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JANUARY 1987

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HIGH FIDELITY

AUDIO • VIDEO • TEST REPORTS • MUSIC

LAB TEST SPECIAL!
10 NEW COMPONENTS
FROM \$230 TO \$2,400



HITACHI DA-005 CD PLAYER
SONY CDP-C10 CD CHANGER
PIONEER CLD-909 CD/LASERDISC PLAYER

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Not Evolutionary, Revolutionary.

Pioneer's Revolutionary CD/LaserVision Player

If there was ever a machine ahead of its time, it's Pioneer's new CLD-909. The most remarkable machine ever invented to play compact discs, LaserVision discs and music video discs.

No longer need you buy two machines to get the best of both sight and sound. The CLD-909 does it all. And does it beautifully.

The CLD-909 represents a stretch of the engineer's imagination. It incorporates a number of technological breakthroughs. One is a laser pickup/objective lens system with the smallest aperture yet—0.55 microns. That's one thirty-four hundredths the diameter of a human hair. It takes this kind of incredibly fine laser focus to read the density of information encoded on CDs and LaserVision discs. Another is a newly-developed Constant Distance Tilt Servo that maintains high trackability even on severely warped discs.

It is this kind of advanced technology that lets the CLD-909 deliver a picture 20% sharper than live broadcast television. And 60% sharper than the latest VHS HQ VCRs.

Getting the picture? It's so sharp and accurate and faithful to life that things appear almost 3-dimensional. And unlike videotapes, optical discs don't wear out. They also give you random, immediate access to any frame or time point. Impossible with tape.

And what convenience and versatility. You can program the CLD-909 to play audio or video tracks in any order you wish. You can

repeat programs, segments, or entire sides. The possibilities are just about endless.

The CLD-909 includes many highly sophisticated features. Like

automatic disc and digital sound detection, semi-automatic front loading, subcode output, on-screen programming, as well as on-screen function display. It is fully remote-controllable for stand-alone or system use, and has a built-in computer control port. We've also designed a new CD Motor *Swing Assembly* that lets us make the CLD-909 just 4.7 inches high. Then we added sophisticated electronics like a new Pulse Count IC and Noise Canceller to achieve a remarkable horizontal resolution of 400 lines.

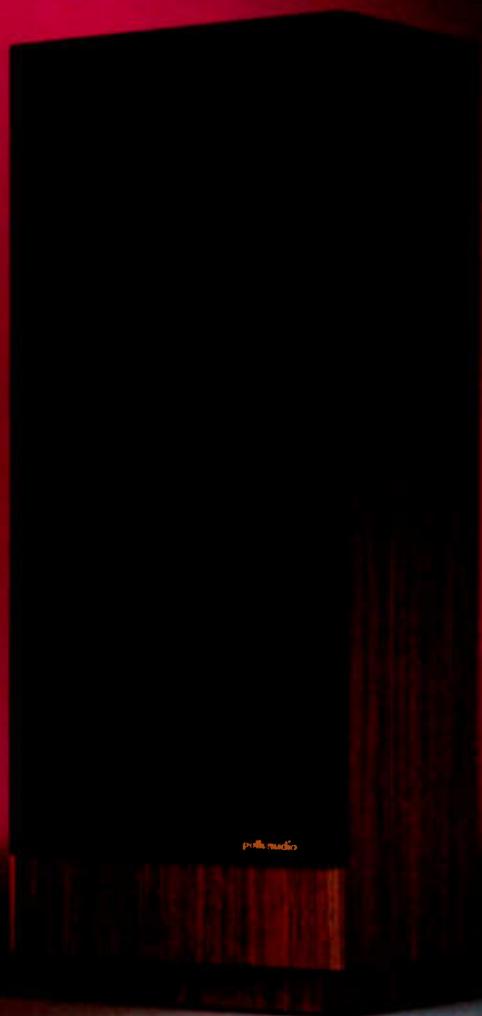
The CLD-909 gives you breathtaking digital audio to match its breathtaking video. From compact discs, of course, as well as many 12-inch LaserVision discs and 8-inch music video discs. And Pioneer's exclusive Linear Servo system accurately reproduces music from even warped, scratched or dirty CDs.

Pioneer's revolutionary CLD-909. More than just a new idea. It is without a doubt the finest source of sight and sound you can possibly own. See it at your Pioneer Dealer. Or call 1-800-421-1404.



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Matthew Polk's Magnificent Sounding New SDA 2A



SDA 2A
\$499.00 ea

Digital Disc Ready

Matthew Polk stands proudly alongside the latest version of his Audio Video Grand Prix Award Winning SDA 2A

The Magnificent Sound of Matthew Polk's Extraordinary New SDA 2A Puts the Competition to Shame!

*"It has the ability to make your
previous favorite speaker sound almost second rate"*

Stereo Review Magazine

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

Polk's Revolutionary True Stereo SDA Breakthrough

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

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

The Most Extraordinary Value in High End Audio Today

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

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

Stereo Buyers Guide

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

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

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

"Mindboggling, Astounding, Flabbergasting"

High Fidelity Magazine

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

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

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

"You owe it to yourself to audition them"

High Fidelity

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

polkaudio
The Speaker Specialists®

5601 Metro Drive, Baltimore, Md. 21215

Matthew Polk's Incredible/Affordable Monitors



RTA 12C
\$479.95 ea.

Monitor 1DB
\$329.95 ea.

Monitor 5jr.
\$129.95 ea.

Monitor 4A
\$84.95 ea.

Monitor 5B
\$139.95 ea.

Monitor 7C
\$249.95 ea.

Digital Disc Ready

Matthew Polk's remarkable Monitors offer state-of-the-art technology and performance usually found only in systems which sell for many times their modest cost.

"Polk Audio's Remarkable Monitors Deliver Incredible Sound/Affordable Price"

"Vastly Superior to the Competition"
Musician Magazine

Polk Audio was founded in 1972 by three Johns Hopkins University graduates, who were dedicated audiophiles with a common dream: superior sound for everyone.

"The affordable dream"

QJ the Record

They believed that it was possible to design and manufacture loudspeakers of uncompromising quality which performed as well as the most expensive and exotic loudspeakers available, but in a price range affordable to virtually every music lover. The Monitors are the spectacularly successful result of their quest.

Polk Monitor Series loudspeakers have earned a well deserved reputation for offering state-of-the-art performance and technology usually found in systems which sell for many times their modest cost. In fact, they have been compared in sound quality with speakers which sell for up to \$10,000 a pair.

Matthew Polk has continued to work hard over the years to maintain the Monitor Series' preeminent position as the standard for quality and value in the audio industry. There have been literally thousands of improvements made to the Monitors and the current models incorporate the same high definition silver coil dome tweeters and Trilaminare Polymer drivers used in the SDAs. They are absolutely the best sounding loudspeakers for the money available on the market. It's no wonder Musician Magazine said, "Our advice is not to buy speakers until you hear the Polks." You owe it to yourself.

There's A Polk Monitor Perfect for You

The RTA 12C (\$479.95 ea.) has won the Audio Video Grand Prix Speaker of the Year Award. Its extremely high power handling (500 watts) and efficiency (92db 1 meter 1 watt) result in remarkable dynamic range and bass performance from large or small amplifiers.

The Monitor 10B (\$329.95 ea.) is considered one of the world's best sounding loudspeakers and in the words of Audiogram Magazine, "At the price they're simply a steal." Like the 12, the 10 utilizes dual Polk trilaminare polymer bass midrange drivers coupled to a built-in subwoofer for outstanding bass performance and dynamic range.

The Monitor 7C (\$249.95 ea.) is a smaller, less expensive version of the Monitor 10. Audio Alternatives Magazine said, "It is amazing."

The Monitor 5B (\$189.95 ea.) is similar in design and performance to the 7, however it utilizes an 8" subwoofer rather than a 10".

The Monitor 5jr. (\$129.95 ea.) has been called, "the best sounding speaker of its price in the world, regardless of size."

The Monitor 4A (\$84.95 ea.) was called by Audio Critic Lawrence Johnson, "an all around star of great magnitude." The 4A's low price means that no matter how small your budget, you can afford the incredible sound of Polk.

ever, more importantly, it is the elegant integration of concepts and components which results in the superior sonic performance and value which sets the Monitor Series apart.

"At the price they're simply a steal."

Audiogram Magazine

Audiogram magazine said, "How does Polk do it? We think it is mostly execution. They hear very well and they care." Audiogram is absolutely right! At Polk we take the same care with each and every product we build, whether it is our most or least expensive. We lavish the same lengthy amount of critical listening and tuning on every single Polk speaker because we know that having a limited budget does not necessarily indicate that you have a limited ability to appreciate true musical quality.

"Absolutely first rate... superior sound at a moderate price."

Stereo Review Magazine

All the Polk Monitors regardless of price offer consistently superb construction and sonic performance. They achieve open boxless, three dimensional imaging surpassed only by the SDAs. In addition dynamic bass performance, lifelike clarity, silky smooth frequency response, ultra wide dispersion, high efficiency and high power handling are all much appreciated hallmarks of all the Polk Monitors. This is in large part due to the fact that they all utilize very similar components and design features. How-

You can afford the incredible sound of Polk

The experts agree: Polk speakers sound better! There is a Polk speaker which is perfect to fulfill your sonic dreams at a price you can afford. Visit your nearest Polk dealer today and audition the remarkable Monitors and the revolutionary SDAs. You'll always be glad you bought the best.

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 The Speaker Specialists®

5601 Metro Drive Baltimore, Md 21215

Win a Free Pair of Awesome Sounding Polk Audio SDA SRSs

Win a Pair of SRSs

- Listen to the Polks
- Give this coupon to your Polk dealer
- You may win a \$2800 pair of SRSs

Before Jan. 15, 1987

This is an entry form in a world-wide drawing for a free pair of SDA-SRS loudspeakers. Simply fill out this form and leave it with your participating Polk dealer, after you audition the Polks.

Name _____

Address _____

City _____ State _____ County _____ Zip _____

Phone (please include area code) _____

What most impressed you about the Polks?

- Deep, tight, full bass High efficiency and power handling
- Huge sound field and image Crisp, lifelike clarity

H

Where to buy Polk Speakers? For your nearest dealer, see page 91.

HIGH FIDELITY

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342667. Beethoven: *Piano Concertos Nos. 3 & 4*. *Concertgebouw Orchestra* (Digital—CBS Masterworks)
328302. Tina Turner—*Private Dancer*. (Capitol)
321570. Beethoven: *Symphony No. 5, Op. 67/Schubert: Symphony No. 8 (Unfinished)*. *Vienna Phil. Orch./Lorin Maazel, Cond.* (Digital—CBS Masterworks)
263293. *Bolling: Suite For Flute & Jazz Piano—Rompal, Bolling* (CBS Masterworks)
339200. Stevie Wonder—*In Square Circle*. #1 album. (Tamla)

347054. David Lee Roth—*Eat 'Em and Smile*. (Warner Bros.)
219477. Simon & Garfunkel's *Greatest Hits*. (Columbia)
316604. Tchaikovsky: *1812 Overture; Marche Slave; Beethoven: Wellington's Victory*. *Lorin Maazel, Vienna Phil.* (Digital—CBS Masterworks)
343251. *Bach: Goldberg Variations—Glenn Gould* (Digital—CBS Masterworks)
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332740. *Mozart: Piano Concerto No. 26* (Coronation); *Rondos—Murray Perahia and English Chamber Orchestra*. (Digital—CBS Masterworks)



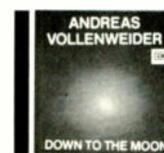
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The CDs you order during your membership will be billed at regular Club prices, which currently are \$14.98 to \$15.98—plus shipping and handling. (Multiple-unit sets may be somewhat higher.) After completing your enrollment agreement you may cancel membership at any time; if you decide to continue as a member, you'll be eligible for our money-saving bonus plan. It lets you buy one CD at half price for each CD you buy at regular Club prices.

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WELCOME BACK, MUSICAL AMERICA

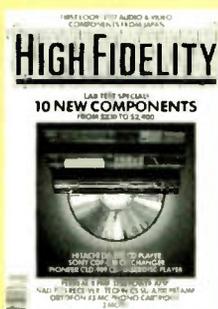
ALMOST 90 YEARS AGO, A WEEKLY NEWSPAPER COVERING music and drama began publication in New York City. Its name was MUSICAL AMERICA. Years later it became a magazine, and in 1965 it was purchased by the then owners of HIGH FIDELITY and inserted into special issues of that magazine. Since then, the MUSICAL AMERICA Edition of HIGH FIDELITY has been available only by subscription. All that is changing.

Beginning in February, MUSICAL AMERICA will be published under its own cover once again as a bimonthly and will be available both by subscription and at selected newsstands. For those of you unfamiliar with MUSICAL AMERICA, "The Journal of Classical Music," it features reviews of live performances, including dance and opera, as well as articles on current career happenings of major performers. The magazine will be expanded to 64 pages and will now include reviews of classical recordings, especially those tied closely to live performances, written by HIGH FIDELITY reviewers and Theodore W. Libbey, Jr., HF's classical music editor. In addition, a music-oriented technical column, covering topics such as "What Musicians Need to Know about Recording," will be provided by Michael Riggs and David Ranada, editor and technical editor of HIGH FIDELITY, respectively.

The first issue includes articles on the long-awaited debut of Los Angeles's own opera company, the Metropolitan Opera's new *Die Walküre*, and the distinguished Czech pianist Rudolf Firkušný. Planned for the coming year are special issues highlighting young talent, summer festivals, and the fall performing season.

For further information about the new MUSICAL AMERICA, including how to subscribe, write MUSICAL AMERICA, Circulation Dept., 825 Seventh Ave., 8th fl., New York, N.Y. 10019.

A brief note about HIGH FIDELITY: Our general index to articles for 1986 will appear next month. ■



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On the Cover: From top: Hitachi DA-005 Compact Disc player, Sony CDP-C10 Compact Disc changer, Pioneer CLD-909 CD/Laserdisc player

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

COMPUTER LOGIC-CONTROLLED DIVERSITY ANTENNA SWITCHING DRIVES AROUND MULTIPATH.

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

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

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

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

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

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

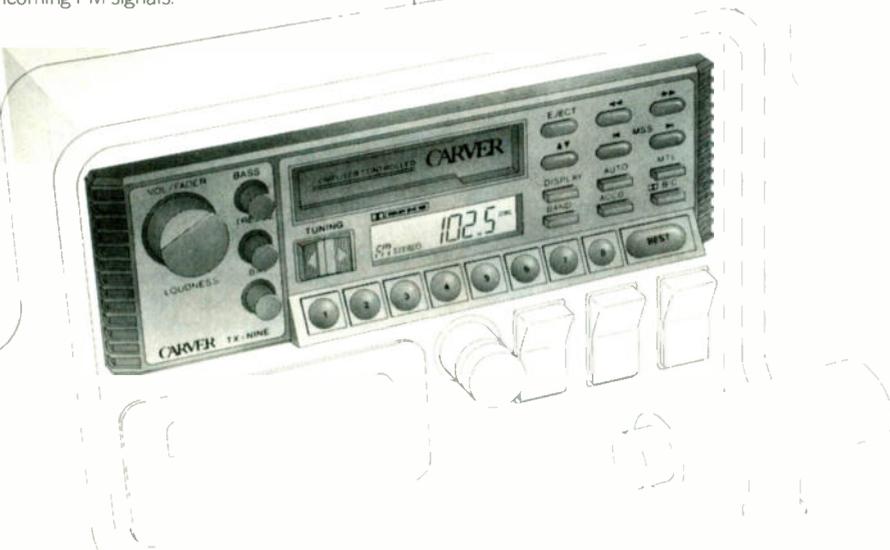


Naturally both decks are metal tape compatible with Dolby[®] noise reduction and have auto-reverse transports, separate bass, treble, balance and loudness and four-way fader controls. All tuning and transport functions are signalled with a gentle "beep" that keeps your eyes on the road, not on the compact,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

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

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OPERA RARA AVIS

AS AN AVID READER OF YOUR FINE MAGAZINE for many years, as well as a devoted opera buff, I was very pleased to see your lead review of the three neglected Donizetti operas [July 1986]. (Such a relief from yet another *Rigoletto* or *Traviata*.) Bravo for joining the rest of us in recognizing some of the 19th century's unjustly forgotten masterpieces!

What else has Opera Rara produced? If it has recorded more operas, will you be reviewing them? Many of us are not able to go to the opera as often as we'd like, so being kept up-to-date about exciting new recordings is very much appreciated.

Linda M. Stewart
New York, N.Y.

We are delighted to know that Robert Levine's review hit the spot, and we are pleased to tell you that there will be more coverage of Opera Rara—beginning with Mr. Levine's review last month of 100 Years of Italian Opera: Vol. 1 (1800-1810), the first release in a projected ten-volume series.—Ed.

PROPER WORDS IN PROPER PLACES

I'VE BEEN "HUNG UP" ON THE LYRICS OF operas ever since I discovered that "*Di Pro-*

venza il mar" wasn't a sailor's lament. Unfortunately, these days you usually can't tell by looking at an album whether or not it includes a text. I used to assume that a recording of a complete opera would include a libretto, but this isn't always true.

Does HIGH FIDELITY have a policy of supplying this information in its record reviews? May I take it for granted that if a review doesn't say a text is there, it ain't there?

Edward Swalm
Austin, Texas

In most cases, if a recording of an opera (or of any work with a sung or spoken text) is not accompanied by a complete text leaflet, our reviewers will say so. It's true that for reasons of space we do not include this information in the headings that precede the reviews, but we do feel that readers should know what they are getting, and reviewers are instructed to mention any conspicuous omissions in the body of their reviews. In other words, if "it ain't there," we'll tell you.—Ed.

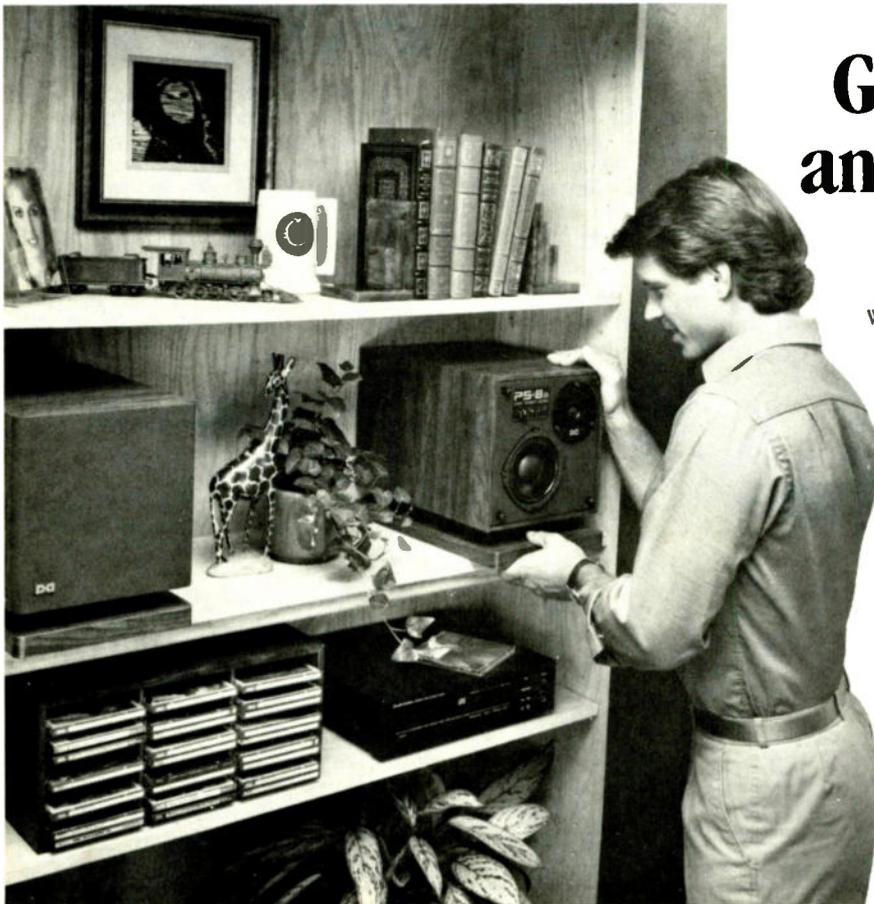
DECLINE AND FALL

AS A MEMBER OF THE OLDER GENERATION OF record collectors, I read David Rubin's article on the disappearance of American orchestras from the recording studios ["En-

dangered Species," November 1986] with a sense of déjà vu. The intransigent stance of American musicians' unions regarding recording fees and related considerations over the years—certainly since the late 1940s—has, in a startlingly close parallel with the situation of American auto workers until very recent times, done the unions' memberships a grave disservice in terms of competition with their overseas counterparts.

Long-term collectors doubtless will remember the dawn of the LP era, when American record buyers were virtually inundated with recordings by the lesser-grade Viennese orchestras on the Westminster, Concert Hall Society, and Remington labels, to mention only a few. For example, literally hundreds of records were issued by the orchestra of the Vienna Volksoper under the sobriquet of the "Vienna State Opera Orchestra." As a result, American collectors became acquainted with such distinguished conductors as Hermann Scherchen and Mogens Wöldike and enjoyed performances by Henry Swoboda, Zoltán Fekete, Kurt Wöss (if he truly existed), etc. The list is almost endless.

The difficulties Mr. Rubin cites concerning the splendid—surely "world class"—St.



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Louis Symphony Orchestra as reborn under Leonard Slatkin are representative of the problems faced by many other fine orchestras in this country today. However, we should not overlook the other most significant factor currently operative in the record-making equation: the phenomenon of the conductor who comes to an orchestra with a *personal* recording contract. This is a distinct departure from past practice, but many examples are at hand: Doráti with any orchestra (most recently the Detroit, but before that with our own Washington National Symphony), Giulini with the Los Angeles, Muti with the Philadelphia, Solti with the Chicago, and Levine, now seemingly with everybody! (The Levine explosion itself would make a fascinating article.)

Conversely, one could over time observe the depressing spectacle of Sixten Ehrling, possibly our greatest living Sibelius interpreter, who to my knowledge went unrecorded during his tenure in Detroit; Thomas Schippers, not only an outstanding opera conductor, but also a splendid advocate of American music, who went largely unrecorded in Cincinnati; and doubtless many others.

It therefore seems to me that barring some fast and concerted pressure by the musicians themselves to force their unions into a little risk-taking with regard to more reasonable recording fees and conditions, they will, in the words of a pop hit of a few years ago, find themselves with "nothing left to lose" in the way of additional income from symphonic recordings.

Clayton B. White
Woodbridge, Va.

Your conclusion would seem inescapable. Yet, as Mr. Rubin's article pointed out, the unions are reluctant to agree to substantial cuts in recording fees for fear that European orchestras will simply undercut them yet again. The parallel to the dawn of the LP era is valid; however, you appear to be in error on one point. To the best of our knowledge, the Vienna Volksoper Orchestra never recorded under the name of the Vienna State Opera Orchestra, which was the alias used by the Vienna Philharmonic, a decidedly first-rate orchestra, when it made records outside its usual contracts.—Ed.

CD HOLDOUT

I HAVE BEEN RECEIVING HIGH FIDELITY FOR about a year now as a gift from a friend. Unfortunately, I am a bit disappointed with your magazine, as it appears to me to put far too much emphasis on Compact Discs. I know that they probably are the wave of the future because of their small size, clear sound, and resistance to damage, but because of my background as a disc jockey, I still prefer records for ease of finding a cut and cueing, and open-reel tape decks for their manual editing capabilities, easy-to-clean tape transports, and long playback times with 10½-inch reels. These considerations figured prominently in my decision to buy a new Revox B-77 last spring. One feature of the Revox that I have found useful for generating special effects is its variable-speed control. I am looking for a cassette deck with such a feature but have not as yet discovered one.

Thomas E. Milborn
Cambridge, Ontario, Canada

We agree that open-reel tape is still unsurpassed for ease of editing, but you can get even longer playback times with a Hi-Fi VCR or an 8mm deck with digital soundtracks in its audio-only mode. And we think it's easier to find cuts and cue on a good CD player than on a turntable. However, the main reason for all the Compact Disc coverage is that CD is where the action is these days. The LP is fading fast, and as a consumer product, the open-reel tape deck already has both feet in the grave.—Ed.

THE ROOT OF ALL EVIL

YOUR ANSWER TO JIM ARENDT ["CROSSTALK," October 1986] about why double-length albums such as Bruce Springsteen's *The River*

are issued on two Compact Discs instead of one is technically correct, but it fails to mention the usual reason: money. The Beach Boys' *Endless Summer* is on two records even though it runs for a total of just 44 minutes. A two-record set can be sold at retail for almost twice as much as a single LP, even though a piece of vinyl costs way less than a buck. Similarly, Compact Discs are said to cost about a dollar each to produce in quantity. Thus, a two-disc set generates twice as much revenue at virtually the same marginal cost to the record company.

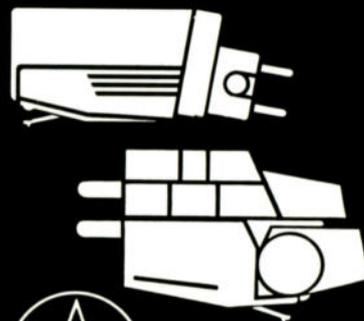
The record industry is petrified at the prospect of digital audio tape. They're sure that consumers will copy CDs instead of buying them. If they continue to gouge at the cash register, they'll probably turn out to be right.

Soth Godin
New York, N.Y.

We're not convinced that the record industry is as terrified of DAT as it makes out to be, but we understand your point.—Ed.

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EDITED BY CHRISTOPHER J. ESSE

Getting Smaller, Digitally

THE ENGINEERS IN CHARGE OF DEVELOPING and refining Sony's Discman portable Compact Disc players think big by thinking small. In doing so, they already have reduced the depth and width of the D-7 (test report, April 1986) to about the limits imposed by the diameter of a CD; the player's thickness is essentially determined by the space required for the laser pickup assembly and, in portable use, the rechargeable battery pack.

Sony's D-10 goes a step further, weighing only 14 ounces and measuring just over 3/4 inch thick (both figures without battery pack). To reduce the player to that thickness, Sony developed an ultrathin three-spot optical pickup that uses a single plastic lens. Tracking stability is said to be improved by the inclusion of an elastic damper arm within the pickup assembly that helps absorb vibrations. A 10-percent reduction in parts has been achieved through the use of surface-mounted LSI (large-scale integration) chips, further slimming the case. Among these chips is a PWM (pulse width modulation) power-supply circuit that reduces power consumption by 30 percent compared with that of the D-7. This low current consumption allowed a reduction in the thickness of the rechargeable battery "plate," which can provide four hours of playing time on a five-hour charge. A new Unilinear 16-bit DAC (digital-to-analog converter) with an oversampling digital filter is said to minimize spurious noise and high-frequency irregularities.

The D-10's convenience features parallel those of today's top home CD players: programmed play of as many as 21 selections in any order, audible scanning at normal pitch, access to any of 99 tracks (the maximum possible on a CD), Shuffle Play

(automatic random-sequence playback of all tracks), and repeat play in five modes. But that's not all. An infrared receiver module can be plugged into the side of the unit to receive commands from an optional remote control, which includes a numerical keypad for direct cueing to any track. The remote also has a switch for controlling the presets on a not-yet-available tuner.

The \$350 price includes a rechargeable battery pack, an AC adapter, connecting cords, a soft carrying case, and a shoulder strap. The remote control and plug-in receiver module cost an additional \$50. A host of optional accessories facilitate use of the D-10 in a car stereo system: a flexible stalk with mounting plate (\$75), which allows for easy positioning of the unit while damping shock and vibration; a power cord (\$37) for connection to the car's cigarette lighter; and a cassette adapter (\$40) that will feed the player's output through the tape head of an

(CONTINUED ON PAGE 18)



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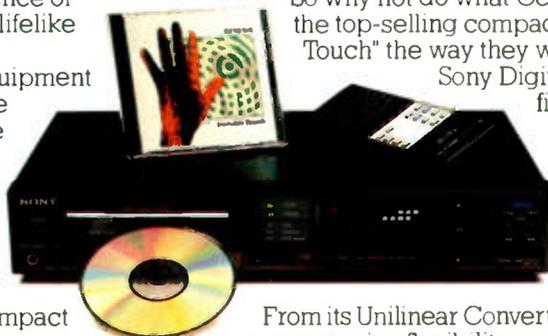
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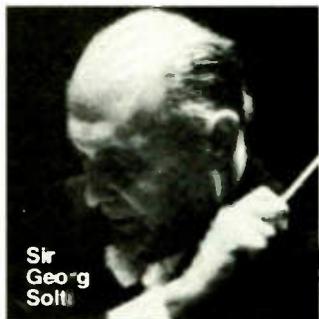
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Handel, Messiah (Highlights) Musica Sacra/Westernburg. *Hallelujah Chorus, I Know That My Redeemer Liveth*, more. RCA *DIGITAL* 153586



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Itzhak Perlman

Rubinstein: Rachmaninoff, Piano Concerto No. 2; Rhapsody On A Theme Of Paganini Chicago Symphony/Reher. RCA 170232

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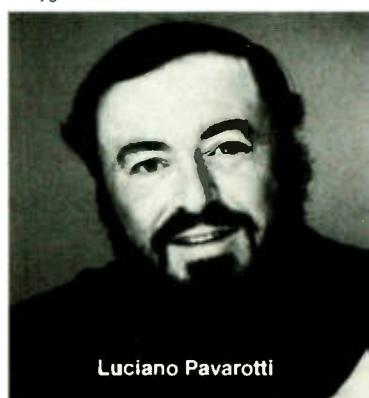
Pachelbel, Canon in D Also includes other works by Pachelbel & Fasch. Maurice Andre, trumpet, Paillard Chamber Orchestra. RCA 133877

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Pavarotti: Mamma With Henry Mancini: Title song, *Non ti scordar di me, Musica proibita, Vieni sul mar*, 12 more. London *DIGITAL* 115310

Mahler, Symphony No. 4 Kiri te Kanawa, soprano. Sir Georg Solti conducts the Chicago Symphony Orchestra. London *DIGITAL* 115092

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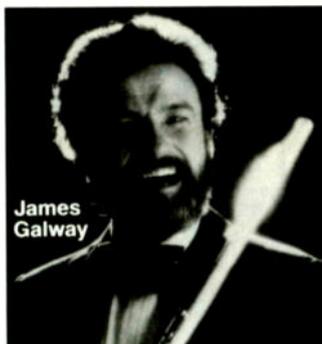
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Alicia de Larrocha: Falla, Nights In The Gardens Of Spain Also includes rhapsodies by Albéniz & Turina. London *DIGITAL* 115410

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Prokofiev, Symphony No. 5 Saint Louis Symphony Orchestra/Slatkin. "Outstanding."—*Opus Double* Grammy Winner! RCA *DIGITAL* 154580

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WAS63

BF

BVU

PJ

(CONTINUED FROM PAGE 12) in-dash cassette unit. For more information, write Sony Corporation of America, 1 Sony Dr., Park Ridge, N.J. 07656.

JAPAN AUDIO FAIR

OCTOBER SAW THE STAGING OF THE 35TH JAPAN Audio Fair, an event that was more or less a preview of what might be seen at the Winter Consumer Electronics Show taking place in Las Vegas this month. The biggest splash at the Tokyo show was made by digital audio tape (DAT) recorders, but the matter-of-fact display of these revolutionary machines was in stark contrast to the broiling controversy surrounding their impending introduction. Almost every major audio manufacturer showed a working "prototype" DAT recorder, and the sheer quantity displayed at the Technics booth led some observers to think that the units were actually for sale (they weren't). Pricing and availability are still hush-hush, but a reasonable scenario would be high-end product at well over \$1,000 arriving toward mid-1987, followed by lower-price models as prerecorded software becomes available and hardware production levels increase. (At the last fair, a weaker Yen supported a rumored price of \$700.)

What lies behind the manufacturers' un-



SONY'S PROTOTYPE RDAT DUPLICATING MACHINE USES CONTACT PRINTING, IN WHICH A MASTER TAPE IS PRESSED AGAINST THE DUBBING TAPE IN A PINCH ROLLER ASSEMBLY (CENTER).

characteristic restraint in releasing DAT is explained in David Ranada's November 1986 "Bits & Pieces": bitter opposition from the big record companies. In talking with representatives of some of the hardware companies, however, one senses the inevitability of DAT. Let's hope that as you read this, the new digital recording format is being officially welcomed at the Consumer Electronics Show.

In the car, DAT offers the distinct benefit of playing your own road tapes made on a home DAT deck. Alpine, Sony, Kenwood, and others showed prototype car players, but so far the size constraints of an in-dash

configuration make it necessary to house much of the circuitry in a separate black box. In any case, DAT for the car presumably will be introduced sometime after the home version, allowing more time for shrinking the units and ironing out such problems as vibration and shock isolation and the effects of temperature and humidity extremes. These same design challenges were encountered in the development of car Compact Disc players, whose growing popularity may pose a dilemma for those manufacturers seeking to promote car DAT.

As for CD technology itself, home and portable players were a major presence in Tokyo; indeed, the Japanese consumers at the fair seemed as intrigued by the plethora of new CD players as they were by the presence of the DAT machines. Sony introduced a slimmer Discman portable, the D-10 (described above). JVC and Mitsubishi were among the companies showing new home CD changers, which are a definite trend—although each manufacturer has its own idea about how a multidisc cartridge should operate.

A glimpse into the future was provided by Luxman, a company that can call on the considerable resources of parent company Alps to help reaffirm its position in the high-end audio market. Its LV-109 is a "digital"

RECOMMENDED FOR THOSE



To record at high levels you need the right tape. We recommend three. Maxell's new MX and XL-S high-performance tapes deliver just what you need for today's digital music. Great

integrated amplifier with a built-in DAC that handles the direct digital output of a CD or DAT player. This technique eliminates the need to send signals in analog form from player to amplifier. The DAC works at three sampling rates: 44.1 kHz for CD output, 48 kHz for DAT output, and 32 kHz for the audio portion of DBS (direct broadcasting from satellite, which is not yet available to U.S. skywatchers). Company officials indicated that actual digital *amplification* may be five to ten years away. Marantz, Kenwood, Denon, and JVC also showed amplifiers with digital inputs.

On the video front, JVC introduced the GR-C9 VHS-C camcorder, a trimmed-down version of its GR-C7 that is similar in approach to Sony's original 8mm Handycam, although even tinier. Sony's response is a new, slightly larger Handycam that incorporates autofocusing, an electronic viewfinder, and full playback capabilities. Support from other manufacturers for the 8mm format is slowly building: Aiwa showed a manual zone-focus model with a detachable playback unit and a nifty hand-held remote controller/monitor, and both Matsushita and Hitachi announced that they will start marketing 8mm units in Europe under their own names. Meanwhile, Mitsubishi has added a VHS-C model. Full-size VHS camcorders



AIWA'S DAT-2000 PROTOTYPE MINIATURE R-DAT RECORDER ILLUSTRATES THE SIZE TO WHICH R-DAT MACHINES MAY ULTIMATELY BE REDUCED. THE ROUND HEAD DRUM IS ONLY 30 MILLIMETERS ACROSS.

are getting lighter, if not smaller, and Panasonic's new entry features a $1/1000$ -second "shutter" speed to provide better detail on slow-motion playback of action scenes.

Most VCR makers showed models that use digital circuitry to improve the quality of tape scanning and still frames and to provide other creative effects. Like that of first-generation digital TVs, the circuitry in these

VCRs does nothing to improve the quality of regular recording or playback. The exceptions are NEC's two new VCRs, which employ a digital video noise reduction system for playback (see last month's "Currents"). Panasonic showed a 41-inch direct-view television set that includes double-scanning digital circuitry and a built-in surround-sound processor. No word yet on when—or if—this theater-in-a-box might pop up on these shores.

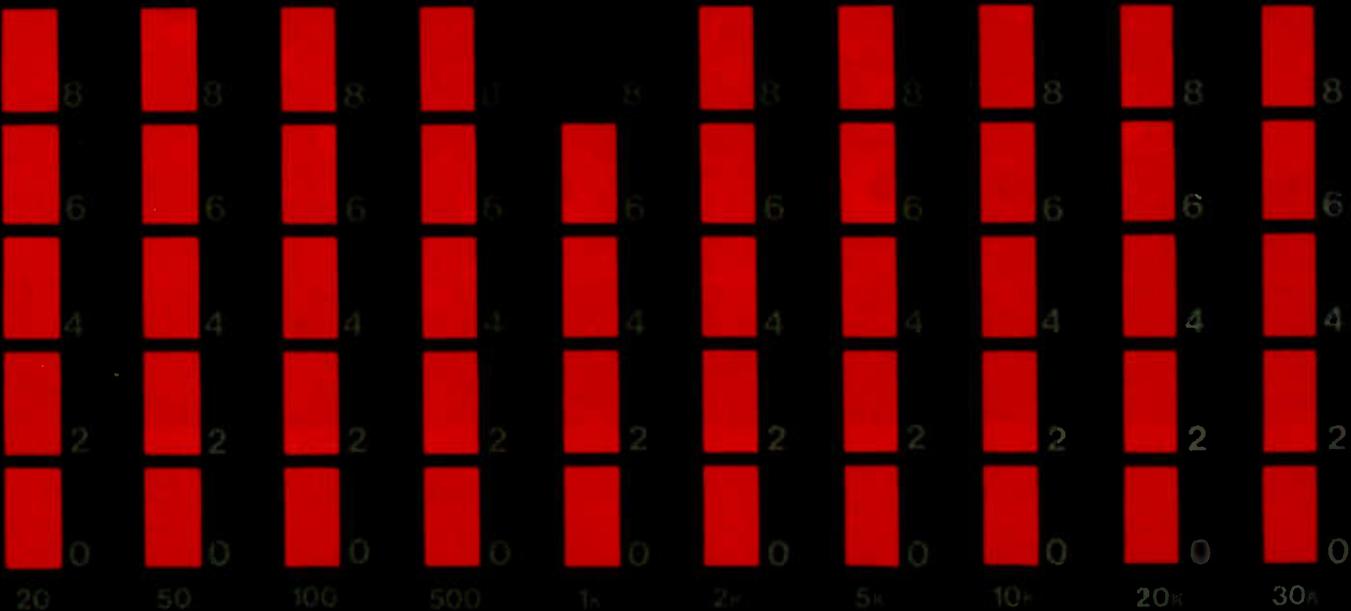
So, big turns bigger, small turns smaller, and analog turns digital. We'll report on what turns up at the Winter Consumer Electronics Show in an upcoming issue.

Christopher J. Esse

FOR COMPACT DISCS, NO NOISE IS GOOD NOISE

THE PROCESSING OF ELECTRONIC SIGNALS IN digital form has delivered a new level of fidelity in the recording, processing, and reproduction of audio and video material. The Compact Disc is the most widely recognized manifestation of digital audio technology. But the sound quality of a CD is limited by that of the source material used to create it, and this material is still for the most part recorded on analog tape machines. (Digital recording equipment, however, is being used

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Use Maxell MX and XL-S tapes the next time you're recording high-energy sources. Anything else just comes up short.

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in an increasing number of commercial studios.) CD reissues of old recordings are plagued by analog tape hiss, which seems all the more apparent against the silent backdrop of a digital disc. We have received letters from readers who complain about excessive levels of tape hiss on certain CDs; some understandably question the benefit of the Compact Disc format for such applications.

Now engineers at Sonic Solutions have developed a service for record companies called No Noise that seeks to remove (not simply reduce) tape hiss and other low-level noise from analog recordings while completely preserving the original sound. Unlike traditional analog noise reduction techniques, such as noise gates, No Noise attacks the problem by dividing the signal spectrum into more than 500 frequency bands and applying a complex set of digital signal processing noise-reduction algorithms performed by high-speed computers. The company says that using No Noise to remaster an analog recording can lower the "noise floor" to make better use of the wide dynamic range available on a CD.

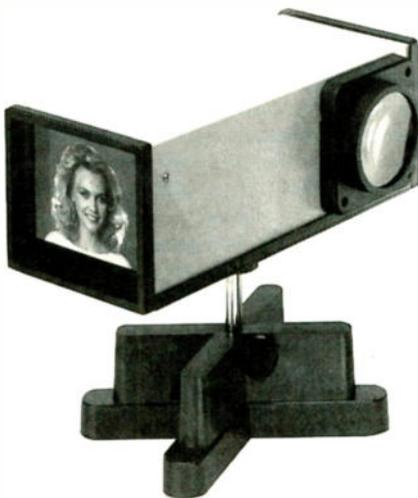
In the past, significant noise reduction could be achieved only at the expense of some undesirable filtering or distortion of the original sounds. We have heard a brief demonstration of No Noise, and it effectively eliminated tape hiss from a very noisy analog recording, background hum generated by a recording studio's air-conditioning system, and wind noise from an outdoor voice recording—each with no perceived effect on the original sound.

Additional applications for the process range from film and television soundtracks to surveillance recordings. Indeed, No Noise techniques have already been used to improve the intelligibility of a cockpit recording retrieved from a downed aircraft.

No Noise could increase the number of old recordings reissued on CD; it may also prompt the rerelease of existing noisy CDs. Sonic Solutions plans to create a symbol for record companies to use on CDs that have been remastered with No Noise processing, and they say the first such recording should be out sometime early in 1987. The next challenge is to reconstruct missing bits of damaged or aged recordings; we understand that the people at the San Francisco-based company are working on this, too.

LET'S GO TO THE VIDEOTAPE

TRANSFERRING YOUR PHOTOGRAPHIC PRINTS, slides, and movies to videotape can be done at home using one of Ambico's two video transfer machines together with a video camera and a VCR (or camcorder). The Director (Model V-0612) contains a small high-contrast screen on which slides or movies can be projected. A video camera can



AMBICO DIRECTOR HELPS PUT SLIDES ON VIDEOTAPE.

then be focused through the unit's built-in macro (extreme close-up) lens to frame the projected image for recording on videotape. Soundtracks of films can be routed from the projector to a VCR's audio input; you can supply your own music or narration to accompany silent movies or slides.

A second transfer device, the Teleprint Converter (Model V-0614), will accept prints as large as 3½ by 5 inches and has an internal fluorescent light (requiring four D cells, not included) that illuminates each photo for recording. It also contains a built-in macro lens to accommodate any video camera.

Each model carries a price tag of \$80. Additional information can be obtained by writing Ambico, P.O. Box 427, Norwood, N.J. 07648-0427.

ALTEC LANSING SPEAKERS

FIVE ACOUSTIC-SUSPENSION LOUDSPEAKERS are new from Altec Lansing, a name dormant in the consumer market for the past several years. The floor-standing 501, 401,

and 301 are three-way models, each using a polyimide midrange and a dome tweeter whose interiors are coated with titanium by a vacuum deposition process. The "bookshelf" models 201 and 101 are two-way designs made with the same type of tweeter. All five models use woofers composed of carbon fiber reinforced with epoxy. The 501 is a tower design containing two 10-inch woofers; the 401 and 301 contain a 12-inch and a 10-inch woofer, respectively; and the 201 and 101 use an 8-inch and a 6½-inch woofer, respectively.

The oil-finished walnut-veneer enclosures are constructed of high-density pressed wood that, combined with circumferential bracing on the inside, is said to eliminate cabinet resonance. Prices per pair, in descending order of model number, are \$1,500, \$960, \$750, \$500, and \$340. Write Altec Lansing Consumer Products, Millford, Pa. 18337.

DENON CD PLAYERS

JOINING DENON'S TOP-OF-THE-LINE DCD-1500 are three CD players that incorporate the company's Super Linear Converter, which is said to reduce distortion by correcting the nonlinearities that arise during the digital-to-analog conversion process. The DCD-1300 (\$550), which can be programmed to play back a sequence of as many as 20 tracks, includes digital filtering with two-times oversampling, linear-crystal oxygen-free copper wiring in the analog stages, and a subcode output for video images from as yet unannounced "graphics" CDs. A wireless remote control includes a keypad for direct cueing to tracks or index points on a disc. The DCD-700 (\$400), with a 15-track programmable memory, operates at the standard sampling rate and does not include a subcode output. At \$330, the DCD-500 is basically a nonremote version of the DCD-700. Contact Denon America, 27 Law Dr., Fairfield, N.J. 07006.



DENON'S DCD-700 (TOP) AND DCD-1300 COMPACT DISC PLAYERS INCLUDE REMOTE CONTROL.

ADD-ON AMP

I HAVE A SONY ST-JX4 TUNER AND A SONY TA-AX5 integrated amplifier rated at 65 watts per channel. I am planning to add an equalizer and a 150-watt amplifier to my system. However, the owner's manual for the Sony amp does not indicate how to do this. Can I add a power amplifier to my existing sound system?

Mark Robinson
Newport, Tenn.

The most common way of connecting an equalizer is to patch it into a tape monitor loop. The manual to the equalizer should cover this. Although it is possible to run a power amp from the output of another amplifier, it requires that you make the connection through a voltage divider (see "Amplifiers and Connections," October 1982, page 53, for complete instructions) and is not the best approach in any case. A better way is to go whole hog and buy a preamplifier with the features you want to go with the new power amp.

MUSIC ON FLOPPY

I REMEMBER READING SOMEWHERE ABOUT A company that was developing a way of making digital audio recordings on computer floppy disks. Would floppies be able to hold enough material? Wouldn't they be easy to reproduce?

Roger Walker
Washington, D.C.

You're probably thinking of CompuSonics, which announced several years ago that it was developing such a product. The main problem is the one you bring up: information density. Ordinary digital recording, such as that used for Compact Disc, generates enormous amounts of data, and to get, say, an LP's worth of music onto an ordinary 5 $\frac{1}{4}$ -inch floppy disk in that format is simply impossible with today's technology. The CompuSonics idea was to apply a powerful new data-compression scheme to the signal and then record the result on a new type of ultra-high-density floppy disk. So far, neither technology has panned out as well as initially hoped, and we doubt that the product will ever come to market, at least as a consumer device capable of long playing times. The floppies would indeed be easy to reproduce, but they also would be relatively easy to damage.

TESTING DYNAMIC RANGE

PROBABLY THE GREATEST ADVANTAGE OF THE Compact Disc is its extraordinary dynamic range. Consequently, most loudspeaker manufacturers now claim to have increased the dynamic range of their products to accommodate the demands of CD reproduction. There must be some way to test the dynamic range of loudspeakers. I propose a 100-Hz pulse test in which speaker input voltage (in dB) is plotted against speaker output (also in dB). I would expect this to be

a relatively linear graph, with the output-to-input ratio decreasing for the loudest signals as they approach the transient limits of the woofer. In discussing your 300-Hz pulse power-handling tests, you often speak of the calculated SPL (sound pressure level) corresponding to the maximum undistorted pulse; I wonder how the calculated and actual SPLs differ or if the actual output can even be practically measured. Is there any widely accepted method for testing the dynamic range of loudspeakers, or are the kick of Klipsch and the punch of acoustic suspension just myth?

Gregory P. Borkowski
Fort Wayne, Ind.

There is no standard for testing the dynamic range of a loudspeaker, though you can tell quite a bit from distortion measurements. (Distortion will rise as a driver's linearity deteriorates.) The main problem is that such measurements are more or less steady-state, so that for a given signal level they are more demanding than music, which varies constantly in both level and spectral content. The pulse test is an effort to get around this difficulty, though clearly it has its limitations as well. We think 300 Hz is a better frequency than 100 Hz because it is in the region where typical music contains the greatest energy. We calculate the speaker's output because it's extremely difficult to measure accurately on a short tone burst. As for the Klipsch kick and the acoustic suspension punch, we can only say that the characteristic sound of a speaker normally is determined primarily by its frequency response and radiation pattern, not its dynamic range.

MULTIPLE TURNTABLES

I AM PLANNING TO UPGRADE MY SYSTEM, BUT I have run into a hook-up problem. I want to add a second turntable without limiting my choices to those few preamps that have two sets of phono inputs. Is there an outboard phono preamp (or a kit for one) that will boost and equalize a cartridge's output to feed an aux input?

Brian B. Bogaert
APO 09227, N.Y.

Yes. Stanton makes such a device (the Model 310B) for less than \$300, or you could get Threshold's FET-ten/pc for a little more than \$1,000. That doesn't exhaust the list of possibilities, but it does give an idea of what you'll have to pay for something good: about as much as you might for a complete control preamp. Another alternative (much less expensive) is a switchbox ahead of the phono input. The best we know of is the DB Systems DBP-2J. The company's address is Main St., Rindge, N.H. 03461.

FLATTENING WARPED RECORDS

I REMEMBER READING A FEW YEARS AGO IN your magazine a technique for flattening a

warped record by placing it between two sheets of plate glass and heating the resulting sandwich in an oven. Where can I get the necessary pieces of glass?

Scott Taschner
Long Beach, Calif.

Time to let your fingers do the walking: Look up "glass" in your local Yellow Pages. The method you're talking about must be applied very carefully to prevent damage to the record. You should go back and read our instructions again before proceeding ("Waging War on Warps," November 1981).

VCR CONFUSION

I AM LOOKING FOR A VHS HI-FI VCR, BUT I DON'T know what I need to know about HQ or the number of heads in a machine. I've read that a manufacturer need include only two of the four HQ elements to put the HQ logo on its product and that head-optimization for tape speed is important. But how do I find out how a particular machine is configured? The reviews don't seem to say, and the salesmen don't seem to know.

Edward Swaim
Austin, Texas

What you should be looking at is the quality of the picture and the sound, and if a review gives you clear, precise information on how a VCR performs, that's what you should pay attention to—not the number of HQ circuits or how the heads are configured. Although these aspects of a design do influence its performance, they are only a small part of the whole, and everything in it has an effect. In other words, as interesting as it is to know how a product works, in the end what matters are the results, not the way they are obtained.

But what if you just want to know or there are no test reports available? Fact is, even we have trouble getting these questions answered sometimes. The HQ "standard" is very loose. To put the HQ logo on its products, a manufacturer must use white-clip extension and at least one of the three remaining basic HQ circuits: detail enhancement, luminance noise reduction, or chrominance noise reduction. Some companies stick with the minimum, others do three, while still others include all four. And they are free to add new enhancements of their own. Interestingly, one manufacturer has told us that it uses only three of the four available circuits because the chrominance noise reduction provides no visible benefit.

You are right that best results will be obtained if the video heads are optimized for the recording speed. Thus, in a four-head machine, one pair should be optimized for the fastest speed, the other pair for the slowest. But as near as we can tell, this seldom is done. Most companies use the extra heads strictly for better special effects.

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

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THE CARVER M-500t MAGNETIC FIELD POWER AMPLIFIER LEADS AN INDUSTRY TREND TOWARDS MORE USEFUL DYNAMIC POWER FOR MUSIC... AND YET STAYS WELL AHEAD OF ITS INSPIRED IMITATORS.

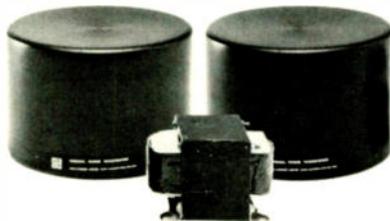
With its astonishingly high voltage/high output current and exclusive operation features, the M-500t sets standards yet unequaled in the audio community. A conservative FTC sine wave output of 251 watts per channel belies its incredible ability to satisfy peak musical transients demanding far more power. In fact, the M-500t provides more power, more current and more voltage than any comparably priced amplifier ever offered.

POWER EXPRESSED BY THE DEMANDS OF MUSIC. The Carver M-500t responds to musical transients with 600 to 1000 watts of dynamic power, depending on speaker impedance. The gulf between FTC and dynamic power ratings reflects Bob Carver's insistence that amplifier design should fit the problem at hand: The need to reproduce music with instantaneous, stunning impact.

The individual leading edge attack of each musical note lasts less than 1/1000 of a second, yet forms the keen edge of musical reality which must be present if true high fidelity is to be realized. It is especially necessary with the increased dynamic capabilities of Compact Discs and video Hi-Fi. In ordinary amplifier designs, the vast amounts of power required is provided by bulky, expensive power supplies and huge output transformers.

THE MAGNETIC FIELD AMPLIFIER SOLUTION. Rather than increase cost, size and heat output with massive storage circuits, Magnetic

Field Amplification delivers instantaneous high peak and long-term power from a six-pound, four-ounce Magnetic Field Coil. Shown below are the 40-pound toroid coils from a pair of \$7000 esoteric power amplifiers. In front of them is the M-500t's Magnetic Field Coil capable of delivering TWICE the output current (± 100 amperes at 10% regulation!) for exceptionally precise control of voice coil motion.



Thus Carver's remarkable, patented design not only lets you enjoy the stunning sonic benefits of simultaneous high current and voltage in a compact, cool-running component, but enables you to afford audiophile-level power as well.

POWER WITH FINESSE. While the M-500t isn't the only amplifier with aggressive output capabilities, it is one of the few that tempers brute power with sophisticated protection circuits beneficial to both the amplifier and your loudspeaker system. These include DC offset, short circuit and power interrupt systems, as well as two special computer-controlled speaker monitor circuits which protect against excessive high frequency tweeter input and overall voice coil thermal overload.

Output is continuously monitored through dual lighted infinite-resolution VU-ballistic meters

which can react to musical transients as brief as 1 millisecond.

In addition, the M-500t's lack of external fan noise is complimented by internal circuitry with the best signal-to-noise ratio of any production amplifier. Better than 120dB. And, unlike any other amplifier in its price or power ranges, the M-500t is capable of handling problematic speaker loads as low as 1 ohm. It may also be used in a bridged mode as a 700 watt RMS per channel mono amplifier without any switching or modification.

MUSIC IS THE FINAL PROOF. Specifications aside, final judgment of any amplifier must be based on musicality.

Bob Carver has carefully designed the M-500t with a completely neutral signal path that is utterly transparent in sonic character, resulting in a total lack of listener fatigue caused by subtle colorations exhibited by many other amplifiers, regardless of their power rating. A veil will be lifted between you and your musical source as the most detailed nuances are revealed and delivered with proper impact.

We invite you to audition the M-500t at your nearest Carver dealer soon. Against any and all competition we believe that you will be pleasantly surprised at just how affordable this much power, musicality and accuracy can be.

SPECIFICATIONS: POWER, 251 watts/channel into 8 ohms 20Hz to 20 kHz, both channels driven with no more than 0.15% THD. Instantaneous Peak power, 1000 watts into 2 ohms 950 watts into 4 ohms 600 watts into 8 ohms 450 into 4 ohms 300 into 8 ohms 1000 watts bridged mono into 4 ohms 900 watts bridged mono into 8 ohms Bridged Mono RMS Continuous Power, 700 watts continuous into 8 ohms Noise, 120dB IHF A Weighted Weight, 25 lbs



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MICROPHONE TECHNIQUES AND SOUND QUALITY

MAKING A RECORD IS A COMPLEX PROCESS, SO THERE are plenty of opportunities for things to go wrong. But perhaps the most important element, at least in recordings of classical music and jazz, is microphone technique, which boils down to three basic considerations: type, number, and placement. Although there are a variety of different kinds of microphone transducers (condenser, ribbon, dynamic, etc.), what I mean by "type" in this context is pickup pattern. The three basic types used in music recording are omnidirectional, figure-eight, and cardioid. An omnidirectional microphone is one that picks up sound equally from all directions. A figure-eight mike is one that picks up sound mainly from in front and in back of its diaphragm, rejecting sounds from the sides. And a cardioid is one that picks up mainly from in front.

Perhaps the most common way of making recordings today is to use a 24- or 36-track tape recorder, with one or more directional microphones very close to each instrument. The result of this "multimiking" is a master tape in which each instrument or group of instruments is recorded on its own track, separate from the other instruments. A two-channel stereo master must then be created by mixing the outputs from the many original tracks in the right proportions onto the final stereo tracks.

This system works because of the way we sense the direction from which a sound is coming—or, more correctly, one of the ways. We hear a sound as arriving from the direction of the ear in which it is louder, the exact angle determined by the difference between the perceived levels in the two ears. So if a producer wants a vocalist to appear centered on the stereo stage, he mixes that track onto the stereo master at the same level on both channels. If he wants a guitar a little to the left of center, he mixes its track onto the stereo master at a slightly higher level on the left channel than on the right, and so on.

I don't see how one would make a modern rock recording without multimiking, and since the music itself is almost entirely synthetic, the practice raises no aesthetic issues. The situation is less clear, however, in the case of classical music, jazz, and even traditional popular music. Tastefully done, a multimike recording of acoustic (as opposed to electronic) music can be very satisfying. And in some cases, the producer has no practical alternative. Ultimately, the best way to fight bad acoustics (short of changing the recording site) is to close-mike the instruments, thereby avoiding the sound of the room altogether. But close miking tends to distort instrumental timbres and works against the formation of a spacious, natural-sounding stereo image. Consequently, multimike recordings often sound rather cold and dry. When the acoustics are good, there are better ways.

You can make a stereo recording with only two microphones: one for the left channel and one for the right. A popular method among American purists is to set up a pair of omnidirectional microphones some

distance apart in front of the group to be recorded. Unlike multimiking, it relies on phase, as well as amplitude, differences to create a stereo image: The brain tends to perceive a sound as closer to the ear at which it arrives first. In a spaced-omni setup, the microphones are a number of feet apart, so except for sources midway between them, there will be significant differences in arrival time at the two mikes.

Because omnidirectional microphones pick up sound from all directions, a spaced-omni recording will contain a great deal of hall reverberation along with the direct sound from the instruments. If the acoustics at the recording site are good, the result can be extremely appealing: a very warm, ambient, lifelike sound seldom achieved by other means. On the other hand, spaced omnis are not good in situations that demand rejection of sound from the sides and back, and the stereo image they create is not as precise as can be achieved by some other methods.

The other alternatives to multimiking are based on coincident or near-coincident pairs of directional microphones. Foremost among these is the Blumlein technique, which consists of a pair of bidirectional (figure-eight) microphones stacked one atop the other so that their pickup axes cross at right angles. The array is placed so that the mikes are at 45-degree angles to the stage. Because there is no distance between the microphones, there can be no phase or timing differences; the stereo image arises solely from amplitude cues, just as in multimiking. Blumlein recordings can combine very good lateral imaging with good pickup of hall reverb. However, they typically are not as warm or ambient sounding as spaced-omni recordings. Blumlein arrays also have the disadvantage of being difficult to place (it's often hard to get the distance from the players just right).

A variant of the Blumlein array is a pair of crossed cardioids—a sort of half-Blumlein, if you will, with virtually no pickup from the back. This technique can be a good choice for spaces too reverberant for Blumlein. I have always felt that recordings made with crossed cardioids tend to sound thin and dry, but the method has its enthusiasts. Certainly it yields excellent lateral imaging.

There are many other recognized techniques for making stereo recordings with simple microphone arrays, and I should mention that in commercial recording they usually are supplemented with a few accent mikes on soloists or on instruments not picked up well by the main pair (a common problem with pianos, for example). Some purists will cry foul at this kind of tampering, but I think one should judge by results. A few spot mikes can be a big help to a producer, and as long as he doesn't go overboard, the recording can retain the essential qualities that make simple microphone techniques so desirable. What you don't want are soloists who sound as loud as an orchestra or as though they were in a different space from the rest of the performers—absurd effects easily achieved with spot miking or multimiking. ■

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SUPERMAN 0013132									RETURN OF THE DRAGON 0818022
COCOON 3553052									STAR TREK III—THE SEARCH FOR SPOCK 2016162
THE BRIDGE ON THE RIVER KWAI 1606062									THE AFRICAN QUEEN 0511022
THE CLAN OF THE CAVE BEAR 3583092									CASABLANCA 0507162
GHOSTBUSTERS 1742012									SOME LIKE IT HOT 0584122
ALL ABOUT EVE 0044082									NEVER SAY NEVER AGAIN 6042072
JAGGED EDGE 1813052									REVOLUTION 6115092
TEEN WOLF 4104072									NOTORIOUS 0567132
THE LONGEST DAY 0577032									STAR TREK: THE MOTION PICTURE 2035132
FRIGHT NIGHT 1820062									TOOTSIE 1509042
A PASSAGE TO INDIA 1741022									THE EMERALD FOREST 3145002
AN AMERICAN WEREWOLF IN LONDON 7140062									THE GOOD, THE BAD AND THE UGLY 0582222
THE ALAMO 0583052									TO LIVE AND DIE IN L.A. 7225042
									STRIPES 1513162
									THE TEN COMMANDMENTS 2026062
									ALIEN 0002322

									
SPIES LIKE US 6116082	DELTA FORCE 3383012	AFTER HOURS 6167062							

CLEOPATRA 0579012	OKLAHOMA! 0054052	THE PARENT TRAP 5288022	BEVERLY HILLS COP 2053102	THE HOWLING 0527202	CADDYSHACK 6023002	WITNESS 4114052	THE BLADE RUNNER 3104092	ARTHUR 6024092	AN OFFICER AND A GENTLEMAN 2021192	PURPLE RAIN 6048012	POLICE ACADEMY 6049002	WEST SIDE STORY 0505342	POLICE ACADEMY 6049002	LAWRENCE OF ARABIA 1514072	RE-ANIMATOR 4847092	STAR WARS 0564162	THE SWORD IN THE STONE 5409062	MY FAIR LADY 3507022	THE BIG CHILL 1527022	20,000 LEAGUES UNDER THE SEA 5378032	PEE WEE'S BIG ADVENTURE 6098002	THE BLACK STALLION 0504012	AGNES OF GOD 1812062	CHARIOTS OF FIRE 6014012	ANNIE 1516052	PINOCCHIO 5361102	FLASHDANCE 2018142	A NIGHTMARE ON ELM STREET 2 3382022	THE RIGHT STUFF 6043062	MARY POPPINS 5276062	SILVERADO 1810082	FOOTLOOSE 2019052	THE EMPIRE STRIKES BACK 0910092	WHITE NIGHTS 1814042	ST. ELMO'S FIRE 1803072	DUMBO 5251052	GUESS WHO'S COMING TO DINNER 1819092	THE MAGNIFICENT SEVEN 0534212	DOWN AND OUT IN BEVERLY HILLS 5426052	RETURN OF THE JEDI 3547042	GUNG HO 4225012	THE KILLING FIELDS 6084062	PALE RIDER 6097012	COUNTRY 5341072	PRIVATE BENJAMIN 6018072	ROCKY IV 3570042	A NIGHTMARE ON ELM STREET 3288072	CABARET 4001272	JANE FONDA'S NEW WORKOUT 5112042	COMMANDO 3555032	THE KARATE KID 1710092	A VIEW TO A KILL 0989052	STARMAN 1723042
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R A N D A

DIGITAL SLOP

FROM ITS START, DIGITAL RECORDING HAS BEEN known for its ruthless clarity—a sonic lucidity unobscured by frequency-response errors, distortion, noise, wow, or flutter. Digital recordings, especially in their Compact Disc incarnations, have revealed with unprecedented objectivity many sounds usually buried in the low-level murk of an LP or cassette. Such forgettable events as sneezes, coughs, page turnings, falling objects, squeaky chairs, asthmatic air-conditioning systems, and passing subway trains have been as lovingly digitized as the performances they accompany. Many such noises are unavoidable, but many others stem from nothing less than incompetence (or what must be partial deafness) on the part of the recording team. There's a lot of digital slop out there. Old or new, large or small, mass-market or audiophile, many record labels are putting out Compact Discs with obvious and unacceptable technical faults beyond those stemming from poor microphone technique. Here are just a few examples, all of them classical releases, which allegedly receive higher doses of tender loving care than more commercial "product."

CLIPPING. Since the first sound on Telarc's very popular *Straussfest* (CD-80098) is a very loud gunshot, it is perhaps understandable that it exceeds the dynamic range of the CD system and is clipped, as can be seen on an oscilloscope trace. The overload is inaudible per se, however. Less comprehensible is the overloading of the offstage chorus at the beginning of Act II on Leonard Bernstein's recording of R. Strauss's *Der Rosenkavalier* (CBS/Sony 82DC 328-30, so far available only in Japan). The distortion is evidently on the master tape, but it is submerged under disc noise in the LP release.

Equally unbelievable is the highly distorted offstage chorus throughout Claudio Abbado's digital recording of Verdi's *Aida* (Deutsche Grammophon 410 092-2), which can be seen and heard to be clipped at quite a few decibels below maximum CD output level. The overloading must have occurred at the session mixer inputs. Fortissimos, too, are similarly clipped in the Leontyne Price/Zubin Mehta rendition of Puccini's *Tosca* (RCA Red Seal RCD2 0105).

SPURIOUS NOISES. That *Tosca*, which must be considered a classic of sloppy high-budget engineering, also has a constant low-level buzz running through both CDs. At the end of each, you can hear the buzz fade out along with the hiss from the analog master tape. Loose connection, RCA.

Big labels aren't the only ones with something loose: Esoteric and audiophile labels have also released a fair share of interference-ridden CDs. The wind-band arrangement of Beethoven's Seventh Symphony on Accent (CDA 48434) has excessive quantization noise in the left channel (particularly obvious at the end of each track), and the right channels of Reference Recordings' suspiciously hissy "digitally recorded" discs of William Walton's *Facade*

Suite and Stravinsky's *L'Histoire du soldat* (RR-16CD and RR-17CD, respectively) at times suffer from what sounds like very low level breakthrough from a radio station, disc jockey and all.

HIGH-FREQUENCY TONES. There are high-frequency tones pervading Strauss's *Four Last Songs* (Angel CDC 47013), Wagner's *Flying Dutchman* (Philips 416 300-2), and Verdi's *Falstaff* (Deutsche Grammophon 410 503-2). The latter two are recordings of live performances that were simultaneously being videotaped, and I suspect that the tones are at the horizontal-sync frequency of the TV cameras and were picked up directly by the microphones.

BAD EDITING. The attack of the opening trumpet note in Otto Klemperer's recording of Wagner's *Rienzi* Overture (Angel CDC 47254) is cut off. Faults similar to this occur quite frequently on CDs and are especially noticeable with analog-mastered material, in which the music and the background hiss both start or stop with a sonic jolt. This example also illustrates how the sonic identification of a musical instrument is crucially dependent on the first few milliseconds of sound. Here, the trumpet might be any of a number of instruments (my first guess was a raucous oboe).

BAD REVERBERATION. Perhaps the most catastrophically ruined recording covered here is the CD of Debussy's *La Mer* and *Jeux* conducted by Pierre Boulez (CBS Masterworks MYK 37261). The musical clarity that originally characterized these performances in their analog embodiments has been vitiated by an obnoxious dose of artificial reverberation, a misguided attempt to soften the dry sound of the original session tapes. The recording's original producer, Thomas Z. Shepard (who was not consulted about the record's remastering), wrote in a letter to *Billboard*, "[It's] not reasonable that the quality of the music or performance should be inadvertently sacrificed in the interest of technological 'improvements.'" This recording is available in Japan in a three-disc set of Boulez conducting Debussy (CBS/Sony 73DC 242-4); the other two discs have the same tinny reverb slopped onto them, with similarly disastrous results.

Can't anybody at these record companies hear? Most of the clipping is plainly audible to anyone who has heard live music; the low-level noises are quite clear over headphones at normal listening levels; and those high-frequency tones are so prominent that you would think someone had turned on a nearby television. The inescapable microscope of digital recording quality will no longer permit business as usual. Recording engineers can no longer attempt to hide behind the hiss, modulation noise, and intermodulation distortion of analog tape or the snap, crackle, and pop of analog disc. It's high time that the people responsible for the quality of recorded sound actually *listen* to their products at all stages of production. Those of us who buy Compact Discs expect no less. ■

ONE STEP IN THE MAKING OF A KEF

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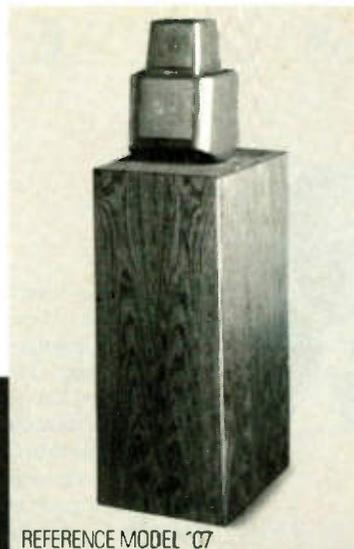
'We test each individual Reference Series driver for amplitude response with respect to frequency. The computer collates the tested drivers and crossovers into left and

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CONFESSIONS OF A DISINFORMATIONIST

WHEN YOU COME RIGHT DOWN TO IT, TAPE EDITING IS a matter of falsifying aural or visual events. But until you've indulged in the sly craft, you have no idea how satisfying it can be.

I learned the easy way. Back in the Fifties, I worked in a recording studio. The engineers' methods, unbelievably crude by today's standards, seemed the essence of panache to me. They would find the edit point in the time-honored way: by gripping the two hold-down knobs on the Ampex 350 open-reel deck, twirling them back and forth to produce all sorts of weird grunting sounds from the single monitor speaker (it was mono, remember), and marking the spot on the back of the tape with a grease pencil. Then, with an air of insouciant self-confidence, they'd pop the tape out and snip it with a pair of scissors.

Next, the ends to be joined were aligned, oxide surfaces down, against the top plate of the deck. The engineer used the index and middle fingers of his left hand to hold the ends together while he removed a length of $\frac{3}{4}$ -inch splicing tape from a dispenser with his right hand. He would then slap the splicing tape across the joint, pull it free from the top plate, and cut off any excess. If he was sufficiently skillful (and lucky), the resulting splice would not produce a click or a dropout, stick to the next layer of tape on the reel, or fall apart within a few weeks.

Among other things, the studio produced radio stories read by famous actors, and when the engineers were all busy, I sometimes was pressed into service. At first, it was unnerving to be responsible for the readings of a Boris Karloff, Helen Hayes, or Basil Rathbone. But as my confidence grew, so did my delight in being able to create an unbroken, natural-sounding sonic continuum from the takes—sometimes only short fragments—collected by the producer.

Fortunately, I began with Brian Aherne—in my opinion, the best of the lot. Intelligent, sensitive, well prepared, and always in control, he seldom fluffed. And his articulation was a model of clarity. On those rare occasions when something went awry—perhaps nothing more than a noisy page turn—he would invariably start the new take from the beginning of a sentence, making editing a breeze.

But after several sessions of Aherne, along came a tape by Sir Cedric Hardwicke and the shocking discovery that the eminent Shakespearean simply didn't pronounce many syllables. And since he had the habit of starting his frequent retakes in mid-sentence, the splice often had to be made in the middle of a continuous flow of sound.

The standard technique in these cases is to look for a sharp transient of the *t*, *p*, or *k* variety. Failing that, a sibilant (like *s* or *sh*) is easy to locate, if not to edit on. But vowels and other sustained vocalized sounds (like *w*, *m*, and *r*) are very hard to identify when you "rock" or "scrub" the tape across the heads because they all blend into one cosmic belch.

Sometimes the sounds I needed were in the script but simply not on the tapes.

Most distressing—on a completely different level—was an ex-star, the memory of whom, even now, causes a pang. I don't know whether his failed career was the cause or the result of his drinking, but when I worked on his tapes, he was in the final months of a losing battle with the bottle. The producer cornered him whenever and wherever he could, often in a motel room, but he evidently couldn't get him to read unless a drink was at hand. I was told to remove the sound of ice clinking in his glass, but it was so constant an accompaniment that I soon gave up.

I don't know what radio listeners made of those tapes. Heard over the monitor in the editing room, the aural picture was all too clear to me: the institutional-green walls decorated with gaudy prints, the drawn curtains, the slowly turning reels of a cheap recorder on the bed, a crystal mike propped atop a pillow on a card table, a small lamp aimed at the script, and a scotch-and-water glinting just outside the ring of light. In the foreground sat the actor, elbows on the table and gaunt fingers holding scraggly hair out of his eyes in a vain attempt to see the words clearly. It was all there, just beyond the speaker cone.

There were also slurred articulation, frequent interruptions by a ringing telephone, and a relentless motel-room air conditioner—bad enough when it cut in or out during a take, but even worse when it did so *between* takes. Then, the mating of tape with and without hum, shorn of the usual turn-on click or room reverberation at turnoff, made the splice sound unnatural and therefore obvious.

In the years that followed, I made recreational use of what I learned during those sessions. It's great fun to record a friend's recounting of several unrelated incidents and then combine them to create something surreal but convincing. On one occasion, I knew I'd succeeded when the subject, upon hearing the edited version, demanded that I destroy the tape.

Tape editing is a very different matter today. The disappearance of consumer open-reel analog decks has made splicing an esoteric pursuit and the experienced amateur editor an endangered species. If you've ever tried to splice the tape from an audio cassette—or, worse, a videocassette—you know what I mean. But the growing number of video cameras and camcorders in use is creating opportunities for editing by copying (assembly editing, it is called), with or without syncing equipment modeled on professional gear.

That's where the challenges lie now for the amateur who wants to create what isn't from bits and pieces of what is. Let's say you're able to cajole your boss into letting you videotape him or her coming through a door. Now go rent a horror movie and copy the scene where the locals scream in terror at their first sight of *The Creature* and run hysterically in every direction. The resulting tape should pick you up when you're feeling down about your job! ■

As soon as
the dealer said,
"To/without/and,"
I said
"Okay, Akai."

There were other
things about
Akai's CD-A70.
Naturally, I loved
the 3-beam laser
pick-up, digital
filter, subcode ter-
minal, and insu-
lated floating
mechanism.

Loved 'em.

But then the
dealer showed me
the Natural Logic
Operation.

Three buttons
take me to the
music I want to
hear **without** the
music I don't. **And**
play all that's in
between just like
a CD should.

It blew me away.

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RANDOM PROGRAM & QUICK ACCESS SYSTEM

COMPACT
disc
DIGITAL AUDIO

DIGITAL

COMPACT DISC PLAYER CD-A70

PHONES

MUSIC NO. INDEX NO.

2 1

TIME

0 MIN

07 SEC

PROGRAM ALL

||

⇒ / 00

SELECTED FROM

DISPLAY

T E S T R E P O R T S



*Report preparation
supervised by*

*Michael Riggs,
David Ranada,*

Christopher J. Esse,

Robert Long, and

Edward J. Foster.

*Laboratory data
(unless otherwise
indicated) is*

supplied by

Diversified Science

Laboratories.

Once again, we kick off the new year with a special issue featuring ten test reports. And given all the attention focused on CD these days, it's only fitting that three of them should be devoted to Compact Disc players (top to bottom): the Hitachi DA-005, the Sony CDP-C10 changer, and the Pioneer CLD-909 combination CD/Laserdisc player. Also in this issue, Technics's SU-A200 preamplifier, Harman Kardon's PA-635 integrated amplifier, Luxman's LV-105 audio-video amplifier, Octofon's X3-MC high-output moving coil cartridge, EPI's Magnus A-12 loudspeaker, MAD's 703PE receiver, and Purreaux's PMF-350 power amplifier. Reports follow.

So then the dealer said,
"Get the Akai, okay?"

So I said, "Okay." And
then I said, "But like
why the Akai, okay?"

And he said, "The
Interactive Monitor
System."

And I said, "Omygod,
no way!"

He said, "Yes indeed,
on-screen VCR pro-
gramming on every
one of their models."

So I said, "Okay, okay.
Akai."



AKAI

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Dept. R 800 West Artesia Blvd.,
Compton, CA 90220

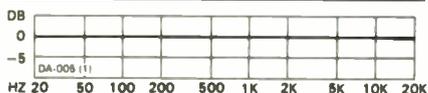


Hitachi DA-005 Compact Disc Player

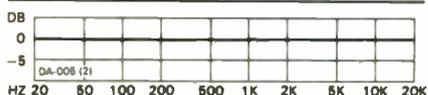


All data were obtained using the Sony YEDS-7, Technics SH-C0001, Philips 410 055-2, and Philips 410 056-2 test discs.

FREQUENCY RESPONSE WITHOUT DE-EMPHASIS



FREQUENCY RESPONSE WITH DE-EMPHASIS



CHANNEL SEPARATION (at 1 kHz)	92 1/4 dB
CHANNEL BALANCE (at 1 kHz)	± <0.1 dB
S/N RATIO (re 0 dB; A-weighted)	
without de-emphasis	92 1/4 dB
with de-emphasis	100 1/2 dB
HARMONIC DISTORTION (TMD + N; 40 Hz to 20 kHz)	
at 0 dB	<0.01%
at -24 dB	≤ 0.042%
IM DISTORTION (70-Hz difference; 300 Hz to 20 kHz)	
0 to -20 dB	<0.01%
at -30 dB	≤ 0.018%
LINEARITY (at 1 kHz)	
0 to -50 dB	no measurable error
at -60 dB	+0.3 dB
at -70 dB	+1.0 dB
at -80 dB	+2.2 dB
at -90 dB	+6.0 dB
TRACKING & ERROR-CORRECTION	
maximum signal-layer gap	700 μm*
maximum surface obstruction	≥ 800 μm
simulated-fingerprint test	pass

*See text.

DIMENSIONS: 17 BY 3 1/4 INCHES (FRONT), 10 1/4 INCHES DEEP PLUS CLEARANCE FOR CONNECTIONS. **AC CONVENIENCE OUTLETS:** ONE UNSWITCHED (100 WATTS MAX.). **PRICE:** \$800 INCLUDING RB-003 WIRELESS REMOTE CONTROL. **WARRANTY:** "LIMITED," TWO YEARS PARTS AND LABOR. **MANUFACTURER:** HITACHI, LTD., JAPAN; U.S. DISTRIBUTOR: HITACHI SALES CORPORATION OF AMERICA, 401 W. ARTE-SIA BLVD., COMPTON, CALIF. 90220.

IN FEATURES, THE HITACHI DA-005 IS AMONG the most comprehensive Compact Disc players we've yet tested. It has just about every major capability we have ever found genuinely useful on a CD player. And all of its front-panel controls (except the disc-drawer and power buttons) have counterparts on the supplied remote control.

The DA-005 provides many ways of getting to what you want to hear. The seek buttons skip to the beginning of the next or previous track. Fast-cueing scans through the disc forward or back, sampling the music at reduced output as it goes; if you hold the button down, the scan speed increases after a second or two. There is scan-and-play (S&P on the front panel) that plays the first ten seconds from the beginning of each track in succession. You can use the front-panel or remote-control keypads to go directly to the beginning of any track or to any index number within it. Or you can program a sequence of as many as 15 individual tracks (but not index points) for playback. You can repeat the programmed track sequence, the entire disc, or only the portion between two points selected by pressing REPEAT during play.

A nice contribution to user control is Hitachi's AUTO SPACE. When engaged, it puts the drive into pause for four seconds before the start of each track. This spaces out the selections of some collections to their dis-

tinct advantage, as well as to the advantage of CD dubs played on blank-seeking cassette decks. (On the other hand, there are cases like the Solti *Ring* on London, which divides the acts internally with tracks instead of index points. Here, turning on the AUTO SPACE would insert arbitrary pauses in what should be seamless music. Had Polygram followed its own guidelines, the track cues would have been saved for the act breaks, where the auto-space pause would indeed be welcome.)

Internally, the design features separate power supplies for the analog and digital sections (which prevents certain types of interference between them, particularly by digital transients impinging on the audio), a three-beam laser pickup, a five-stage digital error-correction system (in contrast to the usual two-stage design), and a 121-tap two-times oversampling digital filter. The last probably also has a low-order analog filter on its output, as can be gleaned from the square-wave and pulse traces, which are nearly symmetrical (a characteristic of digital filtering) but show more ringing after

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than before the transients (analog filters can ring only after they have been hit, so to speak). The ringing is minimal, however, as it should be with a well-designed combination filter.

You can also see the filters at work in the gentle downturn at the top end of the response curves without de-emphasis. Aside from this slight bend, the curves are exemplary: almost ruler-flat across the board and holding up exceptionally well even at 20 kHz. And with pre-emphasized recordings, the response is almost as flat. (The de-emphasis switching is automatic and depends solely on how the disc was mastered.)

In fact, the test results from Diversified Science Laboratories are universally excellent, with one exception: The test sample had some difficulty with the 700-micrometer signal interruption on the Philips tracking/error-correction test disc. It skipped at the beginning of this track, but played the remainder, and it could not play the two test tracks with larger (800- and 900-micrometer) signal interruptions. With a well-made and well-cared-for music disc, this should present no problem; but because Hitachi considers its error correction unusually sophisticated, we were surprised that it didn't take all of these test cuts in stride.

Probably to protect the pickup from mis-tracking due to physical feedback or vibration, the DA-005 appears to be mounted on shock feet. For ordinary stimuli, they seem to do an excellent job, though they tend to accentuate hard vertical shocks (such as rapping directly on the top of the enclosure), which can induce skipping. The DA-005 seems impervious to horizontally directed shock. Although we regularly subject CD players to such abuse, we recognize that it is abuse and assess the behavior accordingly. In normal operation, then, we'd expect the DA-005 to be free from shock or feedback problems.

Perhaps the most telling feature on the DA-005 is the headphone level control—a small touch that many users may not even notice, but one that's not always included. This is an example of the care with which Hitachi has approached this design (as is the well-ordered owner's manual, although its translation is sometimes lacking). For instance, there are two time-indicator modes: elapsed from the beginning of each track and time remaining on the disc. Gone are the confusing and useless timing options that clutter too many competing models. We wish more designers would approach their task in as reflective a mood as Hitachi. ■

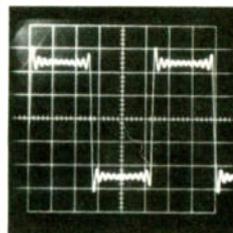
MAXIMUM OUTPUT LEVEL

line output	1.90 volts
headphone output	2.60 volts

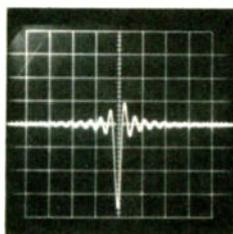
OUTPUT IMPEDANCE

line output	11 ohms
headphone output	60 ohms

SQUARE-WAVE RESPONSE (1 kHz)



IMPULSE RESPONSE



T E S T R E P O R T S

Technics SU-A200 Preamplifier

DIMENSIONS: 17 BY 4½ INCHES (FRONT PANEL), 13 INCHES DEEP PLUS CLEARANCE FOR CONTROLS AND CONNECTIONS. **AC CONVENIENCE OUTLETS:** TWO SWITCHED (1,100 WATTS MAX. TOTAL), ONE UNSWITCHED (50 WATTS MAX.). **PRICE:** \$1,000. **WARRANTY:** "LIMITED," TWO YEARS PARTS AND LABOR. **MANUFACTURER:** MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD., JAPAN; U.S. DISTRIBUTOR: TECHNICS, 1 PANASONIC WAY, SECAUCUS, N.J. 07094.

IN THE SU-A200, TECHNICS HAS CREATED A "front end" for a home audio-video entertainment system that will allow for just about every conceivable system configuration. Although exceedingly complex, its control logic makes the SU-A200 much easier to use than to describe; once we got the hang of its labyrinthine signal routing, we found it no more difficult to use than conventional preamplifiers.

A significant help, particularly if you're not a technophile, is the owner's manual. While it doesn't exhaustively cover every aspect of the design, it is reasonably complete and is written in simple, clear English (a rare occurrence, even with American-made

products). The manual also makes abundant use of drawings and block diagrams to illustrate alternative hookup and signal-routing possibilities. A few of its concepts strike us as a little odd, as you'll see, but the importance of clarity and simplicity can't be understated as home entertainment equipment and hookups become increasingly complex.

The unit's unusually comprehensive array of inputs and outputs includes some dual-purpose designations that help adapt the preamp to different types of systems, ranging from the pure audio to the completely integrated audio-video. The conventional audio inputs include those for two phono cartridges (which share a common RIAA preamp and head-amp option for use with low-output moving-coil pickups and thus can't be used simultaneously), tuner, CD, and aux. A second auxiliary input is labeled DIGITAL in expectation of future digital-audio components besides CD players. There also is a "digital control unit" terminal on the back panel that the manual tanta-

zingly hints is "for digital audio equipment of the future."

There are three sets of tape inputs and outputs: Tape 1, Tape 2/VCR, and Tape 3/"DA tape." Tape 2 is equipped with video in and out, as well as the audio connections. Less obviously, Tape 3 can be used with a normal analog audio deck as well as an RDAT unit or a PCM-adaptor/VCR combination. (This is in addition to the DIGITAL auxiliary input option.)

Besides the Tape 2/VCR connections, there are two sets of audio-video inputs—AV 1 and AV 2—plus a video output on the back panel that feeds the video from the selected source to your monitor. Audio and video signals can be fed in from duplicate front-panel jacks for AV 2, hidden with other less-used controls behind a narrow flip-down panel at the bottom of the faceplate; a switch selects between the front and back AV-2 inputs. There is a front-panel audio-only output as well, paralleling the main au-

(CONTINUED ON PAGE 39)

YOU'RE LOOKING AT SERIOUS ENTERTAINMENT.



There are exotic cars and exotic cars. And then there's the Lamborghini Countach Quattrovalvole.

There are CD players and CD players. And then there's the Alpine 7902.

Until the 7902, there has never been a CD player and FM/AM tuner engineered *together* in a complete 7"x 2" unit, to fit the dash of virtually any car.

Like the Lamborghini, every cubic inch of the 7902 is serious performance technology. By redesigning and applying advanced Alpine technology to each element in the system, we've created an entertainment package that easily handles rough roads and weak radio signals.

The 3-beam laser pickup created for the 7902 is about 70% lighter than others. It reads data more accurately and rides on a precision drive mechanism that absorbs mechanical backlash, ensuring outstanding tracking accuracy.

The laser transport is protected against road-shock by a silicon-oil suspension system, and is mounted on a rigid zinc die-cast chassis to maintain perfect alignment.

Our T-10 II Tuner[™] utilizes multiple FM circuits on a single tiny chip, smaller than ever before, for superior reliability and reception.

How does it sound? You'll just have to audition it at an Alpine dealer. Come on in when you're ready to get serious.

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Now that the networks—NBC, ABC, CBS and even Cable—are broadcasting dozens of programs in dynamic stereo sound you can change your home TV viewing from dull to dynamic with one of Recoton's F.R.E.D.™ Family of MTS Decoders. Easy to install, each F.R.E.D. Decoder thrusts the sound and action beyond your TV screen, delivering theater-like sound that's purer and cleaner than the best Stereo TV on the market. Leading authority on audio Julian Hirsch commented in STEREO REVIEW Magazine, "F.R.E.D... is a dramatic improvement in the quality of TV sound... can justify its addition to a home entertainment system." VIDEO and VIDEO REVIEW

Magazines also agree the F.R.E.D. family of decoders transforms your ordinary TV into an up-to-date stereo center at a fraction of the cost of a new MTS Stereo TV. And F.R.E.D. also synthesizes dynamic stereo sound from non-stereo broadcasts. Available in amplified and non-amplified versions for use with a home audio system or self-powered speakers. Some models with SAP bi-lingual programming capability. So experience the F.R.E.D. family—the greatest breakthrough in MTS Stereo technology.

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RECOTON[®] MTS TV STEREO DECODER dbx[®] SCHOTZ TECHNOLOGY

F.R.E.D. III

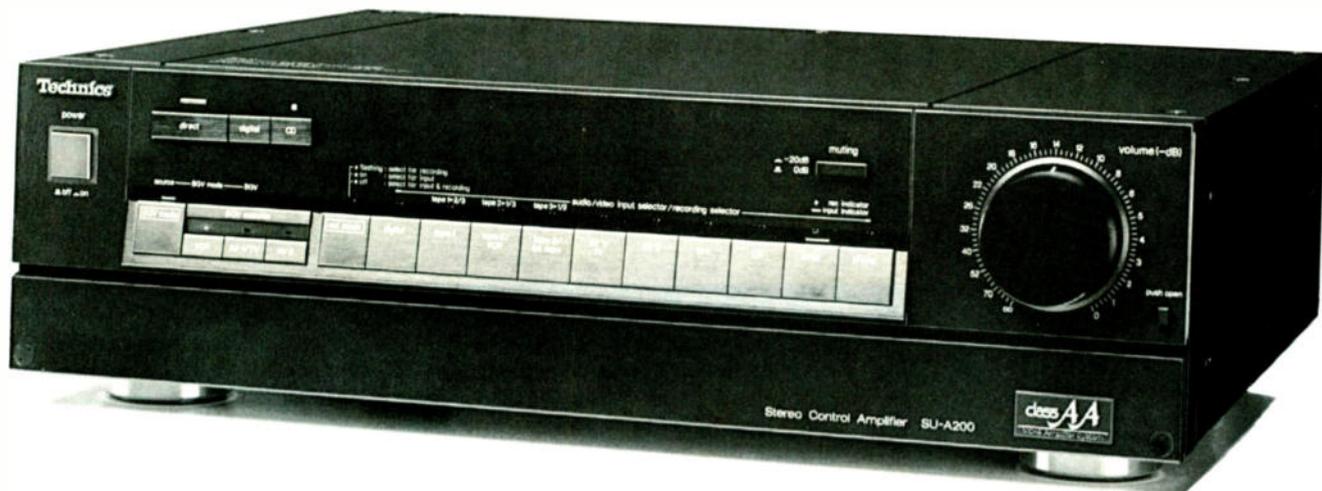
RECOTON[®] dbx[®]

POWER HEADPHONE

SIGNAL SYNTH dbx[®] STEREO

BASS TREBLE BALANCE VOLUME

AMPLIFIED MTS TV STEREO DECODER SCHOTZ TECHNOLOGY



(CONTINUED FROM PAGE 35) dio output on the back panel; each output has its own on/off switch. All connections are made through standard pin jacks.

Although the same long row of selector buttons is used for both monitoring and recording, each function can be set separately. A small red LED indicates the recording source, while an amber bar glows above the monitored source. Choosing one of the sources usually triggers both functions for it. However, if you push RECORDING at the left end of the button array, its LED will begin to flash, indicating that the next selector you press will be for recording only, leaving the monitor selector as is. When you have selected your recording source, the recording LED switches to a steady glow, indicating that the recording source is locked in and that further selections will alter only the monitor function. To defeat the lock and reassign the recording source to that being monitored, you press RECORDING once again, and the recording LED goes out.

But let's say you're listening to FM and decide to record it without first "locking" the source selector to the tuner. If you have a three-head deck and want to check the signal off the tape, no problem. When you switch the monitor to any of the three tape options, the recording source won't automatically follow along even in the unlocked mode. And when you do use RECORDING to select one of the connected tape decks as a source, it automatically is set up to feed both of the others for three-way dubbing. The manual declines to use this term, however, possibly for fear of the copyright lobby. Dubbing or copying is referred to as "edit recording," a term more at home with video than audio.

Considerably more peculiar than the three-deck hookup is what the manual calls "background video," or BGV, defined as the (presumably desirable) ability to play a videotape or Laserdisc with a substitute soundtrack coming from a CD. Actually, U.S. users will find that BGV is just the ticket for viewing FM/TV simulcasts. The background-video function is controlled by a video subpanel that can be linked to the main selector

or can choose a video source independent of an audio source selected by the main button array.

Yet another unusual, if not unprecedented, switching option is a direct feed of the analog signals from the two "digital" inputs (DIGITAL or CD). This is controlled from yet another subpanel at the upper left of the faceplate. The direct option, intended to preserve these signals in the most pristine condition possible, bypasses the tape outputs and all of the SU-A200's processing circuitry (consisting of built-in filters, an option for an outboard equalizer or other processor, -20-dB "muting," the mono/stereo switch, and the balance adjustment). The direct signal enters the circuitry just ahead of the volume control and passes only through the Class A output amp, a protective relay, and the output switching before being fed to the connected power amplifier.

Note that among all these capabilities the SU-A200 has no tone controls or loudness-compensation switch. If you want such response alterations, an outboard equalizer is in order (possibly one of the electronic models specifically tailored to TV audio, which can often profit greatly from EQ, or one that can memorize several EQ settings). The built-in high filter is too high (down 3 dB at 7.9 kHz in DSL's data) and too gentle (6 dB per octave) to make much of a dent in hiss, though it does soften it a shade and is effective in taming overbright recordings. The infrasonic filter is even less audible in effect (desirably so) because its turnover is close to the bottom edge of the audio band. But its slope (12 dB per octave) makes it more effective in the range where it's needed to suppress the power-sapping and feedback-threatening effects of warp output from LPs.

Response in the regular "MM" phono mode (for fixed-coil or high-output moving-coil cartridges) is exceptionally flat, rising 1/4 dB in the very deep bass and rolling off (if we can use that term) by only 1/4 dB at 5 Hz in the critical part of the infrasonic-warp range. The moving-coil response rolls off slightly in the deep bass (by 3/4 dB at 20 Hz) and even more slightly in the treble (by less than 1/2 dB

OUTPUT AT CLIPPING (at 1 kHz)		
main output	> 10 volts	
HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)		
aux input	< 0.01%	
phono input	< 0.01%	
FREQUENCY RESPONSE		
Direct mode	+0, -1/4 dB, < 10 Hz to 51.4 kHz	
	+0, -3 dB, < 10 Hz to 179 kHz	
Normal mode	+0, -1/4 dB, < 10 Hz to 46.4 kHz	
	+0, -3 dB, < 10 Hz to 174 kHz	
RIAA PHONO EQUALIZATION		
fixed-coil	+ 1/4, -0 dB, 20 Hz to 20 kHz, - 1/4 dB at 5 Hz	
moving-coil	+0, -3/4 dB, 20 Hz to 20 kHz, -6 1/2 dB at 5 Hz	
SENSITIVITY & NOISE (re 0.5 volt; A-weighting)		
	sensitivity	S/N ratio
aux input	35.5 mV	100 dB
fixed-coil phono	0.55 mV	79 1/2 dB
moving-coil phono	22 μV	79 1/4 dB
PHONO OVERLOAD (1-kHz clipping)		
fixed-coil phono	140 mV	
moving-coil phono	6.0 mV	
INPUT IMPEDANCE		
aux input	38k ohms	
fixed-coil phono	48k ohms, 95 pF	
moving-coil phono	210 ohms	
OUTPUT IMPEDANCE		
main output	5 ohms	
tape output from aux input	190 ohms	
tape output from phono inputs	730 ohms	
CHANNEL SEPARATION (at 1 kHz)		
HIGH FILTER	-3 dB at 7.9 kHz, ≈ 6 dB/octave	
INFRASONIC FILTER	-3 dB at 25 Hz, ≈ 12 dB/octave	

at 20 kHz).

There are many ways in which Technics has expended extra care on this preamp beyond features such as the direct "digital" sound feed. The volume control, for instance, is a proprietary PCI (pure conductive low-noise) variable-resistor design that uses two potentiometer stages (one in the

signal path and one in the feedback loop) to keep noise as much as 10 dB below that of conventional designs. And there's a filter (switchable on the back panel) to remove the 15.6-kHz horizontal sync signal from the AV-I audio input, if it has leaked into the audio output of the connected video component. This can be an important option, de-

pending on your ancillary equipment and hookup scheme, but this is the first time we've seen it in an audio-video product. In fact, we know of no audio-video preamp that can come close to matching the SU-A200 in thoughtful comprehensiveness of control and hookup, excellent performance, and easy usability. ■

T E S T R E P O R T S

Ortofon X3-MC Phono Cartridge

TYPE: HIGH-OUTPUT MOVING-COIL WITH FIXED (NOT USER-REPLACEABLE) MULTIRADIAL DIAMOND STYLUS. PRICE: \$140. WARRANTY: "LIMITED," ONE YEAR PARTS AND LABOR. MANUFACTURER: ORTOFON MANUFACTURING A/S, DENMARK; U.S. DISTRIBUTOR: ORTOFON, INC., 122 DUPONT ST., PLAINVIEW, N.Y. 11803.

ORTOFON, LONG A CHAMPION OF MOVING-coil cartridges, says its X Series designs have all the advantages of that genre but none of the disadvantages. To a large extent, that claim is justified. The X1-MC (with elliptical stylus) and X3-MC (with line-contact multiradial stylus) have output levels (and prices) in the same bracket as top fixed-coil designs. The X Series models, therefore, require no extra amplification stage or matching transformer and can be fed directly into an amplifier's fixed-coil phono inputs (sometimes labeled "moving magnet" or MM).

Electrically, moving-coil cartridges have two significant advantages over fixed-coil models. First, fixed-coil response can be quite dependent on the load provided by the signal leads and phono input impedance of the preamplifier. Stray capacitance, in particular, can alter the high-frequency response of a fixed-coil model. By contrast, moving-coil pickups, by virtue of their low electrical impedance, are virtually impervious to such load-related response degradation. The second major advantage is that a moving-coil cartridge can have lower "self noise" than a fixed-coil design. This also stems from a moving-coil's low internal impedance.

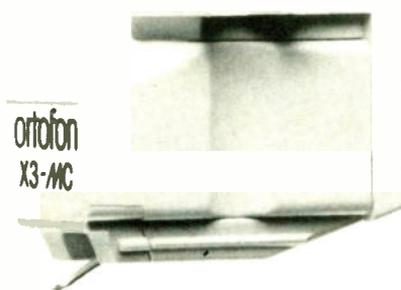
As with almost all other moving-coil models, when the time comes to replace the X3-MC's stylus, you'll have to send the cartridge back to the factory. Luckily, that's not an everyday event. In fact, the building of a high-quality moving-coil pickup and the nonreplaceability of its stylus are related to the same basic fact of moving-coil design: The tiny coils are part of the stylus assembly and are directly connected to the output ter-

minals; were the stylus to be removed, the electrical connection would be broken. Because the moving mass of the stylus/coil assembly must be minimized for good performance, very fine wire must be used and plug-in electrical connections are virtually out of the question. For the same reason, the coil must be very carefully wound.

In the past—at Ortofon, as elsewhere—that meant hand-winding under a microscope and consequent high manufacturing cost. It also meant relatively low output, which is a function of the number of turns in the coil that actually move in the magnetic field in response to the stylus motion. Making the magnet the immobile element permits it to be as big (within reason) as the designer would like, increasing the strength of its field; but the moving coil itself must be kept small and light, limiting the number of turns it can contain.

Ortofon has formed the magnet from samarium cobalt, a potent magnetic material. Its shape, plus a "field-focusing yoke" and a proprietary automatic coil-winding technique, are credited with concentrating the magnetic field in the area of the coil and with the cartridge's high output level. Among other things, Ortofon claims a magnetic efficiency that delivers output that otherwise would require twice the number of turns in the coils. Further, the company claims its high-speed winding technology permits the use of exceptionally fine (18-micrometer) wire. The "X" in the series designation is derived from the shape of the armature, a hollow one-piece construction. The attached stylus cantilever is an aluminum tube. Overall moving mass is claimed to be among the very lowest found in a high-output moving-coil design.

In one respect, Diversified Science Laboratories couldn't follow its usual procedure in testing the X3-MC. DSL's standard test arm (a SME 3009 Series II) wasn't built to accommodate such a cartridge, having insuffi-



TONEARM/CARTRIDGE MATCHING GRAPH

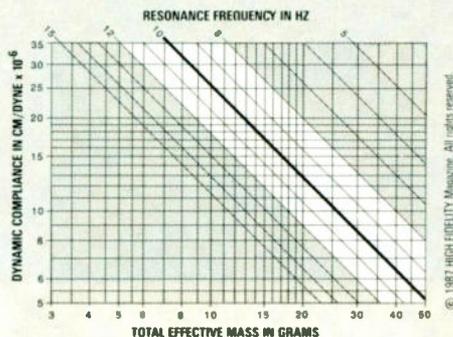
By means of this nomograph, you can quickly and easily determine the compatibility of any cartridge and tonearm we have tested. Ideally, the arm/cartridge resonance frequency (indicated by the diagonal lines) should fall at 10 Hz, but anywhere between 8 and 12 Hz will assure good warp tracking and accurate bass response. (It is usually okay to let the resonance rise as high as 15 Hz, although we don't normally recommend this.)

Begin by looking up the weight and dynamic compliance shown in the cartridge report and the effective mass listed in the turntable or tonearm report. Add the weight of the cartridge to the effective mass of the tonearm to get the total effective mass. Then find the point on the graph where the vertical line for the total effective mass intersects the diagonal line representing the measured resonance frequency. For a good match, this point should fall in the white region, between the 8- and 12-Hz diagonal lines.

You can back-figure compliances and effective masses for cartridges and tonearms tested before we began reporting these figures directly (in January 1983). For cartridges, look up the vertical resonance frequency (measured in the SME 3009 Series II Improved tonearm) and the cartridge's weight. Add 15 grams (the SME's effective mass) to the cartridge weight to get the total effective mass. Then find the intersection of the vertical line representing that mass with the diagonal line representing the measured resonance frequency. Now you can read off the compliance from the horizontal line passing through the point of intersection.

For tonearms, look up the vertical resonance frequency as measured with the Shure V-15 Type III cartridge. Find the intersection of the diagonal line for that frequency with the horizontal line representing the Shure's dynamic compliance of 22.5×10^{-6} cm/dyne. Reading down the vertical line on which the point of intersection lies will give you the total effective mass of the arm with the Shure V-15 Type III mounted in it. Then subtract 6.3 grams (the weight of the V-15 Type III) to get the tonearm's effective mass.

Because of differences in measurement techniques, manufacturers' specifications for compliance and effective mass often differ from our findings and may therefore yield inconsistent results if used with this graph.



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cient range in both its counterbalance (the X3 weighs just 4.2 grams) and its tracking-force adjustments (2.0 grams is recommended by Ortofon). Adding a 2-gram weight at the headshell solved both difficulties. The total mass thus was higher for the bench testing than it otherwise would be. But that implies no caveats in reading the data, which include compensation, where appropriate, for the extra weight. It does mean, however, that you should determine in advance whether your tonearm can accommodate the X3-MC without such modification.

The Ortofon passed the lab's tracking test at a vertical tracking force of 1.8 grams, and the recommended 2.0 grams was used for all subsequent tests. At that setting, it played all but one of the maximum-modulation test cuts without difficulty; that one (400-Hz and 4 kHz at +18 dB) also tracked, but not with ease. Sensitivity measures a little higher than that of some other high-output moving-coil models we've tested, but somewhat lower than average for fixed-coil

models—which usually run 0.8 millivolt per centimeter per second of groove velocity, or more, as opposed to the X3-MC's 0.6 mV/cm/s, which is about 2.5 dB lower. But this should pose no problem with most fixed-coil phono inputs.

Dynamic compliance is on the low side among today's cartridges, meaning that a relatively massive arm will deliver ideal warp tracking with the X3-MC. A very light arm could drive the arm/cartridge resonance frequency up into the range of very deep recorded fundamentals, though we would expect any problem of this sort to represent an extreme case. And even then, an extra weight of a few grams mounted in the headshell should easily compensate.

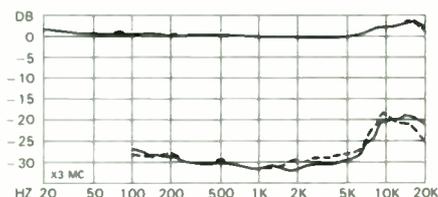
Vertical tracking angle measures a little higher than the "standard" 20 degrees, but not much; the rake angle measures just about spot-on. Separation is better than the cartridge's 25-dB spec throughout the portion of the frequency range where it matters (that is, where it contributes to stereo imaging). Frequency response is quite flat except at the top of the range, where it exhibits some peaking, though less than might be considered typical of moving-coil models.

With our listening setup (which probably is much more representative of our readers' equipment than is the lab's), we had no problem balancing the arm or setting the VTF. In fact, we had nothing to do but sit back and enjoy—which we did. There were occasions when we detected a slight extra glitter attributable to the response rise near the top end, but overall we consider the X3-MC a very clean, uncolored cartridge and among the most handsome sonically of the moving-coil models we've tested.

Because it requires no extra amplification—unlike its low-output moving-coil progenitors from Ortofon and others—the X3-MC doesn't present the opportunity to pick up extra noise and distortion along with the gain. In fact, there are so many ways in which the X3-MC fulfills its objective of delivering the virtues of both cartridge types without the drawbacks of either that it should win new converts to both its concept and its manufacturer. Good show, Ortofon. ■

(CONTINUED ON PAGE 12)

FREQUENCY RESPONSE & CHANNEL SEPARATION



Frequency response	
— L ch	+3 1/2, -1/2 dB, 20 Hz to 20 kHz
- - - R ch	+3 3/4, -1/2 dB, 20 Hz to 20 kHz
Channel separation	
	≥ 25 dB, 100 Hz to 7 kHz
	≥ 20 dB, 100 Hz to 20 kHz

SENSITIVITY (at 1 kHz) 0.60 mV/cm/sec

CHANNEL BALANCE ± < 1/4 dB

VERTICAL TRACKING ANGLE ≈ 26°

MAX. TRACKING LEVEL (re RIAA 0 VU; 2.0 grams)

lateral	≥ +18 dB
vertical	> +12 dB

DYNAMIC COMPLIANCE (vertical)
≈ 11×10^{-6} cm/dyne

RECOMMENDED EFFECTIVE TONEARM MASS

optimum	≈ 19 grams
acceptable	≈ 12 to ≈ 32 grams
WEIGHT	4.2 grams

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.

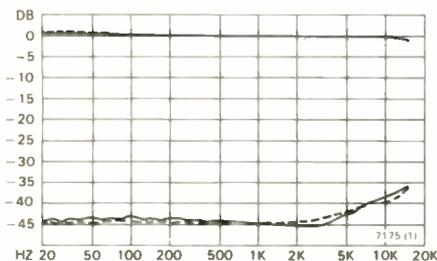
WATTS	dBW	WATTS	dBW
1.0	0	32	15
1.25	1	40	16
1.6	2	50	17
2.0	3	63	18
2.5	4	80	19
3.2	5	100	20
4.0	6	125	21
5.0	7	160	22
6.3	8	200	23
8.0	9	250	24
10.0	10	320	25
12.5	11	400	26
16.0	12	500	27
20.0	13	630	28
25.0	14	800	29

NAD 7175PE Receiver



FM TUNER SECTION

STEREO RESPONSE & CHANNEL SEPARATION



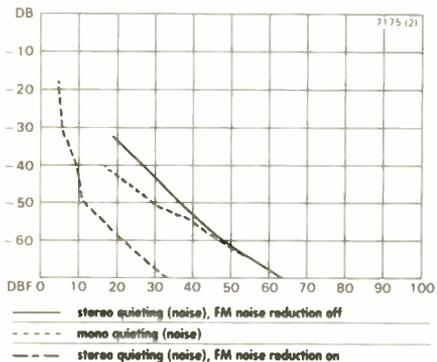
Frequency response

left channel	+ 1/2, -1 dB, 20 Hz to 15 kHz
right channel	+ 1 - 3/4 dB, 20 Hz to 15 kHz

Channel separation

	≥ 43 dB, 20 Hz to 3.8 kHz
	≥ 34 1/2 dB, 20 Hz to 15 kHz

FM SENSITIVITY & QUIETING



—	stereo quieting (noise), FM noise reduction off
- - - -	mono quieting (noise)
- · - · -	stereo quieting (noise), FM noise reduction on
- · - · -	stereo quieting (noise), FM noise reduction on

DIMENSIONS: 16 1/2 BY 4 INCHES (FRONT PANEL), 13 1/4 INCHES DEEP PLUS CLEARANCE FOR CONTROLS AND CONNECTIONS. AC CONVENIENCE OUTLETS: ONE SWITCHED, ONE UNSWITCHED (250 WATTS MAX. EACH). PRICE: \$800. WARRANTY: "LIMITED," TWO YEARS PARTS AND LABOR. MANUFACTURER: MADE IN JAPAN FOR NAD (USA), INC., 675 CANTON ST., NORWOOD, MASS. 02062.

THE NAD MODEL 7175 RECEIVER IS ALSO known as the 7175PE (for Power Envelope). This concept (shared by the similar but lower-power 7150) seeks to match the instantaneous output capabilities of a power amplifier to the characteristics of real music, making clean transients available at higher levels than would be the case with an amplifier of conventional design. We'll have more to say about that later. In the meantime, the 7175 has other features that claim more immediate attention.

The tuner section typifies the NAD approach, which might be summarized as sophisticated ergonomic simplicity. Basic controls are an up or down tuning rocker and, below it, a step/seek switch—significantly more straightforward and therefore more useful, in our view, than the current fad for a mono/stereo button that also controls step/seek mode. A tap on the rocker changes tuning by quarter-channel (50-kHz) steps on the FM band, full-channel (10-kHz) on AM; firm pressure zips the tuning smartly across the band. The receiver "remembers" the last-tuned frequency even when it's turned off. There are five memory buttons, each of which will store one AM and one FM station.

There are two tuning aids just below the frequency readout: a signal-strength "me-

ter" that registers on both bands and center-tuning aids for FM only. Discrete-element displays can only approximate the usefulness, for users with rotatable antennas, of a true needle-and-scale analog meter, which shows some movement for virtually any significant change of signal strength within its working range. The NAD's five-element display offers a closer approximation than most. Its thresholds cover an unusually wide range of antenna input level (from 4 3/4 to 63 1/4 dBf in Diversified Science Laboratories' tests), but that means that there are relatively wide gaps between them.

The channel-center display consists of arrowheads that appear at the right of the signal-strength display to indicate the direction of tuning necessary to center on a not-quite-tuned carrier. When tuning is spot-on, a rectangle between the two arrows illuminates instead. A similar rectangle just to the right of the display window lights when a stereo pilot is detected and not suppressed by the mono switch. There is no FM muting switch—nor is one needed. During seek, muting is automatic; in manual tuning, it's usually unwanted.

If these features were the only ones on the tuner, we'd call it an excellent job of boiling down functions and capabilities to simple, easily used groupings—and typical of NAD. Proprietary to NAD is what it calls FM Noise Reduction, which is a kind of dynamic blend option. Its operation is fairly complex, depending on both RF (radio frequency) signal strength and modulation level on the carrier, since low levels in either can allow

RADIO SHACK TAKES YOU TO NEW HEIGHTS IN HOME ENTERTAINMENT

Stereo from Six Sources! CD, VCR, TV, Tape, FM, Phono



Total Entertainment. Radio Shack's new System 747 gives you everything. 19-inch color TV/monitor with MTS stereo, VHS Hi-Fi Stereo VCR, CD player, dual cassette deck with high-speed dubbing, digital AM/FM stereo tuner, turntable, equalizer, amplifier, wireless remotes, deluxe three-way speakers and the matching racks.

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audibility of hiss in weak stations. That hiss is canceled by the degree of blend that the feature introduces, and it therefore doesn't work in mono, of course.

At first glance, the data would appear to indicate a major improvement in effective sensitivity and quieting with the feature on. That's certainly true, but the side effect is a severe restriction of separation, at least under those reception conditions that benefit most from the noise reduction (NR) system. For instance, using NR improves stereo sensitivity from a respectable 36½ dBf to an outstanding 29½ dBf, but it also reduces midband separation from an outstanding 45¼ dB to a very poor 5 dB—so poor that it can hardly be called stereo. (The separation figure is determined by the standard test conditions and naturally would vary from moment to moment with a real station.) At the stereo threshold, separation measures 31 dB without noise reduction, only 3½ dB with it.

Stereo threshold behavior itself is very nearly the same either with or without NR and includes a better-than-usual ability to lock into the stereo mode so that it doesn't flicker in and out if signal strength wanders back and forth across the nominal threshold. So on weak stations, the compromise introduced by the NR feature is minimal—at most, a big improvement in signal-to-noise ratio at the expense of stereo imaging, with both factors progressively returning to normal as signal strength increases. By the time the signal-to-noise rating point has been reached, at 65 dBf, the NR feature has turned itself off.

For this reason, NAD marks the NR switch so that its normal position is on. Some combinations of signal strength and fluctuating program content can induce audible "pumping" of reception noise—therefore making it desirable to turn the NR off—but NAD has designed the feature so well that during our listening tests we could find no really obvious examples of such poor reception conditions. So we agree that most listeners will want to leave the NR on most of the time.

Overall, then, we consider the tuner section exceptional for a receiver costing \$800. The alternate-channel selectivity is not quite as impressive as most of the other data—including the adjacent-channel figure—but no parameter presents a significant shortcoming for most users, and the combined performance and control approach make it unusually easy to get unusually good reception. On the back panel, there's even a 75-ohm F connector for direct coaxial input from a cable or FM antenna downlead and an attached AM bar antenna, as well as the usual spring-loaded clip connections for other antenna options.

The preamp section incorporates a fillip of its own: a bass-EQ switch that can be used to introduce a peak of 8½ dB at about 45 Hz, together with a sharp rolloff at lower frequencies. Its purpose is to add electronically

the energy that might otherwise be supplied by a subwoofer, thereby increasing the overall bass extension of the system. How well it will work depends to a large extent on the response of the speakers with which it is used, but the nature of the program and the level at which it is reproduced enter into the equation as well. With a fairly powerful receiver such as this, the extra boost shouldn't actually cause an overload at anything short of Richter-scale levels.

The **LOUDNESS** introduces equalization that, over the range of DSL's bench tests, varies little with volume setting. Bass below 100 Hz or so is up about 10 dB relative to the midrange band between 1 and 3 kHz, while the very top of the treble is boosted by about half that much. These specifics can be modified to some extent with the tone controls, but more in degree than in kind. The bass control shelves at about ±12 dB below 100 Hz; the treble does so at about ±8 dB above 10 kHz. Should you want to separate the operation of the preamp/tuner sections from the power amp section (to insert a speaker equalizer or sound processor), there are back-panel pre-out/main-in jacks.

The overall response of the receiver—against which all other response information must be measured—is not quite flat in our test sample, whose bass detent may not be precisely centered on its null. A slight rise appearing consistently throughout the bass amounts to no more than +½ dB or so to below 40 Hz and increases to about +1 dB at 20 Hz, even with the infrasonic filter engaged. There's also a droop of about ½ dB at 15 kHz and 1 dB at 20 kHz at the top end. Only the bass rise can be expected to make any audible difference—and then only very subtly and only with certain music.

The phono section displays a very slight additional rise (less than ¼ dB) through much of the treble. The response with the back-panel phono-mode switch in the "MM" position (for fixed-coil and high-output moving-coil cartridges) turns up slightly—that is, even above the aforementioned bass rise—at the extreme bottom. The "MC" option adds a hair of additional boost over a broader bass range and droops very slightly more at the top end. None of these specifics is cause for serious complaint, however. Both phono inputs offer some inherent attenuation of infrasonic warp output: the infrasonic filter kicks in only very low (it's down 3 dB at 9.4 Hz) but is unusually steep (about 24 dB per octave), for good net effect in the 5-Hz range.

There are two completely separate but otherwise identical input selectors, one for monitoring and one for recording. The recording output passes through a buffer stage to isolate it from the main signal path, so no "recording off" switch is needed. Each selector has positions for phono, tuner, two tape decks (thus making it possible to dub between decks in either direction via the recording selector) and two high-level inputs marked for CD and "video" (meaning

Stereo sensitivity (for 50-dB noise suppression), FM NR off

36 1/2 dBf at 98 MHz, with 0.33% THD + N
(36 1/2 dBf at 90 MHz, 36 1/4 dBf at 106 MHz)

Stereo sensitivity (for 50-dB noise suppression), FM NR on

29 1/2 dBf at 98 MHz, with 0.31% THD + N (see text)

Mono sensitivity (for 50-dB noise suppression)

11 1/2 dBf at 98 MHz

Scan threshold (mono) 29 1/2 dBf

Stereo threshold 19 dB*

Stereo S/N ratio (at 65 dBf) 70 1/2 dB

Mono S/N ratio (at 65 dBf) 77 1/4 dB

CAPTURE RATIO 1 1/2 dB

SELECTIVITY

alternate-channel 59 3/4 dB

adjacent-channel 7 1/4 dB

HARMONIC DISTORTION (THD + N)

	stereo	mono
at 100 Hz	0.17%	0.04%
at 1 kHz	0.06%	0.05%
at 6 kHz	0.14%	0.11%

STEREO PILOT INTERMODULATION 0.05%

INTERMODULATION DISTORTION (mono) 0.03%

AM SUPPRESSION 63 1/2 dB

PILOT (19 kHz) SUPPRESSION 82 1/2 dB

SUBCARRIER (38 kHz) SUPPRESSION 89 1/2 dB

*See text

AMPLIFIER SECTION

All measurements shown were made with soft-clipping feature off and, except as noted, impedance switch set for 8-ohm load

RATED POWER 18.8 dBW (75 watts)/channel

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

8-ohm load 20.0 dBW (100 watts)/channel

4-ohm load 21.2 dBW (130 watts)/channel

4-ohm load, 4-ohm setting 20.0 dBW (100 watts)/channel

DYNAMIC POWER (at 1 kHz) 8-ohm setting 4-ohm setting

8-ohm load 25.0 dBW

4-ohm load 26.6 dBW 26.5 dBW

2-ohm load 27.5 dBW 27.7 dBW

DYNAMIC HEADROOM (re rated power; 8-ohm load) +6.2 dB

HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)

at 18.8 dBW (75 watts) ≤ 0.024%

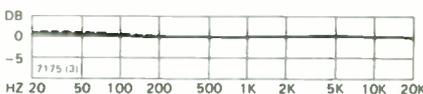
at 0 dBW (1 watt) < 0.01%

FREQUENCY RESPONSE

±1 dB, 19 Hz to 22.6 kHz

+1 1/2, -3 dB, <10 Hz to 37.9 kHz

RIAA PHONO EQUALIZATION



fixed-coil +1 1/4, -1/4 dB, 20 Hz to 20 kHz.

-9 dB at 5 Hz

moving-coil +1 1/4, -1/2 dB, 20 Hz to 20 kHz.

-15 1/2 dB at 5 Hz

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

	sensitivity	S/N ratio
aux input	23.5 mV	82 dB
fixed-coil phono	0.34 mV	75 dB
moving-coil phono	34 µV	77 dB

PHONO OVERLOAD (1-kHz clipping)

fixed-coil phono 200 mV

moving-coil phono 20 mV

INPUT IMPEDANCE

aux input 12k ohms

fixed-coil phono 48k ohms, 115 pF

moving-coil phono 48k ohms

OUTPUT IMPEDANCE (to tape)

from aux input 1,000 ohms

from tuner section 1,000 ohms

from phono inputs 1,000 ohms

DAMPING FACTOR (at 50 Hz; re 8 ohms)

85

CHANNEL SEPARATION (at 1 kHz)

66 dB

INFRASONIC FILTER

-3 dB at 9.4 Hz, ≈24 dB/octave

only the audio from a video source).

The amplifier, which has independently switchable output connections for two speaker pairs (plus OFF, for using only the headphone jack), incorporates two options we've encountered in previous NAD products: SOFT CLIPPING and an impedance-matching switch. Both are on the back panel, near sturdy binding posts designed to accept bared speaker leads. The soft clipping, in essence, alters the waveform as signal amplitude approaches the clipping point, substituting a minor infraction (slightly increased distortion at high output levels) for the major one (audible hard clipping) that would otherwise result. In DSL's data, it doesn't increase distortion to any significant extent, despite the waveform alteration, though it does reduce available output slightly—in almost all tests, by less than 1 dB. (Our data column shows only the figures with the feature turned off.)

The impedance-matching option used to be a way of making the most of low-impedance speakers, if you had them. Here, because of the Power Envelope design, NAD seems to have changed its approach a bit. The "4-ohm" (low-impedance) switch position is marked "normal," the company tells us, because many users won't really know what their speakers' impedance curves look like, and the 4-ohm option offers the great-

est protection against excessive current drain. When the speakers are known to present no very low impedance dips, however, the 8-ohm position can be used for the most unfettered output.

Finally, the Power Envelope design focuses on the fact that, in the words of the cliché, "music is composed of transients." The Federal Trade Commission chose to ignore this in stipulating that the continuous rating (into 8 ohms) must be the primary advertised power spec of any amplifier. The IHF (Institute of High Fidelity, now absorbed into the Electronics Industries Association) testing standard that is the basis of our measurements seeks a return to the real world by adding an admittedly arbitrary 20-millisecond tone burst signal in addition to the continuous sine wave of the FTC spec and our clipping test. NAD wants to design for all musical characteristics—in particular, the most typical transients, which can be much longer than 20 milliseconds—and has developed an elaborate model describing the range of peak levels and durations that music may require.

NAD claims that by designing for real musical transients, it can make several hundred watts available for almost half a second (500 milliseconds) from the 7175's "75 watt" amplifier and thus reproduce music cleanly at levels unsuspected by the FTC rat-

ing or even the IHF test. Although we can't test the many music/speaker combinations that would be necessary to reasonably substantiate all NAD's implied claims, we're satisfied on the basis of DSL's data that the claims are reasonable.

DSL measured the amp in the 8-ohm setting with 8-ohm, 4-ohm, and (for the dynamic tests) 2-ohm loads, and it repeated the tests (except for the 8-ohm load) in the 4-ohm setting. Even in the 8-ohm position, the 2-ohm load seemed to give the amplifier no complaint with the 20-millisecond burst as it delivered a whopping 27.5 dBW (that is, the equivalent of 560 watts) per channel. And set for 4 ohms, the amp delivered another 0.2 dB—for the equivalent of 590 watts per channel. These figures surpass the claims implied in NAD's literature. With the 8-ohm setting and load, the dynamic power measurement gives a headroom figure of 6.2 dB—huge, by normal standards. Unequivocally, the 7175 will deliver more clean power with music signals than its FTC rating suggests.

In every model we've tested, NAD's reputation for sensible, user-oriented design and excellent value has proved justified. And we don't think any model has justified it more dramatically than the 7175. It's not cheap, but it is exceptional and, we think, worth every penny. ■

T E S T R E P O R T S

Sony CDP-C10 Compact Disc Changer

DIMENSIONS: 17 BY 4 1/4 INCHES (FRONT); 13 INCHES DEEP PLUS CLEARANCE FOR CONNECTIONS. **PRICE:** \$800, ADDITIONAL XA-10 DISC MAGAZINES, \$25. **WARRANTY:** "LIMITED," ONE YEAR PARTS AND LABOR. **MANUFACTURER:** SONY CORP., JAPAN; **U.S. DISTRIBUTOR:** SONY CORPORATION OF AMERICA, 1 SONY DR., PARK RIDGE, N.J. 07656

THOSE OF YOU ACTIVE IN AUDIO FIFTEEN years ago will doubtless remember the record changer. It was a machine that didn't always work, sometimes jamming if the records it was attempting to play were ever so slightly imperfect. Furthermore, it slammed the discs down on each other and, although it looked far worse than it actually was, gave the impression that any sandwiched dust was being ground into the surface of the discs, like grain under a millstone. The concept, though, was a good one.

The *raison d'être* for LP changers—longer, more-or-less continuous playing times—has been greatly expanded by Sony in its CDP-C10 home CD changer, the first

component of its type we have carefully examined. The company has taken advantage of the small size of CDs and their unprecedented cueing capabilities to produce a unit that holds ten discs in a removable, reloadable magazine. Each track on every disc is directly accessible through front-panel numerical keypads or from your listening location via the supplied infrared handset.

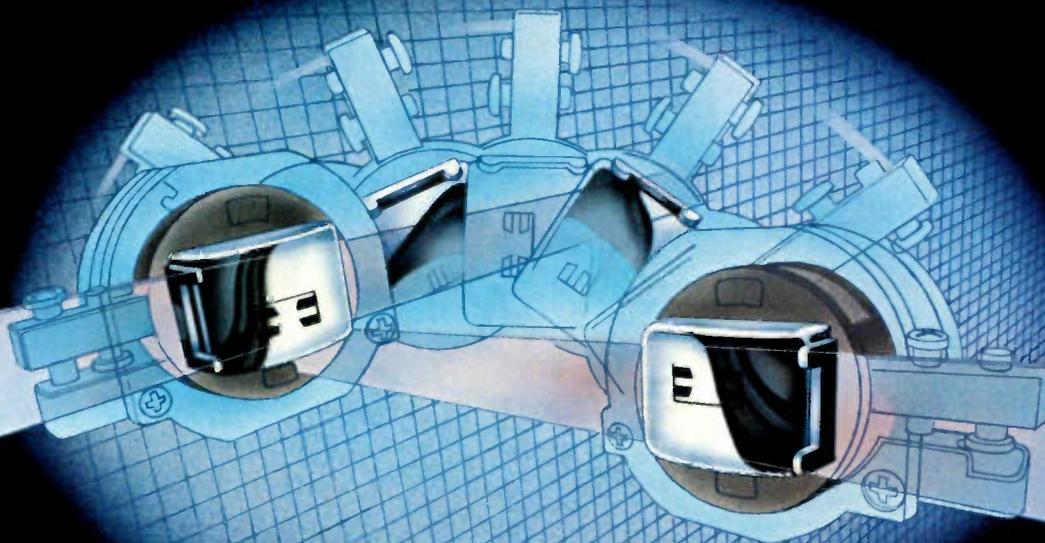
To load a disc into the magazine (one of which is supplied with the player), simply slide it into one of the magazine's ten available slots. Removing a disc is almost as easy: A slider on one side of the magazine nudges the disc out by about 1/2 inch, after which it can be removed by hand. The discs are securely held by the magazine's construction: We couldn't get a disc to fall out even during very vigorous shaking. Overall, the cartridge measures approximately 4 7/8 by 5 3/8 by 1 7/8 inches and takes up much less space than ten single-CD jewel-box cases. This implies that

the magazine would make a space-saving CD storage system, an impression reinforced by the inclusion with each magazine of a plastic slip case, stick-on labels, and a binder for the program notes of each disc. The XA-10 magazine is also usable in the popular Sony CDX-A10 Disc Jockey car CD changer, further suggesting use of the magazine as a master CD storage system.

The player, aside from its changer-specific features, is relatively conventional. The display is minimal: In one mode only the disc and track number are displayed, in the other (switched to via a front-panel pushbutton) only the track number and the elapsed time of the playing track are shown. The CDP-C10 cannot cue to index points, so index numbers are not displayed. AUTO PAUSE (which puts the player into pause before every track), REPEAT (of a disc or a programmed sequence), and a separate vari- (CONTINUED ON PAGE 51)

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Auto-Reverse never sounded better. Only a re-calibrated tape head permits perfect sound reproduction in Forward and Reverse. Fujitsu Ten's unique Dual Azimuth System automatically adjusts the tape head, *realigning* it with the tape. The result: an enhanced Dolby and the full range of frequency response in *both* directions.

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The best CD Player is a matter of opinion. Many opinions.

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Das CD-Spieler Denon DCD-1500

Feuer und Flamme

Welt wollte Denon
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DENON DCD-1500
typically £399

The current range of Denon players covers the ground from true budget to audiophile models. The DCD-1500 fits bang in the middle of the range as far as price is concerned and could best be described as being a full-feature domestic machine that is built with audiophile attention to detail.

Rather like the second generation of Sony players, the Denon uses separate converters for the two stereo channels rather than time-sharing the one, therefore escapes phase problems of approach. The twice oversampled phase filters built back board into the chosen Burr-Brown. The circuit has its own power and digital correction once or twice the highest information layer were cleared without problems. Hayden Labs, importer of Denon, has said that current production of the DCD-1500 is being changed to incorporate better RF screening — no problems were encountered with our sample during the review.



Rich, atmospheric sounding player

- Construction
- Ease of use
- Sound quality
- Value for money

The Real Deal
This Denon DCD-1500 is well designed throughout. Everywhere you look you'll see signs of careful engineering and evidence of the willingness to do the job right. The Denon engineers who created the DCD-1500 have done a superb job. In features, design, and sonics, the DCD-1500 is an outstanding player at any price, and a phenomenon at its list price. In my opinion, it's the best deal in today's CD player market.

Ken Pohlmann is a contributing editor to Digital Audio.

probably give outstanding service for a long time.
• Finally, the Denon DCD-1500 tops my list. It's the player I recommend most highly. It has oversampling, dual D/A converters, remote controller, formidable specifications, full features, and Denon sound. The Denon engineers who created it should be honored in public.

Use and Listen
I suspect that I am sure on the test product's sound we can "psych" of the DCD-1500 surements haven't wanted to be sure that ing me, so I called in room. Without knowing these friends preferred of their own.
I've always wanted correlation between measured providing the right measured contention held true in the performed well on the bench remote control or via its front-panel as good as any CD player I have its price is a good deal lower than favorite CD players. It is a winner in my

Beispielsweise speist der klotzige Netztrafo mit vier einzel-

Audio

MASS TEST
49 CASSETTES

IS THIS
EARM?

Rating: ★★★★★

In several measurements, the DCD-1500 out-performed any other CD player.

PHIRE
DENON DCD-1500
CD PLAYER

ing Tests

am sometimes influenced by what I mea-
bench when it comes time to judge a
production qualities. I'm convinced that
elves into hearing subtle qualities that
we expect to hear. To me, the sound
ed a shade better than what I have
m several CD players whose mea-
quite as good as this one's. I
measurements weren't prejudic-
friends who own CD players and
players along to my listening
they were listening to their own
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nd of the DCD-1500 over that

that, ultimately, there is a
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are made. Happily, that
as DCD-1500. It not only
as easy to use via its
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of some of my other
ok on every count.
Leonard Feldman

UDIO/JUNE 1986

beherb
asten, allesan
verschiedenen Fu
ppen zusammengefabt.

Audio 4/1986

Denon DCD-1500



Preis: um 1600 DM
Garantie: 12 Monate
Abmessungen:
43,4 x 8,9 x 35 cm (BxHxT)
Denon Electronics GmbH
Halskestraße 32
4030 Ratingen 1

Pro und Kontra
++ Klang
Ausstattung
Verarbeitung
+ Fernbedienung

Preisbezogene Wertungen
Klang: sehr gut
Fehlerkorrektur: gut bis
sehr gut
Ausstattung: sehr gut
Verarbeitung: sehr gut

HIFI VISION-Urteil
Preisbezogenes Gesamturteil:
sehr gut
Absolute Einstufung:
Referenzklasse

The audio critics of the world hardly ever agree on anything. But when it comes to superlative CD players, Ken Pohlmann, Len Feldman, Masamitsu Fukuda, Ulrich Smyrek, David Praker, Yoshiyuki Ishida, Artur Jung, and Hideo Kaneko recommend one model with amazing consistency: the Denon DCD-1500.

How did Denon achieve this exalted status? Not by offering useless buttons, switches and fluorescent displays. But by developing better digital circuitry, building to higher standards, and using better parts. Our proprietary Super Linear Converter is the only one that actually corrects D/A transfer distortion. Each circuit gets its own separate power supply. And our filters are computer-analyzed for linear phase. So you hear sound that rewards the most critical listening.

In a player as reasonably priced as the DCD-1500, these refinements are enough to make even a hard-boiled critic stand up and cheer. And now there's more cause for celebration: three new Denon CD Players. They're built on the same principles as the DCD-1500, and they're even more affordable.

So if you want to hear the best that the Compact Disc format has to offer, get yourself to a Denon dealer. And don't forget to tell him who sent you: Ken, Len, Masamitsu, Ulrich...

DENON

DESIGN INTEGRITY



DCD-1500: Dual Super Linear Converters; Oversampling Digital Filters; CALP Analog Filters; Programming; Remote Control.



DCD-1300: Super Linear Converter; Oversampling Digital Filters; Real-Time Phase Correction; Programming; Remote Control.



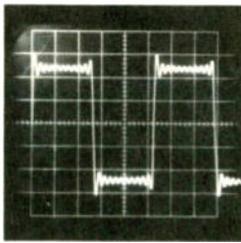
DCD-700: Super Linear Converter; Real-Time Phase Correction; Programming; Remote Control; Headphone Jack with Level Control.



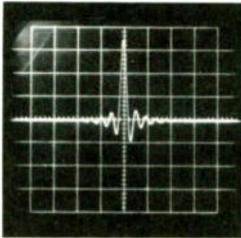
DCD-500: Super Linear Converter; Real-Time Phase Correction; Programming; Emphasis Display; Headphone Jack.

offers
price. The u
sampling, dual L
excellent error correctio
DCD-1500's audio qua
ound of some players.

SQUARE-WAVE RESPONSE (1 kHz)



IMPULSE RESPONSE



file Play with the CDP-C10, if extended across all loaded discs simultaneously, would insert long pauses during disc changes in the playback sequence. Then again, these cycle times are about equal to those of LP changers. Listeners accustomed to waiting for their LPs to cycle will probably feel comfortable with the CDP-C10, unlike those of us already spoiled by the instantaneous access times the CD system can offer.

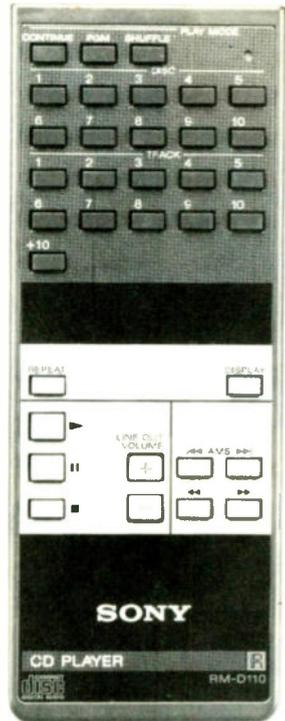
The CDP-C10 is also slower in getting around one disc than the single-play CDP-55. For instance, using a prototype of the newly specified EIA test-signal CD, the "long access time" of the CDP-55 (defined as how long it takes to go between the starts of track 1 and track 16, which is one hour into the disc) averaged 2.35 seconds going from 1 to 16 and 2.27 seconds going from 16 to 1. The CDP-C10, however, was noticeably slower: The 1-to-16 time was 5.84 seconds, and 16-to-1 took 6.26 seconds. (It is also interesting to note that one player is faster going from an outer diameter inward, the other going from near the center hole outward.) It must be borne in mind, however, that the CDP-55 is all around a faster-operating play-

er than most units from other manufacturers, so that the comparisons here may be unduly unfavorable to the changer, which is more than quick enough for most home applications.

The CDP-C10 does not have a separate cartridge for single-disc operation (playing one disc still requires loading it into a ten-slot cartridge). But to play just one Compact Disc in a magazine, even if it's the first disc, you must go into the programming mode and select it. In the continuous playback mode, when the end of a disc is reached, the next one is played. Only if the rest of the magazine is empty will operation terminate after the playing of a single disc, but not before the other nine slots have been tried. You thus have to buy a separate ten-disc magazine to obtain hands-off single-play operation, something that could have been provided as an additional playing mode. One could always use the stop control, however.

Another characteristic of the CDP-C10's operation is that the track-selection keys, in computer parlance, "hot." It doesn't store an entry and then cue it up when the equivalent of a "go" command is issued. Instead, as you enter a disc and track number, the player immediately starts cueing the selection, whether or not it is the one you actually intended (if it isn't, simply enter the correct numbers and the player will catch up). The hot keyboard makes the cueing process simpler and quicker, but it may prove an impediment to those amateur DJs or small radio stations wanting to use the CDP-C10 as a convenient way of having an entire evening of music "on line." Advance entry of the next track to be played is not possible without interrupting the music. For a quick segue, you have to quickly enter the next disc and track numbers at the end of a selection, before the next track on the current disc starts playing.

While the CDP-C10's disc-changing and cueing times are probably not as fast as those of future Sony changers will be, and although there are a few, easily compensated-for anomalies in its operation, the ability to



THE CDP-C10'S REMOTE SELECTS BOTH DISCS AND TRACKS.

command 12½ hours of music (ten discs with a maximum of about 75 minutes each) while sitting on the couch will undoubtedly appeal to many. If you aren't particular about the precise sequence of playback, the CDP-C10 is ideal for background music. And opera lovers will find the changer function just the ticket for the Strauss one-acters (*Salome* and *Elektra*) or for the equally long prologue and first act of Wagner's *Götterdämmerung*. Those seeking tight control of mood or party music will have to put up with some puzzling design features, for despite the age of the changer concept, the CD incarnations are new and their manufacturers will have to thoroughly relearn and rethink the idea with the capabilities of the CD—and the expectations of potential users—in mind. Sony, always a pioneer, has made a good start with the CDP-C10. ■

T E S T R E P O R T S

EPI Magnus A-12 Loudspeaker

DIMENSIONS: 15½ BY 26 INCHES (FRONT), 11½ INCHES DEEP. PRICE: \$500 PER PAIR. WARRANTY: "LIMITED," FIVE YEARS PARTS AND LABOR. MANUFACTURER: EPICURA PRODUCTS, INC., 25 HALE ST., NEWBURYPORT, MASS. 01950.

AMONG THE DESIGN CRITERIA THAT EPI says are shared by the speakers in its Magnus line are high efficiency (that is, sensitivity), broad dispersion of the highs,

and the ability to accept high power levels without failure. In all these respects, the Magnus A-12 acquits itself well in both the (CONTINUED ON PAGE 55)

THE GRAPHITE BREAKTHROUGH COMES TO CAR STEREO.

INTRODUCING PHASE LINEAR® GRAPHITE™

Graphite. The final piece of technology that advanced the state of the art in sports equipment, electronics, and even space exploration. Graphite makes it possible for the new Phase Linear® speakers to deliver a level of car stereo performance you've never heard before.

Phase Linear speakers are technologically unique with the only car stereo woofer cones made of graphite fibre. The higher rigidity and light weight of this versatile material results in superb impulse response. This means less coloration and distortion. The results are wider dynamic range which means fuller, richer sound—livelier, closer to the source than ever before possible.

The tweeters and midranges in these speakers are made of polycarbonate which combines low mass with

a high amount of internal damping. This results in wide, flat frequency response and superb off-axis dispersion for excellent sound reproduction of the mid to high frequency signals. This advanced design plus the addition of ferrofluid-filled dome tweeters also results in greater power handling. For example, the Phase Linear 6" x 9" handles 110 watts continuous, 250 watts peak power!

The incredible specs and the unique materials used in these speakers makes them digital ready—perfect partners for compact disc players. The proof is in the hearing—music so crisp and clear, so rich and full, it's what you've been listening for.

Built upon 50 years of car audio manufacturing experience, these great new speakers are truly a car stereo breakthrough. Hear them at your Phase Linear dealer.

phase linear®

DIGITAL



READY

GRAPHITE™

What you've been listening for.

Yamaha
 is introducing
 an audio/video
 control amp,
 a rear-channel
 stereo power amp,
 a video enhancer,
 a multi-mode
 surround sound
 amp,
 and an interactive
 audio/video system
 remote controller.

This is it.

100
 1887 1987

Imagine what
 the next hundred years
 will bring

It's called the AVC-50. You can use it to control just about everything in your audio/video system. It has a total of four video and six audio inputs. And the included remote can be used to control other Yamaha interactive audio components. So you can turn on your entire system, select audio and video source, control volume and playback of tuner, turntable, cassette deck, even a CD player.

The AVC-50 is also a full-featured integrated amplifier with 45 watts of power per channel.* That's enough power to use it as the primary source of amplification in your A/V system. Or as a supplement to your present source of amplification, you can use it to drive a pair of rear channel speakers. Either way, the AVC-50 can decode the Dolby** Surround signals. And when it's used with a rear speaker setup, you'll enjoy the full surround sound effect of movies that are encoded with this special soundtrack feature.

But many stereo movies do not have surround sound. Which is why the AVC-50 has a special feature called the Yamaha Natural Surround mode. This unique circuit creates the same thrilling effect by feeding the appropriate background and ambient sounds through the rear speakers.

The AVC-50 can even simulate stereo and surround sound from a mono source. And since most network and cable TV programs as well as many movies on cassette are mono, you should get a lot of use out of this feature.

You should also appreciate the video enhancement features built into the AVC-50. Three front panel controls give you continuously variable control over picture detail, sharpness and video level. Meaning you can not only improve the quality of the video signal during the recording process, but you can also improve the picture quality during playback.

There is one thing the AVC-50 can't do, however, and that is usher you to your seat. But once you are seated, with one of these at your command, you may never have to get up again. Or want to.



*45 watts RMS per channel, both channels driven into 8 ohms, from 20-20,000 Hz, at no more than 0.05% Total Harmonic Distortion.

**Dolby is a trademark of Dolby Labs, Inc.

Yamaha Electronics Corporation, USA
 P.O. Box 6660, Buena Park, CA 90622



(CONTINUED FROM PAGE 52) lab and the listening room.

The A-12's enclosure is a large box that is designed to stand vertically if the Constant Dispersion Horn tweeter is to propagate correctly. As its name suggests, it is designed to deliver the highs to the sides with the same spectral balance as it does on-axis. The tweeter is placed near the top right corner of the baffle. A midrange driver with a cone diameter of about 4½ inches is located immediately below the tweeter. At the bottom of the panel, and nearly centered in it, is a woofer with a 10-inch cone diaphragm. Its reflex enclosure is vented by a ducted port to the left of the midrange.

Above this port are two level controls, with coin adjustment slots, for the tweeter and midrange driver. Each has calibration lines but no numerical calibration or hints as to how it might normally be set. The entire baffle is covered by a dark-brown cloth grille. The four sides of the enclosure are clad in walnut-grain vinyl. Centered on the back are spring-loaded clips to accept the amplifier output.

The accompanying owner's manual is written to encompass several models in the Magnus series. It suggests placement against a wall and mentions stands only in the context of bookshelf speakers, implying that the large A-12s might stand directly on the floor. Diversified Science Laboratories measured them that way, and we positioned them there much of the time for our listening tests. The manual also suggests that the level controls be set at their full-on (clockwise) positions, at least until it is determined that some attenuation of either midrange or treble might be desirable. The lab left both fully clockwise for all measurements (except impedance, where a range of conditions was checked), and we tended to do likewise in our listening tests. The lab data do indicate that full counterclockwise rotation is unlikely to produce desirable sound under typical circumstances. These extreme positions effectively shut down the associated drivers, producing a steep rolloff above 3 kHz in the treble or a broad trough at around 1.2 kHz in the midrange.

Near-field measurements suggest a tweeter-to-midrange crossover at around 3 kHz and around 400 Hz from midrange to woofer. The vent delivers energy primarily in the region below 100 Hz. Impedance in the audio band with the controls at their normal (full-on) position stays between 3.9 ohms (at the bass minimum just above 100 Hz, which is the first impedance dip following the primary bass resonance) and 12.7 ohms (at that resonance just below 80 Hz). The secondary bass resonance, occasioned by the port, evidently is in the infrasonic region. Impedance is 9.2 ohms and still climbing at 20 Hz. From 150 Hz up, in fact, the impedance never falls below 4 ohms or rises above 7.3 ohms. For these normal control settings, impedance averages 5.8 ohms across the whole audio band and 6.4 ohms in

the so-called music band. These are the only figures you need be seriously concerned with, and they represent a sort of load that shouldn't stress any competently designed amplifier—even, in many cases, if you choose to use speaker pairs wired in parallel.

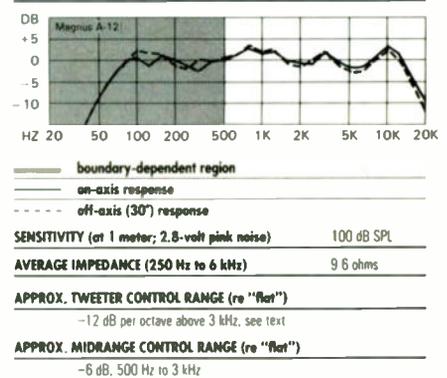
With either midrange or tweeter adjusted away from maximum, the picture does change somewhat, however. Without unequivocal intermediate calibrations, the lab could test them only at the other extreme; real-world in-between settings presumably deliver impedance curves that also tend to fall between the extremes. For the record, however, turning the midrange down all the way introduces a broad impedance rise to about 12 ohms in the driver's active range. Doing likewise with the tweeter control slopes the top end of the curve upward, to a maximum of 16.5 ohms at 20 kHz with both controls at their minima. Because such adjustments increase the impedance seen by the amplifier, they tend to make the load even easier to drive.

On-axis frequency response, as measured by DSL, fits neatly within a "window" of less than ±3 dB everywhere between the bass rise and the final treble peak before rolloff. The off-axis data are very similar—at most frequencies, deviations are 1 dB or less from the on-axis figures—when all are plotted with respect to average on-axis music-band response. Response is not particularly smooth or extended, however. Bass rolloff begins surprisingly high (just below 80 Hz) for a reflex system, and the treble rolls off abruptly above 12 kHz or so. In between is a slight dip (possibly abetted by floor reflections) in the lower midrange (around 300 Hz) and two similar dips centered on about 2 and 5 kHz. Conversely, you can see these data as representing a broad peak at around 1 kHz and sharper ones at 3 and 10 kHz relative to a smooth overall curve that shades gradually downward with rising frequency. This view, in fact, more nearly corresponds to the way we perceived the speaker's sound in our listening tests. We judged it smoother and less colored in the midbass than in the upper midrange, where some tones had a tendency to protrude slightly from the overall texture and percussive transients sometimes imaged ambiguously—a characteristic that often accompanies response roughness. The deep bass is not particularly strong, to be sure, but it is both unequivocally present and fairly free of the thumpiness that vented systems can suffer from.

Distortion—a possible source of coloration—actually is quite low, never exceeding ½ percent above the deep bass at the 85-dB test SPL (sound pressure level) or about 1½ percent at the maximum of 100 dB SPL. Average percentages run about half these maxima. The speaker showed no sign of distress on 300-Hz pulses at the full output of the test amplifier, the voltage equivalent of 27.1 dBW (512 watts) into 8 ohms, which should cause the speaker to deliver a shattering calculated output of 127.1 dB SPL.



ROOM RESPONSE CHARACTERISTICS



All this must be understood in the light of the speaker's most astonishing datum, that for sensitivity. At 100 dB, it outdoes by at least 10 dB most speakers we have measured since the present technique was adopted; even its closest rivals are several dB lower. Thus, about ten times the power in watts is typically required through the voice coils of other models to produce the same standard sound pressure levels in the distortion tests.

EPI suggests that amplifiers as small as 10 watts (10 dBW) per channel are adequate for the A-12s. Even if superb amps were available in that power range, we'd rather see a more generous headroom allowance for the digital transients that (as EPI points out) are a fact of audiophile life. But the point is well taken that very little is needed to drive these speakers to high levels. This means that not only is the price of the A-12s distinctly moderate by contrast to many of the speakers with which they are designed to compete, but you can save on the amplifier to power them as well. ■

(CONTINUED ON PAGE 56)

Luxman LV-105

Audio-Video Integrated Amplifier



DIMENSIONS: 17 $\frac{1}{4}$ BY 5 $\frac{1}{2}$ INCHES (FRONT), 12 $\frac{1}{4}$ INCHES DEEP PLUS CLEARANCE FOR CONTROLS AND CONNECTIONS. **AC CONVENIENCE OUTLETS:** THREE SWITCHED (300 WATTS MAX. TOTAL), THREE UNSWITCHED (450 WATTS MAX. TOTAL). **PRICE:** \$700. **WARRANTY:** "LIMITED," THREE YEARS PARTS AND LABOR, 90 DAYS ON TUBES. **MANUFACTURER:** LUX CORP., JAPAN; **U.S. DISTRIBUTOR:** LUXMAN DIVISION OF ALPINE ELECTRONICS OF AMERICA, INC., 19145 GRAMERCY PLACE, TORRANCE, CALIF. 90501.

THE DESIGN OF LUXMAN'S BRID SERIES, which includes the LV-105, is nothing if not radical—or reactionary, depending on how you think of tubes in the modern world. It's not just that it uses tubes, or that it uses them in concert with semiconductors ("Brid" is short for "hybrid"), or even that Luxman has given the tubes a little front-panel window of their own: It's that these elements are combined in a way that we've never seen before.

But before encountering the tubes, the signal must pass through low-level amplification stages that are designed around FETs (field-effect transistors). The two dual-triode tubes are used as drivers, one tube per channel, for the output stages, which in turn use high-current MOSFETs (metal-oxide-semiconductor FETs). The essential purpose behind the design, according to Luxman, is to create true voltage-driven amplification, which the company apparently regards as inherently more linear than the usual combination of current-driven and voltage-driven elements found in the stan-

dard bipolar-transistor circuits used in conventional amplifiers.

The LV-105 also employs Luxman's Duo-Beta circuitry to minimize what the company considers the deleterious effects of negative feedback. This technique has for some years been a feature of Luxman's transistorized audio circuitry in everything from cassette decks to power amplifiers. In addition, there is what Luxman calls its Star circuit layout, in which the signal routing seeks to minimize all opportunities for interaction between one stage or element and another.

One of the unit's two transformers powers the audio circuitry; the other runs the video circuits, the front-panel display elements, and the tubes' heaters. (A heater is required in a tube to "boil" electrons off its cathode and produce a current.) The LV-105 offers two heater modes. Normally, the main AC power switch of tubed equipment turns off the heaters along with everything else. This has two disadvantages. First, the tubes suffer thermal shock each time they're turned on or off, which drastically curtails their life expectancy. Second, it takes tubed audio circuits much longer than solid-state electronics to stabilize from a cold start. From full off, the LV-105's protective relay waits about 30 seconds before it kicks in and delivers a signal to the speakers—an eternity if you're used to solid-state behavior. Luxman therefore supplies a switch that will keep the heaters warm (at reduced current

with half the rated voltage) when the amplifier is turned off. There are three indications that this mode is engaged: an LED says so, you can see the heaters glowing through the window, and the sound comes on only about 10 seconds after the main power switch is turned on.

We found the seductive glow of the tubes in their window quite attractive, though not everyone will agree. It's true that the window performs no important function, but by dramatizing Luxman's use of tubes, it supplies an element of fun in what is usually a pretty uninteresting subject: front-panel design. The wealth of comment we have heard on the layout, pro and con, simply serves to underline that the design is eye-catching—that it is, in fact, fun. There's nothing wrong with that.

On the back panel (along with heavy-duty binding posts designed to accept bared-wire leads for two independent speaker pairs and an unusually generous array of AC convenience outlets) are the main input and output connections. Those for audio include stereo pairs for phono (switchable on the front panel for moving-coil cartridges), tuner, CD (the "aux" of the lab data) and the inputs and outputs for two tape decks.

There are two AV connections for composite video signal plus stereo audio—AV 1 (input/output, intended for a VCR), and AV 2 (input-only, perhaps for a Laserdisc player or TV tuner or the output from a sec-

ond VCR)—and a video-only output to feed a monitor. The AV 2 connections are duplicated at the bottom right corner of the front panel, where there also is a switch to choose between the front- and back-panel inputs.

Two sets of selectors are on the front panel, one for the monitored signal fed to the amplifier section and one for the signal to the recording outputs. Large buttons are used for the audio monitor selectors (including buttons for Tape 1 and Tape 2); next to them is a sub-panel for the AV options. The recording selectors include phono, tuner, CD, and whichever source is punched up on the AV sub-panel, plus dubbing options from audio Tape 2 to Tape 1 or AV 2 to AV 1. In addition, you can turn the dubbing connections off altogether to prevent any decks connected to them from loading the signal feed during regular listening—a nice touch.

The tone controls, which also can be defeated, are quite unusual in operation, as documented in Diversified Science Laboratories' tests. Both treble and bass controls offer considerably more boost than cut at maximum rotation, and both shelve beyond a frequency that is determined by the degree of rotation. For instance, at maximum and minimum rotation, respectively, the BASS achieves slightly more than 10 dB of boost below 100 Hz, a little more than 4 dB of cut below 300 Hz. Intermediate rotation (to 3 o'clock and 9 o'clock) yields, respectively, +4 dB or more below 170 Hz and -2 dB or more below 500 Hz.

The TREBLE operates similarly, though within a slightly more restricted boost/cut range. There is some overlapping of the two controls in the range around 1 kHz. These are, in a word, controls for those who want to make subtle balance adjustments; for flamboyant effects, you'll need an outboard equalizer. If you like loudness compensation at low listening levels, for which Luxman makes no specific provision, you can use the bass boost alone. We judged it pleasant when operated in this fashion, since it

doesn't have the tweak in the ultrahighs that some loudness functions supply.

Response of the phono input is not perfect, but it comes close in the fixed-coil ("moving magnet") mode, with a rise of only about 1/2 dB over a broad range of the treble and of slightly less through the midbass, tapering gradually in the deep bass. Actually, the treble rise in the moving-coil mode is only about 1/4 dB, though its response rises progressively through the midbass and bass, to about +2 1/4 dB in the 40-Hz range, before rolling off relatively quickly in the infrasonic region. As a result, the moving-coil option has a slight advantage in repelling warp-induced infrasonics; there is no infrasonic filtering in the usual sense.

Distortion measurements turn up no cause for concern: Although the figures are somewhat higher (particularly at very high frequencies) and the discernible harmonics that contribute to them more numerous (particularly at full-rated output) than we're used to seeing, the distortion levels themselves are low enough to be inaudible. The power section exceeds its rating handily and delivers more power into 4 ohms than into 8. The owner's manual cautions against running two 4-ohm speaker pairs simultaneously, and the back panel is even more emphatic, suggesting that only 16-ohm speakers should be run in parallel pairs. We'd therefore expect the 2-ohm dynamic power measurement to fall off from that into 4 ohms because of current limiting—which it does, though not by a great deal.

Which brings us to the ultimate question: How does the LV-105 sound? We're always hesitant to attribute objective value to judgments that can neither be confirmed nor denied by measurements, but we were very impressed by the amplifier's listening quality. If we were led astray by the warm glow of the tubes on the front panel, so be it. But we thought we detected an extra degree of clarity that we're not used to encountering—even in what are cracked up to be superstar models. ■

RATED POWER	19.0 dBW (80 watts)/channel	
OUTPUT AT CLIPPING (at 1 kHz; both channels driven)		
8-ohm load	20.0 dBW (100 watts)/channel	
4-ohm load	20.3 dBW (107 watts)/channel	
DYNAMIC POWER (at 1 kHz)		
8-ohm load	20.8 dBW	
4-ohm load	21.6 dBW	
2-ohm load	20.4 dBW	
DYNAMIC HEADROOM (re rated power; 8-ohm load)		
	+1.8 dB	
HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)		
at 19.0 dBW (80 watts)	≤ 0.31%	
at 0 dBW (1 watt)	≤ 0.17%	
FREQUENCY RESPONSE		
	+0, -1/4 dB, < 10 Hz to 39.8 kHz	
	+0, -3 dB, < 10 Hz to 139 kHz	
RIAA PHONO EQUALIZATION		
fixed-coil	+ 1/2, -0 dB, 20 Hz to 20 kHz, - 1/4 dB at 5 Hz	
moving-coil	+ 1 1/4, -0 dB, 20 Hz to 20 kHz, -6 dB at 5 Hz	
SENSITIVITY & NOISE (re 0 dBW; A-weighting)		
	sensitivity	S/N ratio
aux input	16.5 mV	84 dB
fixed-coil phono	0.26 mV	78 dB
moving-coil phono	14 μV	74 1/4 dB
PHONO OVERLOAD (1-kHz clipping)		
fixed-coil phono	210 mV	
moving-coil phono	11.5 mV	
INPUT IMPEDANCE		
aux input	89k ohms	
fixed-coil phono	47k ohms, 120 pF	
moving-coil phono	100 ohms	
OUTPUT IMPEDANCE (to tape)		
from aux input	direct	
from phono inputs	125 ohms	
DAMPING FACTOR (at 50 Hz; re 8 ohms)		
	50	
CHANNEL SEPARATION (at 1 kHz)		
	47 dB	

T E S T R E P O R T S

Perreux PMF-3150 Power Amplifier

DIMENSIONS: 19 BY 7 1/2 INCHES (FRONT), 15 INCHES DEEP PLUS CLEARANCE FOR CONNECTIONS AND RACK HANDLES. **PRICE:** \$2,395. **WARRANTY:** "LIMITED," FIVE YEARS PARTS AND LABOR. **MANUFACTURER:** PERREUX SOUND, LTD., NEW ZEALAND; U.S. DISTRIBUTOR: SIGNET DIV., A.T.U.S., INC., 4701 HUDSON DR., STOW, OHIO 44224.

THE ONLY THING MORE IMPRESSIVE THAN the outside of a Perreux amplifier is the inside. They're just plain incredibly well built, largely by hand and in, of all places, New Zealand. The aluminum faceplate—blasted with glass beads during man-

ufacture to obtain its beautiful and very unusual finish—is sized and drilled to fit a standard 19-inch rack and sports large, sturdy handles. Another, smaller set of handles is supplied on the back panel. These are not just window dressing, by the way: A PMF-



RATED POWER	24.8 dBW (300 watts) / channel
OUTPUT AT CLIPPING (at 1 kHz; both channels driven)	
8-ohm load	25.4 dBW (345 watts) / channel
4-ohm load	≥ 27 dBW (≥ 500 watts) / channel*
DYNAMIC POWER (at 1 kHz)	
8-ohm load	26.6 dBW
4-ohm load	28.5 dBW
2-ohm load	27.6 dBW
DYNAMIC HEADROOM (re rated power; 8-ohm load)	+1.8 dB
HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)	
at 24.8 dBW (300 watts)	≤ 0.02%
at 0 dBW (1 watt)	< 0.01%
FREQUENCY RESPONSE	
	+0, -1/4 dB, 13 Hz to 44.5 kHz
	+0, -3 dB, < 10 Hz to 207 kHz
S/N RATIO (re 0 dBW; A-weighted)	91 dB
SENSITIVITY (re 0 dBW)	89 mV
INPUT IMPEDANCE	50k ohms
DAMPING FACTOR (at 50 Hz; re 8 ohms)	750
CHANNEL SEPARATION (at 1 kHz)	102 dB

*Power-line fuse blew at 27 dBW (500 watts)

3150 weighs about 50 pounds, so the handles come in very handy. The front panel's only other features are a square power button that blends in so well that it doesn't look like a button when the amp is on and a small, discreet pilot lamp to its right.

Aluminum heat sinks cover both sides of the amp, enabling Perreaux to eliminate the sometimes noisy cooling fans required by most other models in its power class. On the back panel are gold-plated pin-jack inputs, binding-post outputs, and the line and power-supply fuses. Perreaux says that the chassis is designed so that the individual pieces interlock, making the complete structure exceptionally strong and rigid, and we found nothing to contradict that claim.

Inside are a massive shielded transformer and dual oversize electrolytic capacitors, which together form the heart of the amplifier's power supply; high-grade fiber-glass boards that hold the actual amplifying circuitry (Perreaux says that it uses only the highest-quality electronic parts and no integrated circuits); and a dozen power MOSFETs, six per channel, mounted horizontally on aluminum strips bolted directly to the heat sinks. In the output stage of an amplifier, MOSFETs (metal-oxide semiconductor field-effect transistors) have certain important advantages over conventional bipolar transistors. Most important is that they require no protection from excessive current flow—the primary cause of output-stage failure in ordinary transistor amplifiers. This simplifies the amplifier and helps assure that it will perform as well into highly reactive or low-impedance loudspeakers as it does into easier loads.

The PMF-3150 runs Class A throughout, except for the output transistors, which operate in what might be called an enriched Class AB mode that Perreaux says is the equivalent of pure Class A up to about 30

watts. This, together with the inherent linearity of the MOSFETs, is said to virtually eliminate the "notch" distortion that is the traditional bane of Class B transistor amplifiers. And Diversified Science Laboratories' measurements support this claim. Not only is the distortion extremely low, but it also consists almost entirely of the relatively innocuous second harmonic, with just a trace of third at 10 kHz.

Output power is fully in keeping with the PMF-3150's beefy construction. The amp comfortably exceeds its 8-ohm rating and got up to 27 dBW (500 watts) into 4 ohms before the power-line fuse blew. Dynamic power is even more impressive: 26.6 dBW (455 watts) into 8 ohms, 28.5 dBW (710 watts) into 4 ohms, and 27.6 dBW (575 watts) into 2 ohms.

Another extraordinarily large number in our data column is the one for low-frequency (50-Hz) damping factor (the ratio of the load impedance, in this case 8 ohms, to the amplifier's output impedance). It is down to a little less than 400 at 1 kHz and falls off rather steeply above that point (as the amplifier's output impedance rises), but it is still about 45 at 10 kHz and a little more than 20 at 20 kHz. These last may seem small relative to the large figures for lower frequencies, but they are above average for the top of the audio range and should help the PMF-3150 maintain flat frequency response into loudspeakers whose impedances are very low at high frequencies (such as electrostatics).

The only other measurements that jump out from the crowd are those for channel separation, which is exceptionally wide even at high frequencies (91 dB at 10 kHz). Although the separation is far greater than is necessary for subjectively perfect stereo effect and therefore of no great consequence sonically, it is indicative of the careful engineering that has gone into this product. The

KEEPING A HIGH-TECH HELICOPTER IN THE AIR STARTS ON THE GROUND.

Every Army helicopter is thoroughly inspected by a small army of highly trained specialists.

Avionics technicians test thermal imaging sights to make sure they turn night into day.

Systems repairers check laser rangefinders to see if they're on target.

Crewchiefs and mechanics adjust turbine engines and double-check powershafts.

With more than 8,600 aircraft, the Army needs intelligent, highly motivated young

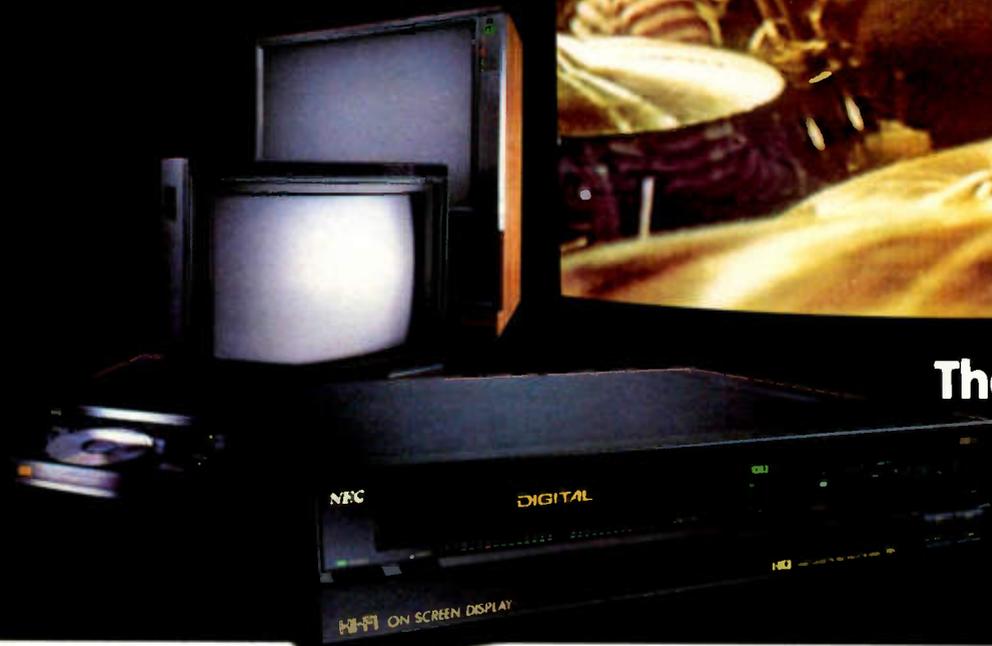
people to train in dozens of skills. Some of these specialties offer a young man or woman the opportunity to fly as part of the crew.

So if you're interested in learning a skill that could lead to a high-flying career, check into Army Aviation. You could end up with the tools to build a brighter, more rewarding future.

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ARMY. BE ALL YOU CAN BE.





The first VCR that makes a bad tape good.

In this imperfect world, some videocassette recordings look worse than others. That's why NEC invented the new DX-2000U. It's the world's first VCR with Digital Noise Reduction — a computerized system that actually improves the picture.

On the left is a dramatization of a noisy videocassette. (Noise can arise from repeated playing, off-air recording,

copying, etc.) You can see snow, grain, and glitches. On the right is the effect of the same tape, as it would be played on NEC's DX-2000U. The snow has melted. The fuzz has fled. And the glitches are gone. Digital Noise Reduction not only improves the picture on bad tapes, it helps even well-recorded tapes look their best.

So if you want to see the cleanest

picture from any VHS cassette, see your NEC dealer. He's got good news for bad tapes: the DX-2000U with Digital Noise Reduction.

NEC®

We bring high technology home.

FOR MORE INFORMATION CALL: (312) 860-9500.
NEC Home Electronics (U.S.A.), Inc., 1255 Michael Drive, Wood Dale, IL 60191

remaining figures are routine, but in a good sense: The PMF-3150's frequency response, signal-to-noise ratio, sensitivity, and input impedance are just what one would expect to see from a top-notch power amplifier.

In short, the PMF-3150 is a superb piece of equipment—a rugged, high-performance component capable of delivering large amounts of low-distortion power into virtually any load you care to throw at it. You pay

for these qualities: Perreux does not make cheap gear. But the amplifier more than delivers. If you buy one, chances are you'll never have any reason (other than the audiophile itch) to replace it. ■

T E S T R E P O R T S

Harman Kardon PM-635 Integrated Amplifier



DIMENSIONS: 17½ BY 4½, INCHES (FRONT), 12¾, INCHES DEEP PLUS CLEARANCE FOR CONTROLS AND CONNECTIONS. **AC CONVENIENCE OUTLETS:** ONE SWITCHED, ONE UNSWITCHED (180 WATTS MAX. EACH). **PRICE:** \$235. **WARRANTY:** "LIMITED," TWO YEARS PARTS AND LABOR. **MANUFACTURER:** MADE IN JAPAN FOR HARMAN KARDON, INC., 240 CROSSWAYS PARK W., WOODBURY, N.Y. 11797.

IN RECENT TIMES, HARMAN KARDON HAS been very consistent in all aspects of its product design. For example, if you bought one of the company's cassette decks a few years ago, you can get an amplifier or receiver today that will match its appearance very nicely, despite model changes in the interim. You can't say that about many other manufacturers' component lines.

The basic look is relatively low-key—a brushed aluminum (or black) faceplate punctuated by small pushbuttons for selector functions and knobs for tone, balance, and level control. Lights are used only where they genuinely contribute to ease of operation. Given that Harman Kardon emphasizes performance in its designs, rather than features for their own sake, and that the PM-635 is the budget model among the company's integrated amplifiers, the result in this case is either uncluttered or austere, depending on your taste in such matters. There are selectors for three sets of inputs—

two high-level (marked for a tuner and a CD player or video source) and one fixed-coil (or high-output moving-coil) phono—plus a tape loop, with a small light over the monitor button to signal its setting. Switching is provided for one or two pairs of speakers (wired to color-coded spring clips on the back panel), but aside from that and a loudness-compensation button, the PM-635 sticks close to what most of us would consider the essentials.

Internally, the PM-635 follows the precepts that have guided the design of Harman Kardon equipment for some years now. The company says that the amplifier is capable of delivering as much as 18 amps of current on an instantaneous basis and that it will drive low-impedance and highly reactive loads without clipping prematurely or otherwise misbehaving. Short-circuit protection is achieved without the use of any current-limiting system. Harman Kardon also claims wide bandwidth (confirmed by Diversified Science Laboratories' measurements) with low negative feedback—a design approach the company considers necessary for accurate reproduction of transients. And all circuits are built completely of discrete components. Although this avoidance of integrated circuits can increase manufacturing costs,

Harman Kardon feels that it yields better performance.

DSL's tests show that the PM-635's performance is indeed quite good overall, particularly for an amplifier in its price class. Maximum output, for example, generously exceeds Harman Kardon's conservative 30-watt (14.8-dBW) rating. And output increases steadily as the load impedance is reduced, which indicates that the amplifier should have no trouble driving difficult loudspeaker loads without loss of power or excessive distortion.

Under standard test conditions (into an 8-ohm resistive load), harmonic distortion is more than adequately low—certainly well below the threshold of audibility. Noise also is well controlled through all inputs. Damping factor (which is inversely proportional to the power amp section's output impedance) is more than respectable in the deep bass and holds up unusually well at high frequencies, dropping by only 50 percent at 20 kHz. This should help maintain flat treble response into speakers whose impedances become very low at the top of their range.

DSL's tests did turn up two small oddities. One is the phono input impedance, which is not a simple parallel combination of resistance and capacitance. This means that

RATED POWER	14.8 dBW (30 watts)/channel	
OUTPUT AT CLIPPING (at 1 kHz; both channels driven)		
8-ohm load	16.3 dBW (43 watts)/channel	
4-ohm load	17.1 dBW (51 watts)/channel	
DYNAMIC POWER (at 1 kHz)		
8-ohm load	17.2 dBW	
4-ohm load	18.0 dBW	
2-ohm load	18.3 dBW	
DYNAMIC HEADROOM (re rated power; 8-ohm load)		
2.4 dB		
HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)		
at 14.8 dBW (30 watts)	≤ 0.047%	
at 0 dBW (1 watt)	≤ 0.064%	
FREQUENCY RESPONSE		
+0, -1/2 dB, 94 Hz to 59.5 kHz		
+0, -3 dB, < 10 Hz to 178.0 kHz		
RIAA PHONO EQUALIZATION		
± 1/4 dB, 20 Hz to 20 kHz		
-2 3/4 dB at 5 Hz		
SENSITIVITY & NOISE (re 0 dBW; A-weighting)		
	sensitivity	S/N ratio
aux	22 mV	83 dB
phono	0.35 mV	76 1/2 dB
INPUT OVERLOAD (1-kHz clipping)		
aux	> 10 volts	
phono	165 mV	
INPUT IMPEDANCE		
aux	29k ohms	
phono	49k ohms, complex*	
OUTPUT IMPEDANCE (to tape)		
from aux input	direct	
from phono input	1,270 ohms	
DAMPING FACTOR (at 50 Hz)		
87		
CHANNEL SEPARATION (at 1 kHz)		
84 dB		

*See text

the effective impedance varies with frequency; the value given in our data column is for 1 kHz. Some fixed-coil cartridges are sensitive enough to how they are loaded that their frequency responses might be degraded somewhat by such a nonlinear input impedance. This is less of an issue than it was several years ago, however—partly because the output impedances of high-quality phono cartridges have been dropping (making their behavior more independent of electrical loading), and also because the Compact Disc is so rapidly supplanting LPs as a primary source of recorded music. We did not observe any discrepancy with the cartridge we used for testing, which is a relatively low-impedance model.

The other anomaly is a slight dip in the amplifier's frequency response below about 200 Hz. It is down approximately 1/2 dB at 100 Hz, 1 dB at 60 Hz, and 1 1/2 dB at 20 Hz. The cause appears to be a slight misalignment of the bass control, so it should be possible to flatten out the response by advancing the control slightly. Although the dip is large enough that it should be marginally audible on some material, we were not aware of it in our listening.

At full rotation, the BASS provides a little more than 10 dB of boost or cut below 50

Hz, and the TREBLE gives about the same above 10 kHz. The curves are smooth and well behaved (especially those for the TREBLE); the actions of the two controls overlap slightly in the vicinity of 1 kHz. Switching in the loudness compensation creates a dip in the response, centered at approximately 2.5 kHz, that increases in depth as the VOLUME is turned down. In effect, the bass is boosted a maximum of approximately 8 dB below about 200 Hz (with a shelving characteristic) and the treble, to a slightly lesser degree, above 5 kHz. Modern research suggests that no compensation is required at high frequencies, but if you prefer something other than what is provided, you probably can get it with the tone controls.

The PM-635 is very easy to set up and use, and as one would expect from the measurements, its sonic performance is first rate. We would like to see the phono input impedance tidied up, but again, it probably will not be a big problem in most installations anyway. The amplifier provides enough features (and the right ones) for most everyday purposes together with more clean power than one usually finds at the price. If you're looking for an amplifier in its price range, the PM-635 is well worth a close look and listen. ■

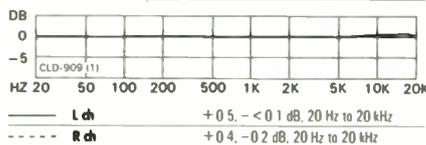
T E S T R E P O R T S

Pioneer CLD-909 CD/Laserdisc Player

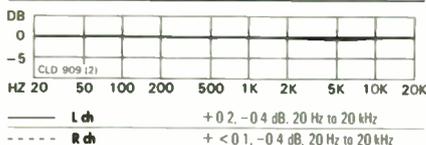
COMPACT DISC PLAYBACK

All data were obtained using the Sony YEDS 7, Technics SH-C0001, Philips 410 055 2, and Philips 410 056-2 test discs

FREQUENCY RESPONSE WITHOUT DE-EMPHASIS



FREQUENCY RESPONSE WITH DE-EMPHASIS



CHANNEL SEPARATION (at 1 kHz)

120 dB

CHANNEL BALANCE (at 1 kHz)

± < 0.1 dB

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

without de-emphasis 100 dB

with de-emphasis 104 dB

DIMENSIONS: 16 1/4 BY 4 1/4 INCHES (FRONT), 15 1/4 INCHES DEEP PLUS CLEARANCE FOR CONNECTIONS. **PRICE:** \$900. **WARRANTY:** "LIMITED," TWO YEARS PARTS AND LABOR. **MANUFACTURER:** PIONEER ELECTRONICS CORP., JAPAN; **U.S. DISTRIBUTOR:** PIONEER ELECTRONICS (USA), INC., BOX 1760, LONG BEACH, CALIF. 90801.

ONE WOULD THINK THAT A COMBINATION CD/Laserdisc player would be a natural consequence of today's movement towards audio-video "media centers." Perhaps the similarity between the optical systems required to read Laserdiscs and Compact Discs reinforces this impression. But to an engineer, the differences between the systems in disc size, weight, and rotational speed produce more problems than the slight differences in track width and pitch that the laser pickup must cope with. In its CLD-900, the first combo player, Pioneer took a relatively straightforward approach to solving these problems; the CLD-909 is more sophisticated, which accounts for its significantly smaller size.

The CLD-909 uses a different motor to drive the relatively slow-spinning, lightweight CDs than the one used for the high-speed, heavy Laserdiscs. When playing a Laserdisc, the CD motor is pivoted out of the way. A redesigned loading system helps keep the size down, and a new "tilt" servo pivots the laser pickup to keep the beam perpendicular to the surface of the various discs. This helps eliminate "crosstalk" between adjacent video "grooves" and so reduces "herringbone" picture interference when playing a warped Laserdisc.

The CLD-909 is a front-loading player. Pressing the front-panel EJECT or the corresponding button on the wireless remote pops the disc tray an inch or so out of the front panel. After you've fully extended the tray by hand, you can drop a CD fairly easily into the CD-size center recess. Loading a Laserdisc requires somewhat more care because the tray does not pull out far enough for you to place the disc directly in the larger



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Anyone can build a revolutionary speaker. But try and find one that sounds like music. You'll end up listening to the MGC-1 from Acoustic Research. We're the company responsible for most of the principles that define a modern loudspeaker: Acoustic Suspension bass loading, the dome tweeter, and the long-throw woofer.

The MGC-1 takes this technology one step further. Angled away from the listener, a second set of drivers

produces electronically time-delayed ambience. Does it work? Ask Stereophile's Anthony H. Cordesman.* He called it "the most musically convincing illusion of the ambience of a live performance of any speaker to date." And we couldn't agree more with his conclusion: "any audiophile owes it to him or herself to hear it." To hear it for yourself, write to us.

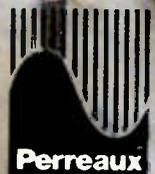
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Laserdisc recess. You must slide it onto the tray, and there's not much room between the upper surface of the disc and the edge of the tray opening. Undoubtedly this inconvenience was necessary to reduce the height of the player.

Once you've slid the tray most of the way in, the loading mechanism takes over: It pulls the tray into position and closes the front door. The disc type is sensed automatically and the disc is brought up to the proper speed. Front-panel legends (LVP or CDP) illuminate to indicate the disc type and, if your TV or monitor is hooked to the CLD-909 and turned on, identification legends appear against a blue background on the screen. The track number ("chapter" number on a Laserdisc) appears on the front-panel digital display (and on the screen as well), and the disc automatically begins playback.

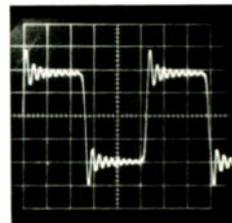
If you've loaded a Laserdisc with a digitally encoded soundtrack, the DIGITAL light comes on, and if you're in the player's auto-digital mode, that's the soundtrack you'll hear as long as you've connected the rear-panel CD/LV audio-output jacks to your stereo amplifier. (The digital indicator lights for a CD as well.) You can choose the "standard" frequency-modulated Laserdisc soundtracks by pressing the front-panel LVP AUDIO. If the FM soundtracks are recorded with CX noise reduction (and have the subcode to indicate that fact), the CLD-909 automatically engages the CX system and lights an appropriate indicator. CX cannot be shut off when playing such CX-encoded discs, but if the disc is CX-encoded and lacks the subcode, you can force the system into the CX mode by pressing CX on the remote. The unit also has an RF output link—Channel 3 or 4—providing mono sound only. A second set of audio outputs marked LV (ANALOG) carries only the FM Laserdisc soundtracks; they are dead when playing a CD. According to the quite complete owner's manual, these outputs are "provided for developmental use." They could be used for routing audio to the inputs of a monitor/receiver, with the main outputs going to a separate audio system.

By and large, aside from these buttons, the CLD-909 is controlled via the remote. The only other front-panel controls (besides the headphone level control), are POWER, EJECT, and PLAY. Only the latter two are duplicated on the remote, which is otherwise remarkably complete and sensibly conceived. Buttons that affect both CD and Laserdisc playback have white legends; those that affect only Laserdisc playback are labeled in black. There are no buttons meant exclusively for CD playback, but when the button has a slightly different meaning in the two systems, the CD function is indicated in green and the Laserdisc function in black.

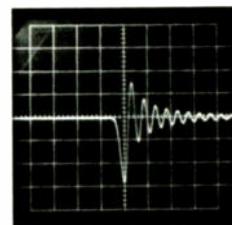
When playing a Laserdisc, you have a choice via the remote of monaural reproduction of Channel 1 (the left track) over both speakers, Channel 2 over both, or stereo. A few Laserdiscs, chiefly foreign imports, are bilingual-monoaural (one language on Channel 1, another on Channel 2), hence the choices provided. These functions are inactive when playing a CD. You can also repeat an entire side of a disc, a Laserdisc chapter (equivalent to a track on a CD), or any portion between designated start and stop points (A-B repeat).

Most "movie" Laserdiscs are recorded in the "CLV" (Constant Linear Velocity, or Extended Play) mode, which provides as much as 60 minutes of programming per side (55 minutes if the disc carries digital audio). A few movie discs and a larger number of special-purpose discs are recorded in the LVP mode, which offers only half the playing time but a good number of special effects. An LVP disc may contain as many as 54,000 "frames" (still pictures) per side, each of which can be cued by its frame number via the remote. The frames are usually organized into "chapters," which also can be selected directly. You can step forward or backward through the frames or advance through them (in either direction) at any of nine speeds (from three times normal speed to one frame every three seconds) via the remote. Some LVP discs are encoded to automatically put the system into still-frame at a given frame number, and with such discs you

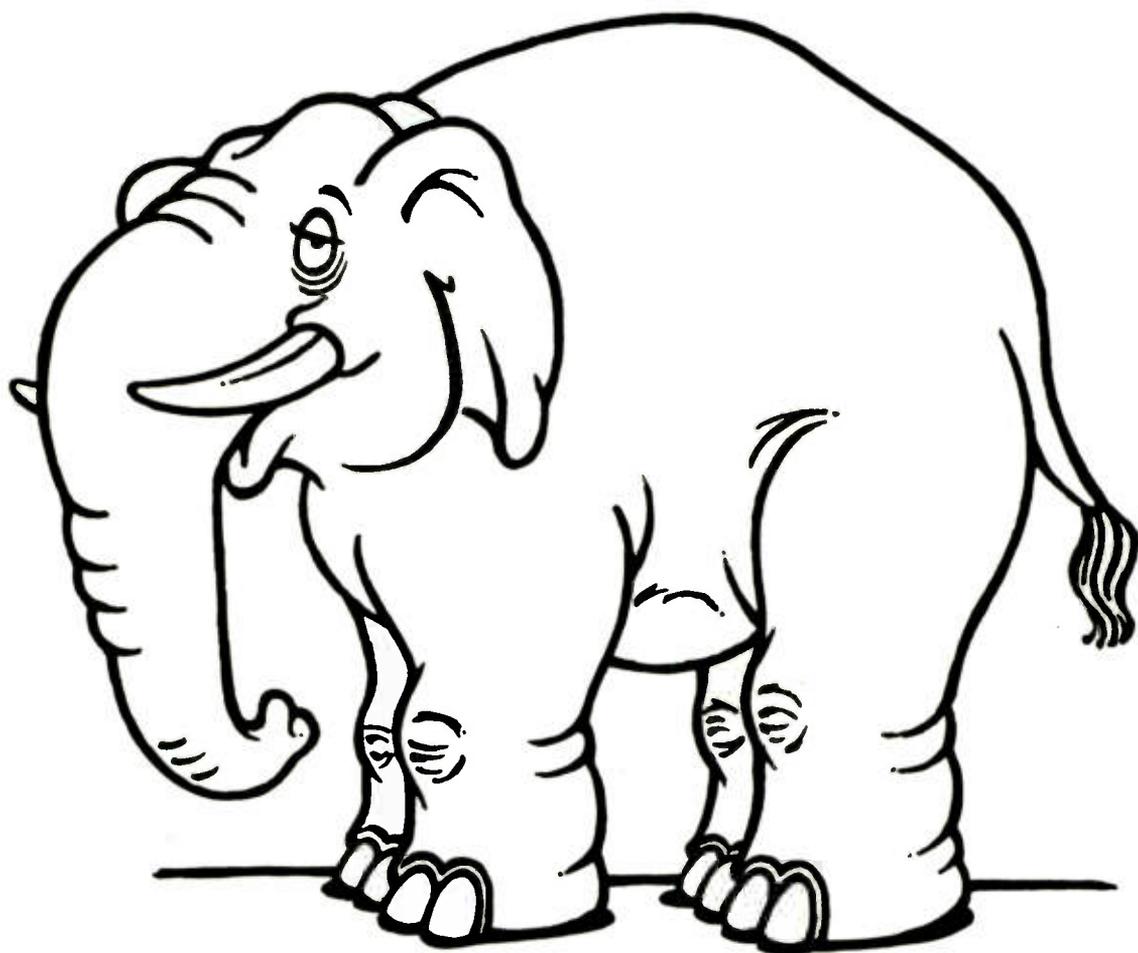
HARMONIC DISTORTION (THD + N; 40 Hz to 20 kHz)	
at 0 dB	≤ 0.018%
at -24 dB	< 0.01%
IM DISTORTION (70-Hz difference; 300 Hz to 20 kHz)	
0 to -20 dB	< 0.01%
at -30 dB	0.013%
LINEARITY (at 1 kHz)	
0 to -20 dB	no measurable error
-30 to -40 dB	+ 0.1 dB
-50 to -80 dB	no measurable error
at -90 dB	+ 1.6 dB
TRACKING & ERROR CORRECTION	
maximum signal-layer gap	≥ 900 μm
maximum surface obstruction	≥ 800 μm
simulated-fingerprint test	pass
MAXIMUM OUTPUT LEVEL	
line output	2.59 volts
headphone output	5.16 volts
OUTPUT IMPEDANCE	
line output	220 ohms
headphone output	40 ohms
SQUARE-WAVE RESPONSE (1 kHz)	



IMPULSE RESPONSE



He's good. But can he remember 785 of your favorite songs?



This Magnavox compact disc player can. In fact, the top-rated CDB650 is the *only* CD you can program to play 785 selections. As you build your library, just program in your favorite selections from each disc in any order you want. The CDB650 will never forget them. Because it's the only CD with

Favorite Track Selection. With FTS, the memory remains forever, even during power outages, even if it's unplugged. And it comes with full-function remote control.

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The CDB650. Unforgettable.



Flawless sound. The ultimate memory.

Nobody puts it together like MAGNAVOX.



THE FRONT-PANEL DISPLAY OF THE CLD-909 SHOWS ONLY CHAPTER OR TRACK NUMBERS, RESPECTIVELY, FOR LASERDISCS OR CDs. A CONNECTED MONITOR SHOWS ADDITIONAL CUEING INFORMATION.

can request the system to repeat the portion of a disc between any two frame numbers. The chapter number, frame number, and repeat and search modes appear on the TV monitor and can be brought back or removed by pressing DISPLAY.

CLV (Extended Play) discs may contain numbered chapters but not randomly accessible frames. Thus, the still-frame, multi-speed, frame-search, and repeat-between-frame functions are inoperative. CLV discs do contain a time code, however, so you can search for a particular point in the disc if you know the time at which it occurs. You can also repeat between points in time on a CLV disc.

Like a programmable CD player, the CLD-909 permits the playing of as many as ten chapters of either format Laserdisc, in any order you desire, via the handset's programming controls. Other buttons permit stepping forward or back chapter by chapter and scanning through a disc while viewing a picture. After two seconds of scanning, the scan rate increases from 11 times to 45 times normal playing speed.

When playing a CD, the track number, index number, and the elapsed time from the start of that track appear on the TV monitor (assuming you have it turned on). By sequentially pressing the remote's display button, you can replace those indications on the screen with the time remaining on the disc, or the total number of tracks and the total playing time of the disc. Only the track number is shown on the front-panel display. Otherwise the controls for the CD functions (including ten-track programming) are direct "translations" of most of the videodisc controls, and should be familiar to anyone used to operating a typical CD player. Only index points are not directly accessible, despite the display of index numbers on the TV monitor.

Even the audio performance of the CLD-909's CD section resembles that of a typical CD player. But whereas "oversampling" and digital filtering are very much in vogue now, the CLD-909's impulse and square-wave response are characterized by asymmetrical "ringing," suggesting Pioneer has stayed with time-proven analog filters. The signifi-

cance of the choice is subject to debate, but there is little doubt that smoother frequency response can be achieved with a well-designed digital filter than with a typical analog filter. Indeed, the response of the CLD-909 to CD test discs shows a 1/2-dB prominence between 10 and 16 kHz—negligible compared to the irregularities of most tape decks, phono cartridges, and speakers, but greater than average for top-notch CD-only players. Some purists might also object to the polarity inversion introduced by the CLD-909, but the importance of maintaining "correct" polarity is also doubtful.

Channel separation is excellent even in the upper frequency region (which testifies to good circuit design and layout), and dynamic range and channel balance are first-rate. Output voltage is somewhat greater than normal—but this is nothing to worry about—and output impedance is sufficiently low to also be no cause for concern. Digital-to-analog converter linearity was fairly good—better, in fact, at -90 dB than on several recent CD-only players. Distortion did not reach 0.5 percent until the -60 dB level, which is quite good performance. Except for a slight "birdie" (0.018 percent) with a 0-dB, 20-kHz signal (one almost never encountered in music), distortion at 0 and -24 dB remained below reporting limits throughout the audio band.

The CLD-909 tracked every band on Diversified Science Laboratories' defects-test CD and cleared all our hurdles in the listening room as well. In fact, analog filters or no, it sounded darned good. Track access is not as rapid as with some other players, and programming it requires that the video monitor be turned on, at least if you are as prone to pushing the wrong buttons as we are, but you can at least skip forward and backward through the tracks, guided only by the front-panel numerical display, and this is sufficient for many situations.

That said, you must not forget that the CLD-909 is not a CD player cum Laservision system, it is a Laservision system incorporating a CD player. And while its CD performance can be called "very good," its Laserdisc performance is nothing short of superb. Unfortunately, Laservision test discs are as rare as hens' teeth, and those that do exist are not as detailed on the audio front as are CD test discs. Nonetheless, the digitally recorded spot frequencies on the disc suggest response that is identical to that from a Compact Disc—which is as we would expect.

Output level and channel balance from a digitally encoded Laserdisc is exactly the same as from a CD, and dynamic range is a negligible 1 dB less. Crosstalk at 1 kHz is within 1/2 dB of the figure registered in the CD tests and there is every indication that distortion is equally low. In fact, linearity measured better when using the digital test videodisc than when using a test CD—a situation for which we have no convenient explanation.

VIDEODISC PLAYBACK

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

AUDIO FREQUENCY RESPONSE

digital	+0.5, -<0.1 dB, 20 Hz to 20 kHz
FM (CX off)	+0, -3 dB, 20 Hz to 16 kHz

CHANNEL SEPARATION (at 1 kHz)

digital	111 dB
FM	74 dB

CHANNEL BALANCE (at 1 kHz)

digital	± <0.1 dB
FM	±0.3 dB

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

digital (without de-emphasis)	99 dB
digital (with de-emphasis)	103 dB
FM (CX off)	58 dB
FM (CX on)	69 dB

HARMONIC DISTORTION (THD at 1kHz, 0 dB)

digital	< 0.01%
FM	0.12%

LINEARITY (digital; at 1 kHz)

0 to -50 dB	no measurable error
-------------	---------------------

AUDIO OUTPUT LEVEL (at 0 dB)

digital	2.59 volts
FM	0.74 volt

VIDEO FREQUENCY RESPONSE

at 500 kHz	-1/4 dB
at 1.25 MHz	-1/2 dB
at 2.0 MHz	-1/4 dB
at 3.0 MHz	-3 3/4 dB
at 3.58 MHz	-4 1/2 dB
at 4.1 MHz	-7 1/2 dB

LUMINANCE LEVEL

	standard
--	----------

GRAY-SCALE NONLINEARITY (worst case)

	≈ 10%
--	-------

CHROMA LEVEL

	≈ 5 dB low
--	------------

CHROMA DIFFERENTIAL GAIN

	≈ 4%
--	------

CHROMA DIFFERENTIAL PHASE

	≈ ± 7°
--	--------

MEDIAN CHROMA PHASE ERROR

	+ 6°
--	------

Only recent Laserdiscs (and not all of those) have digitally recorded audio, so DSI also documented the CLD-909's ability to handle standard FM Laserdisc audio as well. While not a match for digital sound, performance was admirably good. Channel balance and crosstalk were a little worse with FM recording than with digital, but both figures still suggest excellent performance. Frequency response with the CX system off was within +0 dB, -3 dB from 20 Hz to 16 kHz and within the same tolerances from 20 Hz to 20 kHz with the noise reduction system on.

We finally reach picture quality, to many videophiles the *raison d'être* of the Laservision system. We have yet to see a consumer videocassette recorder—VHS-HQ, Super-Beta, or 8mm—that could hold a footcandle to any Laserdisc player in picture quality, and the Pioneer CLD-909 is the best video-

disc player that we've measured. It really does deliver more than 300 lines of horizontal resolution, and that's about twice the resolution of even a good VCR! On a good monitor (it would be a shame to waste this picture quality on an ordinary TV) the image is razor-sharp and has noticeably less chroma noise than one gets from VCRs. There is some noise, but it's noticeable mainly in large solid-color areas, and then to a far lesser extent than with a home-VCR image.

We have only three minor gripes with the Pioneer CLD-909: its relatively slow speed in cueing (which is probably fast enough to satisfy the typical user, though), the considerable "hunting" that the search mechanism seems to undergo when skipping "chapters" in Laserdisc playback (our sample occasionally couldn't find a chapter reliably), and the unavoidable whirring sound that accompanies Laserdisc playback. In fairness, we'd

have to say that the CLD-909 makes considerably less noise than some of its predecessors, but, especially with the advent of digital sound, even less mechanical noise would be greatly appreciated.

If you want the finest in video playback—sound as well as picture—consider the CLD-909. It can't record. Laserdisc software is hard to find in some parts of the country, and Laserdisc rental outfits are difficult to find. But videodiscs are usually less expensive than the corresponding videotapes and, with a good video monitor and sound system, they're light-years ahead in picture quality (and sound quality, if you use a videodisc with digitally encoded soundtracks). Laservision also offers more varied and higher-quality special-effects modes than videotape. And don't forget that with the Pioneer CLD-909 you get a very good CD player to boot. ■

MANUFACTURERS' COMMENTS

HIGH FIDELITY routinely submits copies of test reports (after publication) to the manufacturers for review and comment. The following is culled from the responses.

LINEAR POWER 1002 CAR POWER AMPLIFIER (JULY 1986)

LIKE PROUD PARENTS, WE ALWAYS ARE HAPPY to see our products reviewed in high-quality magazines. However, we do have a few nits to pick with your test of our 1002 car power amplifier.

The review's general drift is that our amplifier is indeed a good one, but that it does not quite match up with today's best home equipment. We have a difficult time understanding your conclusion, because you do not mention anywhere how the amplifier sounds. Since the inception of Linear Power 11 years ago, we have used only two main criteria for designing an amplifier: sound quality and reliability. Unlike many other manufacturers, we do not bench-race our amplifiers (make changes merely for the sake of improving the printed specifications). When designing the 1002, we could have dialed in more negative feedback to reduce the THD figures, and we could have filtered out the inaudible switching by-products of the power supply, but that would have adversely affected the amp's sound quality—and that is unacceptable to us.

It is baffling to us why you used the amplifier's maximum gain setting for your tests. The ultra-wide-range input sensitivity adjustment is a great convenience for our customers, but maximum gain should be used only when it is absolutely necessary (such as with an old tape deck whose output level is extremely low). If you had made your measurements with the amp set at the more universally accepted 1-volt sensitivity, both signal-to-noise ratio and power bandwidth would have been dramatically better.

You also say that the 1002 does not have a mono bridging switch. Why not also mention that it doesn't have a gold-plated steering wheel? Although some amplifiers do have a stereo/mono switch (a few of our other amps do), it is hardly the industry standard. Nowhere do we state that the 1002 is anything other than a stereo amp, and it is this kind of reporting that most upsets us.

Just what exactly did we do to deserve the digs that are sprinkled throughout the review? You mention that the amp doesn't have a stereo/mono switch as though it were some kind of weakness, you say that it has distortions that aren't audible, and you finish with a backhanded compliment, stating that our amp is better than that in any all-in-one front-end unit. Of course it is. That is a little like saying the New York Mets are better than any Little League team. How does the 1002 stack up against its competition? It's impossible to tell from your review.

In summary, we build amplifiers that sound very good and are extremely reliable in a hostile environment. By not including comments on these very important aspects, and by including critiques that are not relevant, your report does not accurately convey the true worth of the Linear Power 1002.

Ruth Worback

President
Linear Power, Inc.

We measured the 1002's signal-to-noise ratio at both maximum and minimum gain, which in most equipment represent the worst and best cases, respectively. As our data show (and the review points out), the noise figure is substantially better when the gain is turned down.

We do not measure power bandwidth. If gain reduction is achieved by increasing negative feedback, we would expect this to extend the high-frequency response, but otherwise we do not see why there should be any effect. In any case, the measured

response at full gain is quite adequate. Adjusting the gain in this way probably would have the additional benefit of reducing distortion at lower settings (because of the greater feedback).

We brought up the amplifier's distortion figures in the text of the report because they exceed your specification and because they are somewhat higher than people are used to seeing for amplifiers. The point we made was that there is no need to be concerned—that the distortion is still too low to be audible. One of the main functions of the text in a review is to interpret the measurements for readers who may have difficulty doing so for themselves. For those who would rather trust their own judgment, the numbers are there. The same logic prevails in our reporting of the switching components: We don't think they matter, but we do think our readers have a right to know so that they can make up their own minds. This is our policy for all the equipment we test.

Our statement that the amplifier does not have a bridging switch is about as neutral as can be imagined; certainly it is not presented as a weakness. (It's rather like saying that a particular preamplifier doesn't have tone controls.) We bring it up because so many car amps do have such a feature and because you provide another means to this end, through the XO-1 crossover (as mentioned in the review). There is no implication that you ever claimed the amplifier to be anything other than a straight stereo design.

Sound quality is not something we talk much about in amplifier reviews because there's seldom much to say. If we hear something amiss, or if we don't hear a flaw that the measurements might lead us to expect, then we bring it up. Neither condition applies to the 1002. And in the last paragraph, we do touch on how the amplifier is designed for operation in a difficult environment.

In short, we think it's a pretty good review. We, too, would have preferred a better assessment of how the product rates relative to its competition, but that sort of evaluation will have to wait: The 1002 was only the second outboard car amplifier that we'd ever tested.—Ed.

THE FESTIVAL THAT NEVER WAS

WHEN KEN RICHARDSON TOLD ME HE WAS GOING TO run a cartoon as his share of this month's "Medley," I remember thinking that it's a good idea to step back from ourselves every now and then and not take everything so seriously. Some of the best magazines in the world have cartoons, and funny ones, like *The New Yorker*. Why, even *Stereo Review* has cartoons.

But then I worried that my column might be mistaken for a caption or dismissed as the editorial boilerplate explaining why cartoons were now appearing in "Medley." Should I fight fire with fire and put something from *The Best of Hoffnag* on my half of the page? Or close my eyes and write a straight piece?

Then it hit me: Why not tell readers about the Matterhorn Music Festival? I had heard about it from the lady who sells wurst and beer at the Salzburg Festival, and I just had to find out if what she told me was true. So with contributor Robert R. Reilly, I went up to investigate.

The Matterhorn Music Festival is the only private,

nonprofit, nonperformance music festival in the world. Like the Swiss army, it has a long history of distinguished inactivity: In more than 500 years, there has never been a concert. At the first sight of an audience—or, heaven forbid, critics—the organizers pack up and move to another location. That's why Reilly and I had to pose as international economists during our ascent. But somehow the Matterhorners were alerted; posing as summer skiers, the entire festival—administration, support staff, and performers—slipped over the border just as we arrived.

Reilly and I did our best to put on a good face. Standing in the back of a garbage truck from Torino, we posed for the paparazzi who had covered our attempt, squinting into the sun so they could get a clear shot of the Matterhorn in the background, without all the instrument cases that had been left behind in the festival's flight. The pictures turned out to be fantastic, which just goes to show you that things are not always what they seem.

Ted Libbey



EDITED

BY

TED

LIBBEY



EDITED

BY

KEN

RICHARDSON

LIFE IN HELL

©1986
By MATT
GROENING

HOW TO BE A FEISTY ROCK CRITIC

HOW TO TELL IF YOU HAVE WHAT IT TAKES

- DID YOU PLAY "AIR GUITAR" AS A CHILD?
- DID YOU PLAY "AIR GUITAR" AS A TEEN?
- DO YOU DENY YOU PLAY "AIR GUITAR" AS AN ADULT?

WHEN YOU HEAR SOME ROCK 'N' ROLL, DO YOU FEEL THE URGE TO:

- TAP YOUR FOOT?
- SHUT YOUR EYES TIGHTLY, BITE YOUR LOWER LIP AND NOD YOUR HEAD RHYTHMICALLY?
- STAND THERE WITH YOUR ARMS FOLDED THEN GO HOME AND WRITE AN IN-DEPTH ANALYSIS OF THE EXPERIENCE?

WOULD YOU CHARACTERIZE YOUR EMOTIONAL STATE AS:

- PRE-ADOLESCENT?
- ADOLESCENT?
- SEMI-POST-ADOLESCENT?

CONGRATULATIONS! IF YOU CHECKED ANY BOX ABOVE, YOU ARE QUALIFIED TO BE A FEISTY ROCK CRITIC. AND IF YOU CHECKED NO BOXES, DON'T FEEL BAD, YOU ARE QUALIFIED TO BE A VERY FEISTY ROCK CRITIC.

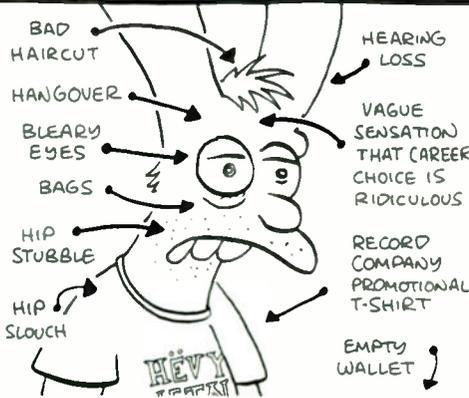


FIG. 1 TYPICAL FEISTY ROCK CRITIC

The Rewards of Feisty Rock Writing

ASSIGNMENT	WHERE PUBLISHED	PAY	ARTISTIC FULFILLMENT
FEISTY PROFILE OF MILLIONAIRE ROCK STAR	NATIONAL MUSIC GOSSIP MAGAZINES	LOW	A LITTLE
FEISTY PROFILE OF UNKNOWN ROCK BAND	STRUGGLING URBAN NEWSWEEKLIES	VERY LOW	A SMIDGEN
FEISTY REVIEW OF SHOW OR LP	ANYWHERE	LAUGHABLE	A TAD
FEISTY THINK PIECE ANALYZING GREED AND CORRUPTION IN THE MUSIC INDUSTRY	UNPUBLISHABLE	—	A WEE BIT

BASIC EXERCISES FOR THE BEGINNING FEISTY ROCK CRITIC

- YOU WILL NEED: TYPEWRITER, PAPER, RECORD ALBUM
1. PLAY THE RECORD 25 TIMES
 2. STARE INTO SPACE
 3. SPEND SIX HOURS WRITING AND REVISING YOUR REVIEW UNTIL IT IS PERFECT
 4. TURN IN YOUR FINELY-MOVED MASTERPIECE
 5. WATCH YOUR EDITOR CUT IT IN HALF BEFORE YOUR VERY EYES
 6. GO HOME AND WAIT FOR YOUR PAYCHECK
 7. KEEP WAITING

THE QUICK AND EASY WAY TO WRITE A RECORD REVIEW

(FOR ADVANCED FEISTY ROCK CRITICS ONLY)

1. HAVE A BEER.
2. GLANCE AT LP COVER.
3. PLAY A SONG OR TWO (OPTIONAL).
4. WRITE REVIEW.
5. HAVE ANOTHER BEER.

MISCELLANEOUS FEISTY WORDS & PHRASES TO USE

smoldering passion, Tasty, distractively soulful, demonic, compellingly inspired, drumwork, staggering market sense, teen anthem, street smart, enigmatic, Tour de force, brutally honest, roots-conscious, ballsy, eponymous, silken-voiced, commitment, Springsteenian, danceable, righteous, shameless

WHERE DOES THE FEISTY ROCK CRITIC GO WHEN HE OR SHE NO LONGER FEELS SO FEISTY?

WELCOME TO THE WORLD OF (CHOOSE ONE):
 PUBLIC ACCESS CABLE TV
 RECORD COMPANY PUBLICITY
 PHONE SALES
 ADVERTISING COPYWRITING

SURPRISING ANSWERS TO FEISTY ROCK CRITICS' MOST OFTEN-ASKED QUESTIONS

Q: IF I TRULY WANT TO BE A FEISTY ROCK CRITIC, DON'T I HAVE TO KNOW THE HISTORY OF JAZZ, POP COUNTRY, THE BLUES, AND R&B?
 A: NOPE.

Q: HAS THERE EVER BEEN A FEISTY ROCK BOOK WRITTEN THAT WAS NEITHER A FEISTIOUS PUFFBALL NOR A COLLECTION OF WHINING, POMPOUS SOLEMNITIES?
 A: NOPE.

Q: WILL I SOMEDAY BE ABLE TO PUBLISH ALL MY BEST ROCK WRITING IN A REALLY FEISTY BEST SELLING BOOK?
 A: NOPE.

DRAWING BY ANNE SHERMAN, STYLING: J. G. G.



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CLASSICAL

One of Hungary's leading musicians, caught in the glare of self-criticism

BY BÁLINT ANDRÁS VARGA

The Phenomenon Kocsis

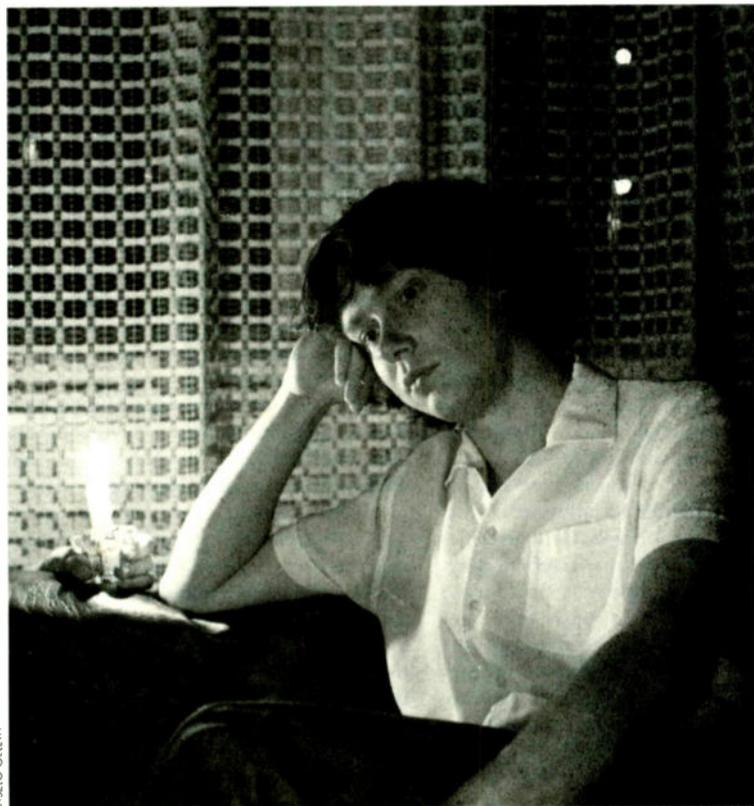
ple in authority while paying homage to his heroes—Glenn Gould and Sviatoslav Richter—in devout, if not uncritical, tones. He is

shy, perhaps even inhibited, yet he lives a public life: playing the piano, talking to the audience, even fooling around on stage in costume when the occasion requires.

Kocsis has been on the scene for 16 years, since he won the Hungarian Radio piano competition in 1970. But unlike so many competition winners, he did not just arrive, he came to stay. His appearances have been events to remember, and his interpretations, always original, are frequently revealing and thought-provoking, whether the music be Bach, Bartók, or Cage. He approaches compositions with a probing mind and brings a musicologist's perspicacity to each composer's oeuvre—or to that segment of it he wishes to chart for himself. If it happens to be the Chopin waltzes, he will have studied all the various editions, collated them, dissected them, and placed the pieces in the context of the rest of Chopin's work. While engrossed in this study, nothing else matters.

Whatever Kocsis does, he does with a vengeance—passionately, thoroughly, conscientiously. His concert performances are at once definitive statements and hints of revelations to come, whenever logic or fancy (for no one really knows what turns the searchlight of his mind in this or that direction) brings him back to the same area of study. At times, his playing has a fierceness, a relentlessness, that fills

Bálint András Varga, a noted writer on Hungarian musical affairs, is associated with Editio Musica, Budapest.



LÁSZLÓ GRIETA

ZOLTÁN KOCSIS CASTS A LONG SHADOW IN HIS native Hungary. At 34, he is already a national institution, and his name has begun to have a life of its own, standing for something beyond the piano playing, the provocative recordings, and the concert appearances that have made him famous within and outside Hungary's borders. When his name crops up in a conversation, preceded by an indefinite article, it usually refers to something exceptional, something unique and beyond reach, which the man-in-the-street should not really aspire to: "You're not a Zoltán Kocsis!" an adult will say to a youngster, admonishing him to be realistic about his gifts—or, indeed, about his demands.

The key to *the* Zoltán Kocsis's position in Hungarian musical life lies in his unique (the adjective is inevitable) personality and his diverse activities, which cover virtually the entire gamut of music. The personality is unpredictable, full of contradictions, incapable of compromise. When still in his teens, Kocsis's erudition surprised his professors, yet now, well on the way to 40, he can still giggle with childish abandon. He delights in shocking people, but he can be embarrassed by the result and eager to make amends. His intellect and his insight command admiration and respect, yet he can make sweeping statements that leave the listener baffled. He flouts peo-

the air with electricity; at other times, his touch can be indescribably subtle, with infinite gradations between *p* and *pppp*.

Although it is preeminently as a pianist that Kocsis has been in the public eye, he is also a composer of both original works and transcriptions (for one or two pianos, of pieces by Wagner, Stravinsky, Bartók, Debussy, Ravel, and others). He is a teacher, a writer, has served as the consultant for numerous albums released by Hungaroton, and has recently proved himself as a conductor. In addition, he has taken on the role of catalyst in Hungarian musical life, creating—with conductor Iván Fischer—a controversial new ensemble, the Budapest Festival Orchestra, in an attempt to set new standards of orchestral playing both in public performance and on record.

The stress of feverish activity has begun to tell on him. His once dark hair is beginning to show some gray streaks, and a close look at his still disarmingly youthful face will reveal a network of tiny wrinkles, especially around the intent blue eyes, which have the unnerving habit of looking past you in an almost imperceptible squint. Recently, the pull of conflicting obligations put Kocsis in a rather dark mood. "I hate myself," he began. "I have taken on too much. You cannot go on shooting without loading your gun—you must give yourself a chance to recharge. Of course I've been like this before, and I know I'll eventually get out of the trough I'm in now. In fact, I'm sure a new bout of activity will follow. But right now I'm in an awkward period of self-hate."

As statements like this make clear, Kocsis is beginning to realize that he ought to decide whether he is primarily a pianist or a composer. Much to his own surprise, his three one-act *Operas Without Singers* were staged late last year, after he had all but abandoned the project. In response to fresh encouragement from an impresario in West Germany, he resumed work on the score; he completed it and saw it premiered in Karlsruhe, produced by George Tábóri. Although the music itself did not attract much attention, combined with Tábóri's original staging, it had an impact, and Kocsis got his first taste of success as a composer.

However, a subsequent commission from the conductor Peter Eötvös for a large-scale orchestral work put Kocsis in a bind: How was he to discharge all his duties and still find the time—and the peace of mind—to compose a major piece that, if successful, might establish his reputation as a genuine composer in Hungary (where the three operas have yet to be performed) and elsewhere in the world? He had to give up something, and he decided that it would be his teaching.

The new work, entitled *Memento* (*Chernobyl '86*), was premiered in Budapest in October. Rather academic in approach and orchestrated in a way that calls Berg to mind, the score conveyed a palpably Romantic kind of emotion. Attached to it, and serving



KOCSIS: A PIANIST FIRST, BUT A COMPOSER AT HEART?

as a conclusion, was an extended passage from one of the operas premiered in Karlsruhe. This seemed to run on a bit too long, though perhaps the idea was to come up with a musical equivalent of bleakness, a gesture that would establish an "end of the world" feeling at the conclusion of the piece.

The Hungarian reviewers were not the first to find hints of Berg's influence in Kocsis's music. Prior to *Memento*, German critics had likened parts of the one-acters to Berg. To me, his music in *Operas Without Singers* sounded more like a version of the Cage-derived minimalist style characteristic of the composers of the Budapest New Music Studio, a group Kocsis has long been close to. What Kocsis produced was a series of separate musical slices, so to speak, often evocative, sometimes beautiful in their simplicity

"To my mind, anybody with a style unmistakably his own is a composer in the true sense."

and euphony, and lacking any marked profile, so that the music fit whatever the producer made of the purposefully malleable libretto (written by the poet János Pilinszky, a close friend of Kocsis).

Kocsis was rather nonplussed by the references to Berg. He feels closer to Schoenberg, whose powerful music seems to him to exude an almost biblical force. In addition, he identifies with Cage and his school (he is credited with the Hungarian premieres of several pieces by Cage, including *Water Music*, *Music Walk*, and *Water Walk*), but in his own compositions, he steers clear of nonmusical and visual elements. (The only exception is *Premiere*, where a narrator recites from Cage's *A Year from Monday*.) He is also fond of Stockhausen's early instrumental works, but not the recent compositions, which he does not have much use for.

When asked why composition has played

a secondary role all these years, Kocsis-the-composer takes aim at Kocsis-the-pianist. "I have not had the time to compose!" he complains. "Practicing is an uncommonly time-consuming occupation. I could well imagine that in the future, conducting will gradually take precedence over the piano. Conducting is more sophisticated than playing an instrument, and it also leaves one more leisure to devote to other things—such as composing. A conductor only 'practices' in the actual orchestral rehearsal. An instrumentalist spends many more hours keeping in form and preparing for concerts."

Writing music continues to be uppermost in Kocsis's mind, originality being the key issue. "I am above all else a composer. To my mind, anybody with a style unmistakably his own is a composer in the true sense of the word. The question of originality interests me more than anything right now. Of course, the greatest composers have not always been the most original; but the original ones have always been the most interesting—for me anyway."

Nevertheless, for the time being at least, Kocsis will continue to be a pianist first and anything else second. Not that he is interested in the career as such. His agents complain of his reluctance to travel, and in Budapest, until a few years ago, he refused to give any concerts because he said he was fed up with the indiscriminate applause accorded him by the public no matter what—or how well—he happened to be playing. (Adulation is something that irritates him, yet he is very sensitive to criticism. I remember him bitterly complaining about the critics in Australia back in 1976. More recently, he has felt sour about some negative critiques of one of his Rachmaninoff discs released by Philips. He has had an exclusive contract with that firm since 1979, and it includes a provision for certain recordings to be released in Hungary on the Hungaroton label; these are brought into the United States by Qualiton Imports.)

Most of the time, Kocsis is his own severest critic. "I listened to my records during a recent illness, and I must say it was a disillusioning exercise. I found most of them pretty poor, with only a few redeeming bits here and there. The critics were absolutely right about panning my *Art of Fugue*, for instance. I only really like the fast sections, some of them. A movement or two of the Debussy record is all right. I like the way I play Bartók's *Improvisations*, and there are some others. But the overwhelming majority of the recordings I have made so far are simply not up to the mark. They do not seem to offer any perspective; there is something about them I do not like."

Notwithstanding these reservations, Kocsis shows no sign of withdrawing from the recording studio. "I shall next do the third book of the *Années de Pèlerinage* for Philips," he confides, adding, with characteristic self-effacement, "I feel I have hardly accomplished anything so far; everything is still ahead." ■

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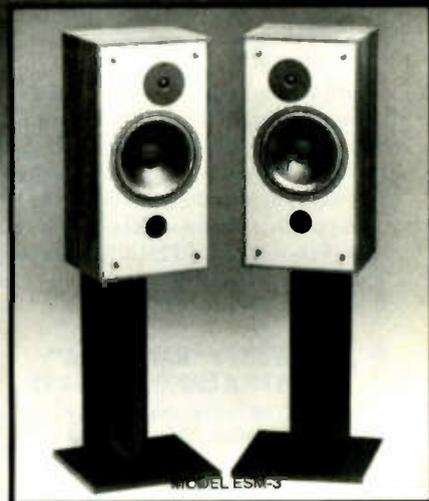
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Stereo Review February 1986, on the ESM-3

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High Fidelity January 1986, on the ESM-2

"exceptional overtone balance ... imaging was just about the best I've heard ... excellent dynamic range ... it sounds great ... no real compromises in its design ... anyone looking for a \$1,500.00 to \$2,000.00 system would be foolish not to carefully audition the Energy ESM-2 ... amazing at the price."

Audio Ideas, 1985 edition, on the ESM-2



THE CD SPREAD

MINI-REVIEWS OF THE LATEST COMPACT DISCS

BY ROBERT E. BENSON, THOMAS L. DIXON, IRVING KOLODIN, ROBERT R. REILLY, K. ROBERT SCHWARZ, JAMES WIERZBICKI, AND BILL ZAKARIASEN

BRAHMS SONATAS FOR VIOLIN AND PIANO

BOTH NELL AND IVAR GOTKOVSKY—VIOLINIST and pianist, respectively—are at the University of Tulsa, and they are well qualified for their teaching and performing roles. Their accounts of the three sonatas for violin and piano by Brahms are both absorbing and revealing: In the Sonata in G, Op. 78, for example, the flow and ease of the parts are well presented. But in terms of both proportion and recorded balance, these readings are partial to the piano, which overwhelms the less imposing sound of the violin. The latter is, after all, not written in the obligato tradition. Playing time: 72:40. (Pyramid CD 13487. Distributed by Harmonia Mundi, U.S.A.) *I.K.*

GLAZUNOV "RAYMONDA": SCOTTISH NATIONAL, JÄRVI

IF THERE IS ANY FAULT TO BE LAID AT THE DOOR of Chandos and conductor Neeme Järvi concerning this disc, it is that they did not set out to record the entire score. Amid the seemingly constant deluge of recordings of complete ballets from the pens of more famous composers, it seems a shame that one of the most rapturously beautiful scores ever written should have enjoyed thus far only one complete recording, that by Yevgeny Svetlanov, done years back for Melodiya and never made widely available in this country.

This quibble aside, the present performance is absolutely flawless. Järvi's mastery is complete; the Scottish National Orchestra plays for him as to the manner born; and, as usual, Chandos comes through with the most spacious, handsome digital sound obtainable. For sheer listening pleasure, this release will be hard to better.

By the way, those interested in the life and works of Alexander Glazunov might want to become members of the newly formed American Glazunov Society, whose address is c/o Donald J. Venturini, President, 17320 Park Ave., Sonoma, Calif. 95476. A journey into the music of this decidedly underrated composer should prove to be of more than passing interest.

In the meantime, all praise possible to Järvi, with the hope that he will complete his

cycle of all the Glazunov symphonies (for Orfeo) and one day offer us the remainder of this majestic score. Playing time: 54:41. (Chandos CHAN 8447.) *T.L.D.*

MARILYN HORNE: "THE GREAT AMERICAN SONGBOOK"

MEZZO-SOPRANO SUPERSTAR MARILYN HORNE has always been a patriotic lady. Over the past two years, she has presented a program called "The Great American Songbook," made up of two dozen or so familiar and not so familiar songs by Stephen Foster, George M. Cohan, Aaron Copland, Irving Berlin, and others. To commemorate the recent centenary of the Statue of Liberty, London has issued a disc entitled *Beautiful Dreamer: The Great American Songbook*, which features 20 of these songs. Affectionately backed up by the English Chamber Orchestra conducted by Carl Davis, Horne is winningly down-to-earth in every selection (from the title song to *God Bless America* and *You're a Grand Old Flag*), and she sings without a hint of the aggressiveness that usually—and appropriately—marks her delivery of Rossinian and Handelian fireworks. Her voice is in ravishing estate, her enunciation is impeccable, and she treats each phrase with the same respect she would bring to a set of Schubert Lieder. Horne clearly loves these songs, and that love comes across with appealing directness.

The arrangements by Davis, David Matthews, and David Cullen are pleasingly in character, though not as inventive and amusing as one might like. (The arrangements by Jonathan Tunick, Bill Brohn, and others that were heard when Horne sang this program in New York were better, but the fact that the recording was to be a British affair no doubt influenced the choice of arrangers.) That aside, this is a charming disc, one that will please not only Horne fans but almost everyone else. State-of-the-art sonics. Playing time: 52:36. (London 417 242-2.) *B.Z.*

ENSEMBLE BAROQUE DE PARIS: "18TH-CENTURY MUSIC"

ALTHOUGH THE "AUTHENTICITY" FRONT MAY be where most of the action is today, there's

still a lot to be said for the *arrière-garde* approach to 18th-century music, as demonstrated by such groups as the Ensemble Baroque de Paris. Since this quintet experienced only one change of personnel between its founding in the late 1940s and the 1977 recording session that resulted in Denon's new all-digital *Bouquet of 18th-Century Music*, it's hardly surprising that these works by Mozart, Dandrieu, Quantz, Haydn, and J. C. Bach get treatment of the old-fashioned sort. In the old days, hardly anyone worried about the admittedly uninventive ornaments and decidedly stiff rhythms heard here; what was noticed back then and what still makes these performances so appealing is the sheer slickness of the players' virtuosity and the absolute conviction with which they realized every nuance. Playing time: 47:09. (Denon C37-7810.) *J.W.*

BEETHOVEN VIOLIN CONCERTO: SZERYNG; CONCERTGEBOUW

THIS PHILIPS CD, FEATURING BEETHOVEN'S Violin Concerto in D, Op. 61, and the two *Romances* played by Henryk Szeryng and the Amsterdam Concertgebouw Orchestra conducted by Bernard Haitink, is a treasure. The analog recordings, which date back to 1973 for the concerto, to 1970 for the *Romances*, are well balanced, broad, and spacious, with the soloist not overly prominent. The bass is at times a bit unclear, but the engineers were more successful capturing the richness of the Concertgebouw here than they have been on many recent digital recordings. While not as generous in playing time as the RCA CD pairing Jascha Heifetz and Fritz Reiner in the same concerto (and including the Brahms Violin Concerto as a complement), this disc is well filled, and it offers performances that are classic by any standard. There are, as of this writing, nine other CDs of the Beethoven concerto, but none is more satisfying than this. Playing time: 63:34. (Philips 416 418-2.) *R.E.B.*

BALAKIREV WORKS: SINGAPORE SYMPHONY, HOEY

ABOUT ALL ONE EVER HEARS OF THE WORKS OF Mili Balakirev (1837-1910) is his piano showpiece *Islamey*. A friend of Mussorgsky,

Cui, Borodin, and Rimsky-Korsakov, he never received the acclaim they enjoyed. This new Hong Kong Records CD brings together several of his orchestral works, each one receiving what appears to be its premiere recording. Featured are an overture on Czech themes entitled *In Bohemia*, an overture written for a production of *King Lear*, the *Overture on a Spanish March Tune*, and the *Chopin Suite*, a four-movement suite written in 1910 consisting of orchestrations of four Chopin solo piano compositions. Despite the nationalistic appellations of the overtures, they all sound more Russian than anything else, while the Chopin orchestrations, for this listener, are of only passing interest.

The Singapore Symphony Orchestra, formed in 1979, plays this colorful music very well under Choo Hoey's direction, and the sound quality is first-rate. As a well-filled CD offering colorful orchestral music not available elsewhere, this release should appeal to anyone interested in the repertory. Playing time: 59:16. (Hong Kong 8.220324. Distributed by Harmonia Mundi, U.S.A.)

R.E.B.

HOLST "PLANETS": TORONTO SYMPHONY, DAVIS

THE MUSICAL *STAR WARS* OF ITS TIME (1914), Gustav Holst's *The Planets*, Op. 32, became so popular that it eclipsed the rest of his substantial oeuvre. Holst was justifiably irked. As CDs of *The Planets* pile up, when do you suppose we will have CD offerings of his *Four Songs for Voice and Violin*, Op. 35, or *This Have I Done for My True Love*, Op. 34? In its emphasis on sonic spectacle and opulent orchestral effect, *The Planets* was, and is, the antithesis of these jewels.

Starship Holst leaves the launchpad in this new CD account of *The Planets* from Andrew Davis and the Toronto Symphony, but it simply circles the upper stratosphere. There is nothing especially celestial in the performance, which falls short of the full complement of nuance, character, and drama that music like this so desperately needs to work its limited charms. The playing "sounds"—sometimes quite beautifully and powerfully—but it seems to miss that finally correct characterization of the score that would make the performance stand out from the pack.

The excitement is more real in Leopold Stokowski's old recording, in which the anthropomorphism of the gods/planets is evident but not in the least earthbound. In short, the old magician simply outclasses Davis. The sound of the new CD is excellent—but then Capitol did a superb job of recording Stokowski, too. Playing time: 48:33. (Angel EMI CDC 47417.) R.R.R.

RUBBRA TENTH SYMPHONY: BOURNEMOUTH, SCHÖNZELER

CHANDOS HAS RENDERED A VALUABLE SERVICE by reissuing on Compact Disc its excellent analog recording of Rubbra's Symphony No. 10, Op. 145, *Improvisations on Virginal*

Pieces by Giles Farnaby, Op. 50, and *A Tribute*, Op. 56, written in honor of Vaughan Williams's 70th birthday. This is not, however, the recording with which to begin one's acquaintance with Rubbra's music, since his customary grandeur and passion are not represented in these particular works, lovely though they are. The *Farnaby* improvisations are, as Rubbra once said, "a lightweight work," though enjoyable enough if you like Elizabethan-flavored suites. The birthday present to Vaughan Williams is serious Rubbra and could be an andante from one of his symphonies: It has that moving loveliness he was able to weave into his scores in so touching a way. The Tenth Symphony is restrained and serenely beautiful, and both it and the Vaughan Williams birthday tribute will be welcome acquisitions for any admirer of Rubbra's music or of English music in general.

Rubbra was very happy with this recording by the Bournemouth Sinfonietta and Hans-Hubert Schönzeler, and it can indeed be highly recommended. Chandos's digitally remastered sound is indistinguishable from the best of the new digitals. The only possible complaint is the brevity of the program, but I would withdraw that complaint if, as a tribute to Rubbra, Chandos could be induced to record all 11 of his symphonies. Playing time: 38:48. (Chandos CD 8378. Distributed by Harmonia Mundi, U.S.A.)

R.R.R.

BERWALD PIANO WORKS: BENTHIEN QUARTET

WHEN FRANZ LISZT TOLD THE 61-YEAR-OLD Franz Berwald in 1857, "You have true originality, but you will not be a success in your lifetime," he could hardly have imagined that Berwald's reputation would begin to grow only in the latter half of the 20th century. Deutsche Grammophon has recently issued new Compact Disc recordings of Berwald's magnificent symphonies, and Accord has reissued on Compact Disc a recording, long familiar on Nonesuch, of his Quintet for Piano, No. 1, in C minor, and Quintet for Piano, No. 2, in A.

The quintets are delicious works, teeming with drama and delight, caught at the perfect conjunction of the Classical and the Romantic. They are essential to any lover of good chamber music. Surprisingly, these Swedish accounts by the Benthien Quartet and pianist Robert Riefling have no competition. But not to worry: They are invigorating performances, and the 1962 mono sound is remarkably fresh-sounding for its age, although it is not of audiophile quality. I can only repeat Hans von Bülow's amazement when he heard these works in 1858: "Yesterday we had a most agreeable evening. . . . Look over . . . the two quintets by this ancient musician-of-the-future, and you will marvel that Berwald was born in 1796: It is hard to believe!" Playing time: 52:28. (Accord 149508. Distributed by Harmonia Mundi, U.S.A.) R.R.R.

LLOYD WEBBER "REQUIEM": ENGLISH CHAMBER, MAAZEL

IN THE YEAR OR SO SINCE ITS PREMIERE, Andrew Lloyd Webber's *Requiem* has become one of the best-known pieces of 20th-century music. The Angel LP of it—featuring Plácido Domingo, Sarah Brightman (Mrs. Lloyd Webber), Paul Miles-Kingston, the Winchester Cathedral Choir, and the English Chamber Orchestra under Lorin Maazel—remained on *Variety*'s best-seller list for many months. The *Requiem* is already one of the most widely exposed musical works on television, and recently it served as the score for a Kenneth MacMillan opus choreographed for American Ballet Theatre. Opinions as to the merits of the piece range from ecstatic adoration to absolute denigration. About all there is to say about it, therefore, is that Lloyd Webber's "most personal [composition]" has made its entry into the CD catalog, which, for those who admire it, is a godsend.

The *Requiem* contains some of the noisiest—and certainly among the deepest—sounds ever composed, and while Angel's black disc was a notable sonic accomplishment, the CD does even better justice to the immensely wide range of the music. The prominent organ part is especially more potent here, while the gradations between *pppp* and *ffff* make their points now with the immediacy of an actual performance. Surely this is one of the top demonstration CDs and really the only way to experience Lloyd Webber's work in the home. Playing time: 45:52. (Angel EMI CDC 47146.) B.Z.

ZEMLINSKY SYMPHONY: SLOVAK, SEIPENBUSCH

ALEXANDER VON ZEMLINSKY (1871–1942) IS best remembered as Schoenberg's teacher and brother-in-law and as a champion of the music of Schoenberg, Berg, and Webern. Yet in recent years, there has been a revival of interest in Zemlinsky's own operas, symphonies, and quartets. Although not a revolutionary like Schoenberg and not as inexorably drawn toward the dissolution of tonality, Zemlinsky was a capable composer who had absorbed the Viennese heritage and was able to speak its language with a distinctive voice.

His Symphony No. 2, in B flat (1897), is far less affected by late Wagner and early Mahler than one might expect. Essentially, it is closer to Bruckner and Brahms, partaking of the former's broad thematic statements and lush orchestration and of the latter's formal clarity and supple rhythmic sense. Always well crafted, though rarely startling, this symphony, like so many of Zemlinsky's works, proves worthy of closer scrutiny. The Slovak Philharmonic Orchestra, under the direction of Edgar Seipenbusch, offers an impassioned performance that provides in energy what it sometimes lacks in tonal opulence. Playing time: 41:51. (Records International 7006-2. Distributed by Harmonia Mundi, U.S.A.) K.R.S.

Home-Grown Labels From Scandinavia

A tale of three independent producers, coping with repertory and Compact Discs

BY BERT WECHSLER

SCANDINAVIA, SOCIALIST STRONGHOLD and one of the most heavily governed regions in the world, has in recent years witnessed a resurgence of private enterprise. The risks associated with entrepreneurial activity still make it fairly rare in the arts, but in the past 13 years, three rugged Scandinavian individuals have founded record companies, each of which is basically a single-family operation. The three come from diverse backgrounds, yet they face many of the same problems among them: the questions of what repertory to record and how to cope with the arrival of the Compact Disc. So much does each believe in what he is doing that none has ever deleted a release.

Jesper Buhl of Denmark's Danacord Records and the Swedish record men Robert von Bahr of BIS and Frank Hedman of Bluebell have solved their problems their way and face the future with a good deal of optimism. Buhl is the young and enthusiastic one. He trained as a concert pianist and specialized in chamber music as a member of the Danish Chamber Players. His interest in recordings was fanned by frustration: He was not finding records of works he wanted to hear, played by performers he wanted to hear. He was told, "That won't sell,"—a dangerous thing to say to an idealist.

His first record-making venture involved a work of Carl Nielsen entitled *Commodio*, composed for a special variety of organ. Such an instrument exists at Yale, and the organist Finn Viderø had played the piece on it. Buhl heard that a tape had been made and that it had had good sound. He obtained the tape and produced a record. "I stood there with the tapes and didn't know what to do. I did everything the hard way," he later recalled. The recording received enthusiastic reviews.

Victorious in his first attempt, Buhl set out to help his musical colleagues. With a recording of Nielsen compositions for flute and harp, he launched Danacord Records. Over 100 releases have been produced since 1982, and in 1985 alone, Danacord received seven international awards.

Buhl feels a responsibility to both mainstream and contemporary music, as well as to performances by artists and ensembles



BLUEBELL'S FRANK HEDMAN, WITH A FRIEND: SWAPPED RETIREMENT FOR HIS OWN LABEL

from his own country. For historical issues, he has access to the archives of the Danish Radio, whose orchestra has always been progressive in its choice of repertory. Danacord has now released almost all the music of Nielsen, in new or archival performances. Buhl is proud of a series of recordings by the tenors Axel Schiøtz and Lauritz Melchior, and he has issued another series devoted to the violinist Emil Telmányi. His label is also in the forefront of the revival of the music of Rued Langgaard.

Like producers for many other small labels, Buhl has not found it easy to secure pressing agreements for CDs. There are not enough plants and not enough capacity to go around as yet, and the larger companies with their larger demands dominate the field. But Buhl realizes that CDs are necessary. "We have pressure from our distributors, who feel pressure from reviewers and the print media. Besides, CDs have opened up new markets not heard from before. Asia and Central America now buy, [as well as] Borneo, Taiwan, Thailand. China will come. Australia and New Zealand are here."

Fortunately for Buhl, a new facility (called CD Plant), in which Big Ben Records has an interest, has opened in Malmö, Sweden. In cooperation with that firm, Buhl has begun to produce CDs. A recording with the soprano Inge Nielsen is the first joint Danacord/Big Ben release.

Somewhat older, and a decade more experienced than Buhl, is Robert von Bahr. Von Bahr is a force of nature. He knows he's right (which most of the time he is), and with BIS Records, run from his home outside Stockholm, he has extended his influence far beyond his own beachfront.

In the beginning, Von Bahr did not quite know what he wanted to do. In university, he studied various disciplines, from psychology to the Finnish language, finally leaving without a degree. He also sang in choruses (13 of them!) and eventually began to record them. Learning-from-doing got him to the Stockholm Philharmonic, where he replaced the archivist and eventually took over recording duties there. "It was trial and error," he remembers, "but I stayed five years."

Von Bahr's first marriage was to a flutist. Searching for an existing company to record her, he found just one—which agreed only if Von Bahr would pay all the costs and take care of all the attendant business. He did, and the record sold 700 copies, a healthy amount in Sweden. Von Bahr asked other artists if they thought a new company was needed. Most said yes, and in 1973, BIS was founded. (The French word *bis* means *again* or *encore*. It was also the pen name of Von Bahr's maternal grandfather, a Helsinki music critic.)

The first 100 or so records were artist-oriented. "What do you want to record?" the

producer asked his artists. But sales were sluggish, and gradually Von Bahr realized that it is programs that sell, not simply artists who want to play something. Programming was tightened up, and sales improved.

Von Bahr began the conversion to CD quite early. He had made a recording of the Kroumata Percussion Ensemble that "just wouldn't work on vinyl." Where to press? Philips executives said they were booked for two years. "Nonsense," Von Bahr replied. He went to talk to them, and the Dutch firm has pressed his CDs ever since, but on a non-exclusive basis (some releases are done in Japan). Now BIS issues only CDs. "Why should I release a product," Von Bahr asks, "that is inferior to what it could be?"

BIS does not do much historical restoration, but it has embarked on cycles of the music of Sibelius, Tubin, Stenhammar, Nielsen, Gade (symphonies), Alfvén, Martinü (symphonies), and Svendsen. The label is also promoting the artists Christian Lindberg (trombone), Jakob Lindberg (lute), Roland Pöntinen (piano), and Torlief Thedeén (cello).

The patriarch of the Scandinavian independents is Frank Hedman, who was three years shy of retiring from a job he didn't like and taking his pension, when he decided to quit and form Bluebell of Sweden. He began in 1979 with no funds to speak of and released nine records. One of them hit.

Hedman had been in the travel business for 20 years. He represented the Cunard White Star Line and American Overseas Airlines and edited a travel magazine. For HIGH FIDELITY magazine (yes, this one), he filed a regular "Notes from Abroad" column on music and recordings. He is still the one who compiles the Nordic information for the *Musical America International Directory of the Performing Arts*.

Hedman was hired as public-relations officer by Electra Records, a large Swedish distribution company, and soon switched to production. He produced more than 200 records for four labels before starting Bluebell.

The record that "paid the bills" and got Bluebell off the ground featured Birgit Nilsson singing "I Could Have Danced All Night," topped by a resounding high C. Bluebell has released 17 recordings with another world-famous Swedish vocalist, the tenor Nicolai Gedda, and several more are soon to appear. Devoted to Liszt songs, the new recordings will pair Gedda and pianist Lars Roos, another well-represented Bluebell artist. Before the material runs out, there will also be nine or ten Jussi Björling releases. That's in part because the rich Swedish Radio archives are available to Hedman, and he plans to make use of their treasures.

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COMING TO TERMS WITH AN ESTONIAN SYMPHONIST

TUBIN:

Symphoniest No. 2 ("Legendaire"); No. 6.

● Swedish Radio Symphony Orchestra, Järvi.
● Robert Von Bahr, prod. BIS CD 304 (D). © (Dis-
tributed by Qualiton Imports, 39-28 Crescent St.,
Long Island City, N.Y. 11101.)

Symphony No. 5; Suite from "Kraft."

● Bamberg Symphony Orchestra, Järvi. Robert
● Von Bahr, prod. BIS CD 306 (D). ©

**Concerto No. 1, for Violin and Orchestra; Pré-
lude solennel, for Orchestra; Suite en Est-
onien Danse.**

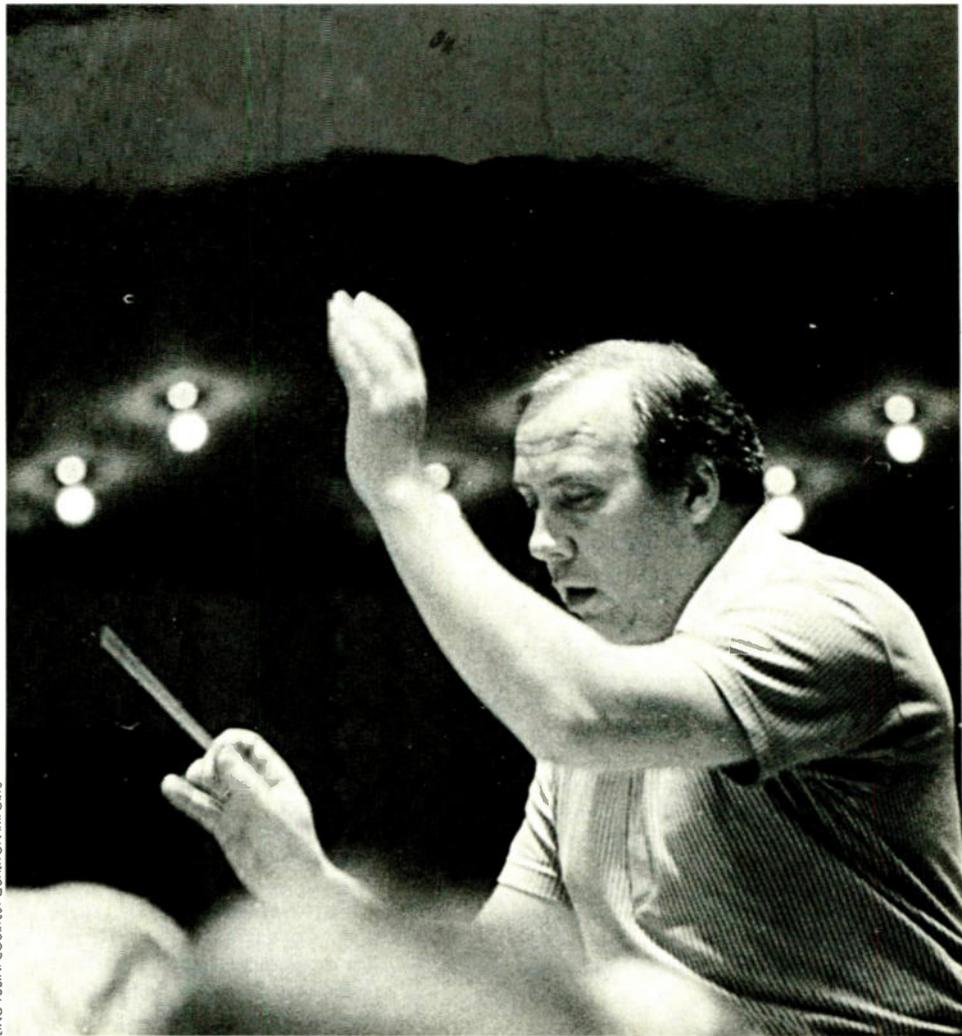
● Lubotsky, Gothenburg Symphony Orchestra,
● Järvi. Robert Von Bahr, prod. BIS CD 286 (D). ©

TUBA MIRABILIS TO TUBULAR BELLS, SORRY, there's no *Tubin, Eduard*, in my handy musical dictionary—or in any other book I have on 20th-century music. *Tubin* (1905–1982) seems to have slipped down the same memory hole that swallowed his native Estonia after it was occupied by the Soviet Union along with the other Baltic states in 1940. The neglect *Tubin* suffered in his lifetime is now being remedied by BIS and conductor (and countryman) *Neeme Järvi*, who are bringing out a cycle of his ten symphonies, accompanied by other orchestral compositions, all on Compact Disc.

My first exposure to *Tubin* was the BIS recording of *Symphony No. 4*, which aroused an eager anticipation of future releases. The future has now arrived in the form of the three CDs under review here. (There is also a BIS CD of *Tubin's* Ninth *Symphony* that I have not heard.)

The works offered in the new releases span a quarter century, from 1937 (*Symphony No. 2*) to 1961 (the suite from *Kraft*), but that period of time hardly explains my puzzlement at the wide variety of this music, which runs from almost simpleminded treatments of folk material to symphonic arguments of real ferocity. I should confess that nothing in the Fourth *Symphony*, subtitled *Sinfonia lirica*, could have led me to expect the decidedly darker cast and thicker textures of *Tubin's* later works. What is missing from the *Sinfonia lirica* is the Sibelian breadth, the expansive melody, the grandeur, and, most of all, the unforced quality of those works; by comparison, the Fourth is placid and light in character.

One reviewer has remarked upon *Tubin's* fascination with cellular motifs. That in itself is no obstacle to great symphonic



EINO TUBIN/COURTESY QUALITON IMPORTS

ESTONIAN CONDUCTOR NEEEME JÄRVI RECORDING THE MUSIC OF HIS COUNTRYMAN EDUARD TUBIN

thinking; indeed, it may be at its base. But occasionally, at least in *Tubin's* early music, one detects a succession of such motifs without real organic growth, albeit with the impression of growth conveyed in cinematic fashion by a steady increase in the volume of sound. This is most apparent in *Symphony No. 2 (Legendaire)*, which begins softly with some lovely atmospheric, soon moves into a stormy "sea symphony" sound, and then brings the action onshore with a marchlike figure in the timpani. There is a brief rush of Holstian exuberance; then back to battle, with the strings occasionally crying out very

much as they do in *Nielsen's* Fourth *Symphony*; followed by a respite with funeral drum; then the timpani rebuilding to threatening proportions; and finally a fade into a lyrical episode with violin and orchestra. The rest of the *symphony* seems to follow this pattern of storm and abatement. It is pictorially exciting, in a *Planets*-like way, and there are moments of real beauty, but it is not very interesting as symphonic thought.

The Second *Symphony's* discmate, *Symphony No. 6* (1954), comes from a different world, a nonpictorial one, based primarily upon obsessive rhythm. It has shed any na-

tional identity and is practically shorn of lyricism. Its transmogrification of a number of dance rhythms gives it the feeling of a *danse macabre*. It is a turbulent, relentless work with some horrific timpanic eruptions, also in the manner of Nielsen. Whereas in Nielsen's Fourth the main theme emerges triumphant from under the percussive rubble, here things conclude in resignation—a peaceful enough ending, but one born of exhaustion not resolution. This is a disturbing, not easily assimilated work. Yet it has an eery, grating power that fascinates. The Swedish Radio Symphony Orchestra premiered the Sixth Symphony in 1955, and its reprise here is extremely potent in execution and stunning in sound. Ditto for the Second. (Playing time: 63:31.)

In stylistic terms, Symphony No. 5 falls about halfway between Symphonies Nos. 2 and 6. It is still pictorial, but it is stronger symphonically, though not yet dominated by the more abstract rhythmic preoccupations of the Sixth. It has certain affinities with the Fourth, but it is less expansive and darker. Here, too, there are some overwhelming timpanic outbursts, yet the symphony also has a very gentle *andante*.

The *Kratt* ballet suite is redolent of Prokofiev in its juxtaposition of lilting melodies (the last number, "Dance of the Northern Lights," sounds almost as if Janáček had penned it) and musical grotesqueries. That combination fits the scenario, which is an Estonian variant on the golem story. In this case, a peasant builds and brings to life, at the price of his soul, the magical figure *Kratt* to gather riches for him. Tubin's use of folk material here sounds as sophisticated as Bartók's, while the scoring has a leaner, cleaner sound than one encounters in the symphonies. The recording is very fine, and the performances by the German orchestra of both the symphony and the suite are first-rate. (Playing time: 54:40.)

Tubin's Violin Concerto (1941), the first of two, is the major work on the third of these CDs. It is a highly romantic work that, after a few Beethovenish opening chords, quickly enters the world of Ernest Bloch's similarly flavored work for violin. Its main theme is vaguely reminiscent of Bloch's "American Indian" melody. Tubin's concerto is high on lyricism and light on the timpani (which is especially welcome after hours of listening to the symphonies). It is certainly a bravura piece with immediate appeal, and it should please lovers of the genre.

The *Suite on Estonian Dances* (1943) sounds like a fairly simplistic treatment of its folk tunes, quite unlike Tubin's use of folk material in *Kratt*. Some of the melodies are lovely, but the dances just seem to have been cushioned with lush orchestration and served up as is. The effect is at times a bit cloying, like an overdecorated Christmas tree.

In the liner notes, the *Prélude solennel* (1940) is incorrectly dubbed *Festive* *Prelude*, which it decidedly is not. *Solemn* would be

Format Key

- Ⓛ LP
- Ⓜ Cassette
- Ⓢ Compact Disc
- Ⓜ Videocassette
- Ⓢ Videodisc
- Ⓢ Open reel

RECORDING INFORMATION

(A) analog original
(D) digital original

Large symbol beneath title indicates reviewed format. Small symbols following catalog number of reviewed format indicate other available formats (if any). Catalog numbers of all formats of a particular recording usually are identical except for differing prefixes or suffixes. Catalog numbers of formats other than the reviewed format are printed only if their basic numbers differ substantially from that of the reviewed format. Arabic numeral in parentheses indicates number of items in multi-item set. Unless otherwise indicated, all multi-LP sets are in manual sequence.

correct, but *pompous* would be more accurate. This overblown score seems to take itself too seriously, though it may have been the victim of tubby acoustics and what sounds like a slightly shaky performance. (Playing time: 55:07.)

The unexpected is intriguing, even if it reveals no major masterpieces. Considering the vast amount of 20th-century musical mediocrity that has been committed to vinyl, these works of Tubin are a find—and far more deserving of a hearing than their present neglect in our concert halls would suggest. Lovers of 20th-century Scandinavian music should be especially interested in these and the remaining releases in this series.

Robert R. Reilly

BRITTEN:

Serenade for Tenor, Horn, and Strings, Op. 31; Winter Words, Op. 52; Seven Sonnets of Michelangelo, Op. 22.

Pears, Brain, Britten; Boyd Neel String Orchestra, Britten. John Culshaw, prod. London 417 183-4 (A). Ⓛ

THE LATEST INSTALLMENT IN LONDON'S SERIES of Benjamin Britten reissues also serves as a tribute to Sir Peter Pears, one of this century's most distinctive singers, who died last April at the age of 75. Sir Peter was the creator of all three works on this album, which fills a significant gap in the Britten discography in America. The original 78-rpm recording of the serenade has apparently never been available on LP here, while the 1954 recordings of *Winter Words* and the *Michelangelo Sonnets* have been out of print for more than two decades.

Winter Words, Britten's great song cycle on poems by Thomas Hardy, shows Sir Peter at his middle-period best. One could hope for a richer voice but not a more imaginative and compelling interpretation. The *Michelangelo Sonnets* are equally fine, though the 1942 HMV recording (formerly available in

England on EMI RLS 748) is also worth looking for. Britten's playing in both cycles, as always, is beyond praise.

The serenade is not quite as satisfactory. Dennis Brain played the horn part with greater finesse in his later recording with Pears and Sir Eugene Goossens, while Britten's conducting was more assured in the 1963 recording with Pears and Barry Tuckwell. But Sir Peter's voice was fresher and more flexible in 1944, and the technical idiosyncrasies that became so prominent a feature of his singing in later years prove less obtrusive here than in the sequels. The anonymous producer of the reissue has done well by all three works, though Philip Brett's liner notes are maddeningly short, as is London's custom of late. *Terry Teachout*

FRANCK:

Sonata for Violin and Piano, in A.

DEBUSSY:

Sonata for Violin and Piano, in G minor.

RAVEL:

Sonata for Violin and Piano.

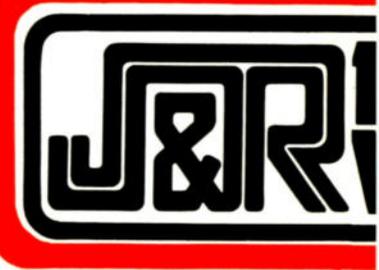
Ⓛ Mintz, Bronfman. Steve Paul, prod. Deutsche Grammophon 415 683-2 (D). Ⓛ

THESE THREE SONATAS OFFER US NO LESS THAN style change in a microcosm, demonstrating the rapid and radical shift from late Romanticism to neoclassicism. Franck's sonata (1886) is a grandiose cyclic structure whose chromatic harmonies are as Wagnerian as they are French. In Debussy's sonata (1917), the Romantic element has been pruned and even the ripe colors of Impressionism have given way to a leaner palette. Ravel's sonata (1927), imbued with jazz and polytonality, is witty and dry, avoiding any hint of emotionalism in favor of neoclassic clarity.

Obviously, performers who choose to juxtapose such works must be attuned to these style changes and must avoid imposing the characteristics of one aesthetic on another. In this, Shlomo Mintz and Yefim Bronfman acquit themselves admirably. Mintz is able to capture the distinctive, breathy French sound with his light, airy bow stroke; even in the Franck, he checks the Germanic effusions with a certain French reserve. Moreover, both Mintz and Bronfman know how to reach for the long line, how to shape a phrase with sensitive inflections in dynamics and tempo.

The Debussy sonata, so fragile that it can shatter in less-skilled hands, receives a performance that perfectly captures the music's lucid textures, ethereal sonorities, and reserved emotional stance. The Ravel sonata is appropriately brittle and marvelously idiomatic; rarely have I heard such a rhapsodic "Blues" or athletic, sparkling finale.

Like his mentor, Isaac Stern, Mintz occasionally shows a tendency to coarsen his tone during forte passages; in the Franck especially, his articulations turn needlessly brusque, disrupting the phrasing. Elsewhere, however, both performers are flawless technicians operating on a high plateau of musical inspiration. For Bronfman, espe-



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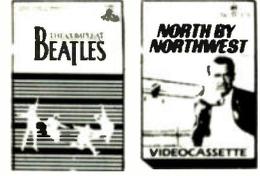


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cially, there can be nothing but praise; even amid the pyrotechnics of the Franck, he never loses sight of the musical line.

K. Robert Schwarz

HANDEL:

Roman Vespers (6).

Blegen, Valente, Forrester, Garrison, Cheek; Philadelphia Singers, Philadelphia Concerto Soloists Chamber Orchestra, Korn, Jack Pfeiffer, prod. RCA Red Seal ARE 2-7182 (D, 2). © (2). Ⓢ (2).

Saeviat tellus, in D; Haec est regina virginum; Salve regina, in G minor; Dixit Dominus (Psalm 110), in G minor; Laudate pueri Dominum (Psalm 112), in D; Nisi Dominus (Psalm 127), in G.

MOST OF THE HITHERTO UNKNOWN WORKS BY major composers that have recently been discovered (for example, Bach's *Arnstadt* chorale preludes and the early Mozart symphony from the Odense library) have had greater historical value than musical interest. While augmenting the repertory significantly, these works haven't told us anything radically new or illuminating about their composers. The newly discovered *Roman Vespers* of George Frideric Handel, however, are decidedly different: This is virile and powerful music, and it superbly illuminates aspects of Handel that had previously been little known.

The *Roman Vespers* were commissioned in 1707 from the 22-year-old composer (he was a visitor to Rome and a Saxon Protestant to boot) by Cardinal Carlo Colonna of the Carmelite Order, and apparently they were performed only once, after which the score remained undisturbed in the cardinal's library. Some of the individual sections of the piece came to be known, but the complete work remained unpublished until 1984, when it appeared in an edition supervised by H. C. Robbins Landon (who contributes a richly informative essay on Handel in Italy to the 28-page illustrated booklet of notes and texts that accompanies this premiere recording).

The vespers service—the seventh of the canonical hours in the antiphony of the Roman Catholic Church—has long been a favorite of composers (Monteverdi, Mozart, and Rachmaninoff are among those who have set examples). This is perhaps partly because the use of plainsong themes is not obligatory in settings of the vespers. The musical service usually comprises five psalms (each with an antiphon), a hymn, perhaps some motets, and a *Magnificat*. Handel's example, however, consists of three psalms, an antiphon, and, as the hymn, a *Salve regina*. Most of its arias are for sopranos. One (sung here by Judith Blegen) is a brilliant display piece; another (sung by Benita Valente) is cast in the warmest lyrical tones. There are a number of choruses, one in five parts, and a double chorus in eight parts for the concluding *Gloria Patri*.

What is most remarkable (other than the extraordinary fact that the young foreigner had impressed enough influential friends with his genius to be commissioned for so



HIGH FIDELITY ARCHIVES

JUDITH BLEGEN: BRILLIANCE, PANACHE IN HANDEL PIECES

quintessentially Catholic a work) is the rapidity with which Handel mastered the Roman style while still stamping everything with his distinctive signature. There are indeed many anticipations of arias, choruses, and orchestral passages to come in the later oratorios and operas. Blegen's second aria ("*O nox dulcis*") in the opening motet, for example, has a pathos and compassion that would have been perfectly in place in *Messiah*, which was still 35 years in the future.

Most of Blegen's arias, however, are more vigorous and florid, and she sings them with consistent brilliance and panache, although the digital recording overemphasizes the edginess of her powerful voice—as it does the fortissimo high-register tone of the other soloists, the organ, and the orchestra's strings and oboes. Valente's singing is admirably contrasted to Blegen's. She excels in the more eloquent arias (especially the magnificent "*Tecum principium*" of Psalm 110), although many of these include rhapsodic fioriture as well. Maureen Forrester is a more conventional, British-oratorio-style alto in her two arias, while tenor Jon Garrison and bass John Cheek are heard only in ensembles and a couple of solo arias (the latter's "*Sicut sagittae*" in Psalm 127 is an exceptionally brilliant one for the orchestra, as well as for the robust bass). The 36-member Philadelphia Singers make a dramatic effect, especially in the great title piece that opens Psalm 110 (*Dixit Dominus*) and the opening and closing pieces of Psalm 127 (*Nisi Dominus*), both of which reveal a sure familiarity with the celebrated abilities of the Roman choral singers of the time. The properly downsized Concerto Soloists of Philadelphia play spiritedly, although without much subtlety or refinement, and conductor Michael Korn seems most at home in the high-voltage and festive moments, the intensity of which he sustains with unflagging energy.

Still, it's the glorious, exuberant music itself—at once novel and unmistakably Handelian—that makes the *Roman Vespers* so much more than merely a historically valuable discovery.

R. D. Darrell

HAYDN (arr. Salomon):

Symphonies: No. 100, in G ("Military"); No. 104, in D ("London").

Beznoziuk, Hogwood, Salomon String Quartet. Ian Atkins and Martin Compton, prods. Oiseau-Lyre 414 434-1 (D). Ⓢ

JOHANN PETER SALOMON, THE IMPRESARIO who successfully tempted Haydn not just to visit London but also to produce a dozen new symphonies for concert series there, is generally remembered today more for his business acumen than for his musicianship.

In fact, Salomon was a highly respected violinist, esteemed as much for his work as concertmaster of his own orchestra in the 1790s as for his appearances as soloist in prior decades. He was a prolific composer whose "gift for imaginative and attractive tunes" was unfortunately offset, according to the author of the Salomon article in the *New Grove*, by his "limited ability in developing his material." And, as this disc so convincingly demonstrates, he was a first-rate arranger.

The c. 1801 transcriptions for string quartet, flute, and fortepiano were Salomon's second stab at condensing to chamber music dimensions the 12 symphonies he elicited from Haydn. The original effort was for the more conventional piano trio, a medium he soon realized lessened the clarity of Haydn's counterpoint. Another batch of transcriptions—of Symphonies Nos. 48, 64, 73, 80, 82, 83, 88, 90, and 92—was made solely for the ensemble represented here.

Perhaps the highest praise one can give an arranger is to say that his work sounds as though it sprang from the original source, which is certainly the case here. It's more than just the melodic-harmonic-formal essence that comes through in these masterly treatments: Of course, the colors are reduced to those belonging to the string quartet (the fortepiano functions solely as a continuo instrument), yet the listener does not feel deprived of the orchestral versions' scope or dramatic power. These are wonderful examples not just of musical craftsmanship but also of musical sensitivity. The "original instrument" ensemble, made up of violinists Simon Standage and Micaela Comberti, violist Trevor Jones, cellist Jennifer Ward Clarke, flutist Lisa Beznoziuk, and fortepianist Christopher Hogwood, plays them for all they're worth, which is quite a lot.

James Wierzbicki

HONEGGER:

Orchestral Works.

Bavarian Radio Symphony, Dutoit. Michael Kempff, prod. Erato MCE 75254 (D). Ⓢ Symphony No. 1; Pastorale d'été; Pacific 231 (Mouvement symphonique No. 1); Rugby (Mouvement symphonique No. 2); Mouvement symphonique No. 3.

Comparisons: Pastorale, Pacific 231, Rugby. ORTF Orchestra, Martinon. In Sync 4011.

HONEGGER'S SYMPHONY NO. 1 (INCIDENTALLY, his first major nonprogrammatic work) was one of many scores commissioned by Serge

Koussevitzky from noted composers to celebrate the 50th anniversary, in 1930, of the Boston Symphony Orchestra. I heard its premiere, February 13, 1931, but I'm ashamed to say that it didn't stick in my memory. So I am a bit surprised to find—from this, the first recording of the symphony to be issued in this country (there were earlier versions in the complete Honegger symphony series recorded by Serge Baudo for Supraphon in 1979 and by Michel Placson for Pathé Marconi in 1981)—that the characteristically now-muscular/now-lyrical and imaginatively scored music stands up better than the once famous (or at least notorious) first two *Mouvements symphoniques: Pacific 231* and *Rugby*.

The realistically depicted locomotive piece—one of the display works with which Koussevitzky made his sensational debut with the Boston Symphony, October 10, 1924—seems tame enough today, at least in this sympathetic but scarcely exciting reading by Charles Dutoit and the Bavarian Radio Symphony Orchestra. They do better with the lovely, vernal idyll *Pastorale d'été*, which was one of the first works to make Honegger known internationally and one of several (including *Pacific 231* and *Rugby*) that the composer himself recorded for French Columbia in the early '30s.

The best modern versions of these three shorter works remain those by Jean Martinon for In Sync, but the Dutoit program is a must for every Honeggerian, if only for its fine First Symphony and for providing what is apparently the first-ever recording of the third *Mouvement symphonique*, which lacks an explicit program but is just as energetic and dissonant as its predecessors (and more varied, with a poetically eloquent adagio second section). A worthy companion to Dutoit's initial Honegger release on Erato, which paired the Third and Fifth Symphonies.

R. D. Darrell

JANÁČEK: *Jenůfa*.

Ⓞ Söderström, Popp, Randová, Mrasová, Soukopova, Dvorský, Ochman, Zitek, Jedlička; Vienna State Opera Chorus, Vienna Philharmonic Orchestra, Mackerras. James Mallinson, prod. London LDR 73009 (A, 3). Ⓜ [3]. Ⓢ 414 483-2 (2). JANÁČEK'S 1903 OPERA, *JENŮFA*, IS ONE OF THE few modern operas that engage the mind as much by their music as by an arresting story. The compelling power of *Jenůfa*'s music was demonstrated last year by the hold it exerted over audiences at the Met despite the carelessly revived production (an example of the damage James Levine can inflict on older productions through mere irresponsibility, as distinct from the damage he inflicts on new productions through his acquiescent insensitivity in *all* matters of staging). And the effectiveness of the music will be apparent to record buyers as they find their interest increasing with every rehearing.

The outstanding vocal and dramatic performance in this well-recorded set (the first

in London's landmark cycle with the Vienna Philharmonic to be released on Compact Disc, although I did not hear the CDs) is Elisabeth Söderström's as the young girl Jenůfa. But Eva Randová's portrayal of Jenůfa's stepmother—the Kostelnička, or Sacristan—is almost its equal. The largely Czech cast sings the other parts well. The conductor, Sir Charles Mackerras, is as impressive here as he has been on every other occasion when I have heard him, and the playing of the orchestra is brilliant.

This recording is the first to use Janáček's own revised version of 1908 rather than the edition cut, edited, and reorchestrated in 1916 by Karel Kovařovic, to which Janáček only consented in order to have the work produced in Prague. The differences between the two are outlined in detail in the excellent (but inadvertently anonymous) notes by John Tyrrell. *Thomas Hathaway*

MAXWELL DAVIES:

*Into the Labyrinth**; *Sinfonietta accademica*.

Ⓞ Mackie*; Scottish Chamber Orchestra, Maxwell Davies. James Mallinson* and Veronica Slater†, prods. Unicorn-Kanchana DKP 9038 (D). Ⓜ [Distributed by Harmonia Mundi, U.S.A.]

PETER MAXWELL DAVIES'S RELATIONSHIP WITH Orkney—the craggy, windswept islands off Scotland's north coast that he first visited in 1970 and has made his permanent home since 1974—has resulted in a great many works, ranging from theater pieces for the local schoolchildren to abstract meditations inspired by the islands' provocative isolation. The most recently recorded in the series dates from 1983. Like the 1979 *Black Pentecost*, the cantata *Into the Labyrinth* uses a text by the Orcadian writer George Mackay Brown; and like *Black Pentecost*, it is a dark-hued homage to the islands themselves.

It seems that Orkney's history, culture, and natural beauty have all been much threatened lately by encroachments of a more modern world. With these pieces (and to a certain extent, with others), Maxwell Davies expresses not so much anger about the alleged violations of the islands as regret for their loss of innocence. "Perhaps in another age, from the secret sources . . . a healing current may rise," sings the tenor in the last of five sections. But the optimism glimmers only fleetingly, and even the more glorious melodic moments that praise the islands' long-cherished virtues inevitably resolve in elegiac tones.

Into the Labyrinth is effective, and affecting, music, although not nearly so overtly dramatic as most of Maxwell Davies's output. And occasionally, it is so drawn out in its mood-setting episodes that the lyrical declamations (sung superbly and in an appropriately restrained, wistful manner by Neil Mackie) are perhaps robbed of some of their potency. The idiom is that of free atonality anchored by strong suggestions (at least) of tonal centers. This is also true of the language of the 1983 *Sinfonietta accademica*, but in this buoyant and decidedly "unacademic"

Critics' Choice

The most noteworthy releases reviewed recently

ALWYN:

*Rhapsody for Piano Quartet**; *String Trio*; *String Quartet No. 3*.

D. Willison*; Quartet of London. Ⓞ Chandos ABRD 1153, Nov.

BEETHOVEN:

Symphonies: No. 1, in C, Op. 21; *No. 2, in D, Op. 36*.

English Chamber Orchestra, Thomas. Ⓜ CBS Masterworks IMT 39707-4, Dec.; Academy of Ancient Music, Hogwood. Ⓜ Oiseau-Lyre 414338-4, Dec.

BERWALD:

Symphonies Nos. 1-4.

Gothenburg Symphony Orchestra, Järvi. Ⓞ Deutsche Grammophon 415 502-2, Nov.

COPLAND:

Billy the Kid; *Rodeo*.

St. Louis Symphony Orchestra, Slatkin. Ⓜ Angel EMI 4DS 37357, July.

JANEQUIN:

Chansons (9).

SERMISY:

Chansons (8).

Clément Janequin Ensemble. Ⓞ Harmonia Mundi HMC 901072, Nov.

MOZART:

Fantasia in C minor; *Piano Sonatas Nos. 1, 12, and 17*.

Uchida. Ⓜ Philips 412 617-4, Nov.

SIBELIUS:

*"Kullervo" Symphony, Op. 7**; *Tulen synty (The Origin of Fire)*; *Oma maa (Our Native Land)*.

Naumanen*, Hynninen*†; Helsinki University Male Choir*†; Estonian State Academic Male Choir*†, Helsinki Philharmonic Orchestra, Berglund. Ⓞ Angel EMI CDC 47496, Dec.

RECITALS AND MISCELLANY

CARMINA BURANA (original version).

Clemencic Consort, René Clemencic. Ⓞ Harmonia Mundi HMC 90335, Nov.

VARIOUS PERFORMERS:

100 Years of Italian Opera, Volume One (1800-1810).

Various artists; Geoffrey Mitchell Choir, Philharmonia Orchestra, Parry. Ⓞ Opera Rara ORH 101, Dec.

three-movement romp, one does hear a brilliant panoply of orchestral colors, as well as the prominent quotations and paraphrases of plainchant that have long been characteristic of Maxwell Davies's work.

The Scottish Chamber Orchestra, of which Maxwell Davies now serves as associate composer/conductor, brings a refined sound and vigorous interpretive sense to both pieces. The pressing is reasonably clean, although my review copy was marred by ticks in the opening minutes of *Into the Labyrinth*.
James Wierzbicki

MOZART:

Quintets for Strings (6).

Grumiaux Trio, Gérecz, Lesueur. Philips 416 486-2 (A, 3).

MOZART'S SIX STRING QUINTETS RECEIVE elegant and deeply moving performances from the late Arthur Grumiaux and his ensemble (consisting of Georges Janzer, Eva Czako, Arpad Gérecz, and Max Lesueur) in this classic Philips collection, originally recorded in 1973 and now available in a digitally remastered three-CD set with superb liner notes by Deryck Cooke. A highly desirable reissue.
Terry Teachout

AS THIS ISSUE WENT TO PRESS, HIGH FIDELITY received news of the death of the Belgian violinist Arthur Grumiaux on October 15, 1986, from a heart attack, at the age of 65. Known for his matchless elegance as a musician and for his generosity of spirit, he was, at least in recent years, an infrequent visitor to American concert halls, and his reputation here rested principally on his time-honored recordings for Philips of the music of Beethoven, Mendelssohn, Brahms, and especially Mozart. The two most recent Compact Disc releases to enter his discography—offering the 1956 recording with pianist Clara Haskil of Mozart's Violin Sonatas in B-flat, K. 454, and A, K. 526, and the 1973 recording with the Grumiaux Trio, Arpad Gérecz, and Max Lesueur of Mozart's complete string quintets—are reviewed in this issue. His last recordings, a digital traversal of the major Mozart sonatas with pianist Walter Klien recorded between 1981 and 1983 and released on CD this year, will be reviewed in a forthcoming issue.

During his long career, Grumiaux received numerous honors and prizes, and in 1973 he was invested with the title of Baron by Belgium's King Baudouin. Perhaps the most touching tribute to his artistry had come years before from Francis Poulenc, who after hearing him play a Mozart violin concerto said, "I have for a few seconds tasted the great and exceptional delight of shedding tears of joy." The violinist had survived a heart attack earlier this year and had given a concert the week before he died.



ARTHUR GRUMIAUX: ELEGANT, INTROSPECTIVE MUSICALITY AND INTERPRETIVE SENSITIVITY

MOZART:

Quintet for Winds, in C minor, K. 406 (arr. Rottler); Works for Mechanical Organ (arr. W. S. Meyer)*.

Ensemble Wien-Berlin, Sachiyo Watabe, prod. CBS Masterworks IMT 39965 (D). ©

Fantasia in F minor, K. 608*; Andante in F, K. 616*; Adagio and Allegro in F minor, K. 594*.

THE FIRST RELEASE BY THIS ENSEMBLE OF Berlin Philharmonic, Vienna Philharmonic, and Vienna Symphony wind soloists (CBS Masterworks IM 39558) impressed me by the seemingly effortless virtuosity of its star players—as outstandingly fine as I've heard on or off records. Musically, however, the Haydn/Danzi/Bossi/Ibert/Villa-Lobos program was mere routine. Now the group turns to a true masterpiece, albeit one that is a transcription of a transcription. The original Serenade in C minor, K. 388, for wind octet was rescored by Mozart in 1787 as a quintet for strings, K. 406 (new K. 516b). This was done strictly for business, not artistic, reasons, and the remarkable music lost much of its tragic bite and impact. Here, Werner Rottler has transcribed it back for wind timbres, but for only five instruments. The result is something much truer to the original in sonic character, but still lacking the weight and solidity of the original doubled wind quartet. Compare the excellent 1984 performance by the winds of the Los Angeles Chamber Orchestra under Gerard Schwarz (Nonesuch 79073).

The present wind quintet version of the serenade, however, has the considerable attractions of superb execution and a digital recording that makes the music's intricate textures easier to follow. It also comes with some novel couplings: the three pieces for mechanical organworks (installed in clocks) that were commissioned in 1791 by the watchmaker/curio-dealer Joseph von Dehm: the K. 608 Fantasia, the smaller K. 616 Andante, and the K. 594 Adagio and Al-

legro. The last was to commemorate the heroic death on July 14, 1790, of Field Marshal Laudon, whose effigy was being displayed in Von Dehm's waxworks collection. It gave Mozart great difficulty, for he intensely disliked writing for "little pipes, which sound too high pitched and childish for my taste." Nevertheless, he not only wrote first-rate music but transformed the little andante into something that Alfred Einstein would describe as "really a piece for a magic music-box—the accompaniment for a dance of a tiny fairy princess." And the K. 608 Fantasia must rank as one of Mozart's greatest fugal works. Until now, most recorded versions have been for pipe organ or two pianos, so it's exciting to hear them in more pungent timbres.
R. D. Darrell

MOZART:

Sonatas for Violin and Piano: in B flat, K. 454; in A, K. 526.

Grumiaux, Haskil. Philips 416 478-2 (A).

MANY DEVOTEES OF THE MOZART VIOLIN sonatas, myself included, have long regarded the Arthur Grumiaux/Clara Haskil recordings as the paragon by which all others must be judged. It is therefore a special pleasure to welcome these 1956 performances to CD, newly remastered in two volumes (K. 301, 304, 376, and 378 are on Philips 412 253-2). Although tape hiss is still noticeable and the piano sonority is rather cloudy, no one should be deterred from acquiring these superlative interpretations.

Clara Haskil's playing was never a model of clarity—part of the muddiness was due to overpedaling, and an occasional wrong note or two was known to slip in. But Haskil had a remarkable symbiotic musical relationship with Grumiaux. The two performed as if they were one organism, so impeccable was the ensemble and so unified the interpretation.

Those qualities come to the fore on the

present CD, which offers the sonatas in B flat, K. 454, and A, K. 526. Moreover, Grumiaux's playing radiates ineffable good taste. It is elegant, patrician Mozart, showing a remarkable control of phrasing and a refined, introspective musicality. While always expressive, it never stoops to excess. In the slow movement of K. 454, where Grumiaux and Haskil achieve their most magical effects by subtle tonal variety and hushed understatement, only a heart of stone could remain unmoved.

K. Robert Schwarz

NIELSEN:

Symphony No. 4, Op. 29 ("The Inextinguishable"); Helios Overture, Op. 17.

Swedish Radio Symphony Orchestra, Salonen. David Mottley, prod. CBS Masterworks MK 42093 (D).

CARL NIELSEN IS NOT AN EASY COMPOSER TO categorize. In his early works, he was under the spell of Brahms and Dvořák. Before long, he turned toward the expansive late-Romantic nationalism of Sibelius. In essence, though, Nielsen was an anti-Romantic; later in his career, the astringent austerity always inherent in his writing came to the fore. With its stark linearity and daring polytonal clashes, Nielsen's music looked ahead into the 20th century rather than back to the mists of Romanticism.

Nielsen is also not an easy composer to perform. It is precisely his mercurial juxtaposition of materials—the stark, dissonant counterpoint contrasted with lush, sensuous lyricism—that makes it such a challenge to shape his symphonies into convincing wholes. The 28-year-old Finnish conductor Esa-Pekka Salonen, who has just embarked on a complete cycle of Nielsen's symphonies for CBS, only partly succeeds in the task. His major misstep is in stressing the Romantic elements of the Fourth Symphony (1914–1916): By exaggerating the tempo contrasts, by allowing things to become bombastic and sentimental (especially in the return of the cyclic theme at the end of the finale), he both emphasizes the symphony's formal seams and distorts the composer's intentions. Symphony No. 4 is a grim work, written during World War I; and although it achieves a glorious apotheosis in the final pages, it is a journey marked by strife and sacrifice. The echoes of Romanticism are mere nostalgic shadows and should hardly be the focus of the piece. There is still much to be said in favor of Salonen's interpretation. Although I don't entirely agree with its emphasis, at least the approach is consistent, linking the movements into one coherent statement.

The Swedish Radio Symphony Orchestra possesses fine, well-blended brass and wind sections, though the strings are a bit thin in tone. The violent timpani outbursts in the finale have a visceral power that I have not heard matched on disc. Throughout the symphony and the *Helios* Overture, the orchestra plays with fire and conviction, which whets the appetite for future releases in the cycle.

K. Robert Schwarz

PROKOFIEV:

Symphony No. 5, in B flat, Op. 100; Waltz Suite, Op. 110.

Scottish National Orchestra, Järvi. Brian Couzens, prod. Chandos CD 8450 (D).

NEEME JÄRVI AND THE SCOTTISH NATIONAL Orchestra have recently recorded the seven symphonies of Sergei Prokofiev (including both versions of No. 4) for Chandos, and the first one to reach me is their highly provocative performance of No. 5. Prokofiev wrote this symphony at the conclusion of World War II and dedicated it to "the spirit of man." Taking an obvious cue, most performances of the work have accented the score's suggestions of optimism and eventual triumph. Not so with Järvi, who gives an interpretation of utmost seriousness with an almost baleful undercurrent of portending tragedy. It's as if he's saying to us: "War is a horrible thing, and it can happen again." Not even in the scherzo or the finale (which most conductors treat in a playful manner) is there any letup.

Such a pessimistic presentation probably wouldn't find much favor with the Soviet authorities these days; and admittedly, it's not going to satisfy every American listener, but it remains a viewpoint that must be respected. One thing about Järvi: You might not always like what he does, but he's never less than interesting. The Scottish orchestra plays superbly, and the CD sound is spectacularly wide-ranging (the climax of the first movement comes off with stupefying grandeur). This is definitely a performance to experience. The disc is filled out with three Prokofiev waltzes—from *War and Peace*, *Cinderella*, and the film *Lermontov*—all brilliantly played.

Bill Zakariasen

PURCELL:

Dido and Aeneas.

Norman, McLoughlin, Kern, Allen; English Chamber Orchestra and Chorus, Leppard. Philips 416 299-4 (D).

Comparisons: Kirkby, et al.; Taverner Choir and Players, Parrott. Chandos 1034 or Musical Heritage 4760.

THIS LATEST AND PERHAPS MOST BRILLIANT recorded performance of Purcell's pioneering opera will appeal particularly to admirers of Jessye Norman and to those who found the celebrated 1952 Mermaid Theatre/Kirsten Flagstad version for EMI (later Seraphim) to be nearly ideal. Norman is as big-voiced and grand-mannered as Flagstad, and she is admirably supported by Raymond Leppard in this first-rate digital recording.

However, Purcell wrote specifically for performance by the "young gentlewomen" of a Chelsea boarding school, and ever since I had the good fortune to hear *Dido and Aeneas* presented by a Cambridge, Massachusetts, girls' school in the late 1920s, I have been implacably biased against conventional grand opera treatments and in favor of simpler approaches by younger, fresher voices. I continue to treasure most the delect-

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table recording featuring Emma Kirkby and Judith Nelson with the Taverner Choir and Taverner Players (a period-instrument group) led by Andrew Parrott. It appeared first on the Chandos label and was picked up by the Musical Heritage Society ("Tape Deck," January 1984). Even Norman's magnificent voice cannot persuade me to accept a regally mature Dido!

R. D. Darrell

SCHUBERT:

Sonata for Piano, in B flat, Op. Posth., D. 960; Allegretto in C minor, D. 915; Impromptu in A flat, D. 935, No. 2.

Goode. Max Wilcox, prod. Nonesuch 9-79124-1 (A). □

I REMEMBER A PIANIST ONCE DISCUSSING TWO of his predecessors, commenting to me that one of them had had more talent than the other. He did not necessarily mean that the two had not been equally intelligent, but that one had had greater dexterity and a more immediate connection between ear, mind, and hand. Therefore, he had been able to make subtler variations in dynamics, tone, tempo, and rhythmic emphasis.

I acknowledged the first pianist's talent. I did not admire his playing. His performances had indulged every subtlety of expression his talent made possible with no regard for musical shape or sense. That seemed to me to represent a misuse of his talent.

In contrast, there is the invariably disci-



A PROBING PERFORMANCE OF SCHUBERT'S LATE B FLAT SONATA FROM RICHARD GOODE

plined playing today of Richard Goode, and this contrast provides me with the essential comment to be made about his record of Schubert's B flat Sonata, which is overwhelmingly affecting but otherwise difficult to describe: Goode's attention is never deflected from the musical sense of a piece by his awareness of all the things he might do with it at the keyboard. In this sonata, Goode's tempos, the relationships he estab-

lishes between one phrase and the next, and the dynamics and shades of color he employs to reveal nuances of meaning are all governed by an unerring sense of musical outline.

Furthermore, because Goode is not only conscientious but also musically gifted—by which I mean that he has sensitivity and taste in addition to technique and coordination—

(CONTINUED ON PAGE 95)

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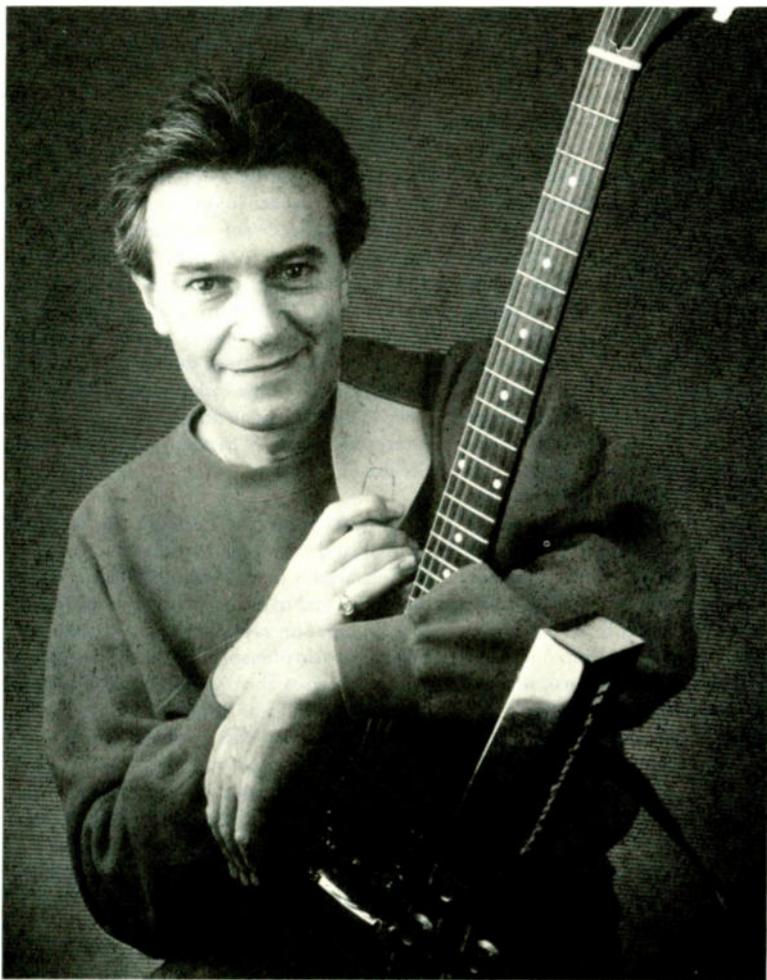
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HIGH FIDELITY ARCHIVES

BACKBEAT

John McLaughlin retraces his career and finds himself leading a new Mahavishnu Orchestra.



PAUL NATKIN PHOTO RESERVE INC

BY HANK BORDOWITZ

Adventures In Fusionland

was not a big step to play with blues musicians."

Yet it was jazz that held sway over McLaughlin, as he started

JOHN MCLAUGHLIN SMILES. "YOU KNOW, I LOVE contrasts. In music, we have the chance to expose these contrasts, be they abrupt or smooth. I'm a great fan of dynamics in music."

If McLaughlin's music and career are any reflection, then the English guitarist courts dynamics in his life as well. He is one of the masters, if not one of the fathers, of fusion, coming up through such prototype collectives as Miles Davis's *In a Silent Way* band and the Tony Williams Lifetime and realizing his own vision of a fusion band in the revolutionary Mahavishnu Orchestra—a group he recently revived and whose current album is *Adventures in Radioland*.

But McLaughlin's blending of styles goes back even further than Davis and Williams to his days with the Graham Bond Organization in the mid-Sixties British r&b explosion. "In those days, you had the blues bands and you had the jazz groups, and it was inevitable that they would get together. Lo and behold: r&b! It was a big melting pot. . . . When I was eleven, I was exposed to the blues, the Mississippi Delta blues, and I was a fan from then on. So for me, it

working with Art Farmer and other American expatriates. After playing with John Surman on *Extrapolation* in 1969, he came to the U.S. to join Davis drummer Williams and his band, Lifetime, forming with those two men perhaps the most important liaisons in his career. "I met Miles the day I arrived. The following day, he asked me to play with him in the studio—for *In a Silent Way*. So I got into a very lucky spot. I don't think he'd ever heard me play. He just took a chance."

Two days in from England, McLaughlin was a member of two forefront fusion bands. Within the next year and a half, he would also work with Wayne Shorter, Miroslav Vitous, and Larry Coryell, in addition to recording his first solo album, *Deution*.

By the end of 1970, McLaughlin had left Lifetime to begin work on his second solo LP, *My Goal's Beyond*, turning his back on his burgeoning reputation for electric-guitar pyrotechnics. "I wanted to make an acoustic record because I felt that people would enjoy hearing an acoustic guitar, a pure, simple acoustic guitar. I was right. For me, the acoustic has

Although he edits three hard rock magazines and an industry newsletter, Hank Bordowitz still finds time to write about jazz and other music.

Selected Discography

JOHN McLAUGHLIN

Devotion.

Douglas 4; 1970. (Out of print.)

My Goal's Beyond.

Elektra 60031-1; 1972. ☐

Electric Guitarist.

Columbia JC 35326; 1978. (Out of print.)

Belo Horizonte.

Warner Bros. 3619-1; 1981. (Out of print.)

Music Spoken Here.

Warner Bros. 23723-1; 1982. (Out of print.)

With JOHN SURMAN

Extrapolation.

Polydor PD 1-6074; 1969.

With MILES DAVIS

In a Silent Way.

Columbia PC 9875; 1969. (Out of print.)

Bitches Brew.

Columbia PC 2-40577 (2); 1970. ☐ (2).

A Tribute to Jack Johnson.

Columbia PC 30455; 1971. ☐

With THE TONY WILLIAMS LIFETIME

Once in a Lifetime.

Verve VE 2-2541 (2); 1982. ☐ (Repackages 1969's *Emergency*, 1970's *Turn It Over*.)

With THE MAHAVISHNU ORCHESTRA

The Inner Mounting Flame.

Columbia PC 31067; 1971. ☐

Birds of Fire.

Columbia PC 31996; 1973. ☐ (2)

Between Nothingness and Eternity.

Columbia PC 32766; 1973. ☐

Apocalypse.

Columbia PC 32957; 1974.

Visions of the Emerald Beyond.

Columbia PC 33411; 1975. ☐

Inner Worlds.

Columbia PC 33908; 1976. (Out of print.)

Mahavishnu.

Warner Bros. 25190-1; 1984. ☐

Adventures in Radioland.

Relativity EMC 8081; 1986. ☐ (2)

With CARLOS SANTANA

Love Devotion Surrender.

Columbia PC 32034; 1973. ☐

With SHAKTI

Shakti.

Columbia PC 34162; 1976. ☐

A Handful of Beauty.

Columbia PC 34372; 1977. (Out of print.)

Natural Elements.

Columbia PC 34980; 1977. ☐

With PACO DE LUCIA AND AL DIMEOLA

Friday Night in San Francisco.

Columbia FC 37152; 1981. ☐ (2)

Passion, Grace, and Fire.

Columbia FC 38645; 1983. ☐ (2)

something that goes back to antiquity. Every time I play it, I hear the soul of the guitar."

While Side 1 featured McLaughlin alone, Side 2 brought together Charlie Haden, Aírto Moreira, Dave Liebman, and more important, drummer Billy Cobham and violinist Jerry Goodman. In 1971, McLaughlin took Cobham and Goodman, enlisted bassist Rick Laird and keyboardist Jan Hammer, returned to his electric guitar, and formed the Mahavishnu Orchestra. That lineup made three albums: *The Inner Mounting Flame*, *Birds of Fire*, and *Between Nothingness and Eternity*, records that one writer has described as having left a "high-energy burn on the face of music." (For an appraisal of today's Compact Disc version of *Birds of Fire*, see Richard C. Walls's review accompanying this article.)

But Mahavishnu soon became untenable as it stood. McLaughlin disbanded the group and formed another version, with a string quartet. That 11-piece version recorded *Apocalypse* and *Visions of the Emerald Beyond*, the latter still one of McLaughlin's favorite albums. By the beginning of 1976, however, following one more Mahavishnu LP, it was apparent to all involved that things just weren't working anymore—"primarily because the spirit wasn't healthy," McLaughlin claims. "I believe if the spirit is healthy, the music will be healthy. But we became too successful too quickly; it went to some heads, turned them around in the wrong way. I told the group that I wanted to work exclusively with Shakti. . . . I have to indulge myself, my musical demands; I can't pay too much attention to whether this or that will be commercially or morally successful. The way I see it, we have only one lifetime, and I want to develop myself as much as possible. Take my chances."

While Shakti was a large chance for the by then famous electric guitarist, it was not a large change. Built on the work started with *My Goal's Beyond*, Shakti marked a deliberate return to both Indian modalities and the acoustic guitar. "We used to do little concerts in clubs and churches, just for fun. The group was developing so well that I thought we should continue full-time. . . . Shakti still goes. We toured India two years ago—a great tour. I like to stay in touch with my Indian colleagues."

McLaughlin didn't pick up his electric guitar in public again until a landmark cultural exchange tour of Cuba with Jaco Pastorius and Tony Williams, an experience McLaughlin laughingly refers to as the Bay of Gigs. "Jaco, Tony, and I were a pretty good trio, and we did some great rehearsals before traveling to Cuba, but unfortunately it went badly. Jaco was somewhere else. He didn't read the music—he didn't play anything that was written—and Tony and I got angry at that because we had only a 20- to 25-minute set."

A watershed came in 1978; the beginning of McLaughlin's association with guitarist Paco De Lucia. "To work with Paco really

brought me back to flamenco music, which I had discovered when I was thirteen and actually studied before getting into jazz. We asked Larry Coryell to sit in and did two European tours that were very successful. Then we continued on our merry ways, independently. In 1980, when Larry was busy doing other things, Paco and I joined with Al Dimeola for quite a few tours, and we recorded *Friday Night in San Francisco* and *Passion, Grace, and Fire*. When you have two guys playing their instruments the way they do, every night is exciting. Believe me. We used to get more excited than anybody."

Shortly afterward, McLaughlin got the chance to flex yet more of his musical muscles, as the Los Angeles Philharmonic asked him to write a piece for guitar and orchestra. It took him three years to finish the concerto; the premiere took place in November 1984, and McLaughlin expects to record the work with the Philharmonic at the beginning of 1987. "It's very special to me," he comments. "There's a great deal of written guitar parts in it, but the cadenzas are all improvised. There has been an amazing amount of interest in this piece from orchestras around the world."

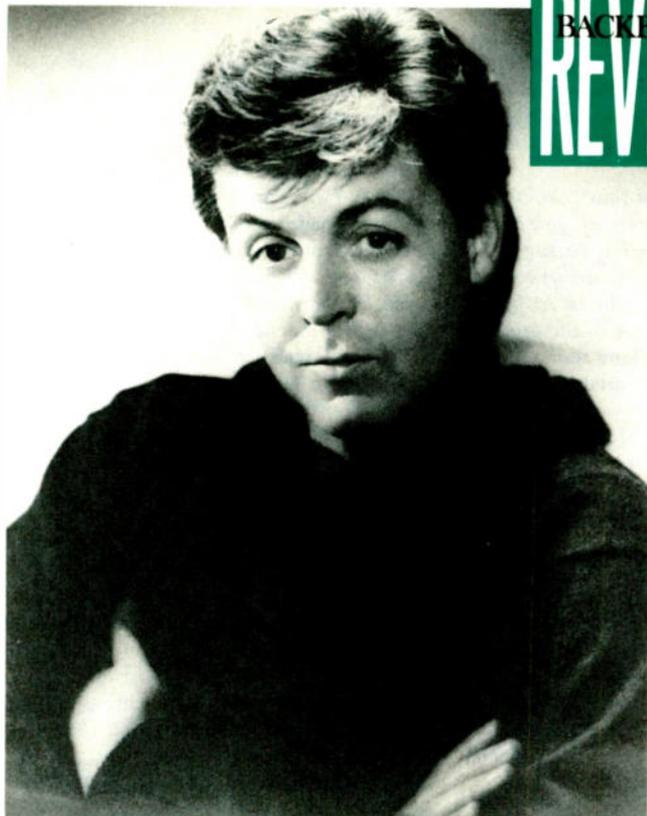
YET THROUGH ALL THE GROWTH AND CHANGE of the last decade, the Mahavishnu Orchestra was always in the back of McLaughlin's mind. "I tried over the years to re-form the first lineup," he says. "Not on a permanent basis, but for pleasure. I wanted to prove that music rises above personal differences. Unfortunately, I was thwarted—primarily by Jan, who refused categorically to do anything. I proposed no money, just to play some benefit concerts, but for whatever reason, it was unacceptable. After 1980, the last time I made an attempt, I decided to form a new version—to try to continue the original spirit of the Mahavishnu Orchestra, the energy and joy."

This effort saw him briefly reunited with Cobham on 1984's *Mahavishnu*, but in order to effect a clean break from the original band, he settled on the lineup of former Miles Davis saxophonist Bill Evans, former Pat Metheny drummer Danny Gottlieb, bassist Jonas Hellborg, and keyboardist Mitch Forman (who has since left to join Wayne Shorter's band and been replaced by Jim Beard). The presence of Evans points to one of the prime changes in the sound of Mahavishnu.

"I have always enjoyed the saxophone," McLaughlin explains. "Some of my greatest influences have been sax players: John Coltrane, Sonny Rollins. Although the violin is important to me, I've already worked with the greatest violin players around today, and for this particular group I heard more saxophone, so I asked Bill to join."

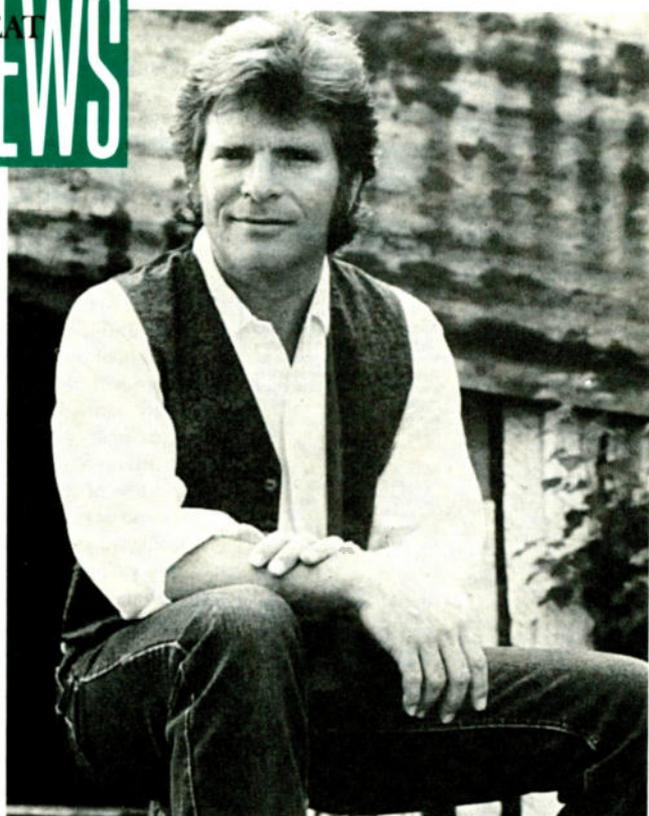
Another change is technical. When *The Inner Mounting Flame* was made in 1971, the monophonic Moog was the state-of-the-art road synthesizer. "Jan was playing a Mini- (CONTINUED ON PAGE 91)

BACKBEAT REVIEWS



GEORGE HUBBELL

MCCARTNEY: SOME STRONG MATERIAL UNDER THE TECHNOLOGY



CRAIG DRETZ

FOGERTY: A PREOCCUPATION WITH SOUNDING MODERN

PAUL MCCARTNEY:

Press to Play.

Ⓞ Paul McCartney and Hugh Padgham, prods. Capitol PJAS 12475. ⓂⓄ CDP 46269.

JOHN FOGERTY:

Eye of the Zombie.

Ⓞ John Fogerty, prod. Warner Bros. 25449-1. ⓂⓄ

HERE WE HAVE A 44-YEAR-OLD FORMER BEATLE and a 41-year-old former Creedence Clearwater Revivalist trying to adjust to the '80s. That they succeed only in part has more to do with songwriting weaknesses than with any inability to sound contemporary.

Press to Play was recorded in Paul McCartney's new studio with high-tech producer Hugh Padgham helping out. More important, for the first time since his early days with John Lennon, McCartney has a true songwriting partner: 10cc's Eric Stewart. The obvious connection they felt comes through wonderfully in the opening "Stranglehold," boasting fine assorted hooks and a vintage McCartney vocal. Paul also scores alone with the double-dip pop of "Good Times Coming/Feel the Sun" and the undeniable funk of "Talk More Talk." Both writers eventually run into trouble, though. The Stewart collaboration "Footprints" and McCartney's "Only Love Remains" are sentimental entries, the latter particularly soppy as Paul tries the grandiose balladry of Lionel Richie. "Press" was fun on the radio, but now the technology seems overdone—as is everything about "Pretty Little Head," a disastrous attempt at copying Peter Gabriel's

Old Dogs, New Tricks

African sound and sense, pre-*So*. Yet the LP closes well with "Angry" (love those Noddy Holder screams) and "However Absurd." Though the latter initially sounds more like the Rutles' "Piggy in the Middle" than "I Am the Walrus," it's good to hear Paul going out on a limb, especially in the fadeout's vocal howl and musical bombast.

John Fogerty's *Eye of the Zombie* begins strongly. "Goin' Back Home" offers a simple yet gorgeous melody, first played on state-of-the-art choral keyboards and then on a mocking, wailing guitar. Suddenly, Fogerty's trademark swamp growl breaks through, and we're into the title track. Sounds great, doesn't it? So does the straightahead rocker "Headlines"—but if you listen carefully to this track, you'll find yourself asking whether it's Fogerty or Loverboy. John has spent so much time learning how to sound like the '80s that he has forgotten the songwriting craftsmanship he mas-

tered in the '60s, and we're left with the dull funk of "Wasn't That a Woman" and the filler ideas of "Sail Away." Things aren't *all* bad: I do like the shrieking chorus in "Violence Is Golden," and even though "Change in the Weather" borrows heavily from CCR's cover of "I Heard It Through the Grapevine," the song is fresh and convincing. And this LP certainly rocks out. But Fogerty's band adds nothing but heavy volume; indeed, John Robinson's monolithic drumming almost sinks the entire affair. More to the point, though, what's missing is the subtle pen of "Wrote a Song for Everyone" or even *Centerfield*'s "I Saw It on T.V."

This could be anybody's album, whereas Paul's is unmistakably Paul's. And despite the current fashion of praising Fogerty and (still) dumping on McCartney, I'd recommend *Press to Play* over *Eye of the Zombie* because it's quite simply the more imaginative of the two.

Ken Richardson

THE GRATEFUL DEAD:

The Grateful Dead Movie.

Ⓜ Jerry Garcia, Leon Gast, and Gary Gutierrez (animation), dirs.; Eddie Washington, prod. Monterey Home Video 133-630 (Beta and VHS).

I CONFESS: I AM A ONETIME MIDDLEWEIGHT Deadhead. Although it has been about six years since I last saw the Grateful Dead, I will never disown the countless religious experiences I had at the band's shows. And when *The Grateful Dead Movie* was released in June 1977, it was good to know that if the band wasn't in town, I could go to the local Satur-

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day midnight show every few weeks and get the next best thing. For this is one of the finest concert films ever made, and even on the small screen, it energetically conveys the message capsulized by its most eloquent Deadhead: "There is nothing like a Grateful Dead concert."

The film was shot at San Francisco's Winterland in 1974 (contrary to some misinformation on the videocassette package). Although there is much more than just concert footage, the live music is the heart of the movie, and it includes some of the greatest moments of those Winterland shows, which were so miserably represented on the universally panned LP *Steal Your Face*. The ballads are best—a sterling "Morning Dew," in particular—but there are plenty of rockers, and a few of those "space jams" for which the Dead are so famous (or notorious, depending on your perspective).

Jerry Garcia spent 2½ years putting this together, and the effort shows: It's all remarkably coherent (in a holistic, right-brained sort of way) for such a complicated mix of animation, interviews, and performances. At a healthy 131 minutes, the film is intact on home video. Still, it seemed much longer in the theater. . . . *Andrew Nash*

BONNIE RAITT:

Nine Lives.

- Bill Payne, George Massenburg, Rob Fraboni, and Steve Tyrell, prods. Warner Bros. 25486-1.

FOR MORE THAN 15 YEARS, BONNIE RAITT HAS been wrapping the same package: r&b, rock, and blues. By now I'd expect this to be redundant, but *Nine Lives* never lags. That's because Raitt rips it up better than most white blues singers, and she has an uncanny ability for personalizing other writers' songs. This is a slick studio job, and it lacks the hang-loose-with-Bonnie-and-the-boys feel of 1982's *Green Light*, but it's still a gem.

Between the searing guitar solos on "No Way to Treat a Lady," Raitt stomps out the title line over a swelling chorus; in an innately feminist delivery, she's demanding respect. Or take the table-turner "Runnin' Back to Me" and her declaration when the creep comes crawling: "The last chance was the last chance for you." Elsewhere, her flutery show-me-some-mercy cries command instant empathy: In the torchy ballad "Crime of Passion," she shoulda known better but fell for the wrong guy anyway.

Nine Lives is also a good dance album. Best is the slinky "Who but a Fool (Thief into Paradise)," propelled by funky percussion and the Tower of Power horns. Both "Freezin' (for a Little Human Love)" and "Excited" are bluesy rockers that recall Raitt's mid-Seventies period. And though she's hardly a reggae singer, she still brings off Toots Hibbert's "True Love Is Hard to Find." Otherwise, *Nine Lives* has few surprises, but it doesn't matter when the vocals are this fresh. Raitt's an original, and I'm glad she's back. *Kate Walter*

NEIL YOUNG:

Landing on Water.

- Neil Young and Danny Kortchmar, prods. Gef-fen GHS 24109.

THE CHAMELEONIC NEIL YOUNG HAS CHANGED his spots again. In *Landing on Water*, he re-embraces his *Trans* obsession with electronic music, but with a toughened, stripped-down approach made possible by the involvement of only two other musicians: guitarist Danny Kortchmar and drummer Steve Jordan. As usual, Young plays lead, and all three handle the synthesizer chores.

With this instrumentation plus the added drama of the San Francisco Boys Chorus on two tracks, there are some unusual touches. On the opening "Weight of the World," Young punctuates a sad but wisened confessional by muttering "world" through an electronic filter. "Violent Side," dealing with his Jekyll and Hyde nature and musically reminiscent of Paul McCartney's "Jet," carries a spaghetti-western whistle interlude as well as the extremely pronounced drum sounds that prevail throughout the LP. And "Touch the Night" seems right out of the Twilight Zone, with its epic chorale intro and hard-rock/heavy-metal guitar riffs. Yet all of this enriches Young's material. And even though his lyrics tend toward simplistic observations and preachments, there's a certain quaintness to the schizoid ramblings of "I Got a Problem," the reassertion of '60s values (despite their failure) in "Hippie Dream," and the story of a lover's desertion in "Bad News Beat."

It's likely unintended that the closing "Drifter," in which Young redeclares his independence, seems at once to be his musical salvation and curse. *Jim Bessman*

R.E.M.:

Lifes Rich Pageant.

- Don Gehman, prod. I.R.S. IRS 5783.

R.E.M. HAS THE FORTUNE/MISFORTUNE OF already being voted into the critics' private hall of fame. Unfortunately, the same swirling mass of textured guitars and unintelligible lyrics that made R.E.M. critical darlings also distanced them from the public at large. On *Lifes Rich Pageant*, a lot has changed. This record sounds clearer than any of its predecessors, yet the clean-up has been done gently. Teamed with John Cougar Mellencamp producer Don Gehman, the band has come up with an album that should both please hard-core fans and attract new ones.

Although lead singer Michael Stipe has learned that enunciation is not a dirty word, the lyrics themselves are still too subtle or strange to be completely comprehensible. Exceptions are the ecology song "Cuyahoga" and the Clique's "Superman," the first cover to find its way onto an R.E.M. LP. But such quibbles over lyrics don't really matter because the band still uses sound to create the proper feel. And *Lifes Rich Pageant* is tougher and more rock-oriented than previous efforts, approaching the excitement of the group's live performances. Peter Buck

IN
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BIG COUNTRY:

⊙ **The Seer.** Mercury 826 844-1.

CACTUS WORLD NEWS:

⊙ **Urban Beaches.** MCA 5747.

TODAY'S CONTESTANTS IN THE POST-U2 guitar-bands-with-a-passion game find their fortunes going in opposite directions. Big Country, once a Next Big Thing, nearly broke up after 1984's *Steeltown* filed for Chapter XI. On the basis of *The Seer*, they needn't have reorganized. At best, Stuart Adamson's songs are redundant enough to make *Big Country III* a more honest title. At worst, they recall those dim days of youth spent arguing the philosophical merits of Jethro Tull and other "progressive" bands.

Ready to move on to the next round is Dublin's Cactus World News, discovered by U2's Bono. The band's *Urban Beaches* is so close to U2's first album that it could be called *Boy Next Door* (or perhaps, if a stunning lack of humor weren't a prerequisite for this week's stapes, *Sonny Bono*). But that's not a bad style to model yourself on, and Cactus World News's churning guitar sound is never so lame as that of the Alarm, a.k.a. U3.

Wayne King

DUKE ELLINGTON:

⊙ **The 1953 Pasadena Concert.**

GNP/Crescendo GNP 9045.

THIS IS SUPPOSED TO BE ONE OF THE transitional years in the annals of Ellingtonia, but it sounds like no one ever told the Duke himself. Granted, Johnny Hodges is missed, but Paul Gonsalves and Jimmy Hamilton, among other ace soloists, take up the slack. There are mountains ("The Tattooed Bride," "Diminuendo and Crescendo in Blue"), valleys (anything sung by Jimmy Grissom), and plenty of polished dales. Essential? Not quite. Rewarding? It's Ellington, so don't even ask.

Steve Fullerman

JOHN KIRKPATRICK, ASHLEY HUTCHINGS:

⊙ **The Compleat Dancing Master.**

Carthage CGLP 4416.

BASSIST ASHLEY HUTCHINGS FIRST LEFT Fairport Convention and then Steeleye Span because both bands weren't traditional enough for him, and this was his retort: a 17-track album (first released in the U.K. in 1973 and recently issued here) documenting the history of British dances. And we're not talking Bronski Beat. Juxtaposing jigs, hurdy-gurdy music, a chamber ensemble, and readings from Chaucer, Shakespeare, and Dickens, the project comes off as too educational for its own good, and some of the precisely played Celtic music is little more than dinner-party background filler. Yet there are some sturdy jigs, with requisite rock shadings provided by ex-Fairporters Simon Nicol and Dave Mattacks.

David Browne

PIECES OF A DREAM:

⊙ **Joy Ride.** Manhattan ST 53023.

THIS IS A SLICKLY PRODUCED BUT FINALLY undistinguished pop record by a trio of young musicians whose playing is supplemented by a host of additional percussionists, vocalists, and synthesized sounds. Singer Cedric Napoleon has a pleasant voice, but the group's songs and playing are pedestrian. Most interesting is the percussion writing, especially on several tracks with Brazilian drummer Paulinho da Costa. But it's not enough.

Michael Ullman

SOLOMON BURKE:

⊙ **A Change Is Gonna Come.** Rounder 2053.

WHILE SOLOMON BURKE'S LAST RECORD, *Soul Alive!*, centered itself on his hits of yesteryear, this one consists primarily of new material and proves handily that soul can be as creative and relevant today as it ever was. The newer songs stand up well even against the Sam Cooke and Percy Sledge remakes, as Burke runs the emotional gamut from the urbane baritone of a Brook Benton to the impassioned pleading of a Bobby "Blue" Bland. But what ultimately hits home is the underlying message that love is an achievement, not just an experience.

Joe Blum

CHICO FREEMAN:

⊙ **Pied Piper.** Blackhawk BKH 50801-1.

CHICO FREEMAN'S DEBUT ON BLACKHAWK finds the sometimes exploratory reedman working in a mainstream groove with results that are decidedly pleasant though not nearly as inspired as some of his past efforts. The feeling that one gets from this set, a program that's varied in a tried-and-true manner (i.e., a ballad, a blues, a Latin cut, an uptempo cooker, etc.), is that Freeman has attempted to aim one squarely at jazz radio airplay. But while the album is conceptually tame, the level of improvisation is high enough and the solid support (especially from past collaborators Kenny Kirkland, Cecil McBee, and a somewhat subdued Elvin Jones) consistent enough to save this from being a disappointment.

Richard C. Walls

SOUTHSIDE JOHNNY AND THE JUKES:

⊙ **At Least We Got Shoes.** Atlantic 81654-1.

AT LEAST THEY GOT ANOTHER RECORD OUT. Luckily, this one is very good, harking back to the band's best '60s-r&b-steeped work. Almost all of the songs were co-written by John Lyon himself; give him proper credit for developing into the East Coast cityscape

artist that his obvious influences were. In fact, the only duds are the covers of "Walk Away Renee" and "I Only Want to Be with You," whose arrangements and pacing work against the beauty of the originals.

Jim Bessman

STEPS AHEAD:

⊙ **Magnetic.** Elektra 60441-1.

THIS ALBUM IS REALLY A SHOWCASE FOR cofounding fusionaries Michael Brecker and Mike Mainieri, as none of the group's current touring lineup is present. As such, the two put on a remarkable display of acoustic/electronic musicianship, covering broad territory on "Beirut," a richly flavored, multi-textured tour that features Mainieri's swirling "synthi-vibe" undercurrent, and "Cajun," in which a meandering banjo gives way to Brecker's like-styled tenor sax exploration. These and other cuts also spotlight Brecker's adventurous use of the Steiner EW/Oberheim Xpander, a wind-driven synthesizer capable of just about anything.

Jim Bessman

PETER GORDON:

⊙ **Innocent.** CBS/FM BFM 42098.

WHAT IS THIS DOING ON A CLASSICAL LABEL anyway? Aside from the Varèse-like grip of "The Announcement," *Innocent* has more to do with the Raybeats than with Rachmaninoff (especially on the Love of Life Orchestra leftover "Diamond Lane"), more to do with Anthony Braxton than with J. S. Bach. Soho stalwart David Van Tieghem is on almost every track, and members of such diverse rock enterprises as King Crimson, the Cars, and Captain Beefheart's Magic Band are here, too. And the record is funky, quirky, and fun all at the same time. The Laurie Anderson collaboration "The Day the Devil Comes to Getcha," with its analogy of innocence with a new suit, is especially fun, particularly because of Clarence Fountain's vocals.

Hank Bordowitz

OLIVER LAKE AND JUMP UP:

⊙ **Dancevision.** Blue Heron BLU 70301-1.

IT HAS BEEN ABOUT FIVE YEARS SINCE AVANT-garde saxophonist Oliver Lake formed the first Jump Up, an impish band that fuses elements from jazz and reggae into a highly unlikely but danceable blend. The group continues to attract a coterie of faithful at live performances, but it still lacks the strong lead vocals that would give it commercial viability—i.e., radio play. This new record shows a lot of polish and has some very funky riddims, but the pithy wit that gave Jump Up's early songs such charm has faded, and now that the novelty has passed, the group may need some new hooks. The question is, are they having too much fun to care?

Joe Blum

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(CONTINUED FROM PAGE 86)
his performance is not merely effective but illuminating. This is particularly so in the first and second movements of the sonata, where, as in much of Schubert's late music, there are glimpses of matters that are almost beyond comprehension.

The one recording even greater than Goode's in this respect is Artur Schnabel's, which achieves a transcendent calm in the opening measures and an expressiveness in the second movement that are without parallel. However, Goode's performance, in addition to being better recorded (beautifully recorded, in fact), is superior to Schnabel's at those moments of turbulence that led Schnabel to respond with excessively violent playing. No other recorded performance approaches these two.

The two short selections that fill out Goode's record are also well played.

Thomas Hathaway

TCHAIKOVSKY:

Iolanta, Op. 69.

● Vishnevskaya, Gedda, Grönroos, Petkov, Krause; Orchestre de Paris, Rostropovich, Michel Garcin, prod. Erato ECD 88147 (D, 2). © (2). □ (2).

TCHAIKOVSKY'S FINAL OPERA, *IOLANTA*, HAD the misfortune to be premiered the same night that his ballet *The Nutcracker* received its first performance. The double bill turned into a very long evening, and subsequently only the ballet was presented. Despite the undeniable beauties of the score, *Iolanta* remains a neglected work, at least as far as stage presentation is concerned—too short for a full evening in the theater, too long to be paired with another work. In recent years, however, the opera has returned to at least the fringe of the repertory: in concert form, where its basically nontheatrical plot isn't a



RICHARD BAATEN

ROSTROPOVICH LEADS A SUMPTUOUSLY PLAYED AND BEAUTIFULLY SUNG ACCOUNT OF "IOLANTA"

hindrance (a princess who was born blind gains her sight through the love of a count—that's about all there is to it).

One of the chief proponents of *Iolanta* in the concert hall has been Mstislav Rostropovich, who—together with his wife, Galina Vishnevskaya (singing the title role)—has successfully given this opera in Washington, D.C., New York, and Paris. It is the latter performance (taped in December 1984) that is now offered on a splendid two-CD release from Erato. Rostropovich's affection for *Iolanta* is never in doubt, the Orchestre de Paris plays sumptuously, and the cast could hardly be bettered anywhere today.

Though Vishnevskaya had nominally retired from opera, she still sings the part of the blind heroine most beautifully (only a

slight hardness of tone on extreme high notes betrays any aging), while her heartfelt commitment to text and line remains unimpaired. Nicolai Gedda (who was 59 at the time) turns in an amazing performance as *Iolanta*'s suitor, Count Vaudémont. His tone retains its infectious sweetness in all registers, his high notes are as effortless as ever, and his command of *mezza voce* remains unique among present-day tenors. The supporting cast (including Walton Grönroos, Dimiter Petkov, Tom Krause, and Viorica Cortez) is virtually faultless. The CD sound is admirably clear, with a most pleasing openness in acoustic ambience, and the audience (save for its enthusiastic applause at the end) might as well not have been there, so little noise does it make. Bill Zakariasen

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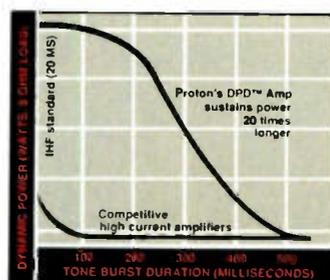
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