests considerable musicological investigation, and the composition by Michel Corrette (1709–1795) proves once again the ab-

<table>
<thead>
<tr>
<th>Audio Advisor (80)</th>
<th>Electronic Wholesalers (69)</th>
<th>Maxell Corp. of America (Cov. 4)</th>
<th>Reliable Video</th>
</tr>
</thead>
<tbody>
<tr>
<td>225 Oakes SW</td>
<td>1160 Hamburg Tpk.</td>
<td>22-08 Route 208</td>
<td>931 Coney Island Ave.</td>
</tr>
<tr>
<td>Grand Rapids, MI 49503</td>
<td>Wayne, NJ 07470</td>
<td>Fairlawn, NJ 07410</td>
<td>Brooklyn, NY 11230</td>
</tr>
<tr>
<td>1-800-669-4434</td>
<td>1-800-444-6300</td>
<td>(201) 794-5900</td>
<td>1-800-525-9922</td>
</tr>
</tbody>
</table>

Barcus Berry (15)

5500 Balsa Ave., S-245
Huntington, CA 92649
1-800-233-8346

High Voltage (61)
39 W. 32nd St.
New York, NY 10001
1-800-654-7787

Onkyo (Cov. 2, p. 1)
200 Williams Dr.
Ramsey, NJ 07446
(201) 825-7950

Cambridge Soundworks
(10, 11)
154 California St.
Newton, MA 02158
1-800-232-4434

Illinois Audio (59)
12 E. Delaware Place
Chicago, IL 60611
1-800-621-8042

Pioneer Electronics
(6, 7, 28, 29)
2265 E. 220th St.
Long Beach, CA 90810
(213) 833-6177

The DAT Store (5)
2024 Wilshire Blvd.
Santa Monica, CA 90403
(213) 820-6487

J & R Music World
(66, 67)
73 Park Row
New York, NY 10038
(212) 732-8600

Wisconsin Discount Stereo
(64)
2417 W. Badger Rd.
Madison, WI 53713
1-800-356-9514

Yamaha (Cov. 3)
6650 Orange Grove Ave.
Buena Park, CA 90620
(714) 522-9105

JULY 1989 79
On the (8mm) Ball

If you want to catch those shots as day's light dims, take a look at Minolta's two new 8mm camcorders. Part of the Master Series-8 line, the models 81 and 80 ($1,625 and $1,455) are said to be capable of recording at light levels as low as four lux. The major difference between the two models is that the 81 features an 8 x zoom lens (8.5 to 68mm, f/1.4), while the 80 has a 6 x power zoom (9 to 54mm, f/1.4). Each lens also has a macro mode for close-up shots as near as 1 centimeter. Both cameras have most of today's popular features, including a high-speed electronic shutter to freeze fast action, an automatic fade control and flying erase heads for smooth scene transitions; and a negative/positive switch, enabling you to record in negative color and brightness for special effects. Additionally, the camcorders provide an interval timer for time-lapse recording and a self-timer that lets you get in the picture. Focus, exposure, and white balance are all automatic.

New 8mm offerings from Minolta: the Master Series-8 models 80 and 81.

Low-Price Accessories

<table>
<thead>
<tr>
<th>Item Code</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1010</td>
<td>CDV485 CDNideo player</td>
<td>$299.45</td>
</tr>
<tr>
<td>1010</td>
<td>CDB582 w/remote</td>
<td>$299.95</td>
</tr>
<tr>
<td>1010</td>
<td>CDG582 w/remote</td>
<td>$399.95</td>
</tr>
<tr>
<td>1010</td>
<td>CDG582 w/remote</td>
<td>$499.95</td>
</tr>
<tr>
<td>1010</td>
<td>CDG582 w/remote</td>
<td>$599.95</td>
</tr>
</tbody>
</table>

We use UPS International to the
Far East, W. Europe, New Zealand, and Australia. 1-800-942-0220

We can provide high performance audio by using an FM system. These models can also be used as playback systems. Features that enhance this application include: visual search at five times normal speed to find a certain portion of the tape and a memory function that enables you to return to a user-specified point at any time. Power is supplied by one- or two-hour rechargeable battery packs, an AC adaptor, or a car-battery adaptor. Power level is indicated by a bar graph in the viewfinder. Minolta Corp., 101 Williams Dr., Ramsey, N.J. 07446.

Alpine Gets Ahead

Alpine has put its best tape head—previously found only on the $600 model 7390—on its new $385 model 7380. The 7390 is the first in-dash Compact Disc player to control a remote-mounted CD player. The 7380 also features dual preamp outputs, 24 station presets, Dolby B and negative-feedback tone controls. By combining the 7380 with the model 3522 30-watt-per-channel bridgeable stereo power amp for $150, Alpine hopes to achieve its goal of offering high-performance car audio systems that don't break the bank. If you want to be on the cutting edge of car audio and have the bucks, check out Alpine's model 7909 ($1,200), a removable AM/FM/cassette head unit. The 7380 also features dual preamp outputs, 24 station presets, Dolby B and negative-feedback tone controls. By combining the 7380 with the model 3522 30-watt-per-channel bridgeable stereo power amp for $150, Alpine hopes to achieve its goal of offering high-performance car audio systems that don't break the bank. If you want to be on the cutting edge of car audio and have the bucks, check out Alpine's model 7909 ($1,200), a removable AM/FM/cassette head unit. The 7380 also features dual preamp outputs, 24 station presets, Dolby B and negative-feedback tone controls. By combining the 7380 with the model 3522 30-watt-per-channel bridgeable stereo power amp for $150, Alpine hopes to achieve its goal of offering high-performance car audio systems that don't break the bank.
The most affordable way to add 100,000 square feet without a building permit.

You’re looking at the biggest home improvement you can make without lifting a hammer. Yamaha’s new DSP-100. One of the few additions that can make a man’s home actually sound like his castle.

Recreating sonic depth and realism, that up to now, could only be experienced by attending concerts or screenings in the world’s finest music halls and movie theaters.

The very same acoustic sampling that made the legendary Yamaha DSP-3000 legendary. An important point, especially when you consider you can bring home the new DSP-100 for less than half the price.

It features soundfields from 20 actual performing spaces — including famous concert halls, jazz clubs, movie theaters — there’s even a setting for Dolby® Surround.

And like our top-of-the-line DSP-3000, the DSP-100 lets you adjust main and presence speaker levels with a single master volume control.

There’s even a built-in test tone generator that helps you balance speaker levels manually or by remote control.

As well as superimposition — a remarkably useful feature that displays on your video screen all the settings and all the changes you make to each particular soundfield.

Stop by your local Yamaha home improvement center for a demonstration of the remarkable DSP-100 today. And discover how to put on a 100,000 square foot room addition. Without winding up in the poor house.

The DSP-100 features the acoustic blueprints of 20 of the world’s finest clubs, concert halls and theaters. All of which you can add to your home for a song.

© 1989, Yamaha Electronics Corporation, USA. P.O. Box 6660, Buena Park, CA 90622. For the dealer nearest you call 1-800-662-6800.

Dolby® is a registered trademark of Dolby Laboratories Licensing Corporation.
COMPROMISING WITH YOUR TAPE IS LIKE COMPROMISING WITH ANY OTHER COMPONENT IN YOUR SYSTEM.

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

Its unique Epitaxial formula combines gammaferric oxide and cobalt ferrite for superior response at all frequency levels. The resulting superfine particles offer unprecedented clarity and brilliance. And make XLII-S the perfect tape for recording your most demanding sources.

So match your tape to the other components in your system and use only XLII-S from Maxell. Anything less is just kid stuff.

© 1988 Maxell Corporation of America, 22-00 Route 208, Fair Lawn, N.J. 07410