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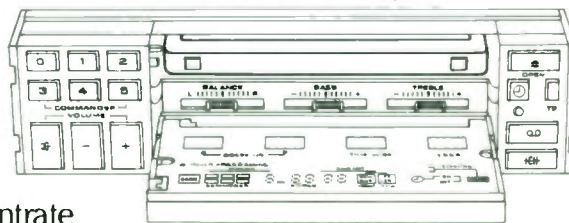
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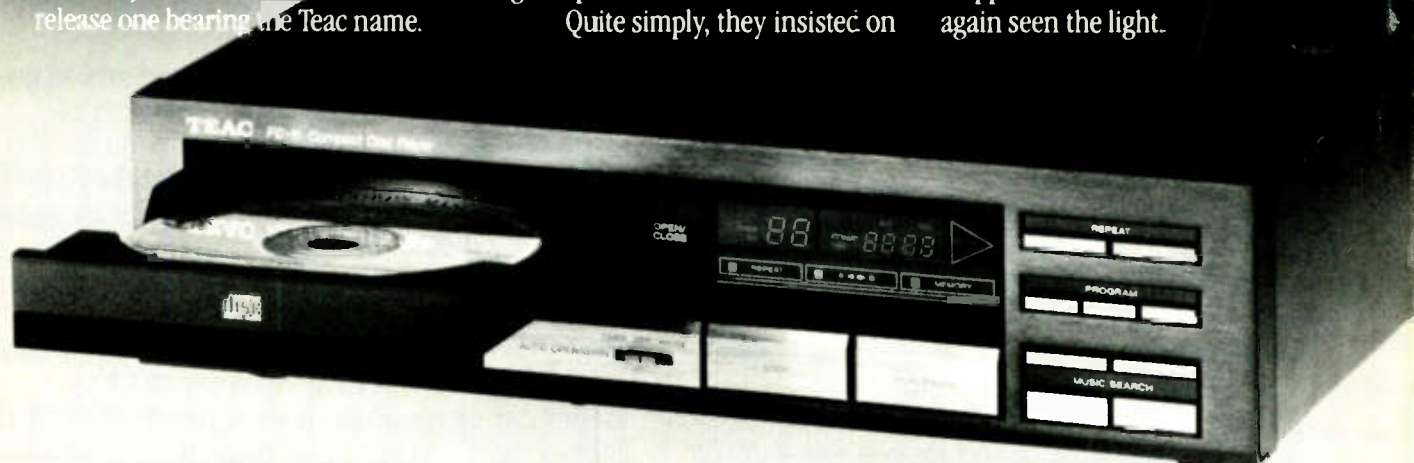
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HIGH FIDELITY™

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Publisher

Steven I. Rosenbaum

Editor-in-Chief/Associate Publisher

William Tynan

Editor, Musical America

Shirley Fleming

Senior Editor

Michael Riggs

Managing Editor

Peter Dobbin

Art Director

Skip Johnston

Copy Editor

Ken Richardson

Technical Department

Technical Editor: Michael Riggs

Electronics Features Editor: Peter Dobbin
Assistant Editors: Lida A. Silverman, (Special Projects), Randy Brozen (Administration);

Consulting Technical Editors:

Edward J. Foster, Robert Long

Contributing Editors:

Paul D. Lehrman, Gary Stock

Music Department

Classical Music Editor: Theodore W. Libbey, Jr.

Popular Music Editor: Georgia Christgau

Assistant Editors: Mildred Camacho-Castillo,

Susan E. Fingerhut

Contributing Editors:

Robert E. Benson, Crispin Cioe, Mitchell Cohen, R. D. Darrell, The Rev. Thomas L. Dixon, Edward Greenfield,

Paul Hume, George Movshon, Steven X. Rea,

James Wierzbicki, John S. Wilson

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Assistant to the Editor-in-Chief Janet Wolf

Technical Art: Roy Lindstrom

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Production Assistant: Paula Ballan

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Lillian Gmitruk

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Customer Service: Mary Losi



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Advertising Offices

New York: ABC Leisure Magazines, Inc., 825 7th Ave., 7th Floor, New York, N.Y. 10019. Tel.: (212) 265-8360. James A. Casella, Advertising Director; Richard J. Marino, Associate Director of Advertising; Michael H. Goldberg, Eastern Advertising Manager; James R. McCallum, Record Advertising Manager; Cecelia M. Giunta, Classified Advertising Manager; Kathleen Davis, Director of Production; Janet Cermak, Advertising Production Manager.

Midwest: High Fidelity, Hitchcock Building, Wheaton, Ill. 60187. Tel.: (312) 653-8020. Starr Lane, Midwest Advertising Manager.

Los Angeles: ABC Leisure Magazines, Inc., 2020 Avenue of the Stars, Suite 245, Century City, Calif. 90067. Tel.: (213) 557-6482. Rita Weitzen, Western Advertising Manager.

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About This Issue

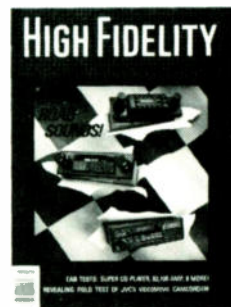
THIS IS A VERY SPECIAL issue for HIGH FIDELITY magazine: There are more of you out there reading our pages every month than ever before, and effective this edition our circulation base increases to 400,000. Thanks for your continued support.

Our July magazine focuses on the small American manufacturers of audio electronics whose individual approaches to excellence are exemplified by their products. Their pursuit of perfection—often at almost any price—has yielded many innovative designs. Some companies have come and gone, others have been absorbed by larger firms, still others have survived in their own special niches. J. Gordon Holt profiles some of the people behind the products in "Audio Electronics: American Style," and we review four components of this genre in

our audio test reports.

Also appearing this month is another of our periodic behind-the-scenes editor's reports on activities at various manufacturers. In "Currents," Peter Dobbin, electronics features editor, elaborates on his recent visit to Sony in Japan and on what he saw there—including a portable CD player.

Portability is also the theme of contributor William Mower's article. Just back from a trip to Europe, he relates his experience with the latest in lightweight portable video equipment—JVC's VideoMovie camcorder. And for those of you who take your music with you on the road, our special car-stereo section includes road and lab tests on three new front ends and a report on the best way to use an equalizer in your system.—W.T.



COVER DESIGN: Skip Johnston

Cover Photo: Grant Roberts

ON THE COVER: Nakamichi TD-800 tuner/tape deck, Clarion Audia TRX-100 receiver/tape deck; Kenwood KRC-929 tuner/tape deck

Letters

One Man's Meat...

I have just read George Movshon's suspect review of Massenet's *Manon* in the April issue of HIGH FIDELITY. I say "suspect" because of his unnecessary (and unintelligent) allusion to Debussy's *Pelléas et Mélisande*. Any critic who dismisses such a masterwork as overly "long" and "allergizing" deserves to be dismissed as well.

A critic should respect his role in the world of music—to enlighten and refine concertgoers and his readers—so that he does not adopt the tones of the disinterested, waiting-to-be-converted subscription ticket holder. *Pelléas*, like Wagner, requires a thorough foreknowledge of the play and the score for the performance to seem timeless, full of magic and marvelous moments, one after the other. Like any other monument of such complexity, both musical and literary, and of such consistently high caliber, it is inaccessible to the untutored. I doubt that Mr. Movshon is one of those, but his impertinent comments only cater to this element of the public. Is that his desire? If so, I feel that he is failing the musical community as a critic in such a respected monthly as HIGH FIDELITY.

Thomas Grubb

Author of *Singing in French*
New York, N.Y.

George Movshon replies: *One man's manna is another's anathema. I am surprised that anybody connected with the arts should need to be reminded of this fact; but Mr. Grubb's letter suggests that he does not believe it when his own enthusiasms are involved.*

*We are told that countless Germans adore the music of Max Reger; it has proved to be unexportable. Thomas Beecham once declared that in exchange for Massenet's *Manon* he would gladly trade all six Brandenburg Concertos, throwing in*

the St. Matthew Passion, "and feel I had vastly profited from the transaction." If all the Regerites and the Bachians were like Mr. Grubb they would be jumping up and down in suffused and adolescent rage. Any work of art is, from the start, controversial: People have a right to differ about its value.

*We come to Pelléas et Mélisande. Mr. Grubb may find my taste deplorable and my views "impertinent," but he may not call me prejudiced. I have given the opera a good run before deciding to have done with it—tracking various recordings, score in hand, and going perhaps half a dozen times to hear it "live" (conducted by Monteux, Ansermet, Boulez, and Colin Davis, among others); the *Mélisandes* have included Victoria de los Angeles and Elisabeth Söderström. The commentaries have been read and absorbed: Lockspeiser, Newman, Martin Cooper, Jean Mistler, many others. Nevertheless, the opera seems to me to contain less at each repeated hearing. Debussy remains always the admirable musical craftsman. Maeterlinck is a second-rater, a sentimentalist concealing his naiveté under an obscurantist cloak.*

Bernard Levin, the English columnist, goes farther than I do: "One opera I will never hear again is Debussy's utterly unendurable three hours of moaning and wailing set to Maeterlinck's equally insufferable three hours of whimsical drivel."

Hot Tracks

Having followed your half-baked (ha!) method for correcting warped records ["Waging War on Warps," November 1981], I would like to inform you that your system has in fact souffléed and not straightened one of my true prizes, the first record of the four-disc collection, "Sixty-Four Greatest Motown Hits." Frankly, I should

have known better, as the record was hot enough not to need further heating in an oven. You might wish to tell your readers that all ovens do not heat in an identical manner and that this factor should be taken into account if someone else is crazy enough to try your method.

As the above record is out of print, I would be grateful if your readers could help me locate a store that still has a copy.

Joel H. Einleger

New York, N.Y.

Peter Dobbin replies: *The method I outlined stressed the uncertainties of oven temperature settings and advised extreme caution when attempting to flatten a record by the application of heat and pressure. Often, a warped LP sandwiched between two glass plates can be straightened out when exposed to only the heat generated by a gas oven's pilot flame. Should you ever need to preheat the oven, make sure the thermostat is on its lowest setting—usually marked "Warm." And it's extremely important to let the record sandwich cool completely in the oven with the door open—half an hour at the minimum. If your LP "souffléed," which we take to mean that the vinyl bubbled, you certainly overdid it. Next time, try "calibrating" the procedure with a less prized disc.*

Where's the Beef?

I am a longtime reader of HIGH FIDELITY and probably will remain so. But I have one beef: Your amplifier reviews don't report clipping level and dynamic headroom into 2-ohm loads. These statistics would help readers assess the true capabilities of the equipment under test.

Patricia Cruz
Berkeley, Calif.

We don't measure continuous power into 2 ohms



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because we'd rather not blow up any more amplifiers than we absolutely have to. As for dynamic headroom, the current IHF amplifier testing standard defines it in terms of rated continuous power (FTC style). Most manufacturers give such ratings only for 8-ohm loads; some give 4-ohm ratings as well, but only a few provide 2-ohm continuous power specs. When the appropriate rating is available, we do give the corresponding dynamic headroom. Regardless of how an amp is rated, we now normally measure its dynamic power (using the dynamic-headroom test signal) into 8- and 4-ohm loads, and unless the manufacturer advises against it or we see signs that it might damage the amp, we measure dynamic power into a 2-ohm load as well. See, for example, our April review of the NAD 7125 receiver and this month's report on the Threshold S-300 Series II power amplifier.—Ed.



Not a Wailer

In a photograph appearing on page 70 of our February issue, Leroy Wallace (left) was mistakenly identified as Bunny Wailer (right). Our apologies.—Ed.

Getting in Sync

In your May issue's "Basically Speaking" column on how television images are created, Michael Riggs writes that "to prevent hum bars in the picture, the field rate is synchronized to the 60-Hz power-line frequency." A TV set is synchronized by the transmitted signal, not by the power-line frequency. Plain common sense tells you that if your set were not connected to the same power grid as the TV station, it would not sync. And how would battery-powered receivers sync? If Mr. Riggs is trying to say that the TV station syncs to the power line and then transmits a corresponding synchronization signal, he is wrong again, because the field rate for color broadcasts is 59.94 Hz. A certain relationship must be maintained between the audio subcarrier, the chrominance subcarrier, the line frequency, and the field frequency. All of these are derived from a master oscillator that has nothing to do with the power line. In fact, it is synchronized to the National Bureau of Standards.

Ramon Valdes
Miami Lakes, Fla.

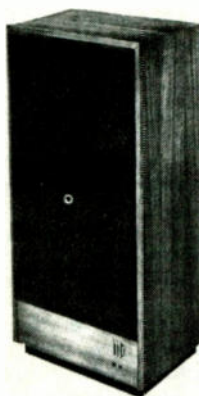
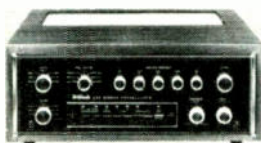
Technical Editor Michael Riggs replies: *I apologize for not being more clear. I did not mean to imply that the field rate is synchronized directly to the power line, which, as you say, it is not. The point is simply that the field rate was made the same as the power-line frequency (60 Hz, plus or minus a minuscule amount, in North America) to*

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prevent hum bars in the picture. This also is why the field rate in the PAL and SECAM systems is 50 Hz, which is the European power-line frequency. It is true that the vertical synchronization frequency adopted for the NTSC color broadcasting system is actually 0.06 Hz lower than that originally used for black-and-white transmission, but in this context the difference is negligible, and in the interest of speaking basically, I thought it better not to delve into the reasons for its existence.

"Off the Track"

I've been hoppin' mad since reading Matthew Gurewitsch's review of *My One and Only* [April]. What got me going was his sidetrack about the revival of *On Your Toes* being a musical at which we can "learn what real boredom is." I question Gurewitsch's definition of "boredom."

I was lucky enough to get a ticket to a Sunday matinee (October 23, 1983) and experienced one elation after another, from hearing the spine-tingling overture (in the original orchestration!) to seeing how *Slaughter on Tenth Avenue* fit into the work and imagining how it must have knocked 'em back in their seats at the premiere. How I wanted the fun to continue after the bows. The faces of those around me, both young and not so young, reflected an audience happily seduced by a charming work from another time, placed lovingly before us by a company of talented performers who believed in the piece, cared about its history and tradition, and wanted to share it with us.

At a time when our musical theater is in such sad shape, perhaps we need to go back and look at the best of earlier periods and try to discover just where and how we got off the track. Perhaps a look at the best musical of 1938 might help Gurewitsch discover why *My One and Only* "affords few pleasures."

Bill Raoul

Department of Drama/Dance
University of Montana
Missoula, Mont.

dB, or Not dB

I read with interest Michael Riggs's recent article on how you test power amplifiers ["Basically Speaking," December 1983]. His comments regarding the use of dBW were particularly edifying. I think, however, there is an alternative point of view.

As you no doubt are aware, engineers at Bell Laboratories created the Bel and decibel (dB) years ago to provide a logarithmic measurement scale. There are two important reasons for desiring such a scale: first, for systems in which the response is logarithmically, rather than linearly, proportional to the stimulus (as in human hearing), and second, for systems in which the range of a variable is so large that an arithmetic scale is impractical (e.g., RF signals at the input of a receiver).

The dBW scale has advantages with respect to the first consideration, but for audio power amplifiers, which typically run from 20 to 500 watts, the second does not apply. I think it would be wise to use watts for the primary rating and dBW as a secondary specification. The thrust of your article was to reverse this priority.

I suppose the dBW has been imposed by some standards committee and that the industry

is trying hard to accommodate it. Would it not be reasonable for a magazine such as yours to editorialize against the standard if it is impractical to use? It seems unlikely that manufacturers will ever accept dBW as an alternative to watts.

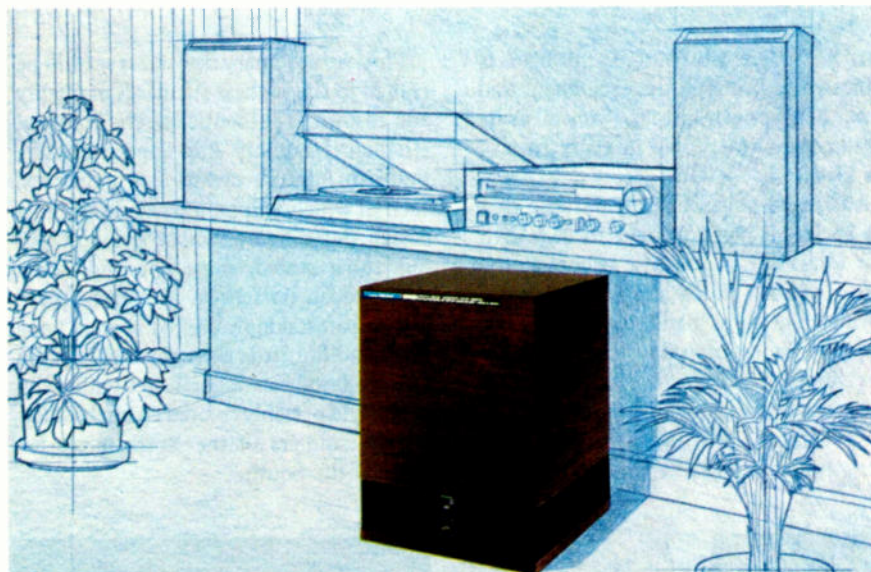
Malcolm D. Widenor

Sea Cliff, N.Y.

Technical Editor Michael Riggs replies: The committee responsible for the present EIA amplifier measurement standard was chaired by Edward J. Foster, who is president of Diversified Science Laboratories and one of our consulting technical editors. Largely because of his efforts, the standard makes dBW the recommended unit of power, with watts an acceptable substitute.

The reason for preferring the dBW over the watt is that it is a much better basis for evaluating the audible consequences of differences in amplifier power. It just isn't as dramatic, which is why manufacturers haven't rushed to embrace it. And I certainly don't see anything impractical about it. We do continue to give watts as well as dBW for all continuous power ratings, to facilitate comparison with manufacturers' specifications, and we run a conversion table in every issue in which an amplifier or receiver report appears.

Letters should be addressed to The Editor, HIGH FIDELITY, 825 7th Ave., New York, N.Y. 10019. All letters are subject to editing for brevity and clarity.



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This extraordinary new chess set will be crafted to the highest standards of quality and historical authenticity. The National Historical Society has appointed The Franklin Mint to create the sculptures, each of which will be a new and original design. Some figures will be shown standing, some seated, some kneeling, some mounted on horseback. And each figure will be painstakingly crafted of solid pewter, hand-finished, then set atop a solid brass pedestal base embellished with a circular band of richly colored enamel—*blue* for the soldiers of the North, *gray* for those of the South.

Every sculpture, moreover, will be so rich with authentic detail that only the artists and master craftsmen of The Franklin Mint, steeped as they are in the tradition of *precision coinage*, could have achieved it. Indeed, every nuance of facial expression, uniform and weaponry—right down to the buttons, braiding, sabers and carbines—will be depicted with meticulous accuracy.

Thus, The National Historical Society Civil War Chess Set is also a magnificent *collection*. A triumphant achievement of portrait sculpture—and the ultimate in micro-detailed miniaturization.

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BISHOP



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General in Chief
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KNIGHT

Available only by direct subscription. Issue Price: \$17.50 per sculptured chess piece.
Limit: One complete set per subscriber. Please enter your subscription by July 31, 1984.



This handsome pewter-finished chessboard and fitted presentation case will be provided as part of the set.

**A dramatic showpiece
for your home or office**

The chessmen themselves are scaled so that each one will suit the function assigned to it in the game of chess. And the handsomely crafted, pewter-finished playing board has been sized with equal care. Specially fitted, to also serve as the cover for the case which will house all 32 playing pieces, the board completes a presentation so attractive that the chess set will be played and displayed with pride and satisfaction. A Certificate of Authenticity, and specially written reference materials, will also be provided.

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The subscription rolls are now open. The work may be obtained *only* by direct subscription, with a limit of one complete set per subscriber.

The chessmen will be issued to you at the attractive price of \$17.50 each, with the specially designed playing board and protective case provided at no additional charge. As a subscriber, you will receive two sculptured pieces every *other* month. You will, however, be billed for only *one* chessman at a time—a total of just \$17.50 per month. In addition, you will have the option to complete your set earlier, if you wish—but you will be under no obligation to do so.

Here, then, is a work that will bring lasting pleasure to chess enthusiasts, history buffs, collectors of military miniatures—to anyone who appreciates our nation's heritage. Indeed, it is an unmistakably American chess set, that will make a dramatic addition to any room. And an exciting showpiece that will be displayed, enjoyed and treasured by each succeeding generation.

To acquire The National Historical Society Civil War Chess Set, no advance payment is required. But please note that the accompanying Subscription Application is dated and should be returned postmarked by July 31, 1984.

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The National Historical Society
c/o The Franklin Mint
Franklin Center, Pennsylvania 19091

Please enter my subscription for The National Historical Society Civil War Chess Set, consisting of 32 chessmen.

I need send no money now. I will receive two new playing pieces every *other* month, but will be billed for just one piece at a time—\$17.50* per month—beginning when my first shipment is ready to be sent. I will receive the fitted presentation case and pewter-finished chess board at no additional charge.

**Plus my state sales tax and \$.50 per chessman for shipping and handling.*

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Limit: One complete set per subscriber.

Currents

News, new products, and new technologies

Sony Prepares for The Digital Future

With the Compact Disc system firmly established, the engineers at Sony Corporation in Japan are working feverishly to broaden the uses of digital technology. A week-long round of seminars and discussions with Sony officials in Tokyo netted this overview of coming developments.

Believe it or not, before the year is over (possibly by late fall) portable Compact Disc players will be available. Though they may be marketed as CD Walkmans, the prototype we saw is hardly the kind of thing you'd want to strap over your shoulder for musical accompaniment on your morning jog. Though not much larger than a CD itself and only about 1½ inches thick, it uses a heavy 9-volt rechargeable battery pack, which fits in a carrying case along with the player for portable use. The Sony people also didn't demonstrate its tracking ability while in motion, and we're keeping a wait-and-see attitude about the ability of CD players to withstand the jiggles and shocks that portable tape machines handle so easily. Price is not yet determined, but a Sony spokesman told us that the portable player should come in at less than \$500.

Actually, we'll all have an opportunity to test the ruggedness of a CD transport in motion when the first car players appear this fall. Sony is getting two models ready—a dedicated CD player intended as an add-on for existing systems, and a combination tuner/CD deck.

When digital cassette recorders will appear is much more uncertain. An industry-wide standards committee is trying to sort out the issues relating to two proposed formats—one using a fixed, multitrack head assembly and the other a rotating,



Sony declared its portable CD player off-limits to photographers. This was snapped just before unveiling.



A monument at a CBS/Sony factory commemorates the first commercial CD.

VCR-style head. Each approach has its benefits and shortcomings, and each has its particular supporters among manufacturers. Although most companies are eager to bring a digital cassette recorder to market, none wants to jump the gun and introduce what may become the Elcaset of the digital age. Sony is prepared for any eventuality and has developed prototypes in both formats.

The designers at Sony are also exploring other capabilities and possible applications of Compact Disc technology. While 97 percent of the usable information-bearing area on a CD is taken up with music, there is still room for about 156 megabits in what is called the "user's bits area." Sony's DAE-1100 Compact Disc cue editor opens the door to the grafting of low-resolution graphics, titles, and liner notes onto the CD itself. Of course, you'll need a player capable of recognizing this extra data and equipped with a video interface, but companies like Sony and Philips are presumably ready to introduce such third-generation machines.

A bit further in the future is a system that Sony and Philips call "CD-ROM." Computer hackers know that "ROM" stands for "read-only memory," and that's exactly where Sony sees Compact Disc

technology heading. As a mass-storage device, a CD-ROM can hold as much as 552.96 megabytes of data (from 500 to 1,000 times the capacity of a floppy disk). And the data need not all be apportioned to computer programs and electronic dictionaries. A CD-ROM should be able to display five graphic frames per second and one high-resolution video image per second. You might even encounter CD-ROMs that combine computer data, graphics, and sound. Sony says that the players necessary to read CD-ROMs will be very similar to current models, which we take to mean that a single all-purpose player with connections for a stereo system (for reproduction of standard CDs) and a computer (for CD-ROMs) is probably on the drafting board.

Combining entertainment and data applications is another digital system under development by Sony. The Cable Digital Audio/Data Transmission (CADA) system employs a standard cable-TV channel to send a variety of services to subscribers' homes. A CADA transmission carries a total of four 32-bit data channels, each of which can be apportioned in various ways. For instance, one data channel can be divided in two for the transmission of a 16-bit stereo audio program (at a sampling frequency of 44.1 kHz). Or, it can be divided further to carry two 8-bit companded stereo programs (at 44.1 kHz), eight mono programs (at 22.05 kHz), or a combination of, say, one 8-bit stereo broadcast (44.1 kHz) and four mono programs (22.05 kHz). And that still leaves three 32-bit channels, which can be used for computer data and program transmission. Sony says that installation of a CADA system would cost a cable-TV operator very little and that CADA's powerful error-correction system will guarantee error-free transmissions through even the noisiest cable.—P.D.

A Competitor for CD?

Though it's unlikely that any new digital audio disc format will supplant the Compact Disc system, a new American company thinks that there's room in the marketplace for a disc-based digital recording system that uses inexpensive magnetic media. David Schwartz, the thirty-five-year-old founder of Compusonics, says that the company's DSP-1000 recorder will enable consumers to make hour-long digital recordings on 5¼-inch floppy disks with fidelity equaling that of playback-only CDs.

One of the key elements in the Com-



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psonics system is the high-density isotropic floppy disk, a new technology being investigated by Kodak and many of the large tape-manufacturing companies. Shwartz is working closely with Kodak, whose current generation of Isomax disks can store as much as 3.3 million bytes of data. With that density, the DSP-1000 can record only about four minutes of mono program material. But Shwartz claims that by early 1985, Kodak can deliver Isomax disks with 50 megabytes of storage capacity, which is sufficient for an hour's worth of stereo recording.



Compusonics's floppy-disk audio recorder (above) and its pro mixer/recorder system

If you're familiar with the pulse-code modulation (PCM) system used for CDs, you're probably wondering how an hour of two-channel music can fit in just 50 megabytes, when it takes about 650 megabytes of storage to accommodate that much program material on a CD. According to Shwartz, that's because his system does not

store sound in PCM form. He is deliberately vague about the details of his condensed music storage technique, claiming that several patents are still pending. His explanation is simply that the DSP-1000 samples sound via a PCM process and then translates the resulting data into a more space-effi-

cient code by means of advanced digital signal-processing techniques. The process takes extraordinary amounts of computer power, Shwartz points out, and the DSP-1000 recorder is therefore equipped with a 32-bit Motorola 68000 microprocessor (the same chip used by Apple in its Macintosh



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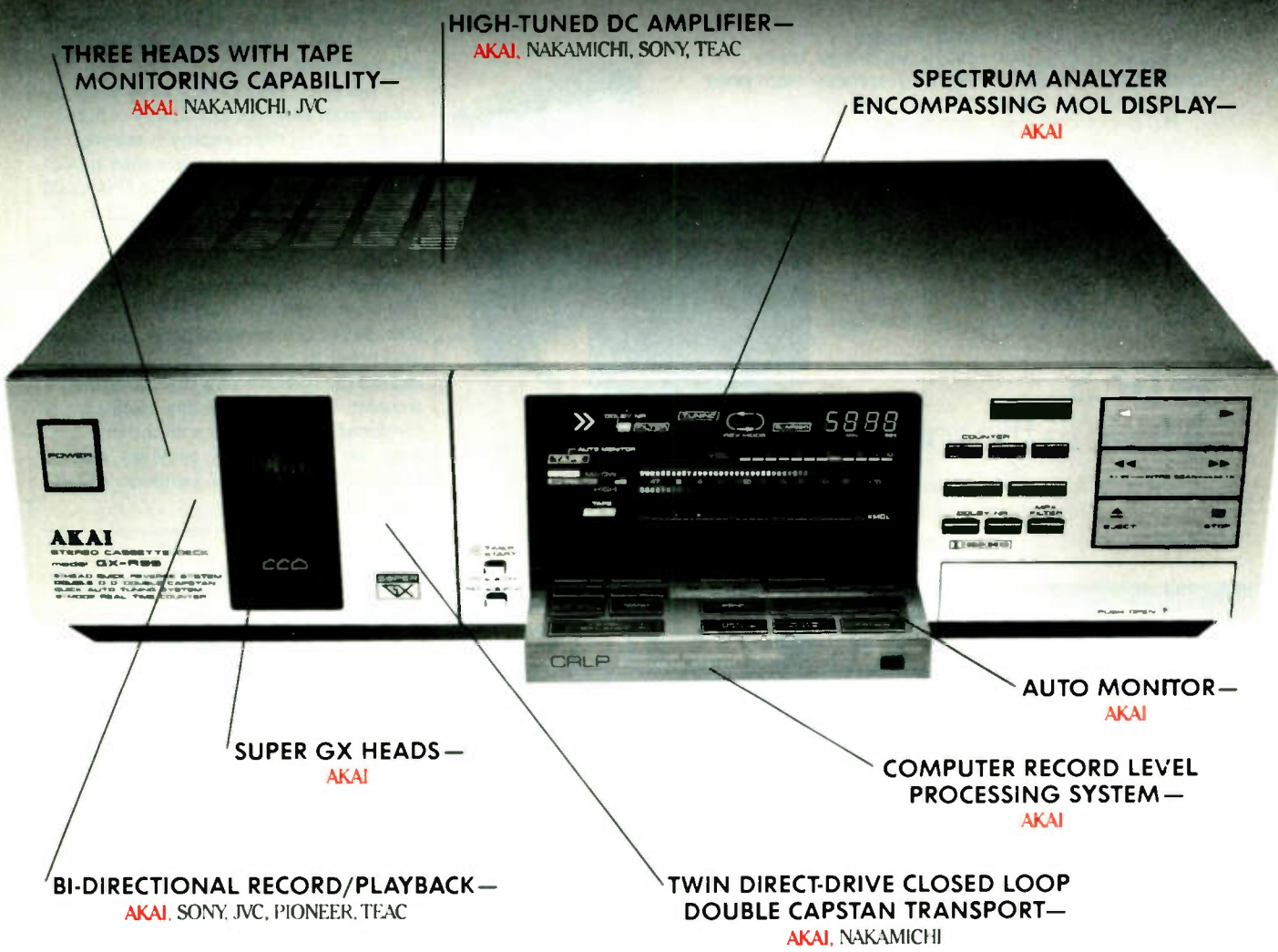
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Staying ahead of the competition in auto-reversing cassette decks has been an AKAI tradition for the past 14 years. Now we're introducing the all-new GX-R99, a deck that has so many advanced features you'd have to buy six other auto-reversing decks to get them all.

Features like our Computer Record Level Processing System, that sets a tape's bias, equalization and tape sensitivity, measures a tape's MOL, then sets the optimum recording level. A Spectrum Analyzer encompassing MOL

display, which displays frequency response with greater accuracy. AKAI's exclusive Auto Monitor. And our super GX heads. So super, they're guaranteed for 17½ years of continuous play.

It's easy to see why the GX-R99, just one of four great AKAI auto-reversing decks, is called the Dragon Slayer. And to find out why it's getting more praise than all the other guys combined, write to AKAI, P.O. Box 6010, Dept. H9, Compton, CA 90224.



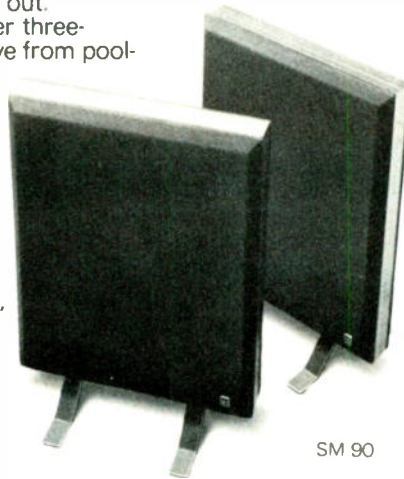
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computer) and four Texas Instruments TMS-320 digital signal-processing chips.

Will Compusonics kill its plans to introduce the system if the Japanese manufacturers introduce digital audio cassette recorders before it can deliver its floppy recorder? Absolutely not, says Shwartz. "There are just too many advantages to a disk-based system. Fast random access is impossible with tape, and the cassettes themselves are sure to be more expensive than Isomax floppies." Shwartz claims that the DSP-1000 recorder will sell for about \$1,200 and that disks will be only about 25 percent more expensive than standard floppies (about \$4).

Because Compusonics's consumer recorder must await the availability of higher-density media, the company is starting out by offering a digital mixer/recorder to professional recording studios. The DSP-2000 consists of a four-in/four-out digital mixer, a video display, and a hard-disk recorder capable of storing two hours of two-channel material or one hour of four-channel sound. The system software is loaded on the hard disk, so one drive is mandatory, but studios can choose to add additional mixing boards and use the system with a tape-based digital recorder. To keep recording engineers as comfortable as possible with the new system, the video display provides graphic images of conventional switches, sliders, and meters.—P.D.

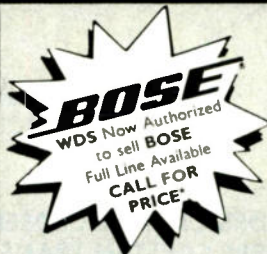
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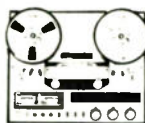


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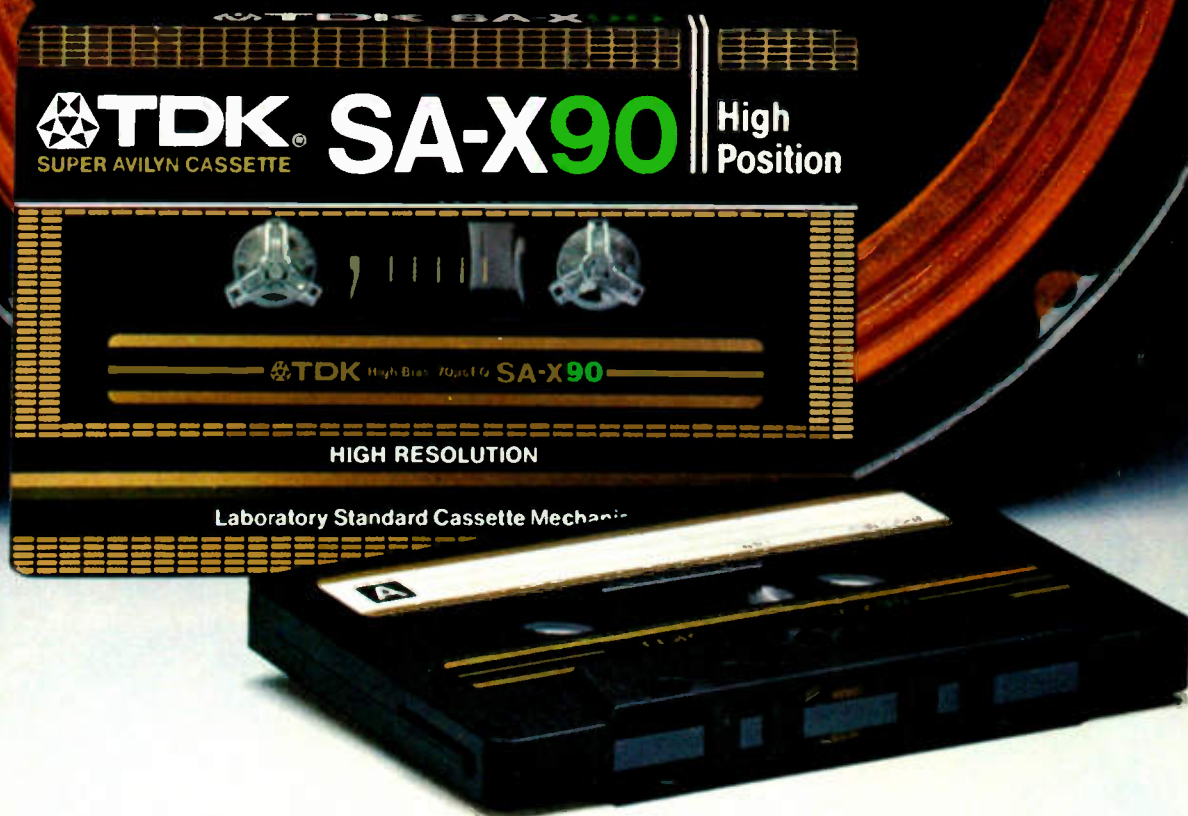
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"In the Digital Mood" With GRP

Our thanks to GRP Records, a small label headed by Dave Grusin and Larry Rosen, for letting us compare two CDs containing identical program material ("In the Digital Mood," by the Glenn Miller Orchestra) but mastered and manufactured on different equipment. According to Rosen, the recording was made on a 3M 32-track digital recorder and mixed down to two tracks on JVC's DAS-90 digital audio mastering system. But limited production capacity at JVC's Compact Disc factory forced GRP to seek additional pressings from Sanyo, which reformatted the master tape on Sony's 1610 system. Rosen wondered whether the change in equipment would somehow cause a sonic difference, and he called in a number of audio critics to compare the two pressings (played on identical machines) with each other and with a 15-ips analog copy of the original digital master. Just for fun, the LP version was also available, and all four sources were brought into perfect sync for the listening test.

After some extended listening and lots of switching among sources, no one could hear any difference between the two CDs or between the CDs and the dub of the master tape; even the LP version was so good that only a very faint softening of transients

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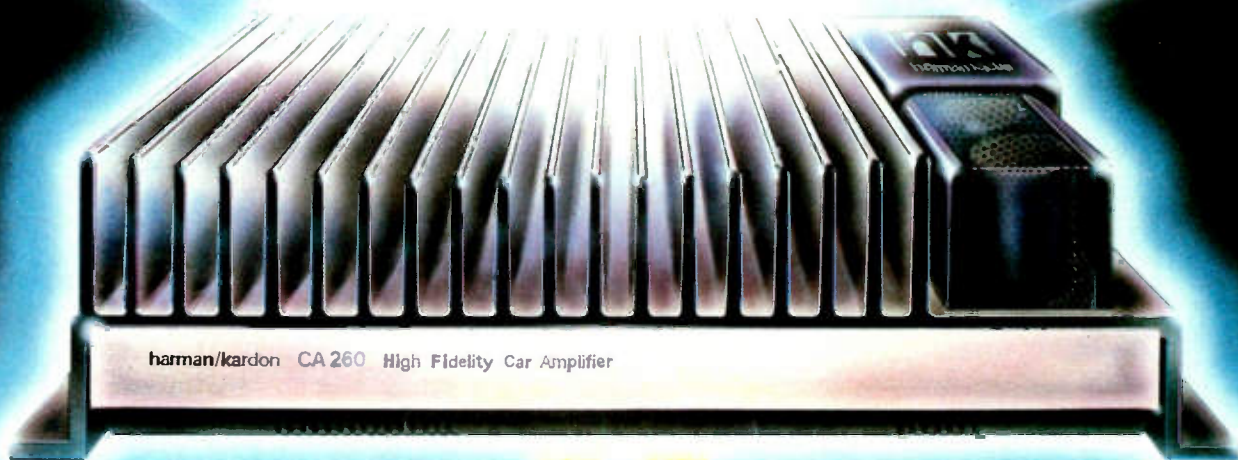
ances from two other TDK Pro Reference cassettes: MA-R metal and AD-X Avilyn-based normal bias cassettes.

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could be heard. Though the results are hardly controversial, they do echo what we've already discovered in our tests of PCM processors and comparisons of CD players—namely, that carefully designed digital hardware leaves no sonic signature on the music. —P.D.



Tuned In

If you're thinking of investing in a big-dish satellite TV receiving system, Regency offers a number of affordable components. The company's SR-1000 receiver costs \$500 and has separate variable controls for video and audio tuning, two threshold extension switches, and a bar-graph tuning meter. A front-mounted polarizer control enables you to optimize reception for a particular satellite by rejecting interference from adjacent satellite transmissions. The SR-1000 provides composite-video and RF-modulated outputs. For more information, write to Regency Electronics (7707 Records St., Indianapolis, Ind. 46226-9989).



A Dubbing Deck From Pioneer

One of the most automated of the new breed of two-well cassette decks, Pioneer's CT-

1050W can be programmed to play or record as many as eight selections in any order. During preprogrammed recording, the deck orders the recording transport to remain in PAUSE until the proper selection on the source tape is found. Once that recording is completed, the transport pauses again until the next song is located. The unit also has a "relay play" feature that activates playback from the second transport when the first cassette is finished. The CT-1050W is equipped with Dolby B and C and costs \$290. For more information, write to Pioneer Electronics (USA), Inc., 1925 E. Dominguez St., Long Beach, Calif. 90810.



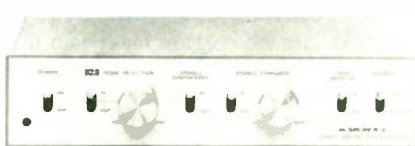
A Seaworthy System

A mini component system intended for use in recreational vehicles or boats, Mitsubishi's RX-123 consists of a power amplifier, a cassette deck/preamp, a tuner, and a seven-band graphic equalizer. The \$900 system comes premounted in a compact rack and measures just 6 inches high by 7 inches wide by 6½ inches deep. The RX-123's extensive complement of features includes Dolby, a loudness-compensation control, ten station presets (five AM and five FM), and autoreverse tape play. For more information, write to Mitsubishi Car Audio (799 North Bierman Circle, Mount Prospect, Ill. 60056).

Make Way For Parasound



A relative newcomer to home audio electronics, Parasound is trying to carve a niche for itself by offering high-quality components at sensible prices. Its product line includes a preamp, a power amp, three equalizers, and two receivers. The DR-40 (pictured here) is the more expensive of the receivers. At \$300, it offers 40 watts (16 dBW) per channel, a frequency-synthesis tuner with five AM and five FM station presets, and several features not often found in low-price receivers. Among these are preamp outputs, adjustable loudness compensation, a mono switch not tied into the FM muting circuit, and a switchable infra-sonic filter. For more information, write to Parasound Products (680 Beach St., San Francisco, Calif. 94109).



Sound Salvation

Radio Shack's Video Sound Processor probably will appeal as much to audiophiles as to videophiles. As an adjunct to a video system, it can create a pseudostereo output from a mono input, dehis noisy TV audio via its adjustable DNR noise reduction circuit, and increase the apparent left-right "spread" of stereo inputs. The device has its own tape-monitor switching and a two-position source selector. And at \$80, it looks like a real bargain.

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Antique Tapes

I have a few dozen 11-year-old TDK cassettes, some of which I have left in my car through extremely hot and cold weather. Will my deck (a Nakamichi 480) be harmed by them? Should the heads be cleaned before I then use good tapes?—David Morgan, Newton, Mass.

I suppose damage is possible—particularly, as you seem to surmise, from flaking oxide loosened by the environmental extremes to which no tapes of any description should be exposed. But if you plan to record on them, rather than just play them back, I wonder what sort of results you'll get in any event. Tape technology has taken enormous strides in the last 11 years, and mighty few decks these days can be adjusted, even by a technician, for the very low bias points that such old tapes usually require. In any event, do clean the heads after using these tapes, just as a precaution.

An Extra Amp?

I have a Yamaha CA-810 integrated amplifier, rated at 85 watts into 8 ohms, and two pairs of speakers: Bose 901s (without equalizer) and Infinity RS-IIIs. The latter are rated for 250 watts, though I'm aware that you don't need the full rated power to enjoy speakers. But how much power should I have—presumably between 85 and 250 watts? And if I need more power, will I have to replace my amplifier, or can I use the preamp-output connections on the CA-810 and buy a new amplifier for one speaker pair while continuing to use the Yamaha's power section for the other?—Peter W. Henderson, APO, San Francisco, Calif.

It seems I could answer this question in every issue without running out of questioners. First, try to think in dBW instead of watts. If you do, you'll realize that 250 watts (24 dBW) is only 4¾ dB more power than 85 (19¼ dBW), which isn't a lot. If you were to turn up your volume control by that much, you'd probably say that the music sounded "a little louder." That difference could be the straw that broke the clipping threshold's back, of course; but unless you're now getting occasional—and only occasional—clipping, you can't expect the difference to be very significant.

If you want more power, you could attach "Y" connectors to the preamp out-

puts on the Yamaha, running one side of each back into the appropriate power-amp input of the Yamaha and the other to the input of a separate power amp. If that amp had its own level controls, you could use them to balance the outputs of the two speaker pairs and to turn off whichever is connected to the new amp without turning off the other. More important, a second amp would give you an easy means of reinstating the Bose equalizer, which I assume you have banished from the system so it won't affect the RS-IIIs. You can either put it between the "Y"s and the amp that drives the Boses or run the other amp from the tape outputs on the equalizer.

Creaky Cassette Deck

This past year my three-year-old Kenwood KX-500 cassette deck began squeaking—apparently because the take-up hub drive is rubbing. And now there is a noticeable loss of highs after about five to ten seconds of playback. When I stop the deck and then press PLAY, the highs return, only to fade away again. I have been cleaning and demagnetizing the heads regularly. What is the problem?—Christopher J. Pattacini, Storrs, Conn.

It may be worn bearings—or possibly even a slightly bent capstan—causing the tape to run gradually more and more crooked and therefore severely compromising effective playback azimuth. But I've had the trouble only with inexpensive cassettes; the decks on which it has occurred have played other tapes flawlessly. So the moral of the story (at least where the loss of highs is concerned) seems to be, once again, that the symbiosis between tape and recorder—rather than either of them alone—is the important factor for good performance.

Phase It Out!

November's HF shows an inexpensive ambience-recovery circuit ["New Dimensions for Video Sound," page 50]. Would this help normal stereo LPs and tapes? And could the same thing be accomplished by driving the back speakers from a second amplifier with the connections reversed so that they are out of phase with respect to the front speakers?—Michael Perrotta, Brockton, Mass.

Yes, it can enhance the reproduction of ordinary stereo records and tapes, though the effect will vary, depending on the recording techniques used. If you look at the circuit diagram—which is essentially that of the Dynaquad adapter designed by David Hafler—you'll see that its back speakers are driven by the *difference* between the two channels. When there is no difference between the voltages at the left and right hot terminals—no matter what the instantaneous voltage in both may be relative to the ground return—no current will flow between them through the back speakers. Difference signals (representing signal components that are out of phase *between* channels) do tend to represent ambience information, rather than direct sound, no matter what stereo medium you're talking about. But your proposed setup would put the *whole* signal through the back speakers, defeating the purpose. Getting it out of phase with the front channels might create an artificially spacious (or, more exactly, spacey) effect, but it's likely to undermine the basic stereo imaging and probably the bass response as well.

Open-Reel Cassettes

In your March issue I saw an ad (for Teac cassette decks) that showed cassettes whose insides resembled mini open-reels. Are such cassettes available? Do they represent an improvement over conventional cassettes?—Mario F. Vargas Q., El Paso, Texas

Teac now has its own tape line, and that's what you were seeing. At least one other brand in Japanese stores shares the tiny internal reels, but Teac is the only one I've seen on sale here. Proponents say that the flanges favor better tape winding than slip-sheets—the conventional means to the same end—but I don't know of any definitive tests of their relative merit. The main appeal seems to be visual.

HX Retrofit

Can Dolby HX Professional circuitry be installed in an existing cassette deck?—Steve Mably, Willowdale, Ont., Canada

In theory, possibly; in practice, forget it.

We regret that the volume of reader mail is too great for us to answer all questions individually.

AUDIOPHILE FILE™ XL-S

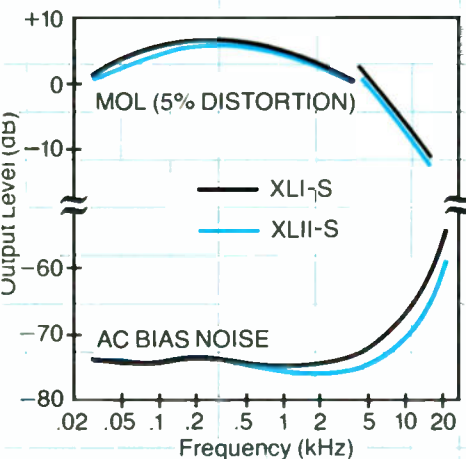
COMPACT DISC COMPATIBLE

Maxell introduces the new XL-S audio cassettes; a series of ferric oxide tapes which deliver a level of performance that can capture the sound nuances found on Compact Discs more faithfully than other ferric oxide cassettes on the market.

There are a number of areas where this achievement is apparent.

GREATER DYNAMIC RANGE.

Through a new formulation of our magnetic particles, we were able to reduce the perceived residual AC bias noise level by 1 dB in the critical 2 kHz to 10 kHz mid-frequency range. And simultaneously increase sensitivity and maximum output levels by as much as 2 dB.

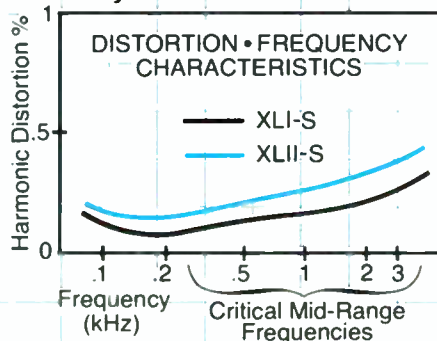


As a result, the dynamic range of each tape has been significantly expanded. So you get a

better signal to noise ratio and a fuller impact of the dynamic transients exclusively inherent to digital CD recordings.

LOWER DISTORTION.

The newly formulated particles also contribute considerably to XL-S's low output fluctuation, as well as its virtual distortion-free reproduction, especially in the critical mid-range frequencies. This, in turn, accounts for our XL-S tape's enhanced sound clarity.



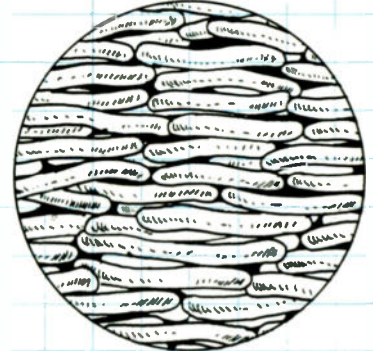
IMPROVED MAGNETIC PARTICLES.

Our refined particle crystallization process is the basis for all of these accomplishments. Maxell engineers are now able to produce a more compact needle-shaped Epitaxial magnetic particle of extremely high uniformity.

This allows us to create a greater ratio of total surface area to unit weight of magnetic particles.

As a result, our XL-S

tapes now have the ability to record more information per unit area than ever before.



PACKING DENSITY OF UNIFORM PARTICLES.

Which is why Maxell high bias XLI-S and normal bias XLII-S are unsurpassed at reproducing the sound qualities found on today's finest recordings. Regardless of whether your frame of reference is analog or digital audio discs.

For technical specifications on the XL-S series, write to: Audiophile File, Maxell Corp. of America, 60 Oxford Drive, Moonachie, New Jersey 07074.



IT'S WORTH IT.

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Basically Speaking

Audio and video concepts and terms explained by Michael Riggs

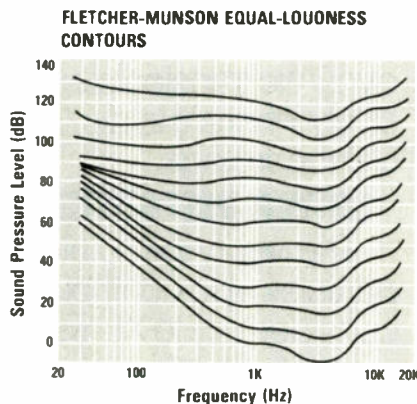
Loudness Compensation

OF ALL THE MYSTERIOUS audio terms (and there are quite a few of them, I admit), the one most often encountered probably is "loudness compensation," or simply "loudness." The concept originated with the realization that the ear's frequency response varies according to the sound pressure level (SPL), or volume, of what you're hearing. The first systematic exposition of this effect was presented by G. H. Fletcher and W. A. Munson. Their equal-loudness contours (now popularly known as the Fletcher-Munson curves) showed that at low frequencies, the ear's sensitivity declines as the sound pressure level is reduced. In other words, turning down the volume also has the subjective effect of turning down the bass.

Loudness compensation—at least as originally conceived—is intended to compensate for this undesired bass loss and thereby assure correct tonal balance regardless of playback level. What is needed is a variable bass boost that increases in a carefully controlled manner as the volume is lowered. But the practical obstacles to accurate loudness compensation are formidable.

First is the problem of calibrating the compensation circuit for the playback system's overall "gain": For a given input, the compensator must "know" what the resulting sound pressure level in the listening room will be. This tells it at what point in the volume control's rotation to begin adding equalization. Unfortunately, the correct calibration usually will depend not only on the gain of the power amplifier, the sensitivity of the loudspeakers, the size of the room, and so on, but also on the source being played, and will therefore require frequent readjustment.

Gain calibration can be achieved by means of a simple potentiometer. That's less than half the story, however. The degree of compensation required for any given cut in volume depends on the level at which whatever is being played back would be heard in a live performance. This is because the perceived change in bass content for a given change in volume depends on the starting level: Going from 100 dB SPL (at, say, 1 kHz) to 90 dB does not have quite the same effect on tonal balance as going from 90 dB to 80, and so on down the line. Consequently, there must be a second calibration, based on the type of music.



Although not as accurate (especially at high levels) as plots based on more recent

research, the Fletcher-Munson curves are of great historical significance. Each one represents the sound pressure level required at each frequency in the audible band to maintain a given subjective loudness. As you can see, the ear is more sensitive in the upper midrange and lower treble than at the frequency extremes. In the bass, however, the sensitivity difference varies with level, being considerably greater at low volumes than at high ones. This is evident from the bunching together of the curves in the bottom four octaves (30 to approximately 480 Hz). It is this effect that loudness compensation is supposed to correct, by boosting the bass at low playback levels. If the equal-loudness contours were parallel across the band (as they are from about 500 Hz up), loudness compensation would be unnecessary.

Not many people want to spend a lot of money and make continual, fiddling adjustments for the sake of a mild sonic improvement at low listening levels, especially when they've managed to get by without it for years. Still, loudness compensation can be beneficial, even when only approximately correct. So let's look at some practical ways of approaching the ideal.

Perhaps the most direct method is one used first by Acoustic Research in its long discontinued amplifier and receiver, and later by Apt in its preamplifiers. The action of the bass control is given a special contour, with less effect than normal in the midrange and no shelving, so that it can be used to set loudness compensation manually. Once you've adjusted the volume to a comfortable level, you just turn up the bass until the tonal balance sounds natural. This sensible, uncomplicated arrangement can work quite well, but it does require that you reset the bass control every time you change the volume significantly, as well as when you change sources or recordings.

The most common respectable alternative is a loudness compensation control that simultaneously adjusts the volume. With the compensation set to zero, you turn the volume up to a normally loud listening level. Then you use the loudness compensation knob to turn the volume down to the level you want. This automatically introduces the amount of bass boost considered appropriate by the designer for that degree of overall level attenuation. Although this does not account for the music's usual loudness in performance (the designer builds in some assumptions you must live with), it can do a good job of calibrating the compensation to

the system gain. Provided the correct equalization characteristics are used, the results can be very decent.

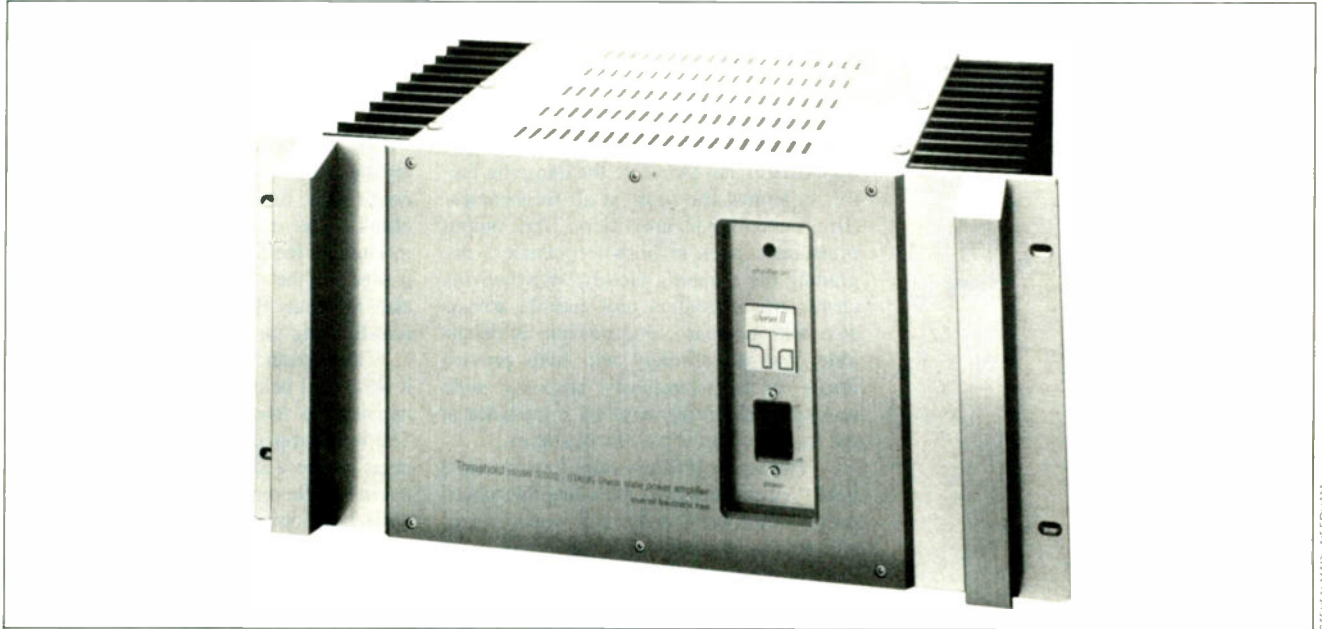
Unfortunately, this is the exception. The Fletcher-Munson equal-loudness curves are partly to blame. Modern research has shown that they are quite a bit off at high levels, in a way that encourages over-compensation. This is one reason most loudness compensation circuits make the sound boomy when they are engaged. The origin of the other common error is more mysterious. Above a few hundred Hertz, the equal-loudness curves are almost perfectly parallel, which indicates that there is no need for loudness compensation at high frequencies. Yet most circuits do add at least a little treble boost, and some quite a lot. This is just plain wrong.

The vast majority of loudness compensation circuits are controlled by a single switch. When it is on, turning the volume control below a certain point causes an increasing amount of boost at the low end and usually in the treble as well. All the parameters are fixed; if your speakers are more sensitive than the designer expected them to be, you're out of luck. (Even worse are circuits that give the same EQ regardless of the volume setting.) Almost all such "loudness" buttons are worse than useless. You're better off making do with the bass control, even though it probably won't give you really accurate compensation.

If you care about getting good loudness compensation, avoid units on which it isn't adjustable. And listen for a circuit that doesn't hit you over the head; try to find one that you don't notice until it's turned off. That's the way it should be. **HF**

New Equipment Reports

Preparation supervised by Michael Riggs, Peter Dobbin, Robert Long, and Edward J. Foster. Laboratory data (unless otherwise noted) supplied by Diversified Science Laboratories.



STEVEN MARK NEEDHAM

Threshold's Stasis Superamp

Threshold S-300 Series II power amplifier. Dimensions: 19 by 8¾ inches (rack panel: feet add ¾ inch to height), 13¼ inches deep plus clearance for rack handles and connections. Price: \$2,100. Warranty: "limited," three years parts and labor, 90 days return shipping. Manufacturer: Threshold Corp., 1832 Tribute Rd., Suite E, Sacramento, Calif. 95815.

THE THRESHOLD STASIS AMPLIFIERS are squarely in the category of what might be called "beautiful brutes"—superbly built, handsomely styled, and very large. The S-300 Series II weighs more than 50 pounds, and it is by no means the heftiest member of the line. (The S-1000, a 500-watt mono unit, tips the scales at almost 80 pounds.) This is not bulk for bulk's sake, however. Threshold purposely overdesigns all of its products so that they will perform flawlessly even when the demands made on them are extreme.

For example, although none of the Stasis amplifiers has any kind of current-limiting protection circuitry, they are said to be capable of withstanding a dead short across the output terminals without damage. (The amplifiers do have power-supply fuses and circuits that will shut them down in the event of overheating, oscillation, or sustained overload.) In the S-300, this extraordinary ability is assured by the use of 14 high-speed, high-power bipolar output transistors in each channel. Even Threshold allows that this may be overkill, but it does ensure that the output stage can handle all the current the power supply can deliver, thereby enabling the amplifier to drive very low impedance and highly reactive loads without difficulty.

The theme is continued in the massive heat sinks that cool the S-300's output devices and in an oversize power supply built around a 700-watt toroidal transformer and 60,000 microfarads of filter capaci-

tance. Threshold says this provides large, stable energy reserves with low AC ripple. These characteristics are enhanced by active voltage and current regulators between the power supply and the gain stages.

What really sets these models apart, however, is their unusual output-stage configuration, from which the Stasis name is derived. It actually is Threshold's third significant innovation in power amp design. The first, in 1976, was embodied in the Model 800A (and its successors), which had a variable-bias output—a now widely emulated technique for obtaining cool, efficient pseudo-Class A operation. The second appeared in the CAS-1, the world's first fully cascode power amplifier.

Stasis is fundamentally an extension of the ideas developed in the CAS-1. A cascode amplifier is one in which two tubes or transistors are "stacked," with one holding the voltage across the other relatively constant. The advantages are wide bandwidth and low distortion. However, a cascode connection does not make a particularly efficient power amp because it cannot supply much current. Threshold's way around this problem is elegant: It uses a small, Class A cascode amplifier in conjunction with a much more powerful Class AB amplifier in what is called a "current bootstrap" configuration. Although both are connected to the loudspeaker, the small amp's output impedance is so much lower than the large one's that its output voltage controls the current flowing through the

Report Policy: Equipment reports are based on laboratory measurements and controlled listening tests. Unless otherwise noted, test data and measurements are obtained 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.

AUDIO New Equipment Reports

RATED POWER (8-ohm load)
21¾ dBW (150 watts)/channel

OUTPUT AT CLIPPING (at 1 kHz; both channels driven)
8-ohm load 22½ dBW (180 watts)/channel
4-ohm load 24¼ dBW (265 watts)/channel

DYNAMIC POWER
8-ohm load 23 dBW
4-ohm load 25½ dBW
2-ohm load 27 dBW

DYNAMIC HEADROOM (re rated power, 8-ohm load)
+ 1¼ dB

HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)
at 21¾ dBW (150 watts) ≤ 0.098%
at 0 dBW (1 watt) ≤ 0.031%

FREQUENCY RESPONSE
+0, -¼ dB, 14 Hz to 24.9 kHz;
+0, -3 dB, < 10 Hz to 99.7 kHz

S/N RATIO (re 0 dBW; A-weighted) 96¾ dB

SENSITIVITY (re 0 dBW) 130 mV

INPUT IMPEDANCE .74k ohms

DAMPING FACTOR (at 50 Hz) 100

CHANNEL SEPARATION (at 1 kHz) 95 dB

load. But the current comes from the large amp (the only available source), so, in effect, the small cascode amp serves to correct the errors in the output of the large bootstrap amp.

In fact, Threshold found that this works so well that it can get low distortion using only small amounts of local feedback in each gain stage and no overall feedback from the output to the input, such as is used in almost all other high fidelity amplifiers. As a result, the Stasis amps are inherently stable into virtually any load and do not require the usual output inductors in their circuits. This, in turn, means that the output impedance, and therefore the damping factor, is almost the same at all frequencies. (In conventional amplifiers, the output impedance rises at high frequencies, degrading the damping factor.) Whether this characteristic confers any audible advantage with ordinary loudspeakers is debatable, but it definitely will help prevent errors in high-frequency response with speakers exhibiting very low impedance at the top, such as some electrostatics.

The Series II Stasis amps incorporate a variety of refinements, including the substitution of the previously mentioned protective-shutdown circuits for the output fuses used in the first generation. The input circuitry has been reworked to increase power-supply rejection, reduce interaction with the output electronics of the source, and allow the use of still less feedback. Changes have been made to reduce turn-on and turn-off thumps to a very low level. And the quality of the capacitors in the amplifier and power-supply circuitry has been improved. Most important, however, is a doubling of the maximum current that can be delivered to the output: Threshold says that the S-300 Series II can put out as much as 12 amps continuously or 30 amps peak.

Physically, the S-300 is one of the most imposing amps we have ever tested. Everything about it is big, including the rack handles, which are a virtual necessity for toting it around. The front panel is unadorned except for a power switch and a red pilot LED. On the back are gold-plated input pin jacks (custom-made to Threshold's specifications), banana-jack output binding posts, fuse holders, and an extra set

of rubber feet to protect all that other stuff when you set the amp down on its tail.

Diversified Science Laboratories' measurements indicate excellent to outstanding performance in every regard, with current capability emerging as particularly noteworthy. Not only does the amp exceed its rated power into 8 ohms (by ¼ dB), but it pumps out almost another 2 dB into 4 ohms. Dynamic power is even more impressive, reaching 23 dBW (200 watts) into 8 ohms, 25½ dBW (355 watts) into 4 ohms, and a whopping 27 dBW (500 watts) into 2 ohms. This suggests a tightly regulated, or "stiff," power supply, which is confirmed by the mere ½-dB difference between the continuous and dynamic power into 8 ohms. (The dynamic headroom figure is inflated by the difference between the rated power and the actual output at clipping.) It also indicates that there is indeed no current-limiting circuitry at work.

Distortion, though not spectacularly low, is well below the threshold of audibility; noise is likewise very well controlled. The input impedance is high enough that it need not be a concern, even with sources having high output impedances, such as most tube preamps. And as claimed, the damping factor is not only high, but virtually constant with frequency over the audible band. Although our data column gives only the low-frequency (50-Hz) damping factor, DSL measures the output impedance at 1, 5, 10, and 20 kHz, as well. Over that range, it increases only 2 milliohms, from 80 at 1 and 5 kHz to 82 at 20 kHz, where most amplifiers have output impedances of 200 milliohms or more (equivalent to a damping factor of 40 or less into 8 ohms).

As one would expect from all the above, we could find nothing to fault in our listening tests: What goes into the input is what emerges from the output—stronger, but otherwise unchanged. The only faintly negative things we can think of to say about the S-300 are that it is very heavy and costs a lot of money. But that's what comes of the kind of no-compromise design that is Threshold's specialty. In return, you get ultrahigh performance, bulletproof construction, and the almost aesthetic pleasure of owning what might reasonably be considered a paragon among amplifiers.

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 these products to others for which you have no dBW figures.

WATTS	dBW	WATTS	dBW
1.00	0	32	15
1.25	1	40	16
1.6	2	50	17
2.0	3	63	18
2.5	4	80	19
3.2	5	100	20
4.0	6	125	21
5.0	7	160	22
6.3	8	200	23
8.0	9	250	24
10.0	10	320	25
12.5	11	400	26
16	12	500	27
20	13	630	28
25	14	800	29



Sherwood's new car stereo - Everything you're looking for plus something more: AM STEREO

The broadcast industry has been talking about AM stereo for a long time. But the talk is over. Stations all over are now using this exciting new technique.

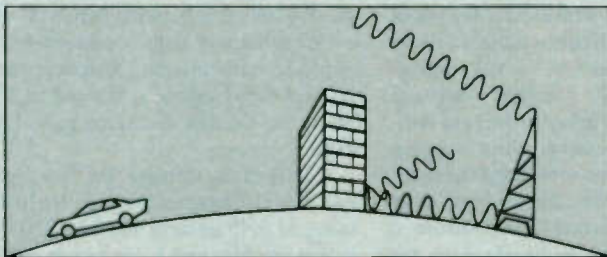
Why AM stereo?

The excitement of AM stereo is revolutionizing AM programming. Music, of course, takes on new realism, but that's just the beginning. Talk radio, a growing trend in AM broadcasting, is more exciting, more intimate in stereo.

What about FM Stereo?

Stereo FM is terrific. The new CRD-150, like all Sherwood receivers, sounds great on FM. But sometimes you can't pull in FM clearly, no matter what receiver you have, because FM signals have short range and travel in straight lines.

This wouldn't matter if we lived (and drove) on a flat, open surface. But since the earth is curved and covered with obstructions, it's difficult to get and hold clean FM where signals are weak or in congested urban areas or moving cars. That's when you need AM stereo.



FM Stereo has short range and is easily obstructed.

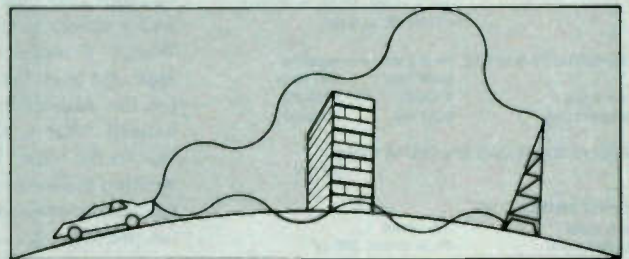
No "fupp, fupp, fupp."

On the edge of clear reception FM makes a "fupp, fupp, fupp" noise, a result of its short range and direc-

tional nature. AM signals bounce off the earth's atmosphere, creating an "energy umbrella" from above. So with AM stereo there's no "fupp, fupp, fupp."

Not just for the boonies.

Because AM stereo is long-range, most people think it's just for remote areas. Not so. In big cities, too many FM stations make for poor selectivity, and high-rise structures make good FM reception even tougher. AM stereo is for the country *and* the city.



AM Stereo has long range and is not directional.

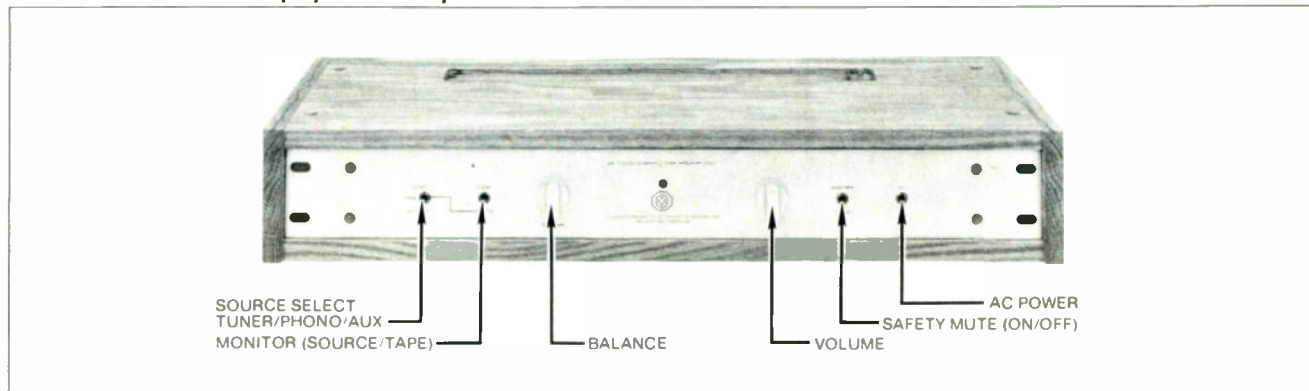
An all new car stereo at a price you can afford.

Now you can enjoy the benefits of AM stereo as well as all the features you would expect in an advanced cassette/receiver. Sherwood's new CRD-150 has digital readout, 10 station presets, Dolby* noise reduction, separate bass and treble controls, metal tape capability, and more. (The radio even plays when the tape deck is in fast forward or rewind.) And, like all Sherwood products, the CRD-150 gives you quality and innovation *at a price you can afford.*

To experience AM stereo and find out just how good (and how affordable) Sherwood's new CRD-150 is, see your nearest Sherwood auto sound dealer. To find him, call (800) 841-1412 during West coast business hours.

*Dolby is a registered trademark of Dolby Laboratories.





Counterpoint's Budget Tube Preamplifier

Counterpoint SA-7 preamplifier, in rack-mountable metal case. Dimensions: 19 by 2 1/4 inches (front panel), 6 1/2 inches deep plus clearance for controls and connections. Price: \$495; optional wood case, \$65. Warranty: "limited," three years parts and labor, except 30 days on tubes. Manufacturer: Counterpoint Electronic Systems, Inc., 5514 Baja Dr., San Diego, Calif. 92115.

MAXIMUM OUTPUT LEVEL (for 1% THD at 1 kHz)
6.7 volts

HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)
aux input ≤ 1.23%*
phono input ≤ 2.00%*

FREQUENCY RESPONSE
+0, -1/2 dB, 45 Hz to 22.2 kHz;
+0, -3 dB, 16 Hz to 66.1 kHz

RIAA EQUALIZATION
+0, -1/2 dB, 50 Hz to 20 kHz;
-10 1/4 dB at 5 Hz

SENSITIVITY & NOISE (re 0.5 volt; A-weighting)

	sensitivity	S/N ratio
aux input	110 mV	81 1/4 dB
phono input	0.20 mV	75 3/4 dB

PHONO OVERLOAD (3% THD at 1 kHz)
59 mV

INPUT IMPEDANCE

aux input	30k ohms
phono input	44.2k ohms; 300 pF

OUTPUT IMPEDANCE

main output	835 ohms
tape output, from aux	direct
tape output, from phono	28.5k ohms

CHANNEL SEPARATION (at 1 kHz; aux input)
77 dB

*See text.

IT REALLY DIDN'T TAKE very long for the transistor to supplant the vacuum tube in high fidelity equipment. But the "thermionic valve" never totally succumbed. The harsh sound of some early transistorized gear forged a hard core of tube loyalists that persists to this day. Though the development of better transistors and advances in circuit design have made the issue of generic differences in sound quality moot, a handful of manufacturers (chiefly American and British) continue to produce what they feel are superior-sounding tubed components.

Actually, in the case of Counterpoint Electronics, "continue" is hardly accurate. The company was founded less than five years ago by a group of dedicated hobbyists in (ironically) California's Silicon Valley. We were attracted to the SA-7 preamplifier (the least expensive product in a line that includes two other preamps, a head amp, and a power amp) when we saw it at the Winter Consumer Electronics Show. It appealed to us then as an affordable option for the audiophile hankering to hear for himself what a tubed component sounds like in the '80s. However, at \$495 (sans wooden enclosure) and bereft of a host of features commonplace in other, less Spartan preamps, it is not the most cost-effective alternative: Tubes themselves are far more expensive than transistors nowadays, and the hand assembly and premium parts that go into such a high-end product (even a budget model) add considerably to the price.

In the lexicon of Counterpoint's Silicon Valley neighbors, the SA-7 is not particularly "user-friendly," either. Because there is no protective relay to prevent turn-on and turn-off transients from zapping your loudspeakers, you must keep the MUTE engaged when you turn the unit on. Only after things have settled down (about a minute later) should you toggle it to the operate position. The MUTE also must be engaged before turn-off.

Another thing we miss is the surety of a center detent on the balance control, but the design's quirkiest aspect is its input selection scheme. The three-position switch leads you to believe that a phono input will show up only at the center posi-

tion (marked "RIAA," for the equalization it supplies). In fact, the phono input is always live and will feed through whatever signal is presented to it, regardless of how you set the selector (which switches only the high-level inputs). This arrangement makes it possible to inadvertently mix phono and line-level sources when the selector is not on RIAA. We wonder whether the respectable, but certainly not outstanding, aux signal-to-noise (S/N) ratio might be better if the phono section's residual noise were denied such easy access to the high-level stage.

Though we don't normally peer under the hood, setting up the SA-7 does demand that you remove the foam that protects the tubes during shipment. Opened up, the unit reveals its audiophile pedigree by dint of the high-grade components inside. Expensive capacitors (Wonder Caps, to be exact) and precision metal-film resistors mounted on an epoxy laminate circuit board bespeak more than casual concern for quality.

Diversified Science Laboratories' measurements indicate performance ranging from adequate to quite good. The phono section's frequency response is flat from 100 Hz to 10 kHz, but is down about 1/2 dB at 20 kHz and approximately 2 1/2 dB at 20 Hz. However, the rolloffs are so slight as to be inaudible (or nearly so) on the vast majority of musical material. More important is the almost 11 dB of attenuation at 5 Hz, which should block much of the infrasonic garbage generated when a warped record is played with a mismatched arm/cartridge combination. Response through the high-level inputs is flat out to 20 kHz but shows almost the same rolloff in the extreme bass.

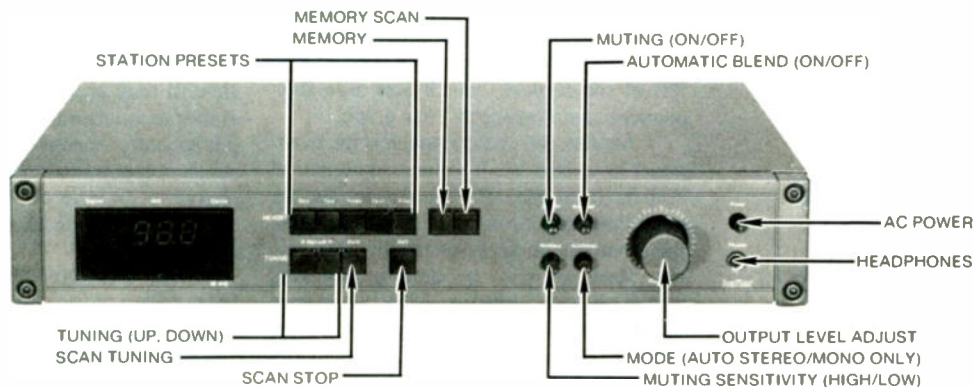
Distortion through the line inputs is less than 0.2 percent from 20 Hz to 4 kHz, rising to 0.45 percent at 10 kHz, 0.84 percent at 16 kHz, and 1.23 percent at 20 kHz; it consists entirely of the second and third harmonics (predominantly the second). The figures are higher through the phono input but are still less than 0.5 percent from 200 Hz to 10 kHz, climbing to 2.0 percent at 20 Hz and 1.26 percent at 20 kHz. Although these results are considerably less impressive than we are accustomed to seeing in

modern equipment, it should be remembered that the 2-volt test level is relatively high, particularly at the frequency extremes, where there is little energy in music, and that the ear is very tolerant of distortion, especially when it consists only of low-order components. In other words, we doubt that you would ever hear the distortion on normal musical material.

Of more concern is the phono section's dynamic range, which is marginal for any but unusually low-output cartridges. This appears to be the result of Counterpoint's decision to design for very high gain. The benefit is that you can use some (but not all) moving-coil cartridges without an intermediary step-up device. What's sacrificed is headroom: The phono overload point is low enough that it might be exceeded by a high-output fixed-coil (moving-magnet or moving-iron) pickup playing a hotly cut record. Another potential problem is the extraordinarily high impedance presented by the

phono stage at the tape output. Short, low-capacitance cables to the inputs of whatever tape deck or other device is attached here are a must if audible high-frequency loss is to be avoided. Fortunately, the impedance at the main outputs is quite low (especially for a tube unit), so you should have no difficulty mating it to any power amplifier with any reasonable length of cable.

Although low-priced by high-end standards, the SA-7 is relatively expensive on a feature-per-dollar basis compared to more mainstream preamps. The rationale for its stripped-down design (no tone controls, no tape-dubbing facilities, and so on) is that this simplifies the signal path, putting a minimum of switches and electronics between you and the music while permitting the use of costlier parts than otherwise would be possible in a budget product. If this design philosophy appeals to you, and you are interested in tube gear, you may want to consider this model.



The Hafler Tuner: Worth Waiting For

Hafler DH-330 FM tuner. Dimensions: 17 by 2 3/4 inches (front panel without rack-adaptor "ears," which increase width to 19 inches), 8 1/2 inches deep plus clearance for controls and connections. AC convenience outlets: one unswitched (500 watts max.). Price: \$450 (assembled; kit, \$375). Warranty: "limited," three years parts and labor. Manufacturer: The David Hafler Co., 5910 Crescent Blvd., Pennsauken, N.J. 08109.

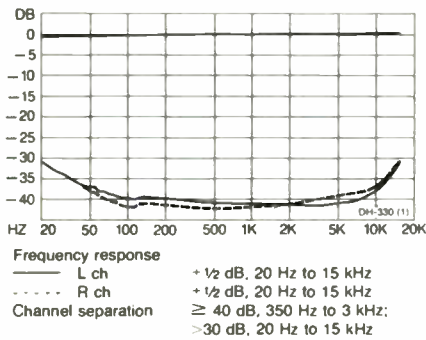
IT IS TO HIS CREDIT that David Hafler doesn't rush into things. Many companies seem to think solely of establishing an electronics "line," rather than approaching their components on a model-by-model basis. They would no more attempt to market preamplifiers and power amps without at least one matching tuner—as Hafler did for several years—than they would try to sell earmuffs in Indonesia. Each of Hafler's designs has been very good (and sometimes more than that) within the established terms of its product category. Whether that is because of no-deadline gestation—or because each needed to be very good if it was to compete with the integrated styling of full-line products—is moot. What matters is that the DH-330 FM tuner is no exception to the pattern.

A look at the front panel confirms that this is no me-too product. The tuning and

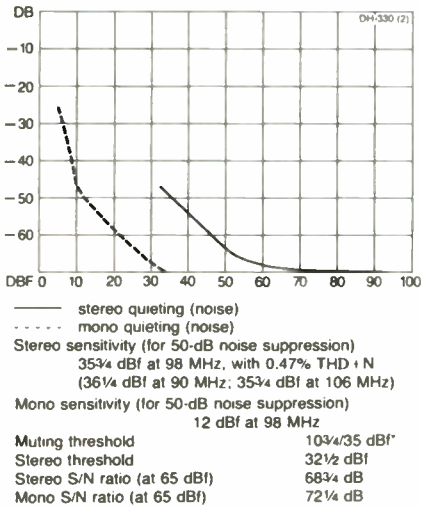
memory buttons are fairly standard, but in place of the usual SEEK, which moves to the next station and stops, there's true bidirectional SCAN, which automatically samples each receivable station in turn. On the DH-330, it's simply labeled "auto" to distinguish it from a button marked "scan," which samples only the five stations programmed into memory.

The real differences begin to show up in the group of four round buttons farther to the right. The muting defeat and the mono switch are kept separate, so you need not engage them together—once a commonplace arrangement, but now relatively rare. If you like noisy stereo, you can get it; conversely, you can retain the luxury of muted tuning while keeping the tuner in mono to minimize noise on weak stations above the muting threshold. Rarer still, and even more welcome, is the two-position muting

STEREO RESPONSE & CHANNEL SEPARATION



FM SENSITIVITY & QUIETING



CAPTURE RATIO

1 1/2 dB

SELECTIVITY

alternate-channel 59 1/2 dB
 adjacent-channel 81 1/4 dB

HARMONIC DISTORTION (THD + N)

	stereo	mono
at 100 Hz	0.15%	0.085%
at 1 kHz	0.12%	0.046%
at 6 kHz	0.28%	0.310%

STEREO PILOT INTERMODULATION

0.12%

IM DISTORTION (mono)

0.079%

AM SUPPRESSION

57 3/4 dB

PILOT (19 kHz) SUPPRESSION

70 dB

SUBCARRIER (38 kHz) SUPPR.

103 dB

*See text.

threshold button. The fourth button works an automatic blend feature that we'll describe presently.

The display panel also has some unusual features. In addition to a stereo pilot, there's one that lights when you're tuned to quarter-channel (50-kHz) intervals. The readout has figures for only the usual 100-kHz steps, two of which are required by our 200-kHz station spacing. To accommodate parts of the world where 150-kHz spacing is used, the DH-330 actually tunes in 50-kHz increments, the in-between spaces being indicated by the pilot. If you're tuned to precisely 103.3 MHz, for example, the pilot will be out. If you tap the UP manual tuning button and the tuner steps to 103.35, the readout number will remain the same but the pilot will light; another tap steps the readout to 103.4, and the pilot goes out.

This is another reason for the separate muting and mono switches: In some extreme cases, you may get better reception of a problem station by deliberately detuning it 50 kHz away from a nearby station that interferes with it. And if the SCAN is fooled into stopping 50 kHz short as it approaches a strong station, the pilot will warn you that better reception may yet be possible. Also aiding in the zeroing-in process, particularly if you have an antenna rotator, is a vertical array of red LEDs at the left of the readout, which acts as a five-element signal-strength "bar graph."

Another unexpected touch is the front-panel level control. It influences signals at both the front-panel headphone jack and the main line outputs on the back panel. Thus, the tuner can be used for late-night or private listening with no amp or speakers turned on. Don't plan on using this feature for monitoring while you record, however, because plugging in a headset automatically mutes the line output.

In addition to the line output jacks, the back panel has a pair of screw terminals (old-fashioned in appearance, but preferable both mechanically and electrically to the popular spring clips) for 300-ohm twinlead antenna inputs. An F connector (bravo!) is provided for 75-ohm coaxial downloads, and there's a binding post for a ground connection. An unswitched AC convenience outlet simplifies setting up for timer recording from FM.

Once we got used to the quarter-channel increments, tuning proved quite easy. When you press firmly on the manual controls, movement across the band is reasonably fast. The bidirectionality of the SCAN is a help too: If it goes on to another station before you're sure you want it to (the four-second sample isn't very much), you can reverse its progress by pressing the appropriate manual tuning button without defeating the SCAN.

In the lower muting setting, which admits any station delivering more than 10 1/4 dBf at the antenna terminals, the sig-

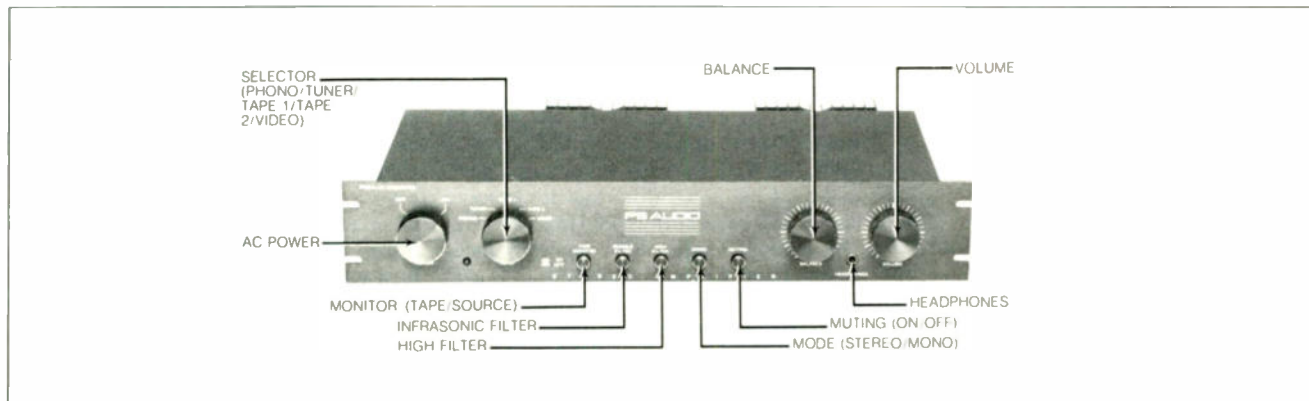
nal-strength "meter" covers a range from 11 1/2 dBf (lighting the lowest LED) to 50 1/4 (lighting all five). The higher setting excludes stations below 35 dBf and shifts the sensitivity of the bottom LED to 30 1/2 dBf. Thus, it can let you know when the DH-330 is tuned to a station that's just a little too weak to break through the muting. We consider this setting appropriate for those who want stereo only (note the similarity of this muting threshold to the stereo sensitivity figure) and aren't interested in even borderline stations because they live in cities or suburbs with plenty of strong ones.

On such borderline stations, the automatic blend feature could be a help. Like blend controls on some competing models, it is labeled as a "filter." The logic of such labeling escapes us because filtering—the removal of program highs along with the hiss—is exactly what such a feature is designed *not* to do. As stereo signal strength drops to the point where hiss becomes audible, the circuit is supposed to reduce high-frequency channel separation. Because the noise in multiplex stereo is matrixed to equal but oppositely phased components in the two channels, it cancels to the degree that the channels are blended.

In the DH-330, the audible effect is fairly subtle and seems to occur (as it should) only at quite low signal strengths. Hafler recommends that this feature be left permanently engaged, and we agree; we detect no unwanted side effects from its operation, so it seems only to help—however marginally under most reception conditions.

The DH-330's performance is as impressive as its features complement. There's not a single ringer in the entire litany of measurements from Diversified Science Laboratories, and most are noticeably better than average—including frequency response and sensitivity, which head the list of important specs for just about any FM tuner application. Channel separation and pilot and subcarrier suppression also are outstanding. Possibly the least prepossessing of the most significant measurements is the capture ratio: At 1 1/2 dB, it's merely good—approximately at the median for the separate tuners we have tested and, therefore, better than average if you include the FM tuner sections of receivers.

But, if anything, we are even more impressed with the DH-330's thoughtfulness of design than with its sterling performance. Little things like the presence of an F connector, which is gradually becoming standard for all 75-ohm lines in both video and audio, convince us of Hafler's wisdom in refusing to accept unquestioned the standard practices of tuner design. And as with all other Hafler components, it is available as an easy-to-assemble kit at a price even more attractive than that of the assembled version.



Meet the Elite, From PS Audio

PS Audio Elite integrated amplifier, in steel case, with remote power supply. Dimensions: 19 by 3½ inches (front panel), 10 inches deep plus clearance for controls (amplifier); 4½ by 4 inches (front panel), 7 inches deep (power supply). Price: \$720. Warranty: "limited," one year parts and labor. Manufacturer: PS Audio, Inc., 3130 Skyway Dr., No. 301, Santa Maria, Calif. 93455.

RATED POWER

8-ohm load	17½ dBW (55 watts)/channel
4-ohm load	20½ dBW (110 watts)/channel

OUTPUT AT CLIPPING (at 1 kHz, both channels driven)

8-ohm load	17 dBW (50 watts)/channel
4-ohm load	19½ dBW (87 watts)/channel

DYNAMIC POWER

8-ohm load	17¼ dBW
4-ohm load	20 dBW

DYNAMIC HEADROOM (re rated power)

8-ohm load	-¼ dB*
4-ohm load	-½ dB*

HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)

at 17½ dBW (55 watts)	≤ 0.71%
at 0 dBW (1 watt)	≤ 0.02%

FREQUENCY RESPONSE

+0, -¼ dB, 11 Hz to 56.5 kHz;
+0, -3 dB, <10 Hz to 269 kHz

RIAA EQUALIZATION

fixed-coil phono	+¼, -¼ dB, 20 Hz to 20 kHz;
	-1¼ dB at 5 Hz
moving-coil phono	+0, -½ dB, 20 Hz to 20 kHz;
	-2 dB at 5 Hz

SENSITIVITY & NOISE (re 0 dBW; A-weighting)

	sensitivity	S/N ratio
aux input	32 mV	86½ dB
fixed-coil phono	0.40 mV	71 dB
moving-coil phono	20 µV	74¾ dB

INPUT OVERLOAD (1-kHz clipping)

aux input	>10 volts
fixed-coil phono	280 mV
moving-coil phono	14 mV*

INPUT IMPEDANCE

aux input	5.6k ohms
phono input	98k ohms; 170 pF*

OUTPUT IMPEDANCE (to tape)

from aux input	direct
from phono input	2.8 ohms

DAMPING FACTOR (at 50 Hz)

120

CHANNEL SEPARATION (at 1 kHz)

76¼ dB

INFRASONIC FILTER

-3 dB at 29 Hz; 6 dB/octave

HIGH FILTER

-3 dB at 9 kHz; 6 dB/octave

*See text.

AMONG THE MOST UNUSUAL integrated amplifiers we have tested is PS Audio's Elite. Not the least of its distinguishing characteristics is the fact that it is made in the U.S.—something that can be said of only a few other integrations. But its design and construction also are notably out of the ordinary. Most obvious is the use of a remote power supply, which can be located away from the audio circuitry to minimize hum pickup from the transformer and AC line. This supply is itself two in one, with separate sections for the low-level and output stages, to protect the former from current starvation when the latter is driven to very high levels or into clipping. The power supply attaches to the main chassis by means of an umbilical that plugs into the amplifier's back panel.

PS says that all of the construction techniques and internal components used in the Elite were chosen to assure the highest possible sonic quality. The circuit boards are said to be easily removable for servicing, updating, or modification. The circuitry itself is virtually the same as that used in the company's PS-IV preamp and Model Two C power amplifier, with the two sections linked externally by way of jumpered pin jacks on the back panel. This feature, together with a bridging switch (also on the back panel), enables you to substantially increase the power output (to 23 dBW, or 200 watts, into 8 ohms and 23¼ dBW, or 210 watts, into 4 ohms, according to PS) by using the Elite's entire power amp section for one channel and a bridged Two C for the other. No current-limiting protection circuits are used in the power amp, to assure that performance will not be degraded by low-impedance or highly reactive loads.

In most other respects, the Elite is quite Spartan. It has no tone controls and only one tape monitor loop. (The second tape position on the selector is really an auxiliary input with no accompanying recording output.) One possible problem arises from having the monitor input (Tape 1) on the main selector, which can cause feedback if you switch to it while recording. Since there is no way to dub from Tape 1 to Tape 2 anyway and there already is a separate monitor switch, it would seem bet-

ter to leave the monitor input off the main selector and rename the present Tape 2 position. The video input, by the way, also is an aux.

A slide switch on the underside of the amplifier chassis gives you a choice of two gain settings: MM for fixed-coil pickups (moving-magnet, moving-iron, and so forth) and high-output moving-coils, MC for low-output moving-coils. The phono stage's high-frequency (10 kHz and above) headroom is precariously limited at the MC setting, making it imperative that you select it only for genuinely low-output cartridges. Pickups with sensitivities greater than about 0.25 millivolts per centimeter per second (mV/cm/sec) should be used with the low-gain (MM) option to eliminate the possibility of overload on very hot recordings. If the phono input does clip, it will announce the fact by muting for several seconds while it regains its electronic equilibrium.

Another peculiarity of the phono stage is its input impedance. PS rates it as 80,000 (80k) ohms in parallel with 50 picofarads (pF), and Diversified Science Laboratories measured 98,000 ohms in parallel with 170 picofarads. Both of these (the difference is not crucial) are substantially greater than the 47,000-ohm standard load for fixed-coil cartridges. The manufacturer explains that it considers the higher impedance superior for moving-coils (even though their characteristically low output impedances should make them virtually immune to loading effects). However, you can reduce the impedance by inserting resistors of the appropriate value into sockets on the phono board. PS includes a bag of resistors and provides a table in the manual showing which ones to use to obtain a wide range of loads from 3 to 74,000 ohms.

The impedance of the high-level inputs also is unusual, although in this case by virtue of being very low. For this reason, the output impedances of components connected to them should be low as well (preferably less than 1,000 ohms and certainly less than 2,000) to prevent output attenuation.

The Elite's performance is mostly quite respectable. Response is flat and extended, noise is inaudible at normal lis-

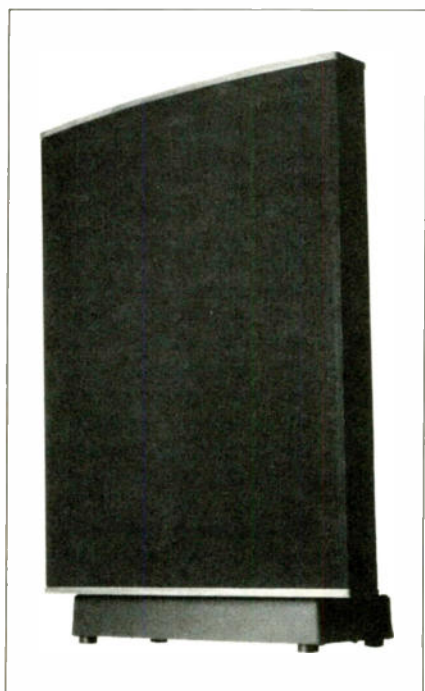
tening levels, and distortion is adequately low within the amplifier's power limits. In this last regard, it is important to note that the relatively high distortion at rated power is caused by clipping, which sets in at 51 watts rather than the specified 55. At 16½ dBW (45 watts)—1 dB below rated power—total harmonic distortion is no more than 0.152 percent from 20 Hz to 20 kHz. This is low enough to be completely inaudible on music. The power shortfall is also responsible for the negative dynamic headroom figures, which are the difference between the measured dynamic and *rated* continuous outputs. If the measured continuous power were used as the base, the Elite would show about +½ dB of dynamic headroom at both load impedances, indicating a very tightly regulated power supply.

The amplifier works pretty much as claimed in all other respects. The "rumble" filter is set low enough that it has vir-

tually no effect within the audible band, but we would have preferred a steeper slope to take a bigger bite out of warp-induced infrasonics. The high filter is likewise rather shallow and therefore not very effective against hiss, but it is useful in taming the overaggressive treble found on many modern recordings. The MUTE is nearly total. Curiously, however, when the VOLUME is turned all the way down and the MUTE is then engaged, some output can be heard again: The level is the same at all settings of the volume control and is about the same as that of the crosstalk between inputs.

We can find no fault with the Elite's sound, which is clean and clear. And with few exceptions, it performs as its makers claim. How bothersome the loose ends remaining in the design will be is something only you can judge. We hope, however, that PS will take steps to tie some of them up and thereby ease your decision.

Quad's Better Electrostatic



ALTHOUGH IT ALSO MANUFACTURES a line of audio electronics, Quad is best known in this country for its loudspeakers—which is remarkable when you consider that in its entire history, spanning almost three decades, the company has sold only two models. The first—the original Quad Electrostatic (test report, November 1960)—is a true classic. To this day, many consider it one of the most neutral loudspeakers ever made. Its practical shortcomings are formidable, however: low sensitivity, very low power-handling capacity, limited deep-bass and high-treble response, unusually directional high-frequency output, and a markedly unconventional appearance.

The ESL-63 answers many, if not all, of these objections while breaking new ground in loudspeaker design. Like the original ESL, it is an electrostatic transducer, consisting of a light, electrically charged plastic diaphragm suspended between a pair of electrodes to which the input signal is applied. The fluctuating current through the electrodes alternately attracts and repels the diaphragm, thereby producing sound. But the construction of the ESL-63 has an unusual twist: The electrodes are concentric rings fed by sequential delay circuits. The delays are precisely timed so that a sound wave propagated by the diaphragm is a replica of that which would be generated by a point source about one foot behind the loudspeaker.

Like other electrostatics, the Quad must be plugged into a wall outlet to charge the diaphragm. Hence, there is a power switch on the back of the base, along with a voltage selector and a pair of color-coded spring clips for amplifier connections. The base also houses the speaker's step-up

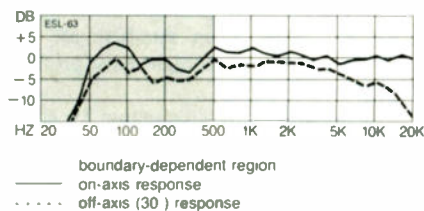
transformer and its protection circuitry. The latter is designed to prevent damage from excessive power inputs. It operates by shorting the output of the driving amplifier, which must therefore be immune to the ill effects of such a condition or very well protected against them. Quad particularly recommends its own Model 405.2 power amplifier, although others rated at as much as 150 (preferably no more than 100) watts per channel into 8 ohms can be used.

Quad's clear, thorough owner's manual points out that the ESL-63 sometimes performs better if raised off the floor, and accessory stands were provided with our samples for this purpose. Diversified Science Laboratories found that the speaker's response was smoother with the stand than without, so it was used for all of our tests, both in the lab and in the listening room. And because the ESL-63 is a dipole radiator, requiring some "breathing room" in back for proper operation, DSL placed it approximately four feet in front of the wall.

So positioned, the speaker delivered an on-axis third-octave response that is remarkably smooth, remaining within approximately ±3½ dB from 50 Hz to 20 kHz. Off-axis, the response deteriorates at high frequencies, so that the same spread is maintained only out to the 12.6-kHz band. This is nonetheless very good for a speaker having such a large high-frequency radiating area. (The ESL-63's entire diaphragm is driven full-range, with no crossovers.) And the U.S. distributor advises us that by the time you read this, the speaker's high-frequency dispersion will be somewhat improved. Also, because the Quad is a dipole loudspeaker, its radiation pattern at all fre-

Quad ESL-63 floor-standing electrostatic loudspeaker system. Dimensions: 26 by 36¾ inches (front), 6 inches deep plus 4½ inches additional clearance in back for base. Price: \$1,425 each. Warranty: "limited," one year parts and labor. Manufacturer: Quad Electroacoustics, Ltd., England; U.S. distributor: Quad Electroacoustics, 695 Oak Grove Ave., Suite 3A, Menlo Park, Calif. 94025.

ROOM RESPONSE CHARACTERISTICS



SENSITIVITY (at 1 meter, 2.8-volt pink noise, 250 Hz to 6 kHz) 85 dB SPL

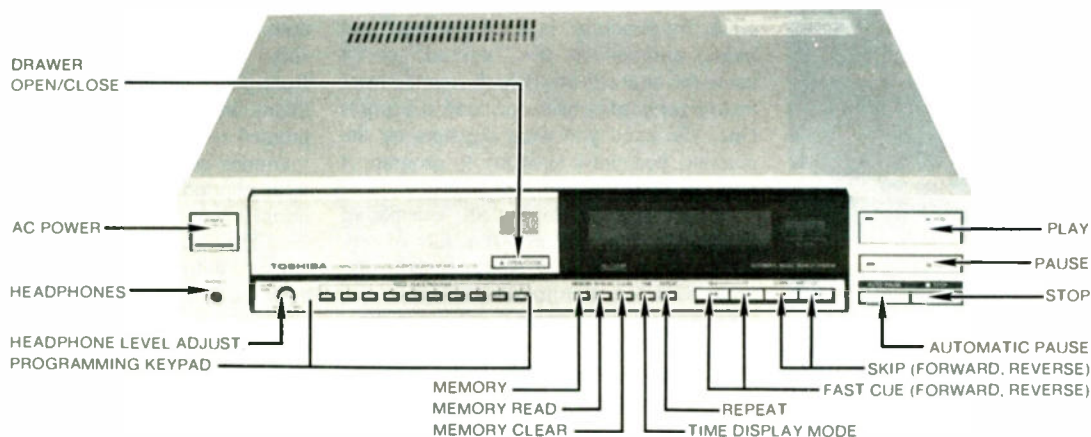
AVERAGE IMPEDANCE (250 Hz to 6 kHz) 7.8 ohms

quencies is shaped something like a figure eight. Thus, output drops gradually as you move off-axis (faster at high frequencies), reaching zero directly out from the sides of the speaker, in the plane of the diaphragm.

The ESL-63's main weakness is dynamic range. Sensitivity is low, and power-handling ability is only moderate. On our 300-Hz pulse test, audible distortion set in at 40 volts peak input (equivalent to 23 dBW, or 200 watts, into 8 ohms), for a calculated peak sound pressure level (SPL) of 108 dB at one meter. Played within its limits, however, the Quad exhibits exceedingly low distortion, even at very low frequencies. At a rather loud 95 dB SPL, harmonic distortion averages less than ¼ percent from 100 Hz to 10 kHz (the uppermost test frequency), and it drops as the level is reduced. Impedance is unusually well behaved for an electrostatic, rising from 4.6 ohms at 20 Hz to a maximum of 30 ohms at 80 Hz before dropping smoothly down to a minimum of 4.4 ohms at 10 kHz, then picking back up to 10.3 ohms at 20 kHz. Any good amplifier should be able to drive this load without difficulty.

In the listening room, the ESL-63 is what we would call "civilized." Its balance is essentially neutral, with perhaps a hint of extra warmth apparent on some material. Bass response drops off very rapidly in the bottom octave, but since less than 10 percent of all music contains information in that range (below 50 Hz), this is almost never a serious constraint. Of greater concern is its inability to play as loud as even relatively small dynamic loudspeakers. If your taste runs to symphonic material played at concert-hall levels or to (heaven help us) Iron Maiden in full cry, the ESL-63 is perhaps not the speaker of your dreams.

On the other hand, if you listen mainly to less raucous fare (or simply prefer moderate playback levels) and value clean, uncolored reproduction and precise stereo imaging, you probably will like this speaker very much. It certainly is one of our favorite speakers for voice and chamber music. With the ESL-63, Quad has once again advanced the art of electrostatic loudspeaker design; it may even have another classic on its hands. We suggest that you audition it and decide for yourself.



A CD Player Of Distinction From Toshiba

Toshiba XR-Z70 Compact Disc player, with wireless remote control. Dimensions: 16½ by 3 inches (front panel), 12 inches deep plus clearance for connections. Price: \$800 (also in black, as XR-Z70K). Warranty: "limited," one year parts, 90 days labor. Manufacturer: Toshiba Corp., Japan; U.S. distributor: Toshiba America, Inc., 82 Totowa Rd., Wayne, N.J. 07470.

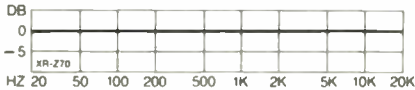
All data obtained using the Sony YEDS-7, Technics SH-CD001, Philips 410 055-2, and Philips 410 056-2 test discs.

THIS IS THE FIRST Compact Disc player we've tested from Toshiba—an industrial giant in Japan, but with curiously little following among American audiophiles, despite its many intriguing designs. The XR-Z70 (or the XR-Z70K, which is identical but for its black finish) could well be the model that turns things around for Toshiba audio. In performance and features, it offers arguably the most attractive overall design we've yet evaluated in the genre.

The most notable departure from common practice is the inclusion of provisions for index numbers, as well as the usual band (or "track") numbers. The original CD for-

mat guidelines, as laid down by Philips and Polygram, call for banding individual songs or compositions and inserting index numbers to subdivide these bands wherever access at some intermediate point might be desirable (between the recitative and the aria of an operatic excerpt, for example, or between movements of a concerto). And unlike most random-access schemes for tapes or conventional LPs, the CD method doesn't require any pause or "spiral" between subdivisions. Unfortunately, very few of the CDs issued so far make use of the format. As a result, we found it difficult to put the XR-Z70 through all of its paces,

FREQUENCY RESPONSE



— L ch + 1/4 dB, 20 Hz to 20 kHz
 - - - R ch + 1/4, -1/4 dB, 20 Hz to 20 kHz

DE-EMPHASIS ERROR

left channel + 1/4, -0 dB, 1 to 16 kHz
 right channel + < 1/4 dB, 1 to 16 kHz

CHANNEL SEPARATION (at 1 kHz) 98 dB

CHANNEL BALANCE (at 1 kHz) \pm < 1/4 dB

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

without de-emphasis 96 1/2 dB
 with de-emphasis 101 dB

HARMONIC DISTORTION (THD + N; 40 Hz to 20 kHz)

at 0 dB \leq 0.012%
 at -24 dB \leq 0.047%

IM DISTORTION (70-Hz difference frequency;

300 Hz to 20 kHz)
 0 to -30 dB < 0.01%

LINEARITY (at 1 kHz)

0 to -80 dB no measurable error
 at -90 dB \pm 2 1/2 dB

TRACKING & ERROR CORRECTION

maximum signal-layer gap > 900 μ m
 maximum surface obstruction > 800 μ m
 simulated-fingerprint test pass

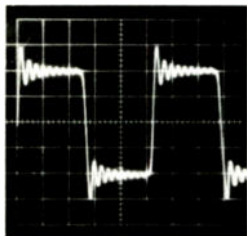
MAXIMUM OUTPUT LEVEL

fixed line output 2.09 volts
 adjustable line output 5.06 volts
 headphone output 6.49 volts

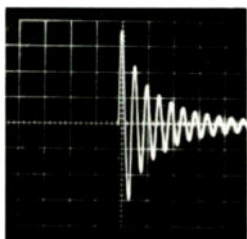
OUTPUT IMPEDANCE

fixed line output 95 ohms
 adjustable line output 105 ohms
 headphone output 245 ohms

SQUARE-WAVE RESPONSE (1 kHz)



IMPULSE RESPONSE



since without discs containing the promised indexing, we can't make use of the player's full range of capabilities.

Even in playing CDs that don't conform to the Philips-Polygram guidelines, the Toshiba shines. One regular hurdle in our testing is to try programming a player (if it is programmable) for the middle three bands—representing one full concerto—in the Schröder/Hogwood recording of three Bach violin concertos (Oiseau-Lyre 400 080-2), a CD that bands all movements separately, with no indexing. At the moment of switching from the end of one programmed band to the beginning of the next, most players will betray the fact with some sort of mechanical click or buzz or with a momentary change in audible noise level from the speakers. The Toshiba is among the few that will afford even a very attentive listener the illusion that the concerto is being played straight through in a continuous performance. It is to Toshiba's credit that it not only overcomes the disc manufacturer's shortsightedness, but does so with fine attention to the detailed behavior of its own product.

That attention to detail characterizes the entire control scheme, which is capable of many interrelated operating modes that, nonetheless, don't get in each other's way—or in the user's. We found that we instinctively went for the correct button in almost every situation, despite the design's complexity. For example, you can program either by punching in band (or band and index) numbers on the "keypad" or by using the SKIP buttons (which step the laser pickup forward or back one band at a time). Once the band you want registers on the readout, you press MEMORY to program it into the next available slot.

There are 16 slots in all, capable of sequencing the contents of a CD in any order and of repeating some bands in the process. If you want to hear the entire programmed sequence again (or an entire disc, if you're playing it manually), you press REPEAT once play has begun. You can check your programmed sequence by pushing MEMORY READ. With each press, it steps the program to the next slot and displays its "address." You can use this feature to start play anywhere in the sequence; if you don't use it at all and just press PLAY, the deck assumes you want manual operation. It thus will begin play at the band on the display—which normally will be Band 1, because the display automatically reverts to 1 when a memory entry has been completed—and will continue to the end of the disc unless you give it other instructions in the meantime.

The XR-Z70 has two sets of fast-cue controls. The aforementioned SKIP will move the pickup only to the beginnings of bands—forward or back, depending on which of its two buttons you push. In programmed play, it will step forward or back within the programmed sequence, rather

than from beginning to end (or vice versa) of the disc. The other control moves the pickup continuously across the disc at faster than normal speed (six times as fast, according to the owner's manual, which is unusually thorough and explicit), sampling the music in little bursts as it goes, to help you find a particular passage. This, again, is helpful when index numbers are not included on discs that might have profited from them.

One particularly nice option for some situations is AUTOMATIC PAUSE. With this mode engaged, the player pauses whenever it comes to the end of a band. When you then press PLAY, the deck resumes playback with the next band on the disc (or in the programmed sequence, if one is in progress). So if you're in the mood to refresh your aural palate with a little quiet between selections, or if you want to postpone decision on which song to play next, the Toshiba will oblige neatly—and uniquely, in our experience.

All of the front-panel controls except the power and the disc-drawer buttons are duplicated on a little wireless remote control that comes with the player. (The control is powered by two AAA cells, which are not included.) A lock on the remote prevents inadvertent triggering—especially of two buttons at once, which the manual says may cause malfunction. When the lock is on, the control is off, and vice versa. This is the one slightly confusing element in the control scheme. Another safety feature of sorts, and one the remote shares with the front-panel controls, is that the MEMORY CLEAR will not do its job unless you've first pressed MEMORY READ to call up the programmed sequence. So if you stab at the wrong button, it won't undo your programming.

The drawer is the type we most admire, with finger cutouts at both sides, enabling you to pick up the disc easily by its edges with one hand. On the back panel are two pairs of output pin jacks. One supplies normal line level; the other is capable of considerably higher output and is controlled by the front-panel headphone level adjustment. The manual suggests that you may want to use this option to feed a power amp directly from the player. Also on the back panel is a timer switch so that you can set up the XR-Z70 to start playing automatically when turned on by an external timer.

Performance and behavior are flawless. In a number of respects, Diversified Science Laboratories' measurements are distinctly better than for most other models we've tested. The most telling of these, certainly, is the error-correction series, in which the player was unfazed by even the grossest obstacles on the Philips test disc. But all of the player's measurements are superb, as is its music-making. In fact, if you get the impression that we think the Toshiba something of a standout among CD players, you're right.

AUDIO ELECTRONICS:

american STYLE!

BY

J. GORDON HOLT

**A look at the domestic audio manufacturing scene and some of
the engineer-cum-entrepreneurs who make it so exciting**

ASSEMBLING AN AUDIO SYSTEM involves many choices—not the least of which is whether to go for the convenience of an all-in-one receiver or to delve a little deeper and investigate the advantages of a separate preamp, power amp, and tuner. If a receiver will satisfy your needs, you probably already know the names and reputations of the large Japanese companies whose reasonably priced products helped popularize high fidelity in the late Sixties and Seventies. But if you want to explore the world of audio separates, you'll have to deal with a whole new set of names—many as American as the transistor.

Those of you who are surprised to learn that there is a thriving American audio industry probably grew up in the Seventies. A decade earlier, U.S. firms monopolized audio electronics: Fisher, McIntosh, and Scott were the big names. But when Japanese electronics makers realized that the world market was ripe for mass-produced, relatively inexpensive products, U.S. manufacturers found themselves in a price squeeze, and most companies either sold out to the Eastern giants or retreated to the smaller, less price-competitive arena of audio separates. The specialty market has since proved capable of supporting a goodly number of "cottage industry" domestic manufacturers that are willing to cater to its needs and wants.

Specialization is indeed what American audio electronics is all about. If you're looking for no-holds-barred solid-state equipment, Mark Levinson, Electron Kinetics, BEL, Belles, Spectral, McIntosh, Crown, Krell, and Threshold all produce what they feel to

be the best such components money can buy. (Levinson's top-of-the-line mono power amp sells for almost \$6,500.) If you don't care for transistorized equipment, Audio Research, Counterpoint, Conrad-Johnson, Beveridge, Paoli, New York Audio Labs, Quicksilver, and Precision Fidelity manufacture tubed components. And for the fence-straddlers, Berning and Monolithic Audio offer hybrid units that use both tubes and transistors for the amplifying stages.

Aiming for a more middle ground in price are firms such as Audionics, PS Audio, DB Systems, BGW, Acoustat, AGI, Bedini, Amber, B&K (not the measuring-instrument people), VSP, BRB, Sumo, Apt, and SAE. They offer the most reliable, highest-performance products they can build without pricing themselves into the stratosphere. Hafler and Heath go a step further by making all of their products available in kit form.

Carver specializes in ingenious new solutions to old problems. Soundcraftsmen earned its reputation in octave equalizers but has since branched out into preamps and power amps. Among the companies that manufacture only signal processors, DBX is famous for its noise reducers and dynamic-range expanders and Audio Control offers a complete line of nothing but equalizers. Fosgate and Sequerra make just one product each:

The former a surround-sound decoder for stereo, matrix quad, and film-soundtrack processing, the latter a perfectionist tuner (still unique, ten years after its introduction).

The products of a small U.S. company are often a personal expression of a designer's views on how things ought to be done. In fact, many such companies were founded not by an aggressive entrepreneur, but by an audiophile/engineer with an idea. Perhaps he saw a need for a particular product, or perhaps he was convinced that he had a better way of doing something. Whatever the motivation, he eventually built a device embodying that idea for his own use—and (according to the usual success story) was then persuaded by admiring friends to build a couple more for them. Before he knew it, he was in the manufacturing business and wondering how he got there.

Because of the strongly personal element in these companies and their freedom from committee mentality, many American designs are highly innovative, the first to incorporate new and often unproven concepts. Also, the products are frequently designed for overkill, with performance characteristics far exceeding what more conservative engineers consider either necessary or practical. But the pursuit of perfection is rarely daunted by matters as petty and mundane as

J. Gordon Holt started his long career as an audio journalist at this magazine. He is now the editor of Stereophile.

american **STYLE!**

CLYDE MOORE

DAVID HAFLER



CROWN INTERNATIONAL. *Clyde Moore, Crown's co-founder and current vice-president of corporate planning, characterizes himself as an extroverted, gregarious person. His father was an engineer who built transmitters for missionary radio groups, and when Clyde was still in high school, a missionary from Brazil approached the senior Moore with a tape recorder and a power amplifier that he wanted combined into a single unit for easier portability. The resulting "portable studio" generated so much demand that Crown International was born in 1952 to meet it. Around 1960, a stereo model of that recorder turned out to be too heavy and was therefore divided into two separate sections, the amplifier half becoming Crown's first all-electronic product. In 1966, the DC-300*

solid-state amp was unveiled. A brute of a design, it was so rugged that it was sold with an unprecedented three-year unconditional warranty. That warranty, which still applies to all Crown products, covers parts, labor, and shipping and is renewable for three more years (for an additional 5 percent of the original price), no matter how many owners the component has had. Clyde says that Crown is committed to serving its customers with state-of-the-art equipment that represents good value for the money and through product support by dealers and the factory. He sees a Crown product not so much as a component, but as a solution to a buyer's music-listening needs, and he feels that reliability is at least as important to a Crown customer as sound quality. ■

DAVID HAFLER COMPANY. *Although Hafler is one of the oldest names in audio, the David Hafler Company is one of the newest. From 1950 to 1955, Hafler and Herb Keroes operated an outfit called Acrosound to manufacture Keroes's "ultralinear" output transformer and an amplifier using it. Since then, Hafler has owned several firms, all of them successful (Dynaco being the most famous) and all but one (Ortofon) producing audio kits. In 1976, Hafler and Ed Gately (who had been making professional audio electronics) organized the David Hafler Company, which today is the only firm selling audio kits through independent dealers. The products, although conservatively conceived, are designed to achieve the highest performance standards at the lowest possible price, and they*

often embody innovative circuit topologies. The Hafler Company tries to incorporate the expressed needs of prospective customers in a new design. And Hafler's customers are a veritable cross section of music lovers—ranging from financially strapped students to top-echelon business executives. All of Hafler's products are also available in factory-built versions, but even novices need not fear tackling the less expensive build-it-yourself versions. Hafler technicians dispense phone advice freely, and the factory will debug a finished kit for a nominal charge. ■

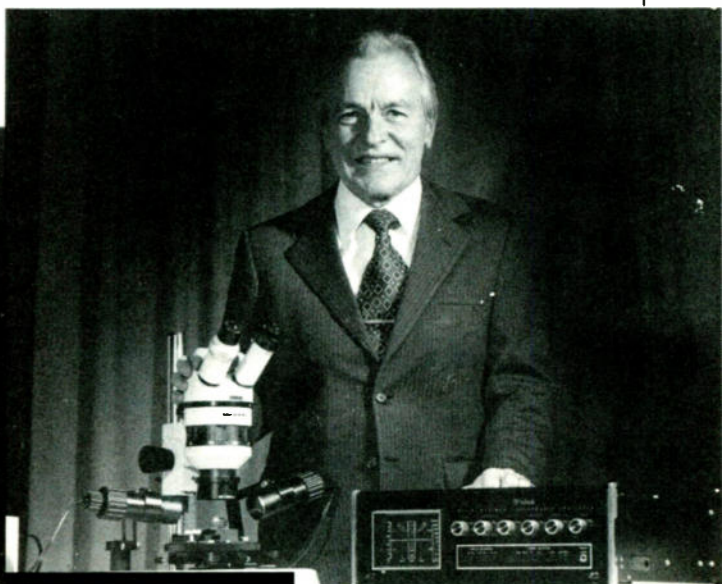
NELSON PASS



THRESHOLD. Nelson Pass, president and co-owner (with Rene Besné) of Threshold, is one of the few people in the business who will admit that he got into audio electronics before he even had an idea for a product. And he is skeptical of the "Gee, you mean I can sell these?!" stories so common in the audio industry, believing that they are more often just a way of hyping the designer's genius. Threshold was incorporated in 1974, and its first product—the Model 800 power amp—used what is now called "sliding bias" to get Class A operation without its high operating temperatures. (Threshold has a patent on this.) Pass and Besné loaded their one and only prototype unit into a Karmann Ghia and ran it by a number of West Coast dealers. The reaction to the amp put Threshold in

business. Pass designs for overkill. His amplifiers have very low distortion and massive, highly regulated power supplies. The firm also individually tests each output transistor with an instrument custom-designed by Pass that can predict a transistor's breakdown voltage without damaging it. And each Threshold component is thoroughly burned-in and subjected to several abuse tests prior to shipping. ■

GORDON GOW

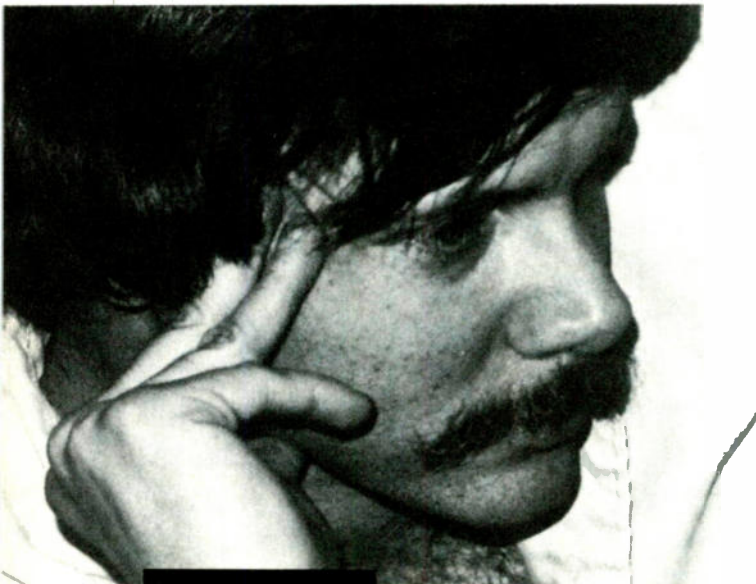


McINTOSH LABORATORY. Model 50W amplifier was one of the pioneers of audio electronics, McIntosh Laboratory got started with an idea. Cofounders Frank McIntosh and Gordon Gow came into electronics from World War II defense communications jobs and later operated a consulting firm in Washington, D.C. Both were music lovers and record collectors, and both were active in high fidelity before most people had even heard of it. They observed that the major shortcomings of tubed amplifiers were traceable to inefficient coupling between the two halves of the push-pull output transformer windings. Their solution was to interleave the windings, placing the wires as close to one another as physically possible, yielding an amplifier with lower distortion and phase shift. The original McIntosh

Model 50W amplifier was clearly superior to its competition that it sold itself on the basis of its sonic merits alone, and McIntosh Laboratory was founded in 1947 to manufacture it. Frank McIntosh died in 1971, but the company's products still reflect his interest in collecting records, including old discs of variable sound quality. Although many of its amps, preamps, and tuners are sold to hardware enthusiasts, the company is more concerned with meeting the needs of the serious music lover. Thus, while aiming for the performance standards of the perfectionist consumer, McIntosh's preamplifiers also contain sophisticated signal-processing facilities—features that may be anathema to the audiophile purist but are obligatory to the collector of irreplaceable recordings. ■

american **STYLE!**

BOB CARVER



CARVER CORPORATION. Bob Carver stands out in the American electronics scene by virtue of his long history of inventing successful (and often imitated) audio products. Hooked on sound reproduction ever since he was three (when he saw his voice displayed on his father's oscilloscope), Carver started building amplifiers and receivers at age twelve—first from kits, then from scratch. While working toward his Ph.D. in physics, he developed the first consumer amplifier capable of pumping out 350 watts per channel. He received a patent on its protection circuit, which was the key to getting high power from the fragile output transistors available at the time. Carver founded Phase Linear in 1971 to manufacture that amplifier, the Model 700. Soon the 700 was joined by the Model 400, at 200 watts per side, and then by a preamplifier that included a dynamic-range expander and a unique noise-reduction system. By 1977, when the other stockholders insisted on selling the company, Carver got out, taking with him the rights to his inventions. (Phase Linear has changed hands twice since then and is now owned by Jensen.) In 1979, he started a new company and held a contest to find a suitable name for it. When the ballots were counted, no one was surprised at the winning name: Carver Corporation. Pursuing the quest for low weight and high power, Carver introduced the "magnetic-field amplifier" circuit in 1980, for which he is probably best known today. His investigations into the psychoacoustics of spatial perception led him to develop a "sonic hologram" device that enables the user to control the breadth and localization of a stereo image. Tackling tuner design, he earned the undying gratitude of both country and city dwellers with his "asymmetrical charge-coupled FM detector," which processes the stereo output to increase effective sensitivity and reduce the audibility of multipath interference. Carver is a self-described "physicist by training, circuit designer by profession, and entrepreneur by special affinity." Those who know him attribute his inventive genius to his unwillingness to see anything as being impossible and his facility for "thinking around" problems. ■

practicality.

Through their pioneering work, many of these small outfits advance the state of the audio art, and there are persuasive reasons for considering buying their products. But there are risks, too. Some of these components do not perform appreciably better than less costly ones, and some designers ignore the conventional engineering wisdom to the point where their equipment is very flaky and unreliable. Furthermore, if a small company goes out of business, its customers are often left with orphaned components that no one will service.

And bankruptcies are by no means uncommon in the field. Of the 50-odd brand names in domestic audio electronics today, only a handful were around ten years ago. Some (Fisher and H.H. Scott, for instance) are now American brands in name only, having been bought out by overseas companies. McIntosh, Threshold, SAE, Soundcraftsmen, Crown, and Audio Research are exceptional for the length of their tenure. (Founded in 1947, McIntosh is the granddaddy of American audio electronics.)

You can get an idea of how products perform by reading test reports. [This month HIGH FIDELITY's coverage includes reviews of components from Threshold, Hafler, Counterpoint, and PS Audio.—Ed.] But no one reviewing a new product can divine how dependable it will be in the long run, and unless the manufacturer himself has been around long enough to exhibit some stability, he may not be in business when your \$4,000 amplifier goes belly-up. So although it may be adventurous—and even sonically rewarding—to buy a component from an upstart company, it is safer to buy from one that has been in business for a while.

The accompanying short profiles represent a very incomplete list of established (and thus presumably safe) domestic audio electronics manufacturers. These companies do not, however, have a monopoly on product reliability or performance, and you may in fact be happier with a component from another firm. After all, if no one had tried these "safe" brands when they were new and unproven, they wouldn't be around today.

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WHAT TO DO ABOUT CAR EQ

BY

JOHN BISHOP

AN APPRECIATION OF CAR ACOUSTICS HELPS YOU BALANCE THE SOUND OF A MOBILE SYSTEM.

PROPERLY USED, AN EQUALIZER can help you fine-tune your audio system so as to create a pleasing, natural sound field. Most car stereo equalizers, however, are greatly simplified versions of home units and provide just five or seven bands of EQ. Their capabilities are therefore more limited, and to get the most from them takes a bit of planning and some knowledge of the acoustic problems inherent in an automobile.

A car's interior has such a major influence on a loudspeaker's frequency response that it's impossible to predict how a given speaker will sound once it's installed. Standing waves, interference by reflected sound, and the absorption qualities of interior surfaces all degrade sound quality. Because of the car's smaller internal volume, standing waves occur at higher frequencies than they do in most living rooms. In typical cars, the frequency range from 100 Hz to 300 Hz will often show strong response peaks and dips. Below 100 Hz, wavelengths are too long for such effects to occur, but here reflected sounds reinforce each other, causing bass energy to increase.

Above 300 Hz, standing waves diminish in importance. And above 5 kHz, absorption takes over, causing a gradual loss of high frequencies. The plusher the interior, the more severe the loss.

A loudspeaker's immediate environment can also alter frequency response. For example, speakers mounted on the top of the dash or in footwells can excite cavity resonances that greatly color the sound. A flimsy door panel or cardboard rear deck will vibrate along with the speaker, producing a peculiar coloration. And in a multiway system with tweeters and

John Bishop is car stereo editor of Motor Trend magazine.

midranges separated by distances greater than a few inches, out-of-phase energy in the crossover region creates a comb filter effect, similar to the peaks and dips caused by reflections. Add to all this the "natural" response irregularities of the drivers and the radio/tape player, and you get an idea of the scope of the problem.

No equalizer can fix all of these difficulties. Severe cancellation notches caused by interference cannot be solved by equalization. If you try to pump more energy into the direct sound at the cancellation frequency, you'll net nothing. Even resonance and standing-wave problems are only partially remedied through equalization. Both of these effects have aspects not addressed by steady-state EQ. For example, standing waves take a while to build up and decay, which means that their amplitude is dependent on time as well as on the signal, making any corrective equalization an approximation at best. Another problem is that any EQ intended to correct for standing waves also will change the initial output from the speakers, whose response may be quite different from that of the reverberant field within the car (dominated by the standing waves). In short, the cure can turn out to be as bad as (or worse than) the disease.

ONE WAY TO AVOID some of the frustrations of car audio equalization is to eliminate much of the need. For instance, mounting the woofers in a small enclosure attached to the underside of the rear deck helps control bass response. The smaller the enclosure, the higher the resonance of the speaker. Below resonance, the response of a sealed-box system falls off by 12 dB per octave, thereby partially balancing the natural low-frequency rise caused by the car

interior. In biamplified systems, the midbass peak around 150 Hz can be equalized via the use of an asymmetrical crossover. With the subwoofer crossover point set at 100 Hz and the satellites brought in at 200 Hz, the resulting 150-Hz dip could balance the midbass problem quite nicely. And reflections can be minimized by using rear-deck-mounted satellites aimed directly at the listener.

Only after these big problems are settled should an equalizer be brought into the picture. If your basic setup is done correctly, you will not want or need an equalizer capable of extreme boost or cut. What's usually required is a unit capable of achieving a frequency response that's slightly elevated below 100 Hz, reasonably flat from 100 Hz to 4 kHz, and gradually rolled off above 4 kHz, which is approximately the natural response of a large concert hall.

As a test instrument, your ears are far more adept than most gadgets used by technophiles. The only tool you'll need to perform your equalization is a tape containing several minutes of pink noise. If that's hard to come by, just use interstation FM noise. Get to know what the noise should sound like by playing the tape on a good home system. Though this is not an absolute way of achieving correct equalization, your home setup is probably better balanced and inherently more accurate than your car system.

The most important thing to remember, however, is that once the equalization process is complete, the equalizer itself should be stowed away where its slider settings cannot be easily altered. The glove compartment is usually the most convenient spot. Now you can use the tone controls on your front end to correct for poor program sources, not a poor car-stereo system.

HF

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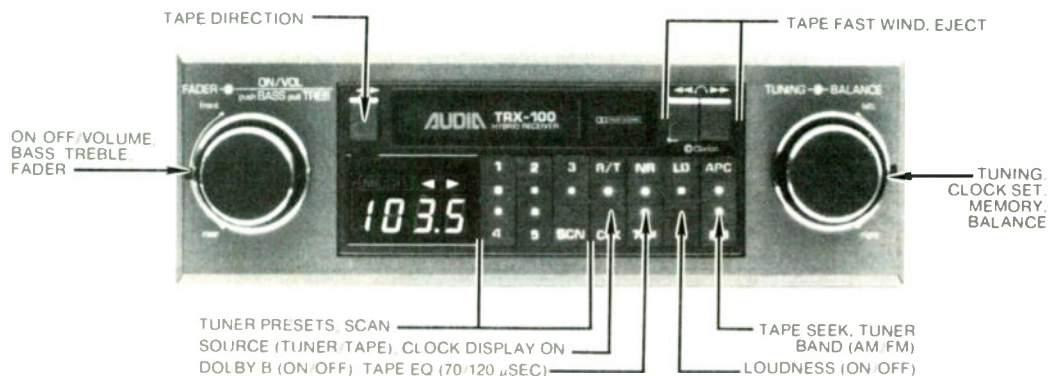


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Clarion Audia TRX-100 AM/FM/cassette receiver, with Dolby B noise reduction and automatic cassette reverse. Dimensions: 7¼ by 2 inches (chassis front), 4½ inches deep; escutcheon, 7½ by 2¼ inches; "nose," 4½ by 2 inches; main shafts, 5 or 5¼ inches o.c. Connections: bared wires for ignition and battery; spade lug for ground; flat female for power antenna; bared wires with special multipin disconnect for speakers; 6-pin DIN female plug for optional Audia accessories; standard female pin plugs for right and left preamp outputs; standard coaxial female for antenna input. Fuses: 5-amp in ignition line, 1-amp in battery line. Price: \$495. Warranty: "limited," two years parts and labor. Manufacturer: Clarion Co., Ltd., Japan; U.S. distributor: Clarion Corp. of America, 5500 Rosecrans Ave., Lawndale, Calif. 90260.



FOR SOME YEARS, electronics manufacturers have distinguished between their regular merchandise and their premium products by giving the latter a special series name, preferably one with a high-tech luster. Such is the intent of Clarion with its Audia group of car components, in which the TRX-100 is the middle member in a trio of sophisticated front ends.

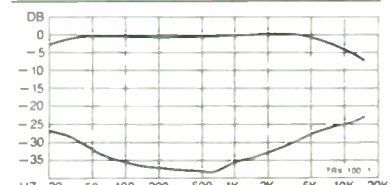
The TRX-100 suggests its status with its extremely uncluttered front panel. The conventional knobs, mandated by in-dash mounting, have only two elements each (the knob proper plus the outer ring), but they are not overburdened with multiple push-pull options. There are three transport buttons flanking the cassette slot. All the remaining controls are handled by a

series of vertical rocker panels, each of which (except the single-function loudness panel) actually works as a pair of independent pushbuttons. Though form doesn't follow function to this extent, the rocker-panel design is exceptionally easy to read and use—an important consideration if a busy driver is to act as his own entertainment director.

All of the bench measurements must be interpreted in light of the unit's rather unusual frequency-response behavior. At full volume—which is Diversified Science Laboratories' normal test condition, to prevent inadvertent level changes when manipulating concentric controls—overall response is strongest in the lower treble (say, 1 to 5 kHz) and rolls off gradually through the midrange and

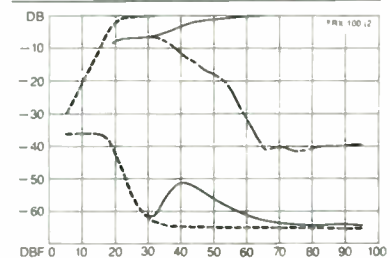
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KE-A330 \$149.95 KE-A430 \$179.95 KE-A630 \$219.95 KP-A400 \$139.95 KP-A450 \$149.95	KP-A500 \$149.95 KP-A700 \$169.95 KP-A750 \$199.95 KPA-600 \$164.95 KE-7200 \$229.95	HPL-122 \$249.95 HPL-525 \$309.95 HPA-51 \$129.95 HPA-71 \$159.95 HPA-26 \$89.95 HPQ-89 \$79.95	HPL-101 \$139.95 HPL-502 \$189.95 HPL-532 CALL HPL-520 CALL HPQ-90 \$89.95	Aspen \$219.95 New York \$549.95 Washington \$439.95 Richmond \$219.95 Manhattan \$219.95 Sacramento \$279.95	Seattle \$189.95 Houston CALL BPA-430 \$219.95 BPA-260 \$219.95 BEA-155 \$129.95 BPA-415 \$89.95	FTC-70 \$149.95 FTC-46 \$129.95 FTC-68 \$139.95 FTV-100 \$159.95 FTC-1 \$49.95 FTC-38 \$89.95	FTC-120 \$189.95 FTX-140 \$209.95 FTX-160 \$219.95 PA-6100 \$119.95 EQZ-6210 \$68.95

PIONEER		JENSEN		RADAR DETECTORS		SEND \$1 FOR YOUR COMPLETE 290 PAGE LABELLE CATALOG.	
TS-6907 \$89.95 pr. TS-6906 \$79.95 pr. TS-6905 \$69.95 pr. TS-6904 \$49.95 pr. TS-1655K \$79.95 pr. TS-1633K \$59.95 pr.	TS-1044K \$49.95 pr. TS-108 \$39.95 pr. TS-M2 \$32.95 pr. TS-T3 \$34.50 pr. TS-X7 \$69.95 pr.	J3033 \$79.95 pr. J2020 \$69.95 pr. J3013 \$69.95 pr. J2037 \$69.95 pr. J2094 \$34.95 pr.	J3003 \$49.95 pr. J1242 \$84.95 pr. J1065 \$59.95 pr. J1401 \$69.95 pr. J1405 \$44.95 pr.	Z-70 \$79.95 Q-1200 \$119.95 Q-2000 \$199.95 Spectrum \$229.95 Spectrum Remote \$229.95 INTERCEPT FUZZBUSTER Radar Detector Het Model 2 \$219.95 \$169.95		Form fields for name, address, city, state, zip.	

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bass and not so gradually in the upper treble. However, when the lab backed off the level by 10 dB or more, response improved markedly, staying relatively flat through the bass and midrange but rolling off slightly more in the upper treble. Because you'll seldom (if ever) use the full volume setting, this puzzling behavior should not present a practical problem, and the graphs shown here were plotted at a volume setting 10 dB lower.

The FM section tests better on the road than on the bench. That is, while the numbers shown in our data column are not particularly impressive, the "spitting"—as we call the most intrusive form of audible misbehavior under conditions of fluctuating signal strength and multipath—is particularly well controlled. As a result, the listening quality under typical on-the-road conditions is more enjoyable than with many tuners exhibiting better on-paper performance. The bursts of noise and distortion involved are both brief and, more important, quite muted.

To keep noise low as signal strength fades, the Clarion begins reducing channel separation sharply below 65 dBf. The 50-dB sensitivity rating point is reached at 44 dBf, and though the actual signal-to-noise ratio improves again when signal strength gets down into the region around 30 dBf, separation—and therefore stereo reception—is gone by this point. Below 20 dBf, output trails off fairly abruptly, though there is no muting threshold as such. The level of weak broadcasts thus can fluctuate somewhat more radically than it might, but at least the sound doesn't switch on and off as the threshold is crossed. Selectivity and capture ratio are admirable. Reception of medium-range and local stations is likewise quite good, though we experienced more difficulty than usual in tuning to our standard distant stations.

AM reception follows a similar pattern in that the tuner is not particularly sensitive but "listens well" with stations of at least moderate signal strength. The response, like that in many other tuners, rolls off in the bass, which helps tame the boom that many stations affect. You may want to restore a little of it with a touch of bass boost, depending on your taste and on the station you're listening to. As frequently happens, the selectivity test netted no meaningful result.

The cassette section, by contrast, sounds a bit dull with our test tapes. The lab data, as shown in our graph,

suggests an azimuth difference between the deck and the BASF test tape, but because the TRX-100's inherent response rolls off in the range (above 8 kHz) where azimuth mismatch would show up, the matter isn't as clear-cut as it might be. Speed is slightly high, but flutter is low and we could detect no audible road shock. For once, the labeling of the EQ switch makes sense: 70 and 120 microseconds, though the lighted indicator identifies the former as "ME" (for metal), ignoring the chrome/ferricobalt group and ferrichrome—all of which share the 70-microsecond EQ.

The range and behavior of the tone controls is about what you might expect in home equipment these days, although each control has some small effect in the other's frequency band when you turn it to an extreme setting. The loudness compensation introduces a broad rise having maximum effect (of about 10 dB when the volume is turned down by 30 dB) in the range below 100 Hz and a narrower one achieving a similar boost above 10 kHz. If you prefer only the bass portion of the correction (which current research says is all you need), you can get very similar results manually with the bass control.

Clarion provides an easy attachment scheme for some outboard accessories. A DIN-style connector attached to one cable from the chassis (and provided with a plastic dust cap in case you choose not to use it) is the equivalent of tape- or processor-loop connections in home gear. Two accessories are available from Clarion: The EQX-7 seven-band equalizer (\$110) and the NRX-50 DBX adapter (\$85). If the two are used together, the NRX-50 plugs into a socket on the equalizer. This seems a neat way of ganging on line-level accessories, and we hope the system will become standardized so that brands can be intermixed.

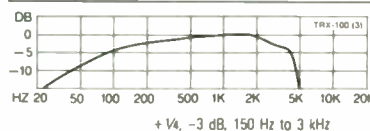
There are enough creature comforts built into the TRX-100 to make it a very pleasant companion. Scan tuning (with a five-second sampling of each receivable station), ten station presets (five in each band), tape seek (which goes to the beginning of the next selection or returns to the beginning of the one you're listening to), and a clock display (which shows the time during tape play, but can also be activated during radio reception) are all nice touches. But the TRX-100's exceptionally functional front-panel design is what really gives it a practical edge over comparable models. HF

Mono sensitivity (for 50-dB noise suppression)	
	23 dBf
Stereo S/N ratio (at 65 dBf)	62½ dB
Mono S/N ratio (at 65 dBf)	65 dB
CAPTURE RATIO	23½ dB
SELECTIVITY (alternate-channel)	61½ dB
AM SUPPRESSION	47 dB

DISTORTION (THD+N)		
	stereo	mono
at 100 Hz	1.60%	1.20%
at 1 kHz	0.49%	0.63%
at 6 kHz	0.80%	0.28%

AM TUNER SECTION

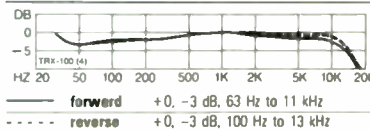
FREQUENCY RESPONSE



SENSITIVITY	7.0 µV
SELECTIVITY	see text
AVC RANGE	57 dB

CASSETTE TRANSPORT SECTION

FREQUENCY RESPONSE



WOW & FLUTTER	
forward	±0.16% average, ±0.19% peak
reverse	±0.17% average, ±0.22% peak
SPEED ACCURACY	
forward	1.6 to 1.5% fast, 10.8 to 14.4 volts
reverse	1.1 to 1.0% fast, 10.8 to 14.4 volts

PREAMP/AMPLIFIER SECTION

BASS CONTROL	+10½, -8½ dB at 100 Hz
TREBLE CONTROL	+11½, -10½ dB at 10 kHz
LINE OUTPUT IMPEDANCE	1,270 ohms
MAXIMUM LINE OUTPUT LEVEL	
from FM (100% modulation)	1.45 volts
from tape (0 in 0 dB)	1.05 volts
OUTPUT (per channel into 4 ohms; at 3% THD+N)	
at 100 Hz	13 watts (11¼ dBW)
at 1 kHz	16 watts (12 dBW)
at 6 kHz	16 watts (12 dBW)

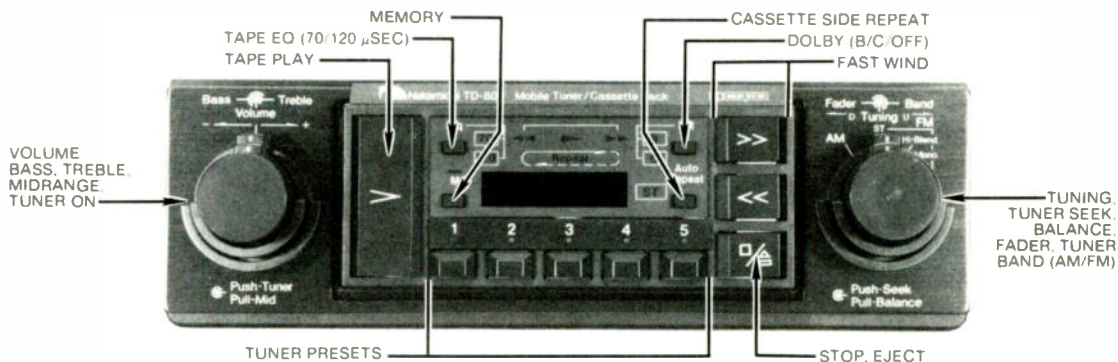
*See text

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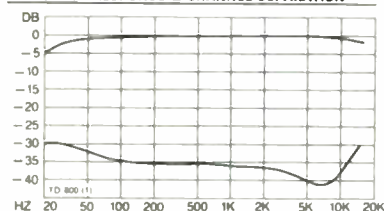
NAKAMICHI TD-800 TUNER/TAPE DECK

Nakamichi TD-800 AM/FM/cassette front end, with Dolby B and C noise reduction, cassette-side repeat, automatic cassette ejection at end of side, manual head-azimuth fine-tuning. Dimensions: 7 by 2 inches (chassis front), 6 inches deep; secondary electronics chassis, 7 by 2 by 5¼ inches; escutcheon, 7¼ by 2¼ inches; "nose," 4 by 1¼ inches; main shafts, 5½ inches o.c. Connections: round male for ignition and battery; round female for power antenna and remote amp control; special DIN interconnect cables (5½ feet) to secondary chassis; special 3-conductor cable (3 feet) to azimuth control; standard pin female connectors for front and back line outputs; standard coaxial female (on secondary chassis) for antenna input. Fuses: 5-amp in ignition and battery lines, ½-amp in power-antenna line. Price: \$890. Warranty: "limited," one year parts and labor. Manufacturer: Nakamichi Corp., Japan; U.S. distributor: Nakamichi U.S.A. Corp., 19701 South Vermont Ave., Torrance, Calif. 90502.



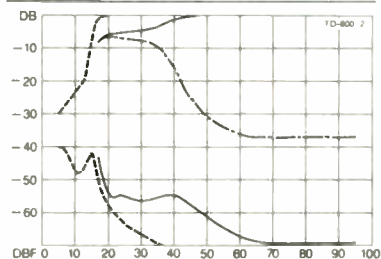
FM TUNER SECTION

FREQUENCY RESPONSE & CHANNEL SEPARATION



Frequency response +0, -3 dB, 26 Hz to 15 kHz
Channel separation ≥ 33 dB, 75 Hz to 12.5 kHz

FM SENSITIVITY & QUIETING



Stereo sensitivity (for 50-dB noise suppression) see text

JUST WHEN YOU THINK that you know what direction Nakamichi is taking and what its next round of products should be like, it comes up with something unexpected. This time, it's an outboard "fine-tuning" adjustment for head azimuth (perpendicularity to the tape path) in the TD-800 front end. Such adjustability enables you to get the best-possible high-frequency performance from those tapes made on a deck (yours or a commercial duplicator's) whose recording head azimuth otherwise might not match that of the playback head in your car deck. The fine-tuning knob can be mounted in or under the dash.

The TD-800's front-panel scheme is quite straightforward. The rotary controls are confined to the usual two clusters flanking what might be called the "nosepiece," which here is the front of the sliding tape transport. On it, the main tape controls occupy the two sides; farther in are the EQ, noise reduction, and repeat controls. The five station presets range along the bottom.

When you push STOP/EJECT, the "nose" unlatches so that you can pull it toward you and insert a cassette into the well atop the drawer. When you close it, the tape automatically starts playing.

The REPEAT replays the cassette side (this is a unidirectional deck) until you defeat it. (REPEAT stays active even if you interrupt play by going into fast-wind.) Otherwise, when you come to the end of a tape, the drawer unlatches once again, but because it isn't powered the cassette is not ejected. If you turn off the ignition during playback the transport automatically enters STOP. When you turn the ignition back on, playback recommences where it left off. While a tape is playing, you can revert to the tuner signal without removing the cassette by tapping the VOLUME.

Tuning proceeds by full-channel increments on both bands (200 kHz on FM, 10 kHz on AM) when you turn the tuning knob: A flick brings you to the next channel, while sustained torque makes the tuner race along the



CONCORD. THE DIFFERENCE IS WORTH THE DIFFERENCE.

Despite the fact that the Concord HPL-532 is ingeniously designed to fit everybody's car, it's definitely not for everybody. As Stereo Review said, Concord "...is truly an audiophile's car stereo."

And what makes it so different?

4-GANG FM TUNER

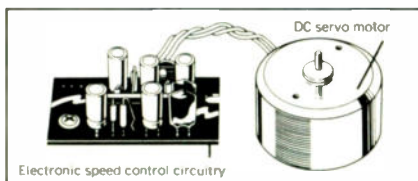
For extraordinarily clear FM reception, the Concord HPL-532 has an exclusive 4-gang digital tuner that provides exceptional station sensitivity & selectivity.

And to make selecting your favorite stations even easier it has a 10-station preset memory.

But, as Concord's 22 years of innovative stereo design would lead you to expect, that is only the beginning.

DC SERVO DRIVE MOTOR

We've designed an exclusive electronically controlled DC servo tape transport drive.



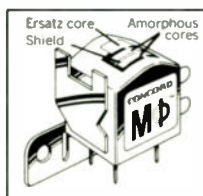
SPECIFICATIONS: Tuner Section Sensitivity: 30dB Quieting 1.0 Microvolts 11.2dBf, Stereo separation: min. 35dB, Frequency responses: ± 2 dB, 30-16,000 Hz Tape Section Frequency response: ± 2 dB, Standard tape: 30-15,000 Hz, Metal tape: 30-20,000 Hz, Wow & flutter: 0.08% WRMS Amplifier Section Maximum power: 25 watts/ch, Two-way power: 12 watts min. RMS per channel into 4 ohms, 30-20,000 Hz with 0.8 THD max, Four-way power: 5 watts min. RMS per channel into 4 ohms, 30-20,000 Hz with 0.8 THD max

The result? Superior speed accuracy, lower wow and flutter, and over double the motor life.

AMORPHOUS CORE TAPE HEAD

We've also engineered a new match-phased amorphous core tape head design, which means a revolutionary improvement in tape frequency response out to 20,000 Hz.

It's an improvement you'll have to hear to believe.



TWO WAY/FOUR WAY AMPLIFIERS

And wait until you hear the authentic high fidelity sound reproduction of the HPL-532. It delivers an impressive 12 watts per channel into 4 ohms 30-20,000 Hz with less than 0.8% THD.

In addition, it can deliver 5 watts per channel into each speaker of a four speaker system, because of an ingenious two way/four way configuration and a front/rear low level fader.

All in all it's the greatest full bandwidth power at low distortion

you can get in a car stereo without add-on amplifiers.

OTHER IMPORTANT DIFFERENCES

With its exclusive signal processor circuitry the HPL-532 will easily handle anything you want to plug into it.

Like Concord's Dolby* C. Or dbx** adaptors.

Even imagers or equalizers.

And with lighted switches and function indicators the Concord HPL-532 is as easy to play at night as it is to play in the daytime.

And because of its front load mechanism, it's even easier to load.

All things considered the Concord HPL-532 is an extraordinary car stereo.

Of course at around \$600 it's not inexpensive.

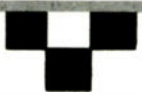
But when you add up all its features you might say this.

The difference is worth the difference.

*Dolby is the registered trademark of Dolby Labs.
**dbx is the registered trademark of dbx.

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Anything else is a compromise.

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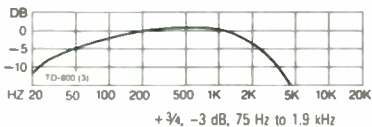


Mono sensitivity (for 50-dB noise suppression)	
	17 1/4 dBf
Stereo S/N ratio (at 65 dBf)	68 1/2 dB
Mono S/N ratio (at 65 dBf)	73 1/2 dB
CAPTURE RATIO	13 1/4 dB
SELECTIVITY (alternate-channel)	66 1/4 dB
AM SUPPRESSION	65 1/2 dB

DISTORTION (THD + N)		
	stereo	mono
at 100 Hz	0.20%	0.11%
at 1 kHz	0.17%	0.07%
at 6 kHz	0.18%	0.08%

AM TUNER SECTION

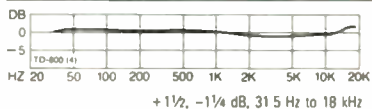
FREQUENCY RESPONSE



SENSITIVITY	3.9 μ V
SELECTIVITY	33 dB
AVC RANGE	65 dB

CASSETTE TRANSPORT SECTION

FREQUENCY RESPONSE



WOW & FLUTTER	$\pm 0.06\%$ average, $\pm 0.08\%$ peak
SPEED ACCURACY	0.4% slow, 10.8 to 14.4 volts

PREAMPLIFIER SECTION

BASS CONTROL	$\pm 16\%$, -16 dB at 100 Hz
MIDRANGE CONTROL	± 10 dB at 230 Hz
TREBLE CONTROL	$\pm 8\%$ dB at 10 kHz
LINE OUTPUT IMPEDANCE	875 ohms
MAXIMUM LINE OUTPUT LEVEL	
from FM (100% modulation)	2.25 volts
from tape (DIN 0 dB)	1.50 volts

dial. Dolby equalization and decoding is available for FM. (Dolby C drops out of the stepping sequence automatically when the tuner is in use.) Behavior of this section, as documented by Diversified Science Laboratories, is above reproach in every respect. The action of the automatic blend function is exceptionally effective in controlling noise: It keeps the measured signal-to-noise (S/N) ratio above (that is, better than) 50 dB throughout the range that has any claim to stereo reception. For this reason, there is no 50-dB rating point to report for stereo reception.

The blend reduces channel separation to 10 dB or less below about 37 1/2 dBf, so little stereo effect remains—and there is no stereo threshold as such to report. Nor is there really any muting threshold, though the attenuation of mono output is so rapid as signal strength drops below 17 dBf that we might have used that figure. Because of the steepness of this attenuation and the fairly rapid increase in separation above 37 dBf, there is some instability in the sound during fluctuations of signal strength and multipath. But it is not severe unless the station is very weak to begin with, and the accompanying "spitting" (bursts of noise and distortion) is not intrusive. So listening quality under these circumstances is above average—as is the overall quality of AM reception.

The bench data show the transport to be a paragon. During our tests we even used it as part of an excellent home system without noticing any compromise in sound. The reason we brought the unit indoors was to check the behavior of the azimuth adjustment in a system capable of resolving subtleties in high-frequency response. We were surprised to find that most of the tapes we tried, though made on a wide variety of decks, produced best results (as did the lab's BASF test tape) with the control very near its midpoint, which is Nakamichi's "correct azimuth" factory setting. Its total range is calibrated as ± 15 .

representing the available click stops in the control. The lab calculates the average azimuth change per click at about 2 1/4 minutes of arc (slightly less than Nakamichi's spec, though the absolute value is unimportant).

With most tapes and program material, audible misadjustment—established by a dulling of program highs—requires a rotation of ten click stops or so in either direction from the ideal. (Where serious azimuth differences exist between the Nakamichi and the recording deck, one of the audible degradation points may fall off-scale, requiring you to estimate where the ideal point would be, but we could find no tapes in our collection to fit this condition.) The owner's manual suggests that you test tapes from your regular recording deck and mark or memorize the ideal setting that emerges for them. Then, should a commercially recorded cassette or a home brew from a different deck need readjustment, you can easily return to the one you use most. Such pretesting is also important because ambient noise in a moving car masks some high frequencies, and for best results you should do your fine-tuning with the car stationary.

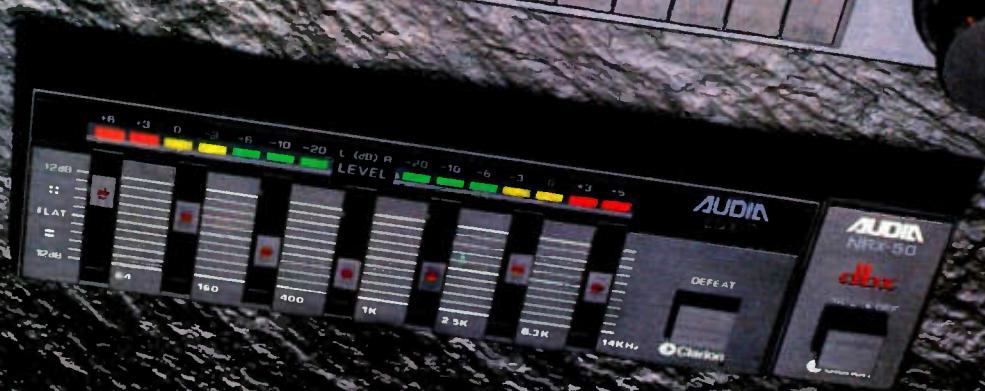
As you can see from the data, response is unusually flat and flutter unusually low for a car deck. On the road, however, immunity to shock is not outstanding. Some audible instability was apparent (though not really disturbing) with a relatively stiff suspension on our winding, bumpy "test track." On better roads, we could hear no misbehavior, though we doubt that even a limousine could isolate the TD-800 enough from some New York City streets of our acquaintance to keep the wow low.

All in all, the TD-800 is the sort of iconoclastic, pioneering effort we have come to expect from Nakamichi. It isn't cheap, and it doesn't offer the convenience of automatic cassette reverse—which, desirable or not, is virtually standard elsewhere. But to drivers who prize audio quality, these factors will mean little considering the performance the TD-800 affords. **HF**

HOW WE TEST CAR STEREO EQUIPMENT

Diversified Science Laboratories taps line-level outputs to measure tuner, tape, and "preamp" performance; for those front ends equipped with a power-amp stage (what we call car receivers) but lacking line outputs, DLS takes data from the speaker connections. For our road testing, we use an ADS amplifier/crossover/speaker setup, bypassing the power-amp stages of receivers.

AM sensitivity is given in microvolts, and the lower the number, the better. For FM, we plot both the audio signal level and the noise level as a function of RF input. Since car tuners may have various reception modes, a number of curves may appear on the same graph. Finally, some tuners cannot be assigned a 50-dB stereo quieting figure because they are already in mono at that signal strength.



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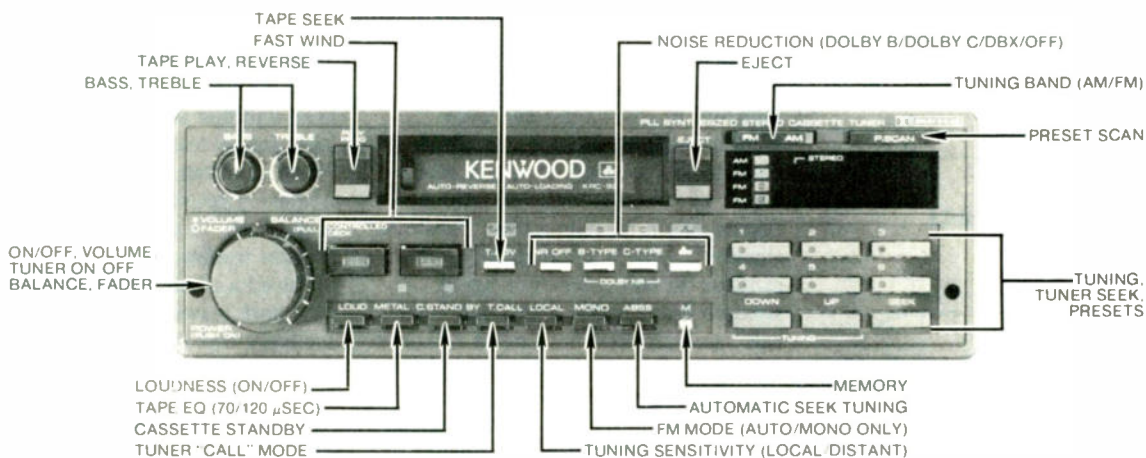
*Dolby noise reduction. Dolby is a registered trademark of Dolby Laboratories Licensing Corp.



Electrical and Electronics Division

KENWOOD KRC-929 TUNER/TAPE DECK

Kenwood KRC-929 AM/FM/cassette front end, with Dolby B and C and DBX noise reduction, automatic cassette reverse, automatic cassette ejection on ignition shutoff, and optional diversity FM tuning. Dimensions: 7 by 2 inches (chassis front), 6 inches deep; escutcheon, 7 1/4 by 2 1/4 inches. Connections: unterminated wires for ignition, battery, power antenna, ground; 5-pin DIN male plugs for front and back preamp outputs; 6-pin female in-line jack for diversity antenna system; standard coaxial female for AM/FM antenna input. Fuses: 3-amp in ignition line, 1-amp in battery line. Price: less than \$800. Warranty: "limited," one year parts and labor. Manufacturer: Trio-Kenwood Corp., Japan; U.S. distributor: Kenwood Electronics, 1315 E. Watsoncenter Rd., Carson, Calif. 90745.



IN JUST ABOUT every way we can think of, Kenwood has extended itself beyond the call of normal car-stereo duty in designing the KRC-929. It may not include every feature you've ever heard of, but it certainly addresses a more exhaustive list than even most other top-of-the-line models.

The abundance of extras in this unit first becomes evident as you install it. The chassis comes sheathed in what Kenwood calls an installation case—a sort of rectangular metal tube with fastenings. This case can be mounted behind the cutout as a receptacle for the chassis, which locks in place when you remove two front-panel screws with the supplied Allen wrench (thereby releasing a latch). If you keep the screws handy, you can quickly reinsert them and take the unit with you (or stow it in the trunk) when you must park in areas where theft is likely. All the connections have plug-ins of one sort or another, so the wiring presents no problem as long as there's enough slack to let the chassis

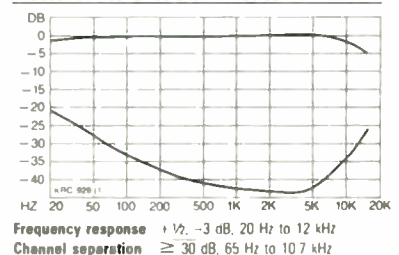
slide out of the case. To discourage theft without removing the chassis, Kenwood supplies a black plastic dummy panel that covers the whole escutcheon.

The KRC-929 uses many single-function controls instead of a few multifunction ones. The tone controls are pop-out buttons that are almost flush with the escutcheon in the retracted position. The only multiple control is a large knob that operates volume, balance, and fader functions.

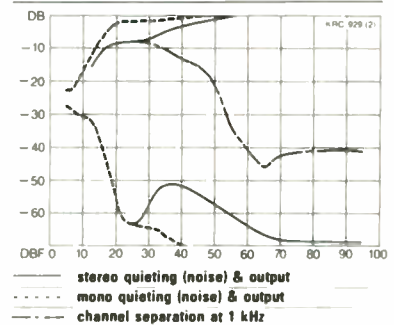
All the tape controls are grouped in the immediate vicinity of the cassette slot. These include options for no noise reduction, Dolby B (for tape only), Dolby C, and DBX. Above the frequency readout are the AM/FM switch (with a sort of burr on each end to help you switch bands easily, even in the dark) and one that starts and stops a sweep of all the preset stations. Below the readout are the six preset buttons, the up and down tuning controls (which advance in full-channel increments on both bands), and a seek

FM TUNER SECTION

FREQUENCY RESPONSE & CHANNEL SEPARATION



FM SENSITIVITY & QUIETING



Stereo sensitivity (for 50-dB noise suppression)
42½ dBf, with 11½ dB separation at 1 kHz*

Mono sensitivity (for 50-dB noise suppression)
19¾ dBf

Stereo S/N ratio (at 65 dBf) 66¼ dB

Mono S/N ratio (at 65 dBf) 72¼ dB

CAPTURE RATIO 3 dB

SELECTIVITY (alternate channel) 65½ dB

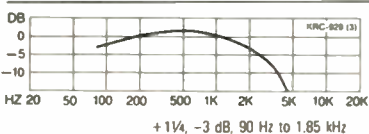
AM SUPPRESSION 60 dB

DISTORTION (THD+N)

	stereo	mono
at 100 Hz	0.43%	0.48%
at 1 kHz	0.24%	0.38%
at 6 kHz	0.38%	0.47%

AM TUNER SECTION

FREQUENCY RESPONSE



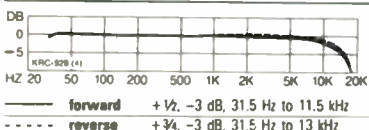
SENSITIVITY 4.3 µV

SELECTIVITY 59 dB

AVC RANGE 64 dB

CASSETTE TRANSPORT SECTION

FREQUENCY RESPONSE



WOW & FLUTTER

forward ±0.11% average, ±0.13% peak
reverse ±0.10% average, ±0.12% peak

SPEED ACCURACY

forward 0.8 to 1.2% fast, 10.8 to 14.4 volts
reverse 0.1% slow to 0.2% fast, 10.8 to 14.4 volts

PREAMPLIFIER SECTION

BASS CONTROL +9½, -10 dB at 100 Hz

TREBLE CONTROL +10, -9½ dB at 10 kHz

LINE OUTPUT IMPEDANCE 20 ohms

MAXIMUM LINE OUTPUT LEVEL

from FM (100% modulation) 0.86/0.285 V*
from tape (DIN 0 dB) 1.05/0.35 V*

*See text.

button to move up the dial to the next receivable station. Each preset will accept four stations—one AM and three FM. You step through the memory bank by successive taps on the FM end of the band selector, and your position in the memory bank is indicated on the left side of the frequency readout: AM, FM 1, FM 2, or FM 3.

What Kenwood calls ABSS (Automatic Broadcast Sensor System) is a SEEK that triggers automatically whenever signal strength falls below its sensing threshold. We found it a little unnerving. Under reception circumstances where most tuners (including this one with the ABSS turned off) might produce a short burst of noise and distortion, the feature suddenly wrenches you away from the signal you're listening to and substitutes a station that may be very different in character—and even weaker in signal strength (in which case, it will soon go on to yet another). Those of you who welcome such a feature might also appreciate "cassette standby" (which automatically switches to tape whenever signal strength fades in the tuner) and "tuner call" (which substitutes radio whenever you switch away from PLAY—even to one of the fast-wind modes).

The KRC-929's tuner, like most others, progressively blends channels and then fades output as signal strength drops, to mitigate the sonic confusion that would otherwise result as signal strength and multipath fluctuate in a speeding sound system. There is no stereo or muting threshold in any real sense, and the stereo sensitivity rating is based on the higher of the two signal strengths at which signal-to-noise ratio drops to 50 dB. (At the lower level, 21 dBf, reception is strictly mono despite the lit stereo pilot.)

Though the bench measurements produced good results, there's no way they can document an important plus in FM reception: the unintrusiveness of the noise bursts when the tuner is confronted with severe fluctuations in signal strength and multipath. If anything, we'd say the KRC-929 produces *more* noise, in frequency and duration of the bursts, than most FM tuner sections do, but they are so muted that listening is disturbed far less. The stereo blend is swift enough (particularly in the range between 50 and 55 dBf, as the graph shows) for some signal-strength conditions to create a rapidly expanding and collapsing stereo image, which poses an annoyance factor of its own—

though not a severe one.

If you want still better reception when signal strength is fluctuating, there's a special interconnect cable attached to the back of the KRC-929 for a DC-1000 diversity tuning adapter (\$80). It supplies a second antenna input (you supply the antenna) and switches the stronger of the two feeds to the tuner.

AM reception is better than average for automotive radios, though not spectacular. Our graph shows response only to 80 Hz because the measurement is rendered problematic by high distortion at lower frequencies. (Because 80 Hz is below the -3-dB point, and many car speakers also fall off rapidly below this range, the point is probably moot in any event.)

The rolloff at the top end of the cassette response suggests an azimuth disparity between the deck's playback head and that used in recording the lab's BASF test tape. Since it is almost identical to the rolloff in the FM frequency response, however, it seems more likely to derive from the overall preamp response. Be that as it may, we did need a treble boost with some tapes to restore reasonable balance. Speed accuracy and stability are good on the test bench; on the road, no sensitivity to road shock could be detected.

The preamplifier is given a particularly posh feel by the detents in the volume and tone controls. The BASS covers a broad range, essentially shelving below about 100 Hz, while the TREBLE shelves above 10 kHz. The LOUDNESS follows present theory by boosting only the bass, but it does so with more vigor than theory dictates or our taste accepts. Even with the VOLUME at maximum, there's a dB or more of boost below 50 Hz. There are two output level options, selected at a tiny switch on the chassis itself. The "normal" position is rated for a maximum output of 300 millivolts (0.3 volts), while the "high" setting is rated at 1 volt. Diversified Science Laboratories chose the latter option for its measurements, and we used it for our road tests as well.

Despite our quibbles with the loudness contour, we find the KRC-929 a very competent and utterly luxurious unit. In particular, its almost encyclopedic array of features has considerable appeal, as does its overall functional styling. Performance is well above the norm, and the removable design makes it especially appropriate for those of you who've resisted investing in a high-quality front end for fear of theft.

HF

NEW TECHNOLOGIES

Digital Audio

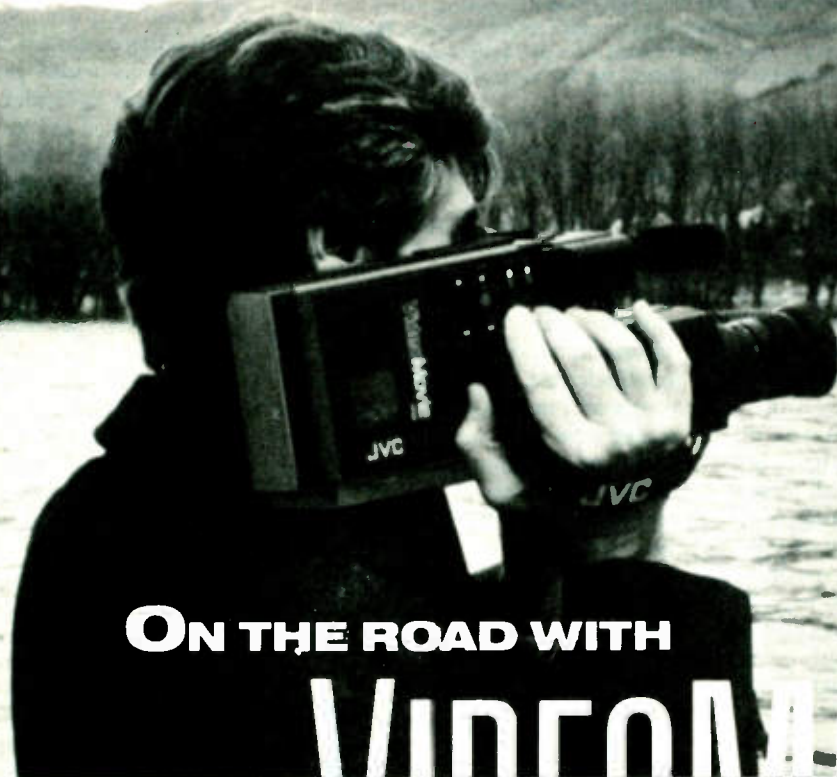
Video

Computers

Software Reviews

BY

WILLIAM MOWRER



ON THE ROAD WITH

VIDEO MOVIE VIDEO MOVIE

Putting JVC's new VHS-compatible camcorder through its paces

JVC'S ANNOUNCEMENT of its VideoMovie system just shortly before I was to take a long-awaited vacation in Europe presented an opportunity too good to pass up. A few phone calls later and I had made arrangements for a two-week loan of the first one-piece, VHS-compatible camcorder (camera-recorder)—a concept that promises to do for portable video photography what George Eastman's box camera did for still photography.

VideoMovie uses a special cassette about the size of a pack of playing



cards (the same "TC" cassette that is available for the earlier generation of stand-alone VHS-C decks). The system derives its compatibility with tabletop

or full-size portable VHS recorders by means of an adapter caddy, whose outside dimensions are identical to those of standard VHS cassettes. The caddy contains a well to hold the miniature cassette and arms that extend the tape across the shell's full width. (Sony's BetaMovie camcorder system is also compatible with home VCRs, but because it uses a standard Beta cassette, no adapters are necessary.)

William Mowrer is a Massachusetts-based free-lance writer and a frequent contributor to these pages.

TIPS FOR THE TRAVELER

- If your trip will take you overseas, make sure that your battery charger is switchable for other voltages. Also, the AC sockets in other countries differ widely in the shape of the plugs they accept. Plug-adaptor kits are available, but in a pinch you could always run down to a local hardware store and graft a new plug onto your battery charger's AC cord.
- Try to buy enough blank videocassettes before you leave. Like film, videocassettes are usually more expensive overseas. And with a relatively new format like VideoMovie, the availability of TC-20 cassettes may be somewhat limited.
- Make sure you register your portable video outfit with U.S. customs before you leave the country. The customs office in the airport has the appropriate form. They'll give you a copy, and when you return to the States there will be no question as to where you bought the equipment. With trips to the Far East, this is especially important.
- Find out how many pieces of carry-on luggage the airline allows. Since your video outfit will have to be hand-carried (packing it in your checked luggage is asking for disaster), you might have to readjust your normal carry-on quota.

The unit I received for field test was so new that there wasn't even an owner's manual to guide me through its operation. With the aid of a JVC representative, I prepared my own, finding little or no confusion with the control layout or labeling. The most frequently used buttons are all located for maximum ease of operation, if you're right-handed. Southpaws take note: The handgrip, which contains all the major operating controls, is on the right side of the unit, the viewfinder on the upper left. To adapt to this layout, a leftie will either have to stand on his head or practice his ambidextrous skills.

At 4.3 pounds, the \$1,400 GR-C1U is so light that I never found myself deliberately putting it down just to rest my hand. In use, you slip your hand through a padded strap (for security), and your fingers land on the principal controls. The thumb falls naturally on a red button (on the rear of the handgrip) that starts and stops recording. The third and fourth fingers come to rest right above the lens's two power-zoom controls, one labeled "W" for wide angle and the other "T" for telephoto. The only problem I found with this arrangement is that it's very easy to press the stop button accidentally. When that happens, a bar visible in the electronic viewfinder lengthens to tell you that you've stopped recording, but I often lost some footage before I noticed it.

An electronic viewfinder is a welcome addition in a camcorder. If you wear glasses, you may have to remove them to focus accurately, but I

was delighted to find that focus remains correct even during liberal use of the zoom feature. The viewfinder can also be used to review your work, though its black-and-white picture gives you only an inkling of the quality of the color images you've recorded. High-speed visual search is possible in either direction, and for close scrutiny of a scene you can even order the transport to go into a still-frame mode. Controls governing these functions are all on the right side of the camcorder itself, just forward of the cassette well.

There are only three more controls to contend with, all on the left side of the camcorder. One introduces a filter to compensate for artificial lighting. As with a film camera, failure to use the correct filter position produces yellowish images in artificial light or an overabundance of blue, white, and purple in outdoor scenes. Another switch adjusts for normal or low-light taping. And the last activates the automatic color-balance circuits.

A battery charger and one NiCad battery pack are supplied with the VideoMovie unit. JVC claims that the battery, which easily slips into and out of the camcorder, is good for 30 minutes of recording. (A 40-minute battery pack is available as an option.) In the field, however, I have found the actual recording time to be closer to 20 minutes. Since that matches the maximum recording time on a TC-20 VHS-C cassette, you should make a practice of changing batteries every time you load a new tape, thus avoiding the headache of losing power

during a crucial scene. Accordingly, the first option you should consider when buying a VideoMovie is spare battery packs. (I got by with just two, but a third would've been handy.) In any event, an indicator in the viewfinder lights when you have about five minutes of recording time left on a battery.

HOW DID MY VACATION videos turn out? In a word, fantastic. Resolution and color fidelity are easily the equal of what I get on my big, homebound VHS deck running at the SP speed. And the VideoMovie's low-light sensitivity is extraordinary. JVC rates it at 15 lux (about 1½ footcandles) in the high-sensitivity position. In darkened rooms, there tends to be some "tailing" as the camera pans over lamps, but if you learn to keep the camera relatively steady you'll get good results.

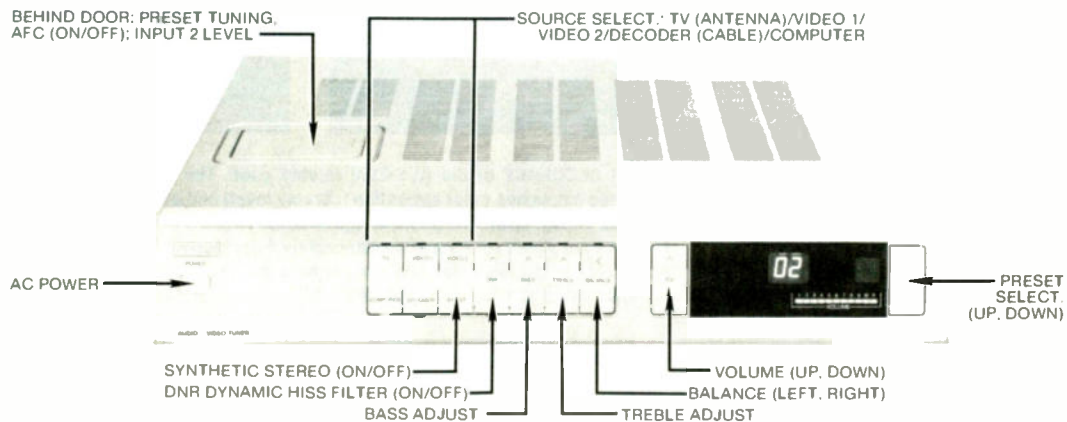
Sound quality via the built-in telescoping boom mike is acceptably free of motor noise from the camcorder's transport, and the ability to capture a pubkeeper's explanation of the differences among local ales as he draws a pint or two is reason enough to look back on your old silent 8mm movies with disdain. Most of my taping, however, was of broad mountain vistas and crowded city streets—venues where capturing local sounds was of less importance to me than being able to record audible notes as to the time, date, and significance of the scenes. These notes will be my guide in editing down the original material to make a cohesive, standard-size VHS copy. After I get the video mix right, I'll overdub a musical soundtrack on the sections where my narration is not needed.

However, I can't start the editing process until I buy my own VideoMovie unit. (Sadly, I've already returned the loaner.) If I owned a second standard VHS deck, I could use the caddy and dub from one deck to the other. But I'd rather wait for the GR-C1U to appear in the stores, which JVC says should happen this month. The camcorder is equipped with audio and video outputs, and its visual-search controls should make pinpointing edits quick and easy. And because I bought my own TC-20 cassettes, once the editing is done I'll simply reuse them to make my next on-location epic. Just try that with film!

HF

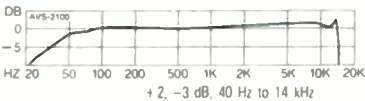
JENSEN AVS-2100 TV TUNER/SWITCHER

Jensen AVS-2100 television tuner and switchbox, with wireless remote control. Dimensions: 17 by 3 inches (front panel), 13½ inches deep plus clearance for connections. AC convenience outlets: one switched (200 watts max.). Price: \$590. Warranty: "limited," one year parts and labor. Manufacturer: made in Japan for Jensen Sound Laboratories, 4136 N. United Parkway, Schiller Park, Ill. 60176.



Unless noted otherwise, all audio measurements were taken at the "preamp" outputs

AUDIO FREQUENCY RESPONSE



AUDIO S/N RATIO (A-weighted)

best case (no video signal)	54 dB
worst case (crosshatch pattern)	40 dB

RESIDUAL HORIZONTAL-SCAN COMPONENT (15.7 kHz)

-60 dB*

MAXIMUM AUDIO OUTPUT

preamp output	2.75 volts
variable output	0.31 volt
fixed output	0.36 volt

AUDIO OUTPUT IMPEDANCE

preamp output	2,100 ohms
variable output	1,920 ohms
fixed output	2,100 ohms

Laboratory data for HIGH FIDELITY's video equipment reports are supplied by Diversified Science Laboratories. Preparation is supervised by Michael Riggs, Peter Dobbin, and Edward J. Foster. 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.

WHEN WE REVIEWED Jensen's AVS-1500 Audio+Video receiver (June 1983), we commented on the intelligent planning that went into its creation. And we'll start right off here by saying that we're equally impressed with the design of its little brother, the AVS-2100 TV tuner. In fact, the main difference between the two is the latter's lack of an AM/FM tuner section and a power amp. Otherwise, it's fully loaded. Audio features include bass and treble controls, a volume control, a balance control, a switchable synthetic-stereo circuit, and DNR (Dynamic Noise Reduction) to quiet hissy broadcasts or videotapes.

The video features are at least as extensive. There are three sets of RF inputs: antenna, cable, and "computer." The demodulated signal from any of these can be routed to your monitor, or you can choose either of two direct video inputs. (The feed to the audio outputs is switched along with the video.) If you don't yet own a monitor, you can still start your video system off with the AVS-2100, which

also has an RF output that transposes whatever program you've selected to Channel 3 or 4 (selected at a back-panel slide switch) for viewing on a conventional television set.

One especially nice touch is the decoder loop, which provides RF input and output connections for patching in a pay-channel descrambler. The device can then be switched in or out at the touch of a button on the tuner's front panel or wireless remote control. Except for the UHF antenna terminals (which take 300-ohm twinlead), all RF connections are via back-panel 75-ohm F connectors; direct audio and video connections are via standard, color-coded RCA pin jacks. And there is a special jack for a control lead to either of Jensen's monitors that turns the monitor on and off with the tuner.

The AVS-2100 is designed to work in conjunction with a standard stereo power amp, preamp, integrated amp, or receiver. To handle all contingencies, there are three pairs of audio outputs. If you tie the AVS-2100 directly to a power amp, you'll want to use the "preamp" outputs, which are

VIDEO FREQUENCY RESPONSE

at 500 kHz	+1 dB
at 1.5 MHz	+1½ dB
at 2.0 MHz	+2 dB
at 3.0 MHz	+1¼ dB
at 3.58 MHz	+2½ dB
at 4.2 MHz	-9½ dB

LUMINANCE LEVEL 10% high

GRAY-SCALE NONLINEARITY (worst case) -16%

CHROMA LEVEL -3 dB high

CHROMA DIFFERENTIAL GAIN -44%

CHROMA DIFFERENTIAL PHASE -± 5°

CHROMA PHASE ERROR

red	+3°
magenta	+3°
blue	+2°
cyan	+6°
green	+5°
yellow	+4°
median error	+4°

*There is another component, with a level of -49 dB, at half the scan frequency (7.85 kHz)

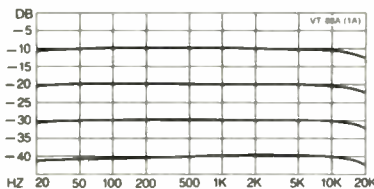
affected by all of the audio controls. If you use the aux inputs of a preamp, integrated amp, or receiver, you may prefer the "fixed" or "variable"

muting. The AVS-2100 can tune all VHF and UHF broadcast channels, plus normal and HRC cable channels. As received, it skips all UHF channels



COLOR ACCURACY of the AVS-2100 is very good. The vectorscope photo at left indicates excessive color saturation (chroma level) and a very small amount of hue (chroma phase) error. The photo at right—made with a 3-dB cut in chroma level and a clockwise phase rotation of approximately 4 degrees—simulates the best results obtainable using the color and tint controls on a monitor. This puts all six color vectors (white dots) on their targets, which is near-perfect performance.

**UPDATE:
HITACHI VT-88A VHS HI-FI VCR**



Last month we reported frequency response anomalies in low-level VHS Hi-Fi recording on Hitachi's VT-88A videocassette recorder. The cause was mistracking of the VHS Hi-Fi noise reduction system, brought on by bias leakage from the fixed, standard audio head downstream. Hitachi has since instituted a modification program to eliminate the problem, and we have now had an opportunity to check out one of the corrected machines. As the curves shown here demonstrate, only the barest hint of error remains. Response at our standard test level (-20 dB relative to the level at which 3 percent total harmonic distortion occurs at 315 Hz) is within +0, -3 dB from 20 Hz to 20 kHz, and even at -40 dB it is still within +½, -2½ dB. This excellent performance vindicates VHS Hi-Fi's standing as a true high fidelity stereo recording system.

outputs. The former bypass all of the tuner's audio controls (like the tape outputs on a preamp); the latter are affected by the VOLUME, MUTE, synthetic stereo, and DNR, but not by the BASS, TREBLE, or BALANCE.

Jensen figures that if you're connecting the AVS-2100 directly to a power amp you'll want the tuner to control all aspects of the audio (a sensible conclusion). But if you're hooking it to a preamp, integrated amp, or receiver, you can choose the fixed outputs to forestall the confusion that might sometimes arise from having two almost identical sets of controls. This, too, is logical, although it entails giving up the synthetic-stereo and DNR circuits, which are seldom included in conventional audio components. The variable output retains all of the functions operable from the remote, plus DNR, while eliminating the redundant tone and balance controls.

The infrared remote control enables you to turn the tuner on and off, adjust the volume, scan through the channels sequentially in either direction, tune any channel directly (via a numeric keypad), choose the source to be viewed (and listened to), and switch the decoder loop, the synthetic-stereo circuit, and the audio

except 32 and 60 when scan-tuned, but you can reprogram the memory with a set of controls under a flip-up lid on the top cover. Also located here are an AFT (automatic fine-tuning) switch and a selector for broadcast, normal cable, or HRC cable reception.

The final control under the top lid is a level adjustment designed to tame high-output sources connected to the second video input (VIDEO 2). Enough attenuation is available to accommodate sources with output levels ranging from the standard 1 volt peak-to-peak to as much as 3 volts peak-to-peak. You can record a signal from VIDEO 2 to a VCR at VIDEO 1 by choosing the former on the input selector, or you can record from broadcast or cable. Only VIDEO 1 has output jacks as well as inputs, so it's the logical place to connect your primary VCR; VIDEO 2 can then be used for a secondary VCR (although you won't be able to record to it from the tuner or other sources connected to the AVS-2100) or a videodisc player.

Diversified Science Laboratories tested the AVS-2100 both as a TV tuner and as a video switcher, then gave the audio tone controls a workout. (The synthetic-stereo and DNR circuits turned out to be essentially identical to those in the AVS-1500 we reviewed

last year, so DSL did not run complete tests on them.) The tuner's video response is slightly up all the way out to the color-burst frequency (3.58 MHz), lending a little extra crispness to the TV picture, and is down only slightly at the 4.2-MHz edge of the NTSC broadcast band. Luminance level is about a dB higher than standard, but this is easily correctable at a monitor's brightness control and should be no cause for concern.

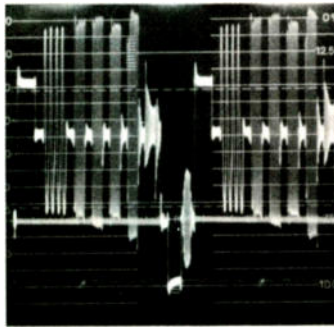
Chroma level is even more elevated, but it can be tamed at the monitor's color control.

Hue accuracy is excellent to begin with and can be adjusted to within ± 2 degrees at the monitor's tint control. Chroma differential phase is quite low, indicating that hues shift very little with changes in brightness. On the other hand, chroma differential gain is rather high. Fortunately, it is confined to the highest luminance level, so the loss of saturation in bright scenes that it implies should rarely be noticeable. Gray-scale linearity is about average.

As a video switcher (measured from the VIDEO 2 input to the VIDEO 1 output), the AVS-2100's performance is virtually perfect, the only measurable discrepancy being a $\frac{3}{4}$ -dB droop at 4.2 MHz when the VIDEO 2 input level control is turned all the way down. At that setting, the overall attenuation is 14 dB; at the maximum setting, the video level is down only 1 dB.

Audio output level is highest at the "preamp" terminals, as it should be to drive a power amp directly. The other outputs also deliver levels appropriate to the types of amplifiers with which they would be used, and the output impedances are low enough not to be of any concern. Noise is very low for a TV tuner (yielding a high signal-to-noise ratio), and the horizontal-scan component is well suppressed.

However, DSL reports a more prominent component at half the horizontal-scan frequency—something we've not found in other tuners. Frequency response is reasonably flat and quite wide. The shape of the curve suggests the presence of a sharp notch filter to remove the horizontal-scan whistle, which probably accounts for the excellent suppression figure. The BASS provides a $\pm 12\frac{1}{2}$ -dB range at 50 Hz, below which the response shelves; the TREBLE enables you to adjust response at 10 kHz by ± 10 dB.



MULTIBURST RESPONSE is up over the first five bands, reaching a peak of $+2\frac{1}{2}$ dB at 3.58 MHz (the color-burst frequency) before dropping off slightly at 4.2 MHz (the upper edge of the NTSC broadcast system). The rolloff at the very top is less than average for a TV tuner. The boost at lower frequencies (500 kHz to 3.58 MHz) will add some extra sharpness to the picture or compensate for slightly subpar resolution in the monitor. The AVS-2100 should deliver 300 lines or more of horizontal resolution on a monitor capable of displaying that number.



COLOR CONSISTENCY is very good. Differential phase, which indicates how much hue varies with changes in brightness, is quite low. Though more pronounced, the differential gain (how much color saturation varies with changes in brightness) is confined almost entirely to the highest luminance level. Differential gain is shown by the radial spread of the color vectors (white dots), differential phase by their angular spread. Ideally, you would see just one small blob at the intersection of the nine-o'clock axis and the circumference of the grid.

Given the AVS-2100's sterling performance on the bench, we weren't surprised to find that it produces crisp, clean pictures and fine sound. The synthetic-stereo circuit is the best type, using reciprocal comb filters to spread out the sound, but whether or not you'll like the effect is pretty much a matter of personal taste (which is why it's switchable). The tone controls have more than adequate range, and used judiciously, DNR (also defeatable) can provide a meaningful degree of hiss reduction without throwing away too much high-frequency information in the process.

As with Jensen's AVS-1500, we're impressed with the AVS-2100's switching and control flexibility—a reflection of the careful thought that went into its design. Of almost equal importance is the owner's manual, which is without question one of the most (perhaps *the* most) lucid and complete we've ever encountered. If you're looking to add high-performance video to your audio system, the AVS-2100 deserves a close look. And when stereo TV broadcasting starts up later this year, you'll find the Jensen's multiplex output and inputs just what you need to tie in a decoder. **MF**

REVIEWS

*Pop and classical
music releases
on videodisc,
videocassette,
and digital
Compact Disc*

POPULAR COMPACT DISC

BOB DYLAN: *Highway 61 Revisited.*

Tom Johnston, producer. COLUMBIA CK 9189 (analog recording, digital Compact Disc). LP, JC 9189.

A Compact Disc version of this seminal folk-rock classic might seem like an exercise in high-tech futility. After all, "Highway 61 Revisited" is not a record about subtlety; its prime virtues are Dylan's seething, not-quite-out-of-control vocal delivery and a rough-and-tumble instrumental attack.

The digital transfer does tidy up the album, but that doesn't dilute its power. Background noise is less than on the original LP, which was necessarily cut at low levels to squeeze nearly an hour of material onto a single disc. But the quieter mix hasn't burnished away any of Dylan's fevered energy, nor has it tamed the underlying violence of the music; we're still witness to Dylan's transformation from a folk singer to a rock and roller.

The CD facelift does make clear the rather vagrant pitch of Dylan's electric rhythm guitar; his braying harmonica fills also wander some distance from the home key. These are just minor addenda, however, to a work already fixed powerfully in most listeners' minds.

Rock solid imaging, the improved stereo separation, and Dylan's enhanced vocal presence are all achieved without incurring additional problems in overall ambience. Those embellishments, combined with the generous length of the program, argue that Columbia's choice of this 18-year-old gem for CD release was in fact a shrewd one. —SAM SUTHERLAND

MARVIN GAYE.

Various producers. TAMIA TCD 06069 MD (analog recording, digital Compact Disc).

One of seven "Compact Command Performances" that dominate Motown's initial Compact Disc releases, this 15-song anthology typifies the label's

pragmatic virtues. Without pretensions to audiophile sonics, this generous, hour-long program, digitally compiled from the original master tapes, argues both a technical and creative "best of" cachet.

"Marvin Gaye," a satisfying if not quite definitive cross section of his best-known hits, starts with *How Sweet It Is (To Be Loved by You)* and progresses in roughly chronological fashion through *Having a Party*. The collection ignores his first, ebullient hits such as *Hitch Hike* and *Pride and Joy*, possibly in deference to the sleeker technical finish of the later masters. But there is a wide variance in sonic quality between any tracks of different vintage, including those chosen, so who knows why a few early songs were omitted.

What is here, however, sounds just great. There's still plenty of grit in the recordings themselves, despite the gains in noise reduction and improved stereo imaging, but it's unlikely that hotter versions of any of these tracks exist. "Marvin Gaye," like others in the Motown series, includes important collaborations—in Gaye's case, his partnerships with Tammi Terrell and Diana Ross (again, his early alliances, with Kim Weston and Mary Wells, apparently weren't deemed worthy.)

More comprehensive, truly definitive anthologies of Gaye exist, thanks to Motown's frequent repackaging schemes. But the common sense behind the greatest hits approach is one that other labels should emulate to fully utilize the Compact Disc medium. —S.S.

STAN GETZ: *Sweet Rain.*

Creed Taylor, producer. Verve 815 054-2 (analog recording, digital Compact Disc).

This 1967 studio date paired Stan Getz with Chick Corea and the redoubtable rhythm section of bassist Ron Carter and drummer Grady Tate. It's a fluid, well-rounded exercise in acoustic quartet interplay, and this digital transfer preserves that chemistry beautifully.

Most persuasive is the definition given Tate's kit, captured with laudable presence and depth. Carter's droll bass figures, while benefiting from the format's deeper, more realistic bass reproduction, are still somewhat handicapped by the mixing, which downplays the textural detail in his playing.

Minor flaws in the original masters give Getz's burry tenor saxophone an



DYLAN: The rocker who came out on "Highway 61 Revisited" was not subtle.

electronic tinge, while some of Corea's upper register piano notes also sound smeared. The material, however, shows Getz at his least forced and most relaxed: Bop, dewy ballads, and samba-inflected reveries all fall naturally into place. Corea plays a sensitive, sympathetic foil. Overall, "Sweet Rain" is expertly produced, offering a naturalistic small-group ambience. —S.S.

POPULAR VIDEO

THAT WAS ROCK (THE TAMI/TNT SHOW).

Henry Sasserstein, executive producer; S. Richard Krown, post-production supervisor. MEDIA HOME ENTERTAINMENT M 434, \$29.95 (VHS).

The recent success of such videocassette ventures as *The Complete Beatles* and *Girl Groups* created a groundswell of interest in commercially minable nostalgia for the sounds and the sights of the '60s. But buyer beware: This kind of material is safe only in competent hands. The perpetrators of *That Was Rock (The TAMI/TNT Show)* pieced together this regrettable package of "selected highlights" from two concert films—the legendary, almost mythical *Teenage Music International Show* and its spin-off, *The Big TNT Show*. These

villains have not only botched history and facts; they've messed with culture and aesthetics, too.

Because tape host Chuck Berry never makes the distinction that the footage comes from two shows, the unsuspecting viewer is led to believe that "TAMI" and "TNT" are just meaningless names in the mishmash of live rock and roll performances *That Was Rock* presents. One is compelled to note that these really were two quite separate events, from which came two different movies.

Shot in late 1964 at the Santa Monica Civic Auditorium, *The TAMI Show* was the first and arguably the finest rock concert film ever made—truly a showcase of stars, which displayed not only the musical but the cultural revolution of '60s rock and roll. The roster included (in alphabetical order) the Beach Boys, Berry, James Brown, Marvin Gaye, Gerry and the Pacemakers, Lesley Gore, Billy J. Kramer and the Dakotas, Smokey Robinson and the Miracles, the Supremes, and the Rolling Stones. In deference, perhaps, to the Southern California locale, natives Jan and Dean served as the (luckily) unobtrusive hosts. Some of the artists, who all performed short, crisp sets, were accompanied by a session player's dream

orchestra (including members of producer Phil Spector's orchestra, such as drummer Hal Blaine and pianist Leon Russell, and his arranger, Jack Nitzsche, who played conductor in this setting), as well as your basic mid-Sixties array of hyped-up go-go dancers.

The TNT Show was the early 1965 creation of Spector himself, featuring Joan Baez, the Byrds, Ray Charles, Petula Clark, Bo Diddley, Donovan, Ike and Tina Turner, the Lovin' Spoonful, and the Ronettes. Like its predecessor, *The TNT Show* was shot in "Electronovision," a process whereby videotape was made into film; except for different versions of a hit or two, that's about all the two programs had in common.

The TAMI Show innocently captured the magic of that moment when popular culture was gloriously flooded with such divergent genres as surf music, Motown and Southern soul, and British Invasion rock. And though the concert itself proceeded with little interaction among the performers, magical things happened simply because the artists, each of them a star in his own right, had never appeared together before. The white British groups who breathed new life into rock and roll in the mid-Sixties idolized Fifties giant Chuck Berry and greatly revered the black soul groups of the early



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'60s. For a band like the Rolling Stones, to even be on the same stage as a Berry or a Marvin Gaye was mind-blowing and inspiring. Moreover, as the show's headliners, the Stones found themselves having to follow a tour de force by the then relatively unknown-by-white-audiences James Brown, who was at the height of his powers. The splits, the cape routine, the singing without the mike—you name it, Brown did it, and in under 15 minutes. To make their set work, Jagger, Richards, and crew had to try and top Brown, which they somehow managed to do. In comparison, *The TNT Show* simply lacked the chemistry and talent lineup of *TAMI*—although the sight of Spector playing a grand piano behind Baez during her rendition of *You've Lost That Lovin' Feelin'* was bizarre enough to leave an almost lifelong impression on anyone who witnessed it.

Nearly all the excitement of *The TAMI Show*, however, is nowhere to be found on *That Was Rock*. Why the video's producers didn't just make a cassette of the complete



BROWN: please, please, please

TAMI Show, or at least simply leave whole segments alone, remains the unanswered question. *That Was Rock* is akin to, say, a print of *Gone with the Wind* that's released with an hour's worth of footage taken out—just little things, mind you, like the staircase scene or the burning of Atlanta—and yet passed off as the original release. The video is presided over rather awkwardly by Berry. After each original

black-and-white clip, cut to present-day Berry sitting in a neon-lit set, saying profound things like, "And now for a guy whose voice is as smooth as the velvet clouds of autumn—Marvin Gaye!" and "The Miracles introduced the Jerk on this show!" (It happened to be the Monkey, but if you don't tell Chuck, I won't.)

In short, *That Was Rock* is an incongruous, truncated mess. Missing completely are "marginal" acts such as the long-haired Barbarians and Billy J. Kramer; severely edited are clips of the Pacemakers, Jan and Dean, and Lesley Gore. Worst of all: the omission of James Brown's eternal version of *Please Please Please*, cut apparently to make room for Tina Turner's *TNT* reading of the same song, even though it's veritably Brown's signature statement.

This hatchet job is probably the result of good, greedy, up-to-the-minute '80s thinking. You know, leave in only those stars who still turn a profit, and watch out for that attention-span factor. Just what the world needs: video revisionism.

—BILLY ALTMAN

CLASSICAL COMPACT DISC

PROKOFIEV:

Romeo and Juliet (excerpts).

Philadelphia Orchestra, Riccardo Muti, cond. [John Mordler, prod.] EMI CDC 7-47004-2 (fully digital Compact Disc). LP: ANGEI DS 37776.

PROKOFIEV:

Romeo and Juliet (excerpts).

Cleveland Orchestra, Yoel Levi, cond. [Robert Woods, prod.] Telarc CD 80089 (fully digital Compact Disc). LP: DIDZ 10109.

PROKOFIEV:

Romeo and Juliet (excerpts); Classical Symphony, Op. 25.

Chicago Symphony Orchestra, Sir Georg Solti, cond. [James Malinson, prod.] LONDON CD 410 200-2 (fully digital Compact Disc). LP: LDR 71087. Direct Metal Master. LP: TELFUNKEN 5.42866.

Your choice in this repertory will depend partly on the kind of selection you want. Riccardo Muti offers 12 of the 14 numbers in the first two suites Prokofiev culled from the ballet, and keeps them in the order in which they occur. Yoel Levi chooses a slightly different grouping of 11, arranged intelligently to give a useful feel for the story. (He begins, for instance, with "Montagues and Capulets"—Suite II, No. 1—thus alluding to the destructive energies of the feud before introducing the lovers themselves.) And Sir Georg Solti puts together a chronological selection from the ballet itself, a method that has several advantages. The most obvious is that it enables him to include such welcome moments as Mercutio's and Juliet's deaths, which are not in the suites. Solti also keeps to the original opera house orchestration, allowing us to hear the organ in the balcony scene, missing from the suite scoring.

The performances offer a range that should satisfy many—unless of course

you're one of those troublesome sorts who merely wants the best. . . .

Snap, crackle, pop! If you like your *Romeo and Juliet* to sound like breakfast cereal, then Muti is the man for you: His performance is straight out of a Rice Krispies box. Immediately impressive, the account eventually seems unbearably overdriven—*Triumph of the Will* rather than *Romeo and Juliet*. Muti does offer an almost finicky attention to the particulars of Prokofiev's orchestral detail—"gettando l'arco," "sul ponticello," muted glissandos, mutes stuck on and pulled off for single notes. What a workout! But the overall effect is taut, brittle, corseted: You keep wanting to come up for air.

What's particularly annoying is Muti's refusal to lay off, even once in a while. In the balcony scene, at rehearsal No. 53, there's a moment marked "Inquieto," with staccato strings playing mezzo piano; it's usually a signal for Romeo's entrance. Muti plays it as a tense forte, and Romeo emerges as a thug. "The Young Juliet" (II. 2.) suggests the lady's problem is hyperkinesis; there's nothing remotely playful or childlike about it.

Sonically, Muti has more bad luck. As in his *Orfeo*, and his Mozart disc with Anne-Sophie Mutter, the engineers merely exacerbate all his worst tendencies. What emerges is almost a parody of digital recording: It's emphatic, all right, but harsh and unyielding, recorded so close up that there's absolutely zero sense of ambience. (We could be back in Toscanini's Studio 8-H.) Everything is spotlit, glaring, with onion-skin depth. The extreme dynamic range is unconvincing, evoking dial-twiddling more than genuine orchestral expansion. To sum up: If your approach to Prokofiev is closer to Bo Derek's (it's what she put on before *Bolero*), or your heart leans for other reasons toward the score's more lyrical elements, you'd best look elsewhere.

Levi and Telarc offer a reasonable alternative to Muti. Telarc's spacious Severance Hall sound nicely captures Levi's generally relaxed performance. Like many young conductors, Levi pays particular attention to the letter of the law: The "Dance of the Knights" section of "Montagues and Capulets" is phrased as written rather than as usually played. The penalty for Levi's refusal to indulge in teeth-clenching is a certain loosening of tension in the score's more melodramatic moments, and a slackening of the dance pulse in others. (The balcony scene—I. 6. in the scenario, and not, *pace* the notes, II. 5., which is 36 hours later—is especially tricky. Prokofiev's rhythms rise and fall in a way clearly meant to convey the kind of passion of, say, the Act I Prelude to *Tristan und Isolde*, but here they only suggest Prokofiev faking orgasm.) Still, many will prefer Levi's leniency to Muti's white-

knuckled discipline.

Solti strikes something of a middle ground, although leaning, as expected, toward the tight and tense. This pays real dividends in the scenes of Mercutio's and Tybalt's deaths, where the sardonic gallows-humor of Mercutio's end (*vide* especially Nureyev's version) contrasts tellingly with the explosive energy of Romeo's revenge on Tybalt. Though a few other segments could yearn and breathe a bit more, I can't really think of a recorded alternative: *Is* there a truly lyrical soul wielding a baton these days?

London's sound squalls under the occasional pressure of massed strings, but otherwise offers reasonable depth, generous and convincing range, and (rare, in my experience) more detail than even Teldec's special Direct Metal Master pressing.

What finally tips the balance toward Solti, at least for me, is the pleasure of hearing moments like Juliet's death, missing from the oft-recorded suites. From that perspective, I can only bemoan the inclusion of yet another *Classical Symphony* rather than 15 more minutes of the ballet. Solti had a good idea and should have run with it. Did London make him drop the ball?

—THOMAS W. RUSSELL III

CLASSICAL VIDEO

VERDI:
Otello.

PRINCIPAL CAST

Desdemona	Kiri Te Kanawa (s)
Otello	Vladimir Atlantov (t)
Iago	Piero Cappuccilli (b)

Chorus and Orchestra of the Arena di Verona, Zoltan Pesko, cond. Staged by Gianfranco de Bosio (Preben Montell, director) PIONEER Artists PA 83-054 (CX-encoded laser disc), \$49.95

This *Otello* comes from the Arena di Verona, source of Pioneer's earlier *Aida*. That opulent work makes far more sense at a vast open-air theater than does the enclosed intensity of Verdi's (and perhaps Shakespeare's) most tightly focused, most intimate work—an opera of glances, raised eyebrows, whispered asides, and slips of conversation overheard to deadly effect. An opera whose major prop is a handkerchief, a "trifle light as air." Designer Vittorio Rosi has compounded the difficulty by erecting a set that seems designed to dwarf the participants even more. This gimmicky set may revolve, change, roll over, do all but sit up and beg, but it remains a dog, radically inimical to what *this* opera needs on *that* stage.

Still, one could imagine a director of cunning and improvisation braving the challenge of an unlikely location and misguided set and working like hell to restore to Verdi's and Shakespeare's masterpiece some of the intimacy it needs. Alas, Gianfranco de Bosio is no such fellow. He can't even pick up on the

obvious staging hints in the text. "*Si pel ciel*"—that demonic oath in which Otello unknowingly commits himself not to the marble heavens he invokes but to his diabolic accomplice—should obviously be delivered kneeling. "Obviously" is indeed the right word, not because some critic says so but because in both libretto and play Iago specifically tells Otello not to get up ("*Non alzati ancor*") until he too has sworn.

Yet once again one could conceive of an inventive director who might occasionally contradict original staging instruction, but who could justify that sacrifice by importing ideas of his own—maybe valid, maybe not, but ideas all the same. Instead, De Bosio is clearly a man of the stodgiest old school, whose idea of direction is to have people walk back and forth over the stage, open their mouths wide, and—hey, gang, be sure to wave your arms a lot when you sing. It's enough to make you long for the worst excesses of contemporary opera production, for just one

have leached out, video director Preben Montell keeps cutting in closer. A mistake—close-ups in opera (a wide-open mouth, a grimacing face over heaving embonpoint) don't tell us very much unless the faces are supremely expressive, as they are not here. Besides, operatic acting in such a large arena arguably *ought* to be pitched at the bleachers. A fifth-row camera with telescopic lens is unfair at best.

Most damagingly, these constant close shots turn an opera of relationship into a desert of isolation. Our sense of Iago is what suffers most. When that archetypal manipulator is isolated in close-up, we lose all perception of his unearthly skill at pulling strings, his function as demonic playwright. Iago has the Shakespearean villain's typical ability to summon up people as if by magic and send them away on command, in short to rearrange the stage picture to his will. When Otello sends Iago away, then can't help calling him back ("*Rimani*"), we need to see how near Otello came to escaping. And when Iago shakes Cassio's handkerchief seductively at Otello, we ought to know how close he's waving it. Here, the two men could be on separate soundstages, the shots filmed on separate days.

Musically, the production hardly cries out for preservation. Kiri Te Kanawa's floating tones would be welcome on record, but her bearing is far too matronly for the young Desdemona. (Better to preserve the poise of her Countess, the dignity-in-rejection of her Marschallin.) Piero Cappuccilli—elsewhere not a negligible singer, but one in need of a firm hand—barks out most of his lines and offers only the crudest of characterizations. (If Iago is so obviously sleazy, why does nobody see through him?) It is Vladimir Atlantov who emerges, perhaps surprisingly, with reputation most intact. If he never quite conveys the anguish of a Jon Vickers or the "*furia*" Desdemona hears, vocally he rarely misses, and his warrior is never less than dignified. Compared to Cappuccilli's brachial semaphores, Atlantov's calm solidity reads as confident power. If he doesn't feel it, at least he doesn't fake it, and there's a kind of honor in that.

The sound is vague enough to make it unclear whether we're picking it up directly from microphones and electronics or after it has come through the speakers that were surely used in a setting this large. As in so many video productions, nervous hands in the control room pan-pot the many channels to fit with what we see: If the camera closes in on Montano, all of a sudden that little nobody will thunder louder than Otello. A sad production, usurping the place of a better. (As I suggested last month, a release like this means we'll never get Vickers's *Otello*, which is one of the great performances of our time.)

—THOMAS W. RUSSELL III

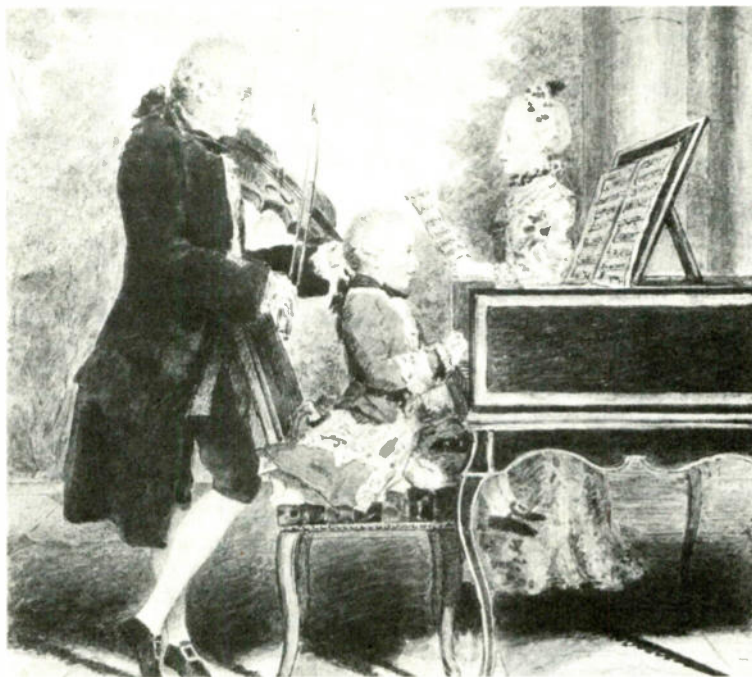


TE KANAWA: matronly Desdemona

hydroelectric dam, or for the whole experience to turn into a bad dream of the third steersman. Anything for direction that makes a point, that *tells* us something about this story, these characters.

The filming is no help either. (Who'd have thought a clumsy camera could destroy an opera as surely as a ballet?) In what is perhaps an attempt to restore some of the intimacy and focus that setting and direction

Wolfgang Mozart, the Konzertmeister



Wolfgang, age six, seated at the clavier, with his father and sister

Recent recordings reveal new insights, new sounds, and old pitfalls in Mozart's concerted works for violin.

Reviewed by R. D. Darrell

ALL MY ADULT LIFE I've privately held and publicly proclaimed that the master key to musical understanding is direct, searching experience of the music itself. Knowledge of background details—the quotidian events of the composer's life and the world around him, his putative purposes, professed "programs," and all other biographical, psychological, and historical information, however fascinating—is extraneous, useful only insofar as it stimulates the listener's interest and sharpens his sensibilities.

In only one recent instance has that basic tenet been—not broken, certainly, but considerably bent. Reading all I could find on Mozart's violin concertos in preparation for some jacket note commissions, I learned more than I'd ever known about this repertory and was forced willy-nilly into radical reconsiderations of works I'd never found particularly rewarding—at least in comparison with Mozart's piano concerto, chamber, and symphonic masterpieces. Here, background information discoveries

not only heightened my general interest in Mozart as a violin composer, but delineated the subject repertory more exactly and raised provocative questions about it.

First of all, I was reminded that few musicians of the late 18th century knew the violin better than the son of Leopold Mozart, whose *Versuch einer gründlichen Violinschule* was the standard pedagogical "method" of the era. Wolfgang was a child prodigy on the violin as well as on the clavier, and his first full-time paying job—begun before his fourteenth birthday—was that of concertmaster of the Salzburg Court Orchestra.

We find that there is more to this repertory than usually meets the eye, much less the ear. Besides the familiar Concertos Nos. 1–5 for solo violin, there are two double concertos: the early, far-too-little-known *Concertone* for two violins, and the late, mighty *Sinfonia concertante* for violin and viola (K. 364). Contemptuously skipping the three attributed solo concertos that are partly or wholly fabrications by other

composers, we must add four mini-concertos that can be extracted from the Serenades Nos. 3, 4, 5, and 7 (all in D); specifically the three movements from each (one fast, one slow, the third a minuetto/trio) that feature a solo violin (*violino principale*) part. And finally there are the three isolated movements written for Antonio Brunetti (Mozart's assistant, later successor as concertmaster in Salzburg)—two of them to replace movements in the First and Fifth Concertos that Brunetti deemed "too artificial" (!), the third for interpolation in a concerto by some other, now unknown, composer.

What seems most immediately startling in the chronology of these works is that all five standard concertos and one of the minis were written in less than a year (April–December, 1775), and that the entire repertory surfaced within eight years (1773–81). It seems reasonable to assume that all were produced for Mozart's own, or Brunetti's, performances. If the reason for such a burst of activity in this field remains a titillating mystery, Mozart's complete abandonment of the genre a decade later seems more explicable: By then he had left his Salzburg post and had become absorbed in other creative realms, playing the violin (or perhaps more often the viola) only in informal chamber music sessions. And no one happened along to commission a new work for violin and orchestra.

While some other gifted young rococo-era composer just *might* have written the Baroque-influenced *Concertone* and the *galant* first two violin concertos, there's a sudden, inexplicable quantum jump from uncommon talent to unique genius in the brief period that separates the Second and Third Concertos—June 14 to September 12, 1775. That markedly higher plane is maintained perhaps even more impressively in the Fourth and Fifth, complete with the innovative episodes of folk material in their *rondeaux finaux*.

The scarcely less extraordinary further leap to the rarefied heights of the magisterial K. 364 *Sinfonia concertante* was, if not predictable, at least prepared for by Mozart's momentous visits—first to Mannheim, with its exciting revelations of new

potentials for solo and orchestral virtuosity, then to Paris, with the attendant practical experiments in writing for two or more soloists (undertaken in the K. 299 Concerto for Flute and Harp and the *Sinfonia concertante* for four wind soloists, K. Anhang 9). Back in Salzburg, Mozart composed the great K. 365 Concerto for Two Pianos and, in the summer of 1779 (just before K. 364 itself), the fragment of a lamentably never finished triple concerto, the *Sinfonia concertante* for violin, viola, and cello, K. Anhang 104.

The orchestra Mozart calls for in all his concerted violin works involves only strings with paired oboes (or flutes) and horns. In all likelihood he would have used additional forces if they had been easily available—witness his 1778 Mannheim complaint to his father: "Ah, if only we too had clarinets!" Yet he found it no real hardship to work with what he had. In any case, the point to be stressed is that this whole repertory was conceived in terms of—and, with the possible exception of K. 364, commonly performed in—a chamber music setting, *not* with the accompanying string choir swollen to the symphonic size of today.

Before we attempt to evaluate present-day performances, it may be salutary to keep in mind the Mozartean—father and son—standards of violin playing. There are few pertinent references in the family correspondence: During much of the time the violin-and-orchestra works were being produced, Wolfgang was at home and there was no occasion for letter exchanges. However, we do have some father/son comments on the latter's fiddling skills (see box). And, most significantly, there is Wolfgang's critique (in a letter to his father dated November 22, 1777) of the playing of the celebrated Mannheim Orchestra concertmaster:

At six o'clock to-day the gala-concert took place. I had the pleasure of hearing Herr [Ignaz] Fränzl . . . play a concerto on the violin. I like his playing very much. You know that I am no great lover of difficulties. He plays difficult things, but his hearers are not aware that they are difficult; they think that they could at once do the same themselves. That is real playing. He has too a most beautiful, round tone. He never misses a note, you can hear everything. It is all clear cut. . . . In a word, in my opinion, he is no wizard, but a very sound fiddler.

The discography of Mozart's works for violin and orchestra, long an extensive one, seems lately to be growing faster, as every big-name virtuoso evidently feels obliged to challenge the star soloists of yesterday—and sometimes to outdo most of them by doubling as conductor. Only two more-or-less complete recorded sets are

Mozart, the Fiddler

Wolfgang to Leopold; Munich, October 6, 1777:

" . . . As a finale I played my last Cassation in B flat [K. 287]. They all opened their eyes! I played as though I were the finest fiddler in all Europe."

Leopold to Wolfgang; Salzburg, October 18–20, 1777:

"I am not surprised that when you played your last Cassation they all opened their eyes. You yourself do not know how well you play the violin, if you will only do yourself credit and play with energy, with your whole heart and mind, yes, just as if you were the finest violinist in Europe. . . . Oh, how often you will hear a violinist play, who has a great reputation, and feel very sorry for him!"

—*The Letters of Mozart and His Family*
Emily Anderson, trans. and ed.; MacMillan, 1938

currently listed in SCHWANN (by Arthur Grumiaux and Colin Davis from the early '60s for Philips; by David Oistrakh from the early '70s for Angel). But several others are obtainable as imports or in the out-of-print bins (some of them still partially represented in single-disc reissues): the Maykumi Fujikawa/Walter Weller set of 1982 on English Decca, the Suk/Hlaváček version of the early '70s on Supraphon, and the considerably earlier ones by Yehudi Menuhin for EMI/Angel, Wolfgang Schneiderhan for Deutsche Grammophon, and Henryk Szeryng and Alexander Gibson for Philips.

The most extensive project to date has been that by Pinchas Zukerman with the English Chamber Orchestra under Daniel Barenboim for CBS, c. 1970–75, later extended to include three of the four serenades with mini-concertos. It is now gradually being replaced by the new St. Paul Chamber Orchestra digital versions, in which Zukerman doubles as conductor (as he did in the serenades). Other recent and current releases may represent continuations (e.g., Iona Brown, possibly Anne-Sophie Mutter) or beginnings (Christian Altenburger, Itzhak Perlman, Oscar Shumsky) of projected complete series. So far, all of these, it's good to note, avoid some of the older sets' inclusion of one or more of the concerto "spuriousities."

Getting down to actual listening, it's immediately evident that the great virtuoso soloists of both yesterday and today command—even more than the redoubtable Fränzl—a "beautiful, round tone," and that they, too, make technical difficulties seem easy. Their performances almost invariably go "like oil," as Wolfgang once boasted of his own.

Why, oh why, then, am I still reluctant to share most violin connoisseurs' unbounded delight in celebrity accounts? Why does the spectacular bravura in the latest examples by Altenburger, Mutter, Perl-

man, and Zukerman tend to leave me if not dissatisfied then certainly unsatisfied? Can it be that these superstars are less Mozart-can spokesmen than executant "wizards"?

First, by their almost contemptuous disdain of technical problems, they (unlike Fränzl) make one all the more aware of more serious, nontechnical difficulties: those of style and sensibility in particular.

My unease intensifies whenever these virtuosos launch into one of their own or of the standard cadenzas (by Joachim, Auer, Franko, etc.) needed in the absence of any by Mozart himself. What *his* might have been like is suggested by those he composed for the K. 364 *Sinfonia concertante*, which have been aptly described by Rudolph Gerber, editor of the work's Eulenberg score, as "less prolix, complicated, and overburdened" than those in

Oscar Shumsky: tempered by experience



most published editions—or, I might add, than those in most big-name recorded performances. This despite frequent critical excoriations, most memorably that of the sharpest-tongued reviewer of HIGH FIDELITY's early years, C. G. Burke, who back in June 1956 skewered for all time some Menuhin Mozart concertos as "afflicted with unusually extrinsic and repellent cadenzas."

Moreover, while most of the recent and current recorded versions make some token reduction in the size of normal symphonic string groups, they are all incalculably fatter and more polished-sounding than the smaller, leaner, and undoubtedly rougher Salzburgian originals could ever have been.

But don't get me wrong. No connoisseur of fine fiddling—or of state-of-the-art audio engineering, for that matter—is likely to be disappointed here, least of all with the radiantly sumptuous Perlman/Vienna Philharmonic/James Levine account of the Third and Fifth Concertos. The mellifluous Mutter/Philharmonia/Riccardo Muti versions of the Second and Fourth are only a shade less enticing, although there may be slightly sharper edges to Mutter's high register in this EMI digital recording than there were in her sensational 1978 DG analog disc of the Third and Fifth with Karajan, recorded when she was a fourteen-year-old prodigy. And if Zukerman's new CBS ventures—pairing First with Second, Third with Fifth—are less vital, more mannered interpretations, the fiddling itself is elegant, Romantic, and beguiling indeed. Then, too, Zukerman enjoys a more intimate rapport with his own St. Paul ensemble than most visiting guest stars can establish with an accompanying orchestra in only a few brief rehearsals before a concert or record-



Iona Brown, a truly Mozartean violinist

ing session.

As must be obvious by now, my personal ideal—and I hope that of other Mozartean purists—is rarely if ever achieved by "wizard" virtuosos fettered by their ingrained Romantic susceptibilities, their spotlight cravings, and their lack of long and close collaboration—as only *primus inter pares*—with particular accompanying ensembles. The best results are achieved by those "sound fiddlers" who are both better grounded in period styles and more experienced *team* players.

Among the most nearly successful earlier recordings of Mozart's violin concertos are those by Grumiaux and Davis for Phil-

lips. Among the present aspirants, Shumsky on Nimbus, with Yan Pascal Tortelier conducting, does well in most respects. Although Shumsky is a veteran of the grand-manner era (he made his concert debut as a child prodigy with the Philadelphia Orchestra under Stokowski, in the very Mozart Fifth he records here), tendencies toward that manner have been tempered by extensive chamber and ensemble experience. He plays more straightforwardly, yet with more genuine musical character (and even humor), than most virtuosos, and the British analog engineering keeps his solo role properly proportioned rather than sonically oversize. In addition, the Scottish accompanists (led by the son of the great French cellist, Paul Tortelier), though a bit rough and ready, radiate irresistible zest while vividly suggesting an ensemble of the size and informality of Mozart's own Salzburg colleagues.

Even before Iona Brown succeeded Neville Marriner as leader/soloist of the Academy of St. Martin-in-the-Fields, I was convinced that her (and Carmel Kaine's) 1973 *Concertone* for Argo (later also in a Barclay-Crocker open-reel edition) came closer than any other version I knew to my own ideal for this extraordinary early work, almost more concerto grosso than double concerto. It still seems so on a most welcome bargain-price reissue in London's Stereo Treasury series, aptly coupled with the comparably satisfactory 1971 Argo recording of the K. 364 *Sinfonia concertante* featuring violinist Alan Loveday and violist Stephen Shingles with Marriner's Academicians. An all-on-her-own concerto series with Academy colleagues began in 1978 with Brown's Third and Fourth (Argo ZRG 880). Now—shifting from analog to (Continued on page 80)

MOZART: Concertos for Violin and Orchestra: No. 1, in B flat, K. 207; No. 2, in D, K. 211.

Pinchas Zukerman, violin and cond.: St. Paul Chamber Orchestra. [Steven Epstein, prod.] CBS MASTERWORKS IM 37833 (digital recording). Cassette: IMT 37833.

MOZART: Concertos for Violin and Orchestra: No. 3, in G, K. 216; No. 5, in A, K. 219.

Pinchas Zukerman, violin and cond.: St. Paul Chamber Orchestra. [Steven Epstein, prod.] CBS MASTERWORKS IM 37290 (digital recording). Cassette: IMT 37290.

MOZART: Concertos for Violin and Orchestra: No. 1, in B flat, K. 207; No. 5, in A, K. 219.

Iona Brown, violin and cond.: Academy of St. Martin-in-the-Fields. [Chris Hazell, prod.] LONDON JUBILEE 411 707-1 (digital recording). Cassette: 411 707-4.

MOZART: Concertos for Violin and Orchestra: No. 2, in D, K. 211; No. 4, in D,

K. 218.

Anne-Sophie Mutter, violin; Philharmonia Orchestra, Riccardo Muti, cond. [John Mordler, prod.] EMI ANGEL DS 37904 (digital recording). Cassette: 4XS 37904. CD: CDC 47011.

MOZART: Concertos for Violin and Orchestra: No. 4, in D, K. 218; No. 5, in A, K. 219.

Christian Altenburger, violin; German Bach Soloists, Helmut Winschermann, cond. [Wolf Erichson, prod.] PRO ARTE: PAD (digital recording). Cassette: PCD 115. Reel: PRO 0115 (distributed by Barclay-Crocker, 313 Mill St., Poughkeepsie, N.Y. 12601).

MOZART: Concerto for Violin and Orchestra, No. 3, in G, K. 216; Sinfonia concertante for Violin, Viola, and Orchestra, in E flat, K. 364.

Christian Altenburger, violin; Wolfram Christ, viola; German Bach Soloists, Helmut Winschermann, cond. [Wolf Erichson, prod.] PRO ARTE: PAD 118 (digital recording). Cassette: PCD 118.

MOZART: Concertos for Violin and Or-

chestra: No. 3, in G, K. 216; No. 5, in A, K. 219.

Itzhak Perlman, violin; Vienna Philharmonic Orchestra, James Levine, cond. [Steven Paul, prod.] DEUTSCHE GRAMMOPHON 2532 080 (digital recording). Cassette: 3302 080.

MOZART: Concertos for Violin and Orchestra: No. 4, in D, K. 218; No. 5, in A, K. 219.

Oscar Shumsky, violin; Scottish Chamber Orchestra, Yan Pascal Tortelier, cond. NIMBUS NIM 2140 (digital recording). CD: NIM 5009. (Distributed by German News, 220 E. 86th St., New York, N.Y. 10028.)

MOZART: Concertone for Two Violins and Orchestra, in C, K. 190*; Sinfonia concertante for Violin, Viola, and Orchestra, in E flat, K. 364†.

Iona Brown and Carmel Kaine, violins*: Alan Loveday, violin†; Stephen Shingles, viola†; Academy of St. Martin-in-the-Fields, Neville Marriner, cond. [Michael Bremner, prod.] LONDON STEREO TREASURY STS 15563. Cassette: STS5 15563. [From ARGO ZRG 729, 1973; ZRG 679, 1971.]

CLASSICAL Reviews

Viva Verdi!

Reviewed by
Paul Hume

VERDI: *Alzira*.

CAST:

Alzira	Ileana Cotrubas (s)
Zuma	Sofia Lis (ms)
Zamoro	Francisco Araiza (t)
Ovando	Donald George (t)
Otumbo	Alexandru Ionita (t)
Gusmano	Renato Bruson (b)
Alvaro	Jan-Hendrik Rootering (bs)
Ataliba	Daniel Bonilla (bs)

Bavarian Radio Chorus, Munich Radio Orchestra, Lamberto Gardelli, cond. ORFEO S 057832 (digital recording, two discs) (distributed by Harmonia Mundi, 2351 Westwood Blvd., Los Angeles, Calif. 90064).

VERDI: *Ernani*.

CAST:

Elvira	Mirella Freni (s)
Giovanna	Jolanda Michieli (ms)
Ernani	Placido Domingo (t)
Don Riccardo	Gianfranco Manganotti (t)
Don Carlo	Renato Bruson (b)
Jago	Alfredo Giacomotti (bs)
Silva	Nicolai Ghiurov (bs)

Orchestra and Chorus of La Scala, Riccardo Muti, cond. [John Mordler, prod.] ANGEL DSCX 3942 (digital recording, three discs). Cassettes (3): 4X3X 3942.

Verdi himself pronounced a verdict on *Alzira*, his eighth opera, some years after he had finished it. Writing to the Countess Negroni Prati, he said, "*Quella è proprio brutta*," which you can translate as either "It really is bad" or "It really is ugly." To which I can only add, "Who am I to quarrel with Verdi?"

Alzira was written in 20 days. Twenty. It is one of the operas to which Verdi was referring when he talked about his galley years, the period in which he slaved to provide theater pieces for the public that had discovered how much it liked his work. Between 1844 and 1850 Verdi wrote a dozen operas: *Ernani*, *I due Foscari*, *Giovanna d'Arco*, *Alzira*, *Attila*, *Macbeth* (first version), *I masnadieri*, *Jérusalem*, *Il corsaro*, *La battaglia di Legnano*, *Luisa Miller*, and *Stiffelio*.

If you study *Ernani* and *Macbeth*, you see to what heights Verdi could rise in these



Mirella Freni and Placido Domingo onstage at La Scala in a scene from *Ernani*

years. And if you study *Alzira* and *Jérusalem*, you hear the machinery by which he ground out one uninspired page after another.

Alzira is very much what Verdi called it: "bad" or "ugly." The few moments that catch our attention do so because they suddenly remind us of something that will return in mature beauty in *La traviata*, *Aïda*, or *Otello*. One of those moments occurs in the second scene of Act II (the act titled "The Revenge of the Savage") when Alzira is told that she must marry Gusmano, whom she loathes: She sings, "*Son io più spenta che viva*" ("I am more dead than alive"), in accents that Violetta would recognize were they given to her in Act II of *Traviata*. And in the orchestra, there are occasional hints of the shimmering textures that introduce the third act of *Aïda*. But Salvatore Cammarano's adaptation of the Voltaire story offers little beyond the kind of pedestrianism against which Verdi would soon revolt.

The level of inspiration remains low most of the time. In Scene 5 of Act II, for example, Alzira faces precisely the same situation with Gusmano that Leonora will face with the Count di Luna in *Trovatore* eight years later: She must marry a man she

hates in order to save the man she loves. But in *Alzira* there is no duet of passion to compare with "*Vivrà! contendo il giubilo*." The duet in the earlier opera simply plods. The choruses, which for so many years seemed obligatory, lack fire. But enough. Let's stop beating the limping horse and talk about the performance.

In the title role, Ileana Cotrubas supplies the pathos needed for the Inca chieftain's daughter, but none of the fire that would often give the music the passion Verdi mentions. Her voice, which is in trouble these days, meets the tests of the high notes but fails to build the long lines in her arias. More distressing is the sound of Francisco Araiza as the other Inca chief, Zamoro. Unfortunately Araiza has announced that he is dropping the Rossini repertoire and looking forward, if in the distant future, to such roles as Loge, Walther von Stolzing, and Palestrina. From the inescapable evidence of his singing in Zamoro's "*Non di codarde lagrime*" in Act II—in which he forces the sound beyond reasonable limits and the result is ugliness—he has made a disastrous decision. A fine voice apparently on the road to trouble.

Renato Bruson, who sings Gusmano (and Don Carlo in Angel's recent *Ernani*),

has a strong, useful baritone that often comes across well enough. But if you want an example of the worst uses of the aspirate *h*, listen to his singing of "A quest' alma piena d'ira" in the finale of Act I. It is hard to put up with such a bad habit in order to hear some of the better music in the score.

Jan-Hendrik Rootering, a Dutch bass new to me, is the sonorous Alvaro, and bass Daniel Bonilla does as well as Ataliba. But comprimario Donald George sounds inept as Ovando. Nothing that Lamberto Gardelli does in his conducting helps, or hinders.

As for the new *Ernani*, I have to say that as long as the great recording by Price, Bergonzi, Sereni, and Flagello, with Thomas Schippers conducting, is still listed in SCHWANN (RCA LSC 6183), you do not need any replacement—and certainly not this disappointing entry.

At the risk of sounding repetitious, it must be said that the opera world these days is short of the kinds of voices needed for much of the Verdi repertoire. Here, Mirella Freni is burdened far beyond her ability to cope: She has neither the weight of voice nor the agility for the wide-ranging requirements of Elvira's role. Her "Ernani, involami" slows down every time one of the tough phrases comes along, she lacks the low register to the point of near-inaudibility, and those passages in which she is effective are not enough to make up for the serious deficiencies.

Plácido Domingo is precisely the right artist for the title role. He has the voice, the style, the whole grasp of Verdi's music. In this season's broadcast of the opera from the Met, he was in top form. On this recording (remember that it is of a live performance in Milan) he is not in as good shape. There is very noticeable sharpening in the earlier passages, and he does not settle into the role until Act II. This, however, is surely nothing more than a momentary lapse in a major Scala engagement, since Domingo is one of the great singers of our time.

Nicolai Ghiaurov is a noble Silva in every way, but Bruson rarely sounds like anything but a rather routine baritone, aspirates and all, who fails to bring Don Carlo to life. Riccardo Muti and the Scala chorus and orchestra are very good, but if you have or can get the Price/Bergonzi/Schippers set, that is the one you want.

BACH: Concertos for Violin and Orchestra: in A minor, B.W.V. 1041; in E, B.W.V. 1042. Concerto for Two Violins and Orchestra, in D minor, B.W.V. 1043.

Gidon Kremer, violin and cond.; Academy of St. Martin-in-the-Fields. PHILIPS 411 108-1 (digital recording). Cassette: 411 108-4. CD: 411 108-2.

As early as 1946, before the invention of the LP, Jascha Heifetz hit upon the idea of recording the Bach Double Concerto with himself as the sole soloist. RCA reissued



The late Paul Jacobs: lofty final performances of Busoni, Mozart, and Beethoven

the results of this dubious experiment nine years ago in Vol. 5 of "The Heifetz Collection," and perhaps it was exposure to its dreadful sonic imbalances that led Gidon Kremer to duplicate the feat with the benefit of modern technology. For what it's worth, it works like a charm: There's no way a listener can tell which part was played with the orchestra and which was overdubbed, and the subtle stereo separation certainly gives the effect of two violinists standing a few feet apart in front of the accompanying ensemble.

Obviously, a violinist playing in tandem with himself can produce an "integrated" interpretation more easily than can two flesh-and-blood fiddlers who just might have had to work out some compromises in matters of tone, phrasing, and ornamentation—but the logistics of the situation tend to put rather severe limits on spontaneity. Kremer must have considered the problems, and solved them, before he laid down the first track, because his account *sounds* like an honest-to-goodness live performance, with as much rhythmic animation and expressive warmth as are found in the concertos for single violin.

This recording of the Double Concerto is an impressive display of studio techniques. Even more impressive is the musical content of the disc as a whole. The tempos are brisk, the bass lines prominent, the orchestral sounds glossy and vibrant, and through all three pieces run solo lines that seem the epitome of clarity and dynamic energy.

JAMES WIERZBICKI

BRAHMS: Capriccio No. 2, in B minor, Op. 76; Three Intermezzos, Op. 117; Rhapsody No. 2, in B flat minor, Op. 79. SCHUMANN: Kinderszenen, Op. 15; Arabeske, in C, Op. 18.

Ivan Moravec, piano. [Max Wilcox, prod.]

NONESUCH 79063-1 (digital recording). Cassette. 79063-4.

CHOPIN: Mazurkas, Waltzes, and Polonaises.

Ivan Moravec, piano. [Max Wilcox, prod.] VOX CUM LAUDE D-VCL 9059 (digital recording). Cassette: D-VCS 9059. (Distributed by Moss Music Group, Inc., 48 W. 38th St., New York, N.Y. 10018.)

Mazurkas: Op. 63, No. 2; Op. 68, No. 2; Op. 7, No. 1; Op. 30, No. 4; Op. 33, No. 4. Waltzes: Op. 34, No. 2; Op. 64, No. 2; Op. Posth., in E minor. Polonaise, in C sharp minor, Op. 26, No. 1. Polonaise-fantaisie, in A flat, Op. 61.

For 20 years it has been an open secret among record collectors, if not among the concert public, that the Czech pianist Ivan Moravec is one of the greatest pianists of the 20th century. The reasons for his lack of commercial success are not hard to find. Moravec presents no magic aura, no apparent eccentricities, and little glamor. In addition, his repertoire may be smaller than average, and it contains few of the war-horses seemingly necessary for widespread acclaim. However, within those limitations, he has so much to offer that one regrets he does not make more recordings.

Every great musician appears to have at least one supreme characteristic that renders his impression indelible. What then is the greatest gift Moravec has to contribute? As one who has collected virtually every recording he has made (for various domestic labels and for Supraphon), I would say it is his intense calm coupled with his sense of dramatic pause. No other major pianist equals him in this precious quality, except possibly Solomon, the venerable British pianist. The classic disc to prove the point might well be Moravec's version of the Schumann Concerto with Václav Neumann, surely one of the two or three finest performances of that elusive work ever

committed to disc. Happily, that gem is still available on Quintessence (PMC 7153).

With all the above in mind, there seems little point in commenting in detail on either one of these two magnificent records. The digital sound on both is fine, the surfaces also quite good. And the performances do reflect the unique inner calm that sets Moravec apart from all but the greatest. If I had to choose only one of the two, however, I would lean to the Chopin disc. It is a quiet record, but in Moravec's hands—to contrast him with the advocates of a more agitated Chopin—quiet and calm are never to be equated with dullness. Quiet can also mean sublime, as Moravec proves beyond any possible doubt.

THOMAS L. DIXON

BUSONI: Fantasia contrappuntistica for Two Pianos. BEETHOVEN: Grosse Fuge for Piano, Four Hands, Op. 134. MOZART: Fantasia for a Musical Clock, K. 608 (trans. Busoni).

Paul Jacobs and Ursula Oppens, pianos. [Max Wilcox, prod.] NONESUCH 79061-1 (digital recording). Cassette: 79061-4.

Under any circumstances this would be an excellent recording; it seems almost a miraculous product when one considers that the sessions took place only three months before Paul Jacobs succumbed to the ravages of Acquired Immune Deficiency Syn-

drome. Jacobs's eyesight was already considerably diminished when the taping began in June of last year, and reportedly he could make it through the relatively short takes only because they were separated by long rest periods. Yet his playing here is as strong as it had ever been: He phrases the upper lines of the Busoni *Fantasia contrappuntistica* with dazzling elegance, and he projects the lower parts of the Mozart and Beethoven pieces not only with physical power, but also with a force of intellect that eliminates for the listener any possibility of ambiguity.

Ursula Oppens's contributions are characterized by the same virtues, which is why these knotty works ("Three Polyphonic Masterpieces for Two Pianos," as they're called in the jacket title) come across with such spectacular clarity. Some of the silences are littered with an unfortunately loud pre-echo; otherwise, the quality of the recording is as high—as lofty—as that of the performances.

The 16 discs Paul Jacobs made for Nonesuch between 1975 and 1983 add up to an extraordinary legacy that deserves to be discussed as a whole; for now, suffice it to say that this valedictory offering stands as the crowning achievement in the career of a pianist who doubtless will be remembered as one of the 20th century's best.

JAMES WIERZBICKI

GLUCK: Armide.

CAST:

Phenice	Sally Burgess (s)
Sidonie	Marie Slorach (s)
Armide	Felicity Palmer (ms)
Hate	Linda Finnie (c)
Rinaldo	Anthony Rolfe Johnson (t)
Danish Knight	Keith Lewis (t)
Ubalde	Stephen Roberts (b)
Hidraot	Raimund Herinx (b)

Richard Hickox Singers; City of London Sinfonia, Richard Hickox, cond. [John Mordler, prod.] EMI SLS 1077513 (digital recording, three discs). Cassettes (3): TC 1077515. (Distributed by International Book and Record Distributors, 40-11 24th St., Long Island City, N.Y. 11101.)

LULLY: Armide.

CAST:

Phenice	Danièle Borst (s)
Sidonie	Suzanne Gari (s)
Armide	Rachel Yakar (s)
Rinaldo	Zeger Vandersteene (t)
Danish Knight	Guy de Mey (t)
Hate	Ulrich Studer (b)
Ubalde	Martin Egel (b)
Hidraot	Ulrich Cold (b)

Ensemble Vocal & Instrumental de la Chapelle Royale, Philippe Herreweghe, cond. [Guy Chesnais, prod.] ERATO STU 71530 (digital recording, two discs). (Distributed by RCA.)

Armide, the alluring sorceress of Tasso's 16th-century epic poem *Jerusalem Delivered*, was a favorite subject of pre-Romantic operas, and it is not difficult to under-

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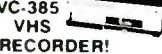
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stand why. Set in Damascus during the First Crusade, the tale is rich in operatic possibilities: Magic, passion, and visual spectacle all figure in the story of Armide, who sets out to murder her nemesis, Rinaldo, but instead falls in love with him, only to be abandoned when the Crusader is recalled to his sacred duty.

Handel and Haydn took on the story, as did other composers of the 17th and 18th centuries (the list includes Ferrari, Traetta, Sacchini, and Salieri), but the Gluck and Lully versions occupy a special place in operatic history. Both use the libretto by Philippe Quinault (1635-1688)—a timeless piece of writing that strips away most of the story's subplots and concentrates on intimate development of character. It inspired the two composers—writing at the end of prolific careers and separated by almost a century—to produce works that were the culmination of their respective periods in French opera. Lully's score of 1686 crowned the mid-Baroque era, Gluck's of 1777 the early Classical. In short, the more one investigates these works, the more they emerge as the twins of French opera. Not only is it difficult to fully appreciate one without knowing the other, but it is difficult to understand any number of French operas of similar temperament that followed them—especially Berlioz's *Les Troyens*, whose Dido is an obvious reincarnation of Gluck's heroine. What a lucky coincidence that these two *Armide* recordings have been issued in the same

year, while the infrequently mounted Berlioz epic made a comeback at the Metropolitan Opera this past season.

Within the framework of late 17th-century operatic tradition, Lully did not have Gluck's expressive means at his disposal, yet he cannot be dismissed as merely a forerunner of the later composer. Because he was a member of the court of Louis XIV, his sensibilities were inevitably "polite," and even a character as vivid as Armide would of necessity be given a reserved, aristocratic portrayal. And Lully was working with a musical form that was still in a comparatively rudimentary state: His sense of light and shade comes almost entirely from use of major and minor key changes, counterpoint, and surface articulation. Yet he knew how to entertain on subtle levels. The deterioration of Armide's dignity, for example, is musically symbolized by a stripping away of various ornamental techniques and surface frills that are frequent in the earlier acts.

Gluck's richer musical palette, stemming from a long career in Italy and Vienna, led to what might be compared to a blazing, Cinemascope remake of Lully's black-and-white talkie. Gluck's choice of the Quinault libretto perhaps signifies his commitment to drawing on France's operatic roots to create a new, cosmopolitan hybrid. He predicted that his associates would not even recognize *Armide* as coming from the same pen as *Alceste*, and indeed there was a substantial stylistic breakthrough. Perhaps

stimulated by the lighter, more innately festive style of Lully, the usually Spartan, somber Gluck wrote music so animated and colorful that it sounds almost Mozartean. The concise libretto not only was congruent with the operatic reforms Gluck had spelled out in the 1769 preface to *Alceste*, but allowed the title character the sort of lengthy, introspective monologues that Gluck used to great effect in sculpting his tragic heroines. And he set these monologues quite graphically, stabbing the vocal lines with pungent slashes of orchestral rhythm and color.

Gluck worked in long musical paragraphs in *Armide*, connecting one scene with the next without a cadence. While he occasionally settled for a somewhat generalized dramatization of a given scene for the sake of sustaining a clean sense of symphonic momentum, he also created one of the early forerunners of symphonic opera as it came to be developed among 19th-century Germans. (Not surprisingly, Wagner and Richard Strauss identified with Gluck to the point of reorchestrating both *Iphigénie en Auliche* and *Iphigénie en Tauride*.)

Yet perhaps the century that separated Gluck and Lully wasn't as wide a gulf as it might initially seem, especially when one takes into account that we usually hear Lully performed on authentic instruments, and Gluck on modern instruments with a Romantic overlay that obscures his Baroque roots. Gluck took his cue from Lully in adapting the French overture form, and he dramatized individual scenes using many of Lully's compositional devices, frequently augmenting Lully's concepts: In Act II when Rinaldo comes to rest in Armide's garden, Lully's loose-knit counterpoint and graceful string writing become in Gluck's score an expansive, two-bar ostinato, with a long-spun flute solo creating all sorts of otherworldly effects. In Act III, Lully's menacing, male portrayal of the character Hate, whom Armide calls up to exorcise her love, becomes in Gluck's opera a female character who seems to know firsthand the misery that love can cause and who pleads with Armide, in tones of chilling desperation, to give up Rinaldo.

Gluck doesn't always come out ahead. Lully must be credited with capturing one of the drama's main motivating elements, which tended to elude Gluck—sexuality. *Armide* is about mutual sexual awakening and subsequent enslavement. In contrast to Haydn's *Armida*—a traditional conflict of love and duty à la *Aida*—and to Handel's portrayal of Armide (in *Rinaldo*) as an animalistic heathen, the sexual element of this French *Armide* finds a more likely comparison in *Tristan und Isolde*. Both characters are drawn to each other by an inevitable sense of fate, all too aware of the ramifications of acting on their passions. Gluck was flattering himself when he feared God wouldn't let him into heaven for having written such a sensuous love duct; in com-

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parison, Lully's Act V chaconne is in its own way as haunting as Wagner's most explicit love music, and it exploits the textural possibilities of his orchestra so brilliantly that one might call it a miniature concerto for orchestra.

Unfortunately, Lully doesn't sustain this power through the rest of the opera. Much of it is straightforward wordsetting, effortless for the listener but quite literal. Gluck found the greater metaphoric resonance and made his opera a study in obsession. Armide sublimates her identity in Rinaldo, leaving only a love built on illusion. She is more transfigured than embittered, with the obliteration of her palace a symbolic end of the deception and artifice in her life. On another level, the ending suited Gluck's operatic reforms, which purged opera of much of its artificiality, bringing the convoluted Baroque plots about gods and goddesses down to a more human level of expression.

Considering how elusive the French idiom can be, these recordings are remarkably satisfying. The Lully opera, under the direction of Philippe Herreweghe, is substantially cut: In addition to a few missing snippets, the recording omits Act IV completely. That's not such a terrible mutilation, though, as the act is a miniature morality play depicting the dangers of the flesh, with characters that are completely extraneous to the plot—Quinault's only digression. Herreweghe's Chapelle Royale cho-



Mezzo Felicity Palmer as Gluck's Armide

rus and orchestra and his consistently authoritative cast perform the music with confidence, delicacy, and commitment.

The Gluck *Armide* is presented complete, but conductor Richard Hickox should have demanded authentic instruments for this project. Using the City of London Sinfonia, he does, however, achieve an unusually transparent, rhythmically alive interpretation. Though the harpsichord tends to be buried in the orchestral texture, the approach is mercifully more Baroque than Romantic. Despite Raimund Henrinx's ragged Hidraot, the cast is respectable and features the ever welcome tenor Anthony

Rolfe Johnson (Rinaldo) successfully negotiating a somewhat heavier role than he usually records.

Both recordings have extraordinary singer-actresses in the title roles, their highly individualized vocal sounds easily embodying the dichotomy of seductiveness and cruelty. Rachel Yakar in the Lully opera is not just another willowy voiced Baroque specialist. She commands an interesting, husky sound and is able to give a dramatically rich portrayal within the stylistic limitations. Felicity Palmer was born to sing Gluck's heroine. With her stage portrayal of the role and subsequent recording, Palmer has abandoned her increasingly ragged upper range for mezzo roles and a new vocal lease on life. Despite her occasional reliance of unduly rhetorical mannerisms (which make her characterization just a bit overwrought), her steely voice and near-blinding intensity reveal a great singing actress in the making.

DAVID PATRICK STEARNS

HAYDN: Symphonies: No. 91, in E flat, Hob. I:91; No. 92, in G, Hob. I:92 ("Oxford")

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THE OBSERVER COURTESY/EMI RECORDS

Argerich and Freire: A Duo-Critique

A fascinating new Philips release featuring 20th century compositions for two pianos is reviewed twofold, with modest dissonances of opinion.

LUTOSLAWSKI: Variations on a Theme by Paganini. RACHMANINOFF: Suite No. 2, Op. 17. RAVEL: La Valse (arr. two pianos).

Martha Argerich and Nelson Freire, pianos. PHILIPS 6514 369 (digital recording). Cassette: 7337 369.

For listeners brought up on recordings and broadcasts of standard orchestral fare, the idea of stripping a well-known showpiece of its trademark sonorities and compressing its dynamic range into the limits of one or two keyboard instruments is typically not very appealing. I remember how surprised I was when I first encountered, at about the same time, the piano versions of Ravel's *La Valse*, Stravinsky's *Le Sacre du printemps*, and Prokofiev's *Romeo and Juliet*—the colors were reduced to black and white, so to speak, but the music itself was all there. It occurred to me that perhaps in these performances by only one or two players I was hearing lines more clearly defined and rhythms more pointedly accented than could ever be realized by ensembles of 90 or so members.

In any case, the all-important feel of the orchestral *La Valse* is certainly contained in Ravel's versions for solo piano and piano duet, and the latter gets sufficiently brilliant treatment here from Martha Argerich and Nelson Freire. Ditto for Rachmaninoff's 1901 suite (which the composer intended to orchestrate but never did) and Lutosławski's 1941 *Variations on a Theme by Paganini* (which was expanded into a version for solo piano and orchestra in 1977–78). The recording is unfussy—it captures the ambience of a moderately resonant recital hall, with the sound of both instruments fairly evenly blended on both stereo channels. JAMES WIERZBICKI

Every so often, and all too rarely these days, one record comes along that pushes aside all competition. This is one of those discs.

In an era when, in the supposed name of poetry, too many performances of the music of Rachmaninoff are just limp, Martha Argerich and Nelson Freire, duo tigers of the keyboards, simply grab the score of this delicious Second Suite and give it a performance that is virtually without equal among all the versions recorded since the early 1930s. The only other account I can

recall that comes close to matching this one in its dash, brilliance, and verve is the ancient Columbia recording released in the early 1950s and played by Vitya Vronsky and Victor Babin. If that disc of both suites is ever reissued, buy it and place it next to this overwhelming record.

The Ravel and Lutosławski works are also performed in the same ultrabright manner. My suggestion is this: Put on the Lutosławski first, and if you love the piano and have blood in your veins, and can play that cut only once, something's wrong. Then go on to the other two works, and expect the same sort of fascination.

It is said that, around 1942 in Hollywood, Rachmaninoff and Horowitz played the Second Suite at a party. Of course, I would love to have heard that performance; but after Argerich and Freire, I doubt I could possibly have heard better. Argerich has recently recorded the Symphonic Dances, too. I wonder when (not if!) she and Freire will get around to recording the sublime First Suite.

What with the flood of piano discs each month, I doubt that this release would ever get the award for piano record of the year. However, it will definitely get my nomination as the duo-piano record of the decade! THOMAS L. DIXON

symphonies (Nos. 88–92) date from this period of upheaval. The French nobleman Count d'Ogny commissioned Nos. 90–92, but Haydn, shrewd businessman that he was, delivered them to D'Ogny and then sold them the following year to Prince Oettingen-Wallerstein, getting himself into all sorts of entanglements. For all that, No. 92's claim to fame rests on an entirely different incident: Haydn's first journey to England.

Prince Nikolaus Esterházy, Haydn's employer, had died in 1790; his successor, Prince Anton Esterházy, then decided to disband the court orchestra for which Haydn had composed so many works. That left Haydn free to travel, and he eagerly accepted the impresario Johann Peter Salomon's invitation to London. Once in England, Haydn was showered with honors, among them a doctorate from Oxford. A new symphony, scheduled for performance in Oxford at the award ceremony, was not completed in time, so Haydn substituted No. 92, as yet unknown in England. Thus, No. 92 has been branded with the nickname *Oxford*, even though its genesis predated the honorary degree by two years.

Symphonies No. 91 and 92 already exhibit the consummate mastery that characterizes the 12 "London" symphonies. No. 91 (1788), using a slightly reduced orchestra without trumpets or tympani, has a remarkable first movement constructed around a chromatically ascending main theme and contains a number of rather Schubertian modulations to distant key areas. Fine as this is, Symphony No. 92 brings us into a different realm: a richly textured, marvelously orchestrated world of inexhaustible imagination and vitality. The *Oxford* is without doubt one of the best symphonies of the entire 18th century, worthy of comparison with any of the "London" set or, for that matter, any of Mozart's late symphonies. Haydn's skill at realizing the full potential of his material is especially impressive: The first and last movement developments fragment all the main ideas and then restate them in contrapuntal tours de force that have thematic shards spinning throughout the orchestra in kaleidoscopic fashion. And the gorgeous, songful slow movement, full of delicate orchestral and harmonic touches, is one of Haydn's most inspired.

Colin Davis and the Concertgebouw are no strangers to Haydn enthusiasts. Their series of Haydn symphonies has been progressing for several years; by now, all 12 "London" works have been recorded, and

only Nos. 88 and 89 are still missing from the post-"Paris" works. The present performances of Symphonies No. 91 and 92 are among the finest available, for reasons that are apparent immediately upon first hearing. Despite the large orchestra, the playing is never heavy or muddy; on the contrary, it is surprisingly crisp and clean, though it has plenty of power and drive when required. Wind and string articulations are exact, accents and dynamics precisely observed, and tempos well chosen. Davis encourages the strings to employ a sprightly spiccato manner for all fast eighth-note and sixteenth-note passages, so the string body never overburdens the rest of the ensemble. The orchestral tone is warm and rich, and solo passages (especially those for flute, oboe, and bassoon) are delicately performed.

From an interpretive point of view, Davis captures the gamut of Haydn's symphonic idiom: the spunky, high-spirited humor of the fast movements, the poetry of the cantabile slow movements, the Beethovenian power of the development sections, and the brusque peasant spirit of the minuets. My only complaint is a chronic one: Why no observation of the second repeat in first movements and finales? Doing only the first repeat imbalances the entire movement, and in Haydn—where recapitulations are almost completely rewritten—one

For additional reviews of classical music on Compact Disc and videodisc, see **NEW TECHNOLOGIES**.

really needs to hear the second half twice. Davis's otherwise flawless achievement is enhanced by Philips's silent pressing and satisfying digital sound.

K. ROBERT SCHWARZ

RACHMANINOFF: Concerto for Piano, No. 2, in C minor, Op. 18; Rhapsody on a Theme by Paganini, Op. 43.

Cecile Licad, piano; Chicago Symphony Orchestra. Claudio Abbado, cond. [James Malinson, prod.] CBS MASTERWORKS IM 38672 (digital recording). Cassette: IMT 38672. CD: MK 38672.

Why is there always something so exciting about tearing open the wrappings of a debut record? A new career, a first effort. What will Cecile Licad have to say that is fresh about these two overly familiar masterpieces? Should we prepare ourselves for delight, shock, boredom . . . what?

In this case, dear reader, something close to anger (given the current cost of records) or despair. However, let us begin at the end and work back. First, the sound is wonderful, the record surfaces are decent (no better, though), and the conductor and orchestra deliver performances of both works that are impassioned in the extreme, full of purpose, subtle when called for, and in fullest roar when the scores so demand. But any Rachmaninoff concerto—whatever else it may be—is not a Brahms concerto, i.e., a symphony with piano obbligato.



COURTESY CBS RECORDS

Cecile Licad and Claudio Abbado team up in Rachmaninoff Rhapsody, Concerto No. 2

With this warning, what then does Licad do with these works?

Nothing whatsoever worth remembering.

However much Abbado may push, pull, prod, or impel, when it is Licad's turn to shine and capture our attention she seems only overwhelmed by the score, if not defeated. There is no doubt that she can play the notes, albeit blandly, and perhaps there

is no small accomplishment in so doing; still, at no point does she indicate that she knows or even much cares what impassioned music lies between the notes.

Licad may have won praise from some quarters, but this sad debut disc presents us with a lurid example of what can happen when media hype finally must cope with the challenges in scores such as these.

THOMAS L. DIXON

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The Tape Deck

Critiques of new cassette and open-reel releases by R. D. Darrell

Fortepianos . . .

OF ALL PERIOD-INSTRUMENT recordings, the most arrestingly mind-opening may well be those featuring early pianos and the music written for them in the late 18th and early 19th centuries. To be sure, ears long accustomed to the richly resonant sonorities of modern grands will find—at first—that most fortepianos sound tonally lightweight, even a bit wooden, or clattery or tinkly. But as soon as we become aurally decompressed, we begin to relish the stimulatingly different, if narrower ranging, timbres. The prime satisfaction comes in realizing that it's exactly these sounds that best fit the music written with these instruments specifically in the composer's mind.

Two of the foremost American fortepiano proponents are Malcolm Bilson and Robert Levin, who gave us the superb first installment, back in June 1982, of a projected complete Nonesuch series of Mozart's four-hand piano works. Now, playing replicas of Dulcken and Stein instruments, they turn to the principal two-piano compositions: the K. 448 Sonata, with its effervescent, near-perpetual-motion outer movements; the muscular K. 426 Fugue; and a prize novelty—a recently discovered, delectably songful Larghetto and Allegro fragment unknown to Köchel that has been ingeniously completed by Levin (Nonesuch 78023-4).

An unexpected newcomer to these realms is Peter Serkin, using a Graf instrument belonging to the Schubert Club of St. Paul, Minnesota. Perhaps its provenance inspired him to record no less than 50 Schubert dances: *Valses sentimentales*, *Deutsche Tänze*, etc., only a few of which are likely to be familiar (Pro Arte digital/chrome PCD 171). But they all magically transport us to a Viennese Schubertiad with Franz himself playing for his friends' dancing. No Schubertian—whether or not he has already discovered the enchantments of this repertory in, say, Paolo Bordoni's modern-piano complete waltzes for Seraphim (August 1979 "Tape Deck")—can afford to miss Serkin's unique melding of tonal and tuneful delights.

Still playing the same Graf fortepiano, young Serkin goes on to prove that even latish Beethoven sonatas (here Opuses 90 and 101 on Pro Arte digital/chrome PCD 111) don't need the sonic power of today's grands to disclose their full stature. These accounts throw entirely fresh light on the

music, and Opus 101 provides fascinating comparisons with the more overtly Romantic, rich-toned modern performances by Serkin *père*, c. 1972, now on CBS M 31239.

. . . and pianofortes. For larger-scaled Schubertiana and fuller sonorities, we have only to move from the dances above to the latest modern-piano releases by such notable interpreters as Alicia de Larrocha, Richard Goode, and Sviatoslav Richter. De Larrocha's Schubert—the mighty last sonata (D. 960) and plaintive *Moment musical* No. 6 on London digital/chrome LDR5 71067—is every bit as limpidly gracious as we have come to expect from her, and more radiant tonally than perhaps any recorded Schubert pianism to date. Goode's D. 958 Sonata, first of the incomparable final trilogy, and his 12 *Deutsche (Ländler)* of D. 790 (Nonesuch digital/ferric 79064-4) are worthy companions to his memorable last two sonatas for Desmar [see "Good(e) Piano, on Tape," May 1982]. Richter's latest Schubert offering is drawn from the same 1979 concert series in Japan as that noted in last August's "Tape Deck." Now he brings his awesome virtuosity to the earlier D. 575 and 625 Sonatas (Vox Cum Laude digital/chrome D-VCS 9026) and to three *Moments musicaux* and two *Impromptus*, plus Schumann's *In der Nacht* and *Traumens Wirren* from his *Phantasiestücke* (D-VCS 9029).

One of the most austere complex keyboard pieces ever written is Busoni's *Fantasia contrappuntistica*, but at least its two-piano version is somewhat less impossible to play or to follow—as is powerfully revealed in its first digital recording by Paul Jacobs and Ursula Oppens. Their Nonesuch ferric taping (79061-4) is also invaluable for Beethoven's own four-hand arrangement of his scarcely less demanding Opus 133 *Grosse Fuge* and Busoni's two-piano transcription of Mozart's K. 608 *Fantasia for a Musical Clock*. But it is most poignantly treasurable as a memorial of the late Paul Jacobs's last recording sessions. [See review, p. 65.]

Max Wilcox, producer of the Jacobs/Oppens and Goode programs above, is also to be credited with Ivan Moravec's latest two: a Chopin mazurka/waltz/polonaise miscellany (Vox Cum Laude digital/chrome D-VCS 9059), and a Brahms/Schumann recital (Nonesuch digital/ferric 79063-4) that features the former's Opus 117 *Intermezzos*, plus a capriccio and a rhapsody, with the latter's *Arabeske* and

complete *Kinderszenen*—all infused with exceptional poetic sensibility. [See review, p. 64.]

And we have, *in posse* at least, an exciting virtuoso newcomer in the Greek teenage prodigy Dimitris Sgouros, with brilliantly ringing, bravura versions of the formidable Brahms *Paganini Variations* and Schumann *Études symphoniques* (Angel digital/ferric 4XS 38075).

Technicolor spectacles: in cassettes

. . . If you crave more than black-and-white pianism, old or new, can ever provide, there are current supersensational alternatives. Two are by Bernard Haitink and the Concertgebouw Orchestra of Amsterdam: the jingoistic Shostakovich 12th Symphony and the *Overture on Russian and Kirghiz Folk Themes* (London digital/chrome LDR5 71077), and Mahler's Seventh in a more warmly lucid version (Philips prestige-box digital/chrome 410 398-4), but one less mordant than his c. 1971 account.

More unusual and interesting, however, is the near-hackneyed Mussorgsky *Pictures at an Exhibition*, given a new lease on life in a Vladimir Ashkenazy orchestration that may not be as sharp-etched as Ravel's, but surpasses it in a far less blatantly grandiloquent *Great Gate* finale. Hard on the heels of Ashkenazy's piano original last month, his comparably idiomatic Philharmonia Orchestra performance is filled out by Borodin's ever thrilling *Polovtsian Dances*, with chorus (London digital/chrome 410 121-4). [See review, June.]

. . . and in open reels (\$10.95 each, from Barclay-Crocker, 313 Mill St., Poughkeepsie, N.Y. 12601). There's more great modern pianism in Claudio Arrau's c. 1980 Debussy *Préludes*, Bks. I & II (Philips/B-C G 9500 676 and 9500 747), where they seem to assume a more vivid presence and poetic eloquence than in their earlier cassette formats.

Other uninhibitedly technicolored spectacles include two symphonic ones by Herbert von Karajan and the Berlin Philharmonic: the cloud-piercing Richard Strauss *Alpensinfonie* and Carl Nielsen's Fourth (*The Inextinguishable*) Symphony (Deutsche Grammophon/B-C R 2532 015 and 2532 029). The interpretations may be debatable (personally, I find Karajan's Strauss closer to the mark than his Nielsen), but the monumental sonics captured so effortlessly here are unquestionably magnificent. **HF**



CAROL FRIEDMAN

The Return of Mutt 'n' Jeff

by Francis Davis

Veterans Ira Sullivan and Red Rodney are playing vital music (together) again.

RED RODNEY REMEMBERS meeting Ira Sullivan for the first time around 1950. "His father took him to hear me play with Charlie Ventura, and to show you how long ago that was and how young we both were, I was still taller than he was! Not to compare them, you understand, but I get the same thrill playing with this man that I got playing beside Charlie Parker."

Ira Sullivan puts a lot of muscle into a

handshake, trapping your unsuspecting mitt in his and squeezing hard, hoping the pain will force your eyes to meet so he can stare you down. "I hope you're not planning to ask us the usual questions about where we grew up and the people we played with way

Francis Davis is a contributing editor of Musician magazine and writes about jazz for the Boston Phoenix.

back when. Red and I prefer to talk in the present tense and see where we go from there."

The odd couple, their publicist calls them, and one critic dubbed them Mutt 'n' Jeff—Red Rodney, a squat, cherubic-looking man who could not be more forthcoming or direct in answering biographical inquiries; and Ira Sullivan, a looming, ruggedly intense man who talks in circles but never stops talking. But they do agree that there's no time like the present. For after 30-odd years of occasional record dates, the two friends are at last traveling together as coleaders of a tight, vigorous, and popular quintet. "Sprint," the latest and richest of their four albums, was nominated for a Grammy last year.

The most quixotic of the bop era trumpeters, Rodney has retrieved his jazz career from the scrap heap at the age of fifty-six. "I thank God I'm back doing what I was born to do," he says. And he is playing better than ever, stretching himself—thanks to his iconoclastic partner—far beyond the stylistic parameters of bop. At fifty-two, Sullivan, who plays trumpet and flugelhorn as well as an assortment of saxophones and woodwinds, is finally gaining national visibility following three decades as an insider's favorite.

His what's-past-is-past protestations notwithstanding, the story of Sullivan and Rodney's current good fortune begins, as all stories must, in the past, a point Rodney tacitly acknowledges: "When you take a solo, it's as if you're speaking. That's your voice people are hearing, and everything you've experienced—good, bad, or indifferent—goes into shaping that voice."

Rodney's first trumpet was a bar mitzvah gift, and his first influences were the big band trumpeters he heard on the radio in Philadelphia, where he was born Robert Chudnick. He hit the road with bandleader Jerry Wald at the tender age of sixteen. "It was wartime, and all the mature trumpeters were being drafted, so there were openings for raw kids like me. I sacrificed a good portion of my adolescence; maybe that's why it took me so long to grow up."

Sullivan comes from a family "where everyone played music for personal enjoyment." He was born in Washington, D.C., "but when I was two years old, I said to my father, 'There's nothing happening here. Take me to Chicago—that's a jazz town.' And since fathers like to indulge their sons, we moved." Sullivan began studying both trumpet and saxophone as a child, "but I've always considered myself a trumpeter. The saxes are just a hobby. You see, Charlie Parker's lovely, full-throated sound made me want to play alto, too."

"Playing with Charlie Parker was the same as listening to him—inspirational," adds Rodney, who was Parker's front-line partner from 1949 to 1951. At the age of twenty-two, he had already been a key fig-

ure in several of the most important swing-to-bop transitional big bands—including Gene Krupa's, Claude Thornhill's, and Woody Herman's—when Parker beckoned. "I jumped at the chance; there is much more opportunity to express yourself in a quintet, and there was so much to learn from him."

Rodney is reluctant to recount the next chapter of his life, which found him masquerading as a major general and passing bogus army paychecks throughout the Southwest. "I needed money, and I was in and out of prison anyway because of my heroin habit. (I once had a problem, but that's long in the past.) I didn't want to do what so many other musicians were doing and turn to petty theft. If I was going to rip someone off, it was going to be the establishment." Wearing his general's disguise, Rodney conned his way into a Nevada air force base in 1958 and made off with a briefcase containing cash, securities, and classified information. That caper landed him in federal prison, but he put the time to good use, earning a college diploma and studying for a law degree. As a convicted felon, Rodney was prohibited from joining the bar, but he doesn't regret not being able to practice. "It's a thousand times more challenging to become a good improviser than it is to become a good lawyer, since legal arguments are all based on precedent. I like to think on my feet." (For more details on Rodney's late-Fifties escapades, read Gary Giddins's hilarious essay "The Adventures of the Red Arrow," included in *Riding on a Blue Note*, published by Oxford University Press.)

It appeared as if Rodney would be lost to jazz forever when he landed a job in a Las Vegas show band in the late '60s. "For the first time in my life, I had health benefits and a pension plan. I worked behind some fabulous entertainers, including Sinatra, Streisand, and Elvis Presley. But Vegas is quicksand for a jazz musician."

Meanwhile, Sullivan stayed put in Chicago. "I had everything I needed right there—clubs, people passing through town for me to play with, and occasionally Red or somebody else would fly me to New York for a record date. All I've ever wanted to do is play. I didn't have to go on the road and scuffle; I could scuffle at home."

In the mid-Sixties, Sullivan moved to Miami. He is typically elliptical about the reasons why. "All I knew about Florida came from this *Popular Mechanics* ad that showed a silver-haired couple in a rowboat and said, 'You can live on \$50 a month.' There was no jazz scene to speak of when I first got there, but within a year or two I was working more than ever."

"Ira creates a jazz scene wherever he goes," Rodney says admiringly. Shortly after Sullivan's arrival, the University of Miami initiated a jazz curriculum, attracting many talented young musicians, including electric bassist Jaco Pastorius and guitarist Pat Metheny; they studied formally at the University, informally with Sullivan. It was inevitable that Sullivan would become involved in the school's program, but so far he has limited his teaching to summer intensives. "I've seen it happen too many times: Become full-time faculty, and your horn just sits on the shelf," he says. Still, working with the younger generation clearly excites him, though he voices some misgivings about the academic approach. "There's just no substitute for the kind of on-the-job training Red and I were lucky to receive as kids. You can't teach anyone to play a ballad, either, because that love of melody is something all great players were born with. Youngsters are so determined to run the chord changes on every piece, they'll play a Monk tune and it'll come out sounding like *Ornithology*. You've got to say to them, 'Whoa! You're not playing bebop now. You're playing Monk.'" *(Continued on page 81)*

Selected Discography

RED RODNEY and IRA SULLIVAN QUINTET

Red Rodney Live at the Village Vanguard with Ira Sullivan. Muse 5209; 1980.
Night and Day. Muse 5274; 1982.
Spirit Within. Elektra Musician 60020; 1982.
Sprint. Elektra Musician 60261; 1983.

RODNEY featuring IRA SULLIVAN

Modern Music from Chicago. Fantasy 3-208; 1955. (Rereleased as Fantasy OJC 048; 1983.)
Red Rodney. Signal 1206; 1957. (Rereleased as **The Red Arrow.** Onyx 204; 1973.)

SULLIVAN featuring RED RODNEY

Ira Sullivan Does It All. Muse 5242; 1983.

RED RODNEY

Bird Lives. Muse 5034; 1974.
Superbop. Muse 5046; 1975.
The Red Tornado. Muse 5088; 1976.
Red, White & Blues. Muse 5111; 1977.
Home Free. Muse 5135; 1978.
The Three R's. Muse 5290; 1982.

RODNEY with CHARLIE PARKER

The Verve Years 1950-51. Verve VE2 2512 (two discs); 1976.

IRA SULLIVAN

Nickie's Tune. Delmark 422; 1962.
Horizons. Atlantic 1476; 1967. (Rereleased as *Discovery* 873; 1982.)
Ira Sullivan. A&M Horizon SP 706; 1975.
Ira Sullivan. Flying Fish 075; 1980.
The Incredible Ira Sullivan. Stash 208; 1980.
Peace. Galaxy 5114; 1981.
Multimedia. Galaxy 5137; 1982.

BACKBEAT

Reviews

Carla Bley: Heavy Heart
Carla Bley & Michael Mantler,
producers. Watt/ECM 25003-1

Carla Bley is a composer, arranger, band-leader, record producer, and pianist whose long association with the avant-garde has not prevented her from becoming one of jazz's prime humorists and finest ballad writers as well. She has an easily recognizable big band style, yet she owes as much to its swing tradition as to the music hall vulgarities deliberately assumed by Kurt Weill, sharing his irony and love of basic melody, too. Bley works in broad strokes: Her trombones bray, her ballads weep, and yet throughout all there is a characteristic whimsy. On her "Musique Mechanique" (Watt 9), she arranges part of the music so that it sounds as if there's a scratch on the record. She's a parodist.

Despite its title, "Heavy Heart" is a light, relaxed album. *Ending It* features the extroverted trombone of Gary Valente; he wails melodramatically, at times playing the striking melody over Bley's soap opera organ. This performance might be compared to one of her drinking songs—it has a German brass band quality, which suggests that if the narrator is really going to end it, it will be only after crying in his cups a while.

Talking Hearts is a genial ballad played over a heavily syncopated beat. On *Starting Again*, the manner in which horns ascend a scale during a chorus suggests rising hysteria. Then a muffled guitar solo ends with some ominously sustained low notes by the band. The mood breaks with a sunny new melody introduced by Steve Slagle's alto. That break in the clouds typifies "Heavy Heart."

MICHAEL ULLMAN

Edmond Hall Sextet: Rompin' in '44
Milt Gabler, producer
Circle CLP 52
(3008 Wadsworth Mill Place,
Atlanta, Ga. 30032)

Edmond Hall was one of the most brilliant clarinetists in jazz and easily the most imitable. The styles of Benny Goodman and Sidney Bechet have often been copied, and some of Pee Wee Russell's idiosyncracies have been duplicated. But no one has been able to put together Ed Hall's combination of tone and attack—his broad, wiggling,



DEBORAH FENGOLD

Jazz flutist Newton: premier recording artist and selfless leader

grainy sound and his edgy, leaping clusters of notes.

Aside from his three years with Louis Armstrong's All-Stars in the late '50s, Hall never played with prominent bands. But for almost a decade in the '40s he was in the house band at New York's two Cafe Societies. Hall's band had only one commercial recording session for a short-lived small label, so this disc—the product of radio transcriptions made for the World Broadcasting Systems in 1944—provides a rare opportunity.

On such standards as *The Sheik*, *The Man I Love*, *Night and Day*, and *Caravan*, this is a tight, crisp group. It has the attack and tone of John Kirby's sextet, with the added color of Hall's warm, agitated clarinet and some feathery piano by Ellis Larkins. But some originals by Larkins and trumpeter Irving Randolph are heavy-handed by comparison.

Hall's playing is exemplary—buoyant on *The Sheik*, suave and graceful on *Night and Day*, and definitive on *The Man I Love*, which became his trademark solo. Unfortunately, this is one of those sessions at which every note was preserved—false starts and incomplete versions as well as all the complete ones, issued and previously unissued. This is a questionable way to fill out an LP, but, mercifully, most of the repetition is concentrated on one side. JOHN S. WILSON

James Newton: Luella
James Newton & Jonathan F. P. Rose,
producers. Gramavision GR 8304
Dusan Bogdanovic: Early to Rise
Lee Townsend, producer
Palo Alto PA 8049

"Luella" is a landmark for James Newton. At thirty-two, he has already proven himself to be the finest flutist of his generation

and a composer of rare ingenuity. His breakthrough now is one of artistic sensibility: he's finally giving in to his emotions.

Newton's blowing has always been lustrous and commanding—thankfully, there is nothing "pretty" about his style—but his proficiency too often limited his depth. The multnotated cascades of reedman Eric Dolphy have obviously been Newton's main influence; now he is beginning to heed Rahsaan Roland Kirk's exuberant call, concentrating on sound as well as notes. He's more open and vulnerable. Throughout "Luella" he shrieks, moans, and yelps, which is wonderfully liberating for both the artist and his audience.

Newton also continues to dig deeper as a writer. He has a dual compositional nature that sets the romantic streak of his lush harmonic ballads against a brooding, minor-key moodiness. Opening with a gorgeous Ellingtonesque love song, *Not Without You*, "Luella" ends with its title track, a somber, 16-minute neoclassical opus dedicated to Newton's recently murdered aunt. A tender reading of Wayne Shorter's *Anna Maria* and two driving originals round out the album.

One of jazz's great selfless leaders, Newton generously uses the first-class musicians he surrounds himself with to achieve arresting instrumental voicings and continuously shifting textures. Vibist Jay Hoggard, violinists John Blake and Gayle Dixon, and cellist Abdul Wadud are all prominently featured, often in unaccompanied spots. Bassist Cecil McBee and drummer Billy Hart again prove that they are the great rhythm section of the '80s. The care with which Newton has chosen these players, and composed for them, is typical. It's also what has made him a premier recording artist: Anything under his own name is now a guarantee of exciting and increasingly

For additional reviews of Pop and Jazz music on videocassette and Compact Disc, see NEW TECHNOLOGIES.



DARRYL PITT

Carrasco: border town weddings and garage band spunk

personal music.

Unfortunately, "Early to Rise" offers little comparison. Guests of Dusan Bogdanovic, including Newton, bassist Charlie Haden, and percussionist Tony Jones, turn in a highly competent but meandering set that often drifts into soporific ECM territory. Bogdanovic, a Towner/McLaughlin disciple, has technique to spare, but his ersatz jazz/classical/flamenco style lacks focus and, more importantly, guts. Newton sounds academic, and Haden—with his time-stands-still solo approach—is precisely the wrong man to stir things up. "Early to Rise" needs more heated four-way interaction—without which it remains ruminative to the point of drowsiness.

STEVE FUTTERMAN

Michel Petrucciani: 100 Hearts

Gabreal Franklin, producer
Concord Jazz GW 3001

"100 Hearts," a solo recital by twenty-one-year-old pianist Michel Petrucciani, a Frenchman now living in California, is his first American recording. "Toot Sweet" (duets with Lee Konitz) and the trio collection "Michel Petrucciani" are on the French Owl label. He was featured on "Montreux, 82" (Elektra Musician 9) by the Charles Lloyd Quartet, and his solo on *Forest Flower*, in its good-humored rhythmic excitement, rivals Keith Jarrett's work on the tune with an earlier Lloyd group.

But all this seems like an apprenticeship compared to "100 Hearts," which reveals Petrucciani as one of today's most exciting jazz pianists: flamboyant on his own *Three Forgotten Words*, intense and witty on the Ornette Coleman blues, *Turn Around*, and appropriately somber on Charlie Haden's *Silence*. His technique is ample despite his size (because of a bone disease he's less than three feet tall). Petrucciani can bury melodies playfully under rhapsodic swirls, runs, and heavily pedaled chords. Or isolate a tune, attacking each note delib-

erately while his left hand rumbles below; he sounds as if he's chiseling the melody in granite.

Petrucciani's timing is perfect, and perfectly dramatic, and yet there is nothing heavy about his playing. He's often witty: An unexpected juxtaposition of a figure from Dizzy Gillespie's famous version of *All the Things You Are* with the melody of Bill Evans's *Very Early* pops up in his Evans tribute, *Poppouri*. The traditional walking bass of *Turn Around* leads into odd harmonic ground, and some of the trills and harplike runs in the right hand seem like ironic comments on the left hand's stolid ambling. Yet he's also able to tame his technique to meet the emotional demands of Haden's mournful composition. And his exuberant version of Sonny Rollins's calypso, *St. Thomas*, is one of the few recordings to do justice to the original.

The album ends with a 12-minute version of the pianist's *100 Hearts*, so named because the piece is 100 bars long. Despite its title, the performance is not prissy. If anything, Petrucciani tends to be too rich rather than too delicate. This album shows him solving that problem, too.

MICHAEL ULLMAN

Pop

Joe "King" Carrasco & the Crowns:

Tales from the Crypt
Joe Gracey, producer
ROIR A 128 (cassette only)

There are few bands for whom the rough draft is as appropriate a vehicle as it is for Joe "King" Carrasco & the Crowns. Eleven of the dozen songs on "Tales from the Crypt" are demo tapes, recorded in an Austin, Texas, basement in 1979. Their live sets from around the same time had a wild spontaneity; they could turn any urban dive into a festive cantina with their peppery

Tex-Mex garage-rock, and this cassette-only release has a lot of the flavor of those memorable shows.

Because the Crowns had been together only a short while, there's a tentativeness to some of the tracks: *Buena* drags its feet a bit, and the drumming on some other songs doesn't so much set the beat as timidly suggest it. Kris Cummings's vivacious organ-playing falls back too often on the riff from *Double Shot of My Baby's Love* (it's her stock phrase, like a politician's pat answer to a question about school prayer). Still, the giddiness of these first versions of *Let's Get Pretty*, *Federales*, *That's the Love*, and *Caca de Vaca*, as well as the later-recorded *Monkey's Got My Frisbee*, is contagious.

Carrasco built the sound of the Crowns on such '60s records as ? and the Mysterians' *96 Tears*, the Sir Douglas Quintet's *She's About a Mover*, and the aforementioned *Double Shot*. While he hasn't written any songs to match those, he more than gets by on prankish spunk, reducing both English and Spanish to rudimentary gibberish. The phrase "wild fourteen" comes out sounding like "whaverdain," and "caca de vaca" seems to belong in his private lexicon. (John Morthland's revealing liner notes tell us that Carrasco flunked high school Spanish, and no wonder.) Surrounding his yelping is a Farfisa-based concoction that's equal parts mariachi, doo-wop, rockabilly, and polka. If you were to hold your wedding in a border town saloon, this is the band you'd want to hire.

"Tales from the Crypt" is primarily a fan's document. More than half the songs turned up in slightly more polished form on "Joe 'King' Carrasco & the Crowns" in 1980, and the previously unrecorded *Morning Coffee* and *Sweet Little Rock 'n' Roller*, the Chuck Berry classic, never really get off the ground. However, like other valuable ROIR cassettes—The Fleshtones' "Blast Off," Human Switchboard's "Coffee Break," and especially the New York Dolls' "Lipstick Killers"—this tape offers an alternate angle, a chance to hear a band creating itself. For some of us, "Tales from the Crypt" is a souvenir, but anyone looking for lively, unpretentious rock and roll should check it out. *Arriba!*

MITCHELL COHEN

Crusaders: Ghetto Blaster

Wilton Felder, Joe Sample,
& Leon Ndugu Chancler, producers
MCA 5429

By not pandering too much to any musical era's stylistic excesses, the Crusaders have stayed together through 47 (!) albums in 20 years. They sound rooted in tradition, yet fresh. They may never have made the earth move, but at their best—their early '70s chugger *Put It Where You Want It* and 1979's *Street Life* (with vocalist Randy Crawford)—the group's seamless mixture of pop-jazz with smooth funk rhythms has

Boogie and Electric: True Blues

Boogie Blues:

Women Sing and Play Boogie Woogie
Rosetta Reitz, producer
Rosetta RR 1309 (115 W. 16th St.,
New York, N.Y. 10011)

Boogie woogie piano. "eight to the bar": The right hand rocks while the left hand rolls. It's the most relentlessly upbeat form of blues, created by Southwestern blacks whose relatively wide-open environment and social status weren't reflected in the gutbucket blues of the harsher, more dangerous Deep South. Often simply structured—relying on sheer speed to create excitement—boogie was frequently perceived as novelty music. But as Dorothy Donegan's virtuoso solo piece *Piano Boogie* demonstrates, with its bass and treble figures bobbing in and out of each other as the momentum accelerates, it could also be remarkably complex.

So let's not quibble with producer Rosetta Reitz's specious theory in the liner notes that the form originated with Arizona Dranes, a blind gospel pianist of the Twenties whose style was not significantly different from that of numerous other men and women. Or point out that the title is somewhat misleading, in that women play boogie on only about half the cuts; on the rest they sing, accompanied by male pianists. With just a couple of exceptions, the 16 tracks on this anthology, recorded between 1930 and '61, offer an exemplary survey.

Copeland: subtle, evocative, fresh



Lil Armstrong's *Original Boogie* reveals boogie's roots in ragtime, while Lucille Bogan's risqué *Alley Boogie*, Merline Johnson's equally spicy *Want to Boogie Some More*, and Memphis Minnie's *Shout the Boogie* place it in the context of country blues. Sweet Georgia Brown's *The Low Down Lonely Blues* and Christine Chatman's *The Boogie Woogie Girl* do the same for city blues. Whereas Helen Humes's *Be Ba Ba Le Ba Boogie* and the Donegan cut both point the idiom toward bop, Mary Lou Williams's *Monkish Boogie Misterioso* is even more futuristic, and Ella Fitzgerald's sly, smooth *Cow Cow Boogie* turns Tin Pan Alley boogie into a hipster's delight. Sister Rosetta Tharpe's guitar on the gospel *Strange Things Happening Every Day* lays the groundwork for the first generation of rockabilly guitarists, while Gladys Bentley's ferocious *Before Midnight* brings boogie into the postwar era of modern r&b.

And all these sides have been skillfully remastered for optimum sound quality. It may not entirely live up to its billing, but "Boogie Blues" sure can't be faulted for its music.

JOHN MORTHLAND

Johnny Copeland: Texas Twister

Dan Doyle, producer
Rounder 2040

Johnny Copeland is that modern-day rarity, the blues original—one of the few "young" (he's pushing fifty) electric bluesmen able to infuse traditional forms with enough inspiration and imagination to keep them fresh. After two decades kicking around the competitive Houston blues scene and another decade struggling for a foothold in New York City, he released his first album in 1981. This is his third, and best—his most varied and confident.

As a guitarist, Copeland has assimilated influences ranging from T-Bone Walker (the father of electric blues guitar) and Clarence "Gatemouth" Brown (Walker's chief rival in Texas in the Forties and Fifties) to Louisiana's Guitar Slim, from such obscure Houston figures as Goree Carter and Clarence "Bon Ton" Garlow to more familiar names like B. B. King. But when he plays his fat, jagged lines, he sounds like none of them. As a singer, Copeland employs a marvelous grit-and-gravel, full-throated attack. But he's capable of much more subtlety than he usually gets credit for, as the warmth of *Midnight Fantasy* or the nasal twists of *Houston* demonstrate.



Donegan: more than "eight to the bar"

Producer Dan Doyle and pianist/arranger Ken Vangel have given these songs—all but one of them written by Copeland—smart, sassy arrangements utilizing a sonorous horn section. *Midnight Fantasy*, which opens the album, sounds like Bo Diddley-meets-Professor Longhair, with Copeland's staccato solo and gruff delivery supplying the glue that holds it together; *Early in the Mornin'*, which closes the set, rides a straight Longhair/New Orleans rumba beat. Archie Shepp's tenor solo keeps *North Carolina* from flying away as Copeland's voice simulates the sound of an airplane disappearing into the distance. *I De Go Now*, a slow blues featuring his dirtiest Guitar Slim-styled licks, uses West African syntax to tell a story set in the Louisiana bayous. But the most memorable song here is also the most unprepossessing. *Jessamine* is a relaxed, atmospheric instrumental showcase for soloists: it is loose, lazy, and lilting, conjuring up the image of swaying couples in a Gulf Coast after-hours club, and the melody lingers in the air long after the music has stopped.

As usual, Copeland brings along an interesting batch of guest stars, including Shepp, trombonist George Lewis, and white blues guitar wunderkind Stevie Ray Vaughan. Also as usual, it remains Copeland's show all the way. If you've missed him so far, this is a great way to catch up.

J. M.

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dignity and class.

The core lineup is now a trio: original members Wilton Felder on sax and bass and Joe Sample on piano, and Leon Ndugu Chanceler, who replaced longtime drummer Stix Hooper. Chanceler is best known for his contribution to Michael Jackson's "Thriller," and it's clear that as a Crusader his influence is a modernizing one: His crisp, springy backbeat is more assertive and on-the-beat than the band's traditional groove. Perhaps because of this change, Felder's tenor sax fills on *Gotta Lotta Shakalada* aren't as buttery and slick as usual. And yet on *New Moves*, his alto sax solo is the epitome of relaxed soulfulness, which suggests that although this new trio is still finding its stylistic legs, the ultimate results should be formidable.

Zalal 'E Mini (Take It Easy), a Felder composition built around a darkly soothing horn line he plays with trumpeter Chuck Findlay, features an eloquent electric piano solo that's prime Sample: flowing modal jazz lines seasoned with this r&b vet's intricate, crosscut rhythm patterns. A liberal dose of semi-anonymous female backup vocals is most convincing only on *New Moves*, which Sample co-wrote with the gifted lyricist Will Jennings. *Dream Street*, a rhapsodic orchestration for strings and rhythm section with a haunting, moodily authoritative Felder on alto sax, represents a departure for the group as a whole.

CRISPIN CIOE

Hwu Gower: *Guitarophilia*

Hwu Gower & Jerry Thichava, producers
X-Disque SNIB 01 (175 Fifth Ave.,
New York, N.Y. 10010)

Kevin Dunn:

C'est Toujours La Meme Guitare

Kevin Dunn & Peter Dyer, producers
Press P 2007 (432 Moreland Ave.,
Atlanta, Ga. 30307)

What becomes of talented guitarists who came of age fronting now-defunct late-Seventies new wave rock groups? With Hwu Gower and Kevin Dunn, the answer is that they resurface in the '80s with solo EPs, their respective artistic visions intact.

Gower is an Englishman-turned-New Yorker whose group the Records had one brilliant, guitar-jangling hit single, *Starry Eyes*. When they broke up, he became a journeyman, recording and touring with Carlene Carter, Rachel Sweet, David Johansen, and, most recently, Graham Parker. Despite its title, "Guitarophilia" is by no means an exercise in plectrum histrionics. Instead Gower, influenced by mid-Sixties Beatles, Badfinger, and the Byrds, has focused on smartly arranged pop-rock tunes.

His vocals are tough and serviceable, but the real attractions here are his deftly intertwining guitar parts. They range from the gleaming, Clapton-ish arpeggios that swirl through *Love On Demand* to the tight-



DORRILL PITT

Crusaders' Felder: moodily authoritative

ly constructed web of single-string lines on *Calling Out the Heretics* that acknowledge the Police school of arranging without slavishly imitating it. This latter song, which deals with the Falkland Islands crisis, also reveals a finely wrought sensibility that combines sardonic British irony with clearly humanist impulses, as he sings, "Now it barely rates the London *Times*/Mid-morning specials on TV/Shepherds tripping on the land mines/Forgotten by the war machine." Gower has a keen lyrical ear and an effortlessly melodic bent on guitar.

Kevin Dunn's guitar moves are more obscure than Gower's, but he, too, is a genuine if eccentric talent. Dunn was a member of the Fans, reputedly Georgia's first progressive, new wave band, and "C'est Toujours La Meme Guitare" is his second solo EP. His current band, the Radical Centrists, perfectly fits his philosophical take on post-punk rock and roll.

Dunn fairly revels in producing off-beat guitar sounds, which careen from the bittersweet textures of *Shuttle* to a fuzzed-out banshee wail on *Ad Hoc*. He contrasts his ample technical chops with deliberately tinny effects, like the Casiotone organ chords on the latter song. In fact, mixing up the sacred and the profane seems to be Dunn's preferred aesthetic ploy, which can occasionally be grating, especially when his lyrics verge on the precious or glib: "Got my reservations as regards the horde/(Got my reservations on the next Concorde)." His vocals may sound like a rather transparent cross between David Byrne and Lou Reed, but his guitar solos evoke favorable comparisons with Jeff Beck, Robert Fripp, and Adrian Belew—all filtered through a resolutely wacky, Southern-fried viewpoint.

CRISPIN CIOE

(Continued on page 81)

Hank the Drifter

The best collection of
the best c&w artist:
Hank Williams

Reviewed by
John Morthland

Hank Williams: 40 Greatest Hits
Fred & Wesley Rose, producers
Polydor 821233/1 (two discs)

HANK WILLIAMS was the greatest country and western artist of his (or any other) era, but with a few exceptions he wasn't really an innovator. It doesn't diminish his greatness a bit to make that claim, for Williams accepted the limits of his idiom and then invested them with more passion and personal conviction than anyone around.

That meant he recorded with a standard string band (like his road band, the Drifting Cowboys). His songs, and his recordings, were very much collaborations with Fred Rose, the one-time Tin Pan Alley writer who was Hank's Nashville mentor, producer, and publisher. In his short career (less than six years), Williams cut 93 sides, usually with his own acoustic guitar, an electric lead guitar, steel, fiddle, and bass. Sometimes mandolin, piano, or another acoustic guitar was added, but Rose didn't use drums until Hank's last session in September 1952. In addition to the completed records, there were about 65 demos, outtakes, or incomplete sides on tape when the doomed Williams died on January 1, 1953.

But you wouldn't have known any of this until the domestic release of "40 Greatest Hits," available since 1978 only as an English import. That's because as soon as Williams died, his record company (MGM) began altering his material in an attempt to either introduce it to new audiences or keep up with changing tastes in the country market. Overdubbing the Drifting Cowboys on the guitar-and-voice demos was the first step, and hardly an atrocity. But soon drums and piano were added to everything, and from there, things became increasingly odious. "Hank Williams with Strings," a whole album full of background choirs, banks of violins, and other inappropriate instruments drowning out his voice and tight country band, was the most extreme

John Morthland is the author of The Best of Country Music, a guide to albums, published in June by Doubleday/Dolphin.



example. Soon the original recordings fell out of print and the mutations became the only Williams available in America; on this definitive album, however, the songs are restored to the form in which they were first released, mono and all.

Williams was born in 1923, when country music was evolving from primarily instrumental to primarily vocal music; he was thus heir to the entire country vocal tradition. You could hear that in his timing and backwoods phrasing, the way he made his voice "tear" as he wrapped it around words. His primary innovation was to begin lines by breaking his voice high on the first word and then descend into a lower register, the opposite of the standard country style. He did it first on *Honky Tonkin* (November 1947), not included here, but the most fully developed performance is on *Your Cheatin' Heart*, from his last session in 1952. As he sings, "When tears come down/Like fallin' rain/You'll toss around/And call my name," his voice swells at the end of the first and third lines, while the last words of the other two lines are thrown away in disgust. Hank's voice is all tension and all spite; the song was written, of course, to his notorious wife, Audrey, with whom he waged a classic love-hate relationship.

Rose didn't use the Drifting Cowboys on recordings initially, opting instead for a session band usually headed by the Hawaiian steel guitarist Jerry Byrd, fiddlers Tommy Jackson or Chubby Wise, and especially electric guitarist Zeke Turner, who devised the lovely hook that seconds

Hank's emotion on *I'm So Lonesome I Could Cry*. Turner also came up with the "sock rhythm" or dead-string technique of damping the guitar strings with the back of his hand after hitting them. This added rhythmic thrust to the uptempo songs without resorting to drums and paved the way for rockabilly. When the Drifting Cowboys began backing Williams on sessions (with *Howlin' at the Moon* in March 1951), they streamlined the sound. Fiddler Jerry Rivers, guitarist Sammy Pruett, and steel player Don Helms were discouraged from playing the jazzy "take-off" solos (i.e., solos that depart from the melody) favored by the previous musicians. Pruett's "boom-chicka" guitar style was an obvious extension of Turner's sock rhythm. And Rose forced Helms to play in higher and higher registers until finally the cry of the steel was an echo of Hank's own.

Williams was a product of—and a touchstone for—the postwar, transitional South as it hurtled from rural to urban culture, from agrarian to industrial, from underdeveloped to technological, from oral tradition to mass media. The rapid change was unsettling and disorienting, and while he didn't address those issues directly, he did speak clearly about the turmoil in his personal life. And what he said was that his life was a shambles, he had no control over anything, everything was going too fast, he was torn up from his roots and on a treadmill he couldn't escape. Hank Williams brought the modern world into country music, and in doing so, he brought country music into the modern world. **HF**

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MOZART, THE KONZERTMEISTER

(Continued from page 62)

digital technology—her 1983 coupling of
the First and Fifth appears on London's
budget Jubilee label. Confirming the earlier
promise, it strikes me as a near paradigm in
interpretation, performance, and engineer-
ing: combining spontaneous verve with lilt-
ing grace, and poetic eloquence with taut
yet always resilient control, on the part of
the ensemble no less than that of the endear-
ing soloist herself. In sum, these are the
most fully satisfactory and rewarding, truly
Mozartean violin concerto recordings I've
yet encountered in modern-instrument ver-
sions.

Period-instrument explorations of this
repertory are scanty, and as yet little known
or widely welcomed. The only example I
know at first hand is the c. 1974 set by Jaap
Schröder (with the Amsterdam Mozart
Ensemble under Frans Brüggen) of the First
and Second Concertos, augmented by a
batch of isolated movements from the Ser-
enades Nos. 3, 4, and 5 and the K. 63 Cas-
sation/Divertimento. This was first released
on ABC Classics Seon, later MCA/Seon.
When the MCA edition went out of print in
1981, Pro Arte picked it up for reissue—
now in two-cassette as well as two-disc for-
mats that by some mischance had failed,
until lately, to replace the earlier editions in
SCHWANN.

As one of this set's generally dubious
reviewers (HF, March 1977), I'm belatedly
claiming the privilege of changing my
mind. I'm still unreconciled to some of
Schröder's expressive mannerisms and his
ensemble's tendency to surge. But with my
ears and mind now more familiar with peri-
od-authentic keyboard and orchestral Mo-
zart, I'm less disturbed. Indeed, I begin to
relish fully the ozone-fresh breeziness of
these readings as well as the piquancies of
their now pungent/now astringent timbral
qualities. Schröder's (own?) cadenzas are
blessedly unpretentious, and the accompa-
nying ensemble's size seems just right (no
more than seven violins and two each of
violins, cellos, and basses, plus paired oboes
and horns). I doubt that the original Salz-
burg players boasted many more except on
festive occasions.

In short, I've finally realized that it's
just this kind of tonal leanness, even astrin-
gency, that is needed to awake our ears—
soothed and coddled for too long—and lit-
erally provoke an entirely fresh understand-
ing of this perhaps small but by no means
insignificant segment of Mozart's immense
oeuvre. I wait impatiently for further and (I
earnestly pray) more widely persuasive
exploitations of period-instrument poten-
tials, as well as for the completion of the
truly delectable Brown/Academy modern
series.

Envoi: Don't ever think for a moment that
in music there isn't infinitely more for us to
learn—and to unlearn! **HF**

RED RODNEY & IRA SULLIVAN

(Continued from page 72)

With one man ensconced in Vegas and the other in Florida, Rodney and Sullivan had to be content being pen pals for the next two decades. Finally, they were reunited in Florida in 1980, when Rodney played a two-week engagement at the Fort Lauderdale club that was Sullivan's regular base of operations. His children having grown up and left home, Rodney had finally extricated himself from Vegas and its lulling financial security. He was on the move again as a jazzman and asked his friend to join him.

"Had it been anyone else but Red, I could have resisted," Sullivan explains, "but we went back such a long way together and the magic was clearly still there. I finally agreed under two conditions. One, we would be forming a band together, because I don't join anybody else's band. And two, we wouldn't just be playing the bebop hits of yesteryear."

After many auditions and tryouts the coleaders settled on bassist Jay Anderson and drummer Jeff Hirshfield. The mainstay in the rhythm section has been pianist Garry Dial, a questing soloist and the group's most prolific and protean writer.

"Sprint," recorded live at New York's Jazz Forum in late 1982, showcases the Rodney-Sullivan Quintet's impressive range. In addition to a fragrant *As Time Goes By* and an atmospheric but overlong and curiously torpid rendition of Herbie Hancock's *Speak Like a Child*, there are

three provocative Dial originals, each of them different from the others in thrust. Rodney is soloing with such exclamatory abandon these days that the vehicle hardly matters, but both Dial's *How Do You Know?* with its funky call and responses, and his droll stride send-up *My Son, the Minstrel* present the veteran trumpeter in the most flattering of settings. The denture problems that limited Rodney to the middle register throughout the mid-Seventies have been alleviated by a painful and complicated surgical process involving steel pins and tooth implants, and he has developed a warm and liquid tone on flugelhorn, an instrument he says "brings out a quieter, less aggressive side of my nature."

Although a number of two-trumpet flag-wavers remain in the band's book, Sullivan is choosing more and more to complement Rodney with saxophone or flute, which is all to the good as far as some listeners are concerned. Far from being mere "hobbies," soprano, alto, and tenor saxophones are the horns on which Sullivan communicates most forcibly. He unleashes an especially urgent alto solo on the "Sprint" LP's title cut, a Dial piece also boasting some heady, simultaneously improvised trumpet and saxophone banter between the two veterans. Appropriately, the track is dedicated to Ornette Coleman. "When Ornette's first record came out back in '58, I bought it and played it over and over until my wife said, 'Why do you keep playing that?'" Sullivan laughs. "I said,

'Because this music bothers the stuffings out of me and I won't let it, because I pride myself too much on being open-minded about new things.' A week later Ornette's music blossomed like a flower."

The Rodney-Sullivan Quintet's advocacy of modality and semi-free form troubles some longtime admirers, who wish the coleaders would stick to bop. "What they don't understand is that Ira and I still are playing bop, even if the rhythms underneath our solos are a little different and fresher," complains Rodney. And indeed, it is the coleaders' commitment to bop as a *living language* that makes the quintet such a joy to listen to in its sprightlier moments, even if its willingness to experiment occasionally yields nothing better than *pro forma* modal doodling. "I resisted some of Ira's suggestions myself at first," Rodney continues. "I fought him over some of the things he wanted me to try. He was taking me out of my comfort zone."

"Red is proud that he has proved to himself he's still capable of taking risks, as any man *would* be proud," Sullivan says. "It's just like my uncle, a railroad man back in Chicago. He was in his fifties when diesel engines came in, and he had to go to school to learn how to run them. He could've sat around grumbling, 'Aw, the old steam engines were better,' but he didn't. Music is the same way. You've got to accept change. It's only too bad that musicians are sometimes the slowest people to come around." **HF**

BACKBEAT REVIEWS

(Continued from page 76)

Stephen Funk Pearson: Hudson River Debut

Stephen Funk Pearson & Bill Scheniman, producers. Kyra KR 1001 (5 Willow Dock Rd., Highland, N.Y. 12528)

"Hudson River Debut" is an ingratiating collection of solo guitar pieces, a series of light, stately, classically influenced pieces. Stephen Funk Pearson's style is part Julian Bream, part Eric Satie, with a little John Fahey (skewed humor) and Django Reinhardt (jangling bursts of rhythm) thrown in.

But whimsy is what you'll hear the most of. The sole non-original, *Tubéscent*, is a medley of three kiddie-show TV themes: *Meet George Jetson*, *Happy Trails* (Dale Evans's tune for hubby Roy Rogers's series), and *Emighsee Kayeewhy* (from "The Mickey Mouse Club")—all of which Pearson, tongue planted firmly in cheek, treats with courtly grace and commanding flourish. On *Ardea Herodias Waltz* (*Dance of the Great Blue Heron*) and *Brunella the Dancing Bear*, he elicits guttural squawks, drum rolls, and crowd applause from his instrument. *Brunella* is both lissome and lumbering, engaging and surreal, like a Nino Rota soundtrack.

"Hudson River Debut" was recorded live in a studio during two days last sum-

mer—no overdubs. On solo guitar records, that usually means one thing: Gird thyself for lots of fancy, superfast, superdexterous playing.

But Pearson, an accomplished musician, is subtle and gentle; he's not into the ringing, intricate picking and plucking that seeks to impress on the basis of sheer technique. *Tricoscopie I, II, III* and *Fairgowlly* are peaceful and loping; *Jaringhe* is similarly ethereal. This music is smart, understated, and offered without pretense; it clears the head and quiets the soul.

STEVEN X. REA

Run-D.M.C.

Russell Simmons and Larry Smith, producers. Profile PRO 1202

It's Like That, the prize track on the debut album by Run-D.M.C., was the rap anthem of 1983, a hard-nosed litany of the social jungle's laws. Sure, the rich get richer—"It's like that/And that's the way it is," goes the matter-of-fact refrain—but rappers Run and D.M.C. have studied the theory of evolution too closely to leave it at that. Adapt and fight, they urge: "The next time someone's teaching/Why don't you get taught?"; "Stop playing, start praying"; "Do not be a fool who is prejudiced/ Because we're all written down on the same list." By the song's end, we hear the opti-

mism hidden within that chilling tag line, as if Run-D.M.C. have uncovered the cracks in the prison wall. School, work, and church are the options, and if you don't like them, well, it's like that.

Unlike many rap albums, "Run-D.M.C." isn't a filler-ridden bid for a quick buck. This is one of the fiercest, funniest releases of the year, a surefooted kick to Reagan's politics of exclusion—as one song goes, "Hard times got my pockets all in chains/I'll tell you what, old boy, it don't have my brains." Run-D.M.C. extol self-reliance and self-betterment, backed by stark drum-box accompaniment that affirms rap's do-it-yourself democracy. The rhythm track on *Wake Up*, for instance, is fashioned from a beat box, a xylophone, tape-looped snoring, and a deep voice intoning, "Tick-tock, tickee-tockee."

Run-D.M.C.'s restless boundary-stretching makes this record sting. On *30 Days*, they subvert the typical sexual boasting rap, offering a woman promises of fidelity and a sweet guarantee—"If you find that you don't like my ways/You can send me back in 30 days." And on *Rock Box*, they marry their voices to a sizzling heavy metal guitar and spell out what *Beat It* suggested: that, with the self-styled bravado of the disenfranchised, rappers and rockers are looking for the same perfect beat. **JOYCE MILLMAN**

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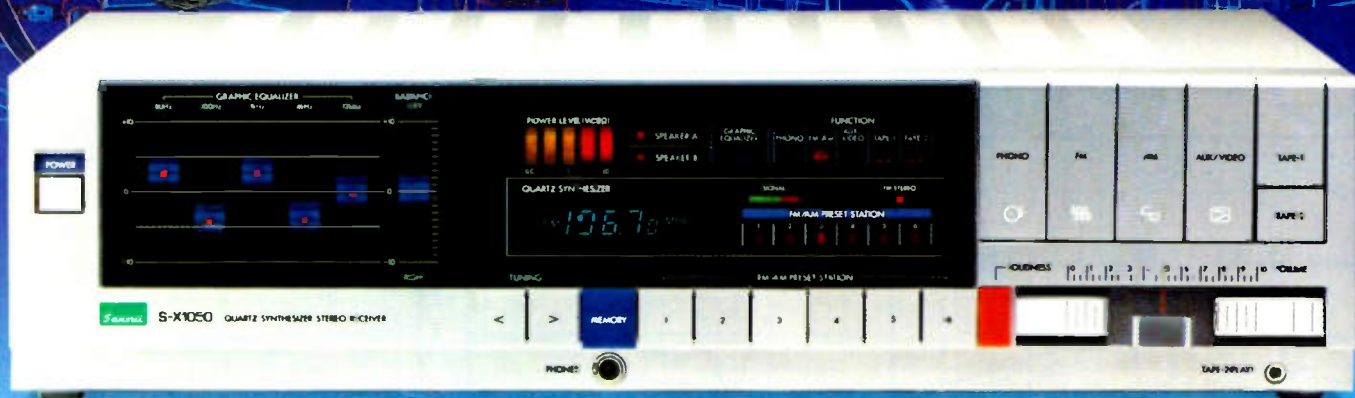
All this, plus playing two pairs of speakers simultaneously, slide volume control and a 2-deck connection for tape 1 to 2 dubbing make the S-X1050 a most incredible unit.



Our S-X1030 25 watt* receiver is another Sansui achiever with many of the great features of our S-X1050 unit.

So achieve a new level of sound quality, convenience and value with Sansui's S-X1050. We know you'll be overwhelmed. SANSUI ELECTRONICS CORPORATION, Lyndhurst, NJ 07071; Carson, CA 90746, Sansui Electric Co., Ltd., Tokyo, Japan

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Superior protection for your electronics

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- RFI filtering isolates your equipment from interfering radio signals on the power line.

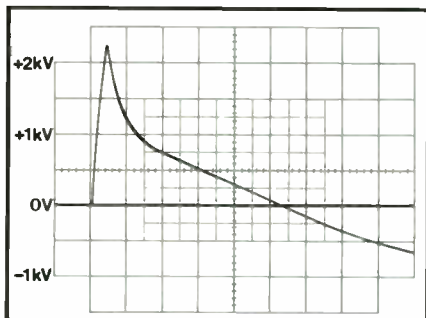


The heavy duty Discwasher SpikeMaster is attractively designed for home or office. SpikeMaster incorporates four widely spaced outlets, an on/off switch with indicator light and a 6 1/2 foot power cord.

Independent laboratory tests (to stringent I.E.E.E. standards) confirm that SpikeMaster out performs and out protects suppression devices costing twice as much.

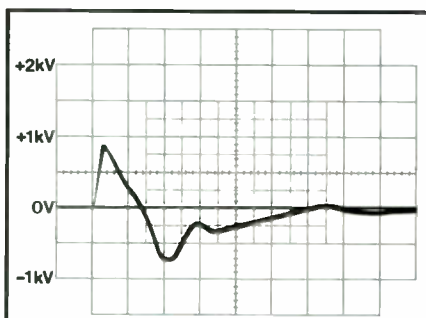
The following oscilloscope tracings measure a 1000 volt surge imposed onto a power line.

Surge



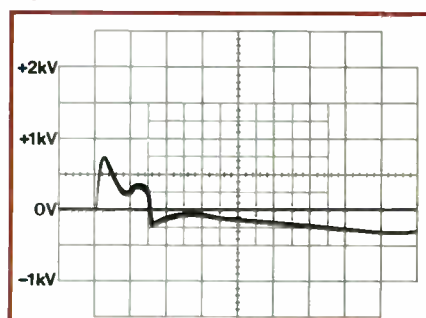
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