

## THE CAMCORDER CRAZE

WHAT YOU NEED TO KNOW BEFORE BUYING ONE JVC'S VHS-C VS. SONY'S 8mm: WHICH IS BETTER?

## TESTED THIS MONTH NAKAMICHI CD PLAYER DENON RECEIVER SONY SUPER BETA VCR

DENON

#### **MINI REVIEWS**

 17 POP & JAZZ CDS, LPS, AND VIDEOCASSETTES
 12 CLASSICAL CDS

#### "ORIGINAL BEETHOVEN" CAN MUSICIANS COPE WITH A "NEW" TRADITION?

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# Not Evolutionary,

## Pioneer's Revolutionary C-90/M-90 Elite High-Fidelity Components.

Audiophiles, take note: The preamp and amplifier you've been waiting for are finally here.

Introducing the Pioneer Elite Hi-Fi C-90 Preamp and M-90 Power Amplifier. Together, they combine the finest in both audio and video to retrieve every detail and nuance found in your cherished records, tapes, compact discs, LaserVision<sup>™</sup> discs and other software. Imagine a soundstage spread throughout your entire listening room! Stunning, transparent, threedimensional music, the likes of which you've never heard, apart from a live performance.

We paid fantastic attention to detail to gain this level of musical truth. One example: the C-90 volume control is a motorized, high precision rotary potentiometer. This permitted us to create the world's first high-end preamp with a no-compromise hand-held "SR"<sup>TM</sup> remote-control unit.

The C-90 features three separate power transformers-two to power left and right audio channels for vanishingly low crosstalk, and a third transformer to drive the preamp's unique video capabilities, relays, display and microprocessor. All switching functions are accomplished by electronic relays. Thus the signal paths are as short as possible, improving signal-to-noise ratio and channel separation. Anti-vibration measures taken to further the C-90's sonic excellence include a solid aluminum volume control knob, polycarbonate chassis feet, and rubber-cradled PC boards. Soft copper-plated screws insure a snug fit of chassis, transformers, transistors, and help to dampen vibration.

The C-90 Preamp readies you for the video revolution, with six video inputs, a built-in

video enhancer, and two-buss switching (separate "Record" and "View" selectors). The C-90's unique system remote-control unit features volume adjustment, input source selection, and control of audio and video input devices such as Pioneer's "SR" compatible VCRs, CDs, LaserVision players and cassette decks.

The M-90 is a superb high-power stereo amplifier, utilizing dual-mono construction. It is conservatively rated at 200 W/CH into 8 ohms' and delivers 800 W/CH of dynamic power at 2 ohms? The wide dynamic range of digital sources can now be reproduced effortlessly, with any loudspeakers. The M-90's high current capacity of 47 amps can handle the challenge of the most complex speaker loads. To further enhance S/N ratio and channel separation, relay-operated electronic switches and a long shaft volume control keep the length of signal paths down to a minimum. Why include a high quality volume control on a power amp? Simple. To pursue the straight-wirewith-gain philosophy when using a CD player connected directly. Pure sound, redefined.

The exquisite finish of the M-90 and C-90 reflects their quality. Elegant rosewood side panels and front panels with a deep handbrushed lacquer finish emphasize the care of craftsmanship we've lavished on these two components. The Pioneer C-90 Preamp and M-90 Power Amp. Evolutionary? Hardly. Revolutionary? Most definitely.

For your nearest Pioneer Elite Hi-Fi dealer, phone 1-800-421-1404.

©1986 Pioneer Electronics (USA: Inc., Long Beach, CA: Based on FTC rules regarding measurement of amplifier power ratings. <sup>2</sup>Measured by EIA method.

## Revolutionary.

## **OPIONEER** CATCH THE SPIRIT OF A TRUE PIONEER.

#### Matthew Polk's Awesome Sounding SDA-SRS & SDA-SRS 2

SDA SRS \$1395 ea.

Digital Disc Ready

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SDA SRS 2 \$995 ea.

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Matthew Polk, the loudspeaker genius, with his Audio Video Grand Prix winning SDA-SRS and latest technological triumph: the extraordinary SDA-SRS 2, honored with the 1986 CES Design & Engineering Award.

## **"The Genius of Matthew Polk Has Created Two Awesome Sounding Signature Edition SDAs**"

"Spectacular...it is quite an experience"

Stereo Review Magazine

ow the genius of Matthew Polk brings you the awesome sonic performance of the SDA-SRS in a smaller, more moderately priced, but no less extraordinary loudspeaker, the SDA-SRS 2.

#### Matthew Polk's own dream speakers can now be yours!

Matthew Polk's ultimate dream loudspeaker, the SDA-SRS, won the prestigious Audio Video Grand Prix Speaker of the Year award last year. Stereo Review said "Spectacular ... it is quite an experience" and also stated that the SRS was probably the most impressive new speaker at the 1985 Consumer Electronics Show. Thousands of man hours and hundreds of thousands of dollars were spent to produce this ultimate loudspeaker for discerning listeners who seek the absolute state-of-the-art in musical and sonic reproduction.

Matthew Polk has, during the last year, continued to push his creative genius to the limit in order to develop a smaller, more moderately priced Signature Edition SDA incorporating virtually all of the innovations and design features of the SRS without significantly compromising its awesome sonic performance. The extraordinary new SRS 2 is the spectacularly successful result. Music lovers who are privileged to own a pair of either model will share Matthew Polk's pride every time they sit down and enjoy the unparalleled experience of listening to their favorite music through these extraordinary loudspeakers, or when they demonstrate them to their admiring friends.

#### "Exceptional performance no matter bow you look at it"

Stereo Review

Listening to any Polk True Stereo SDA\* is a remarkable experience. Listening to either of the Signature Edition SDAs is an awesome revelation. Their extraordinarily lifelike threedimensional imaging surrounds the listener in 360° panorama of sonic splendor. The awe inspiring bass performance and dynamic range will astound you. Their high definition clarity

\*U.S. Patent No. 4,489, 432 and 4,497, 064. Other patents pending

allows you to hear every detail of the original musical performance; while their exceptionally smooth, natural, low distortion reproduction encourages you to totally indulge and immerse yourself in your favorite recordings for hours on end.

Julian Hirsch of Stereo Review summed it up well in his rave review of the SDA-SRS: "The composite frequency response was exceptional ... The SDA system works ... The effect can be quite spectacular... We heard the sound to our sides, a full 90° away from the speakers...As good as the SDA feature is, we were even more impressed by the overall quality of the Polk SDA-SRS.... The sound is superbly balanced and totally effortless ... Exceptional low bass. We have never measured a low bass distortion level as low as that of the SDA-SRS...It is quite an experience! Furthermore, it is not necessary to play the music loud to enjoy the tactile qualities of deep bass...Exceptional performance no matter how you look at it."

The awe-inspiring sonic performance of the SDA-SRS 2 is remarkably similar to that of the SRS. Words alone can not express the experience of listening to these ultimate loudspeaker systems. You simply must hear them for yourself!

#### "Literally a new dimension in sound" Stereo Review

Both the SDA-SRS and the SDA-SRS 2 are high efficiency systems of awesome dynamic range and bass capabilities. They both incorporate Polk's patented SDA True Stereo technology which reproduces music with a precise, lifelike three dimensional soundstage which is unequalled and gives you, as Julian Hirsch of Stereo Review said, "literally a new dimension in sound". Each beautifully styled and finished SRS 2 cabinet contains 4 Polk 61/2" trilaminate polymer drivers, a planar 15" sub-bass radiator, 2 Polk 1" silver-coil polyamide dome tweeters and a complex, sophisticated isophase crossover system. It is rated to handle 750 watts. The SRS utilizes 8-61/2" drivers, a 15" sub-bass radiator, 4 Polk tweeters and an even more complex crossover. It is rated to handle 1000 watts.

Both the SDA-SRS and SRS 2 incorporate: 1.) time compensated, phase-coherent multiple driver vertical line-source topology for greater clarity, increased coherency, lower distortion, higher power handling, increased dynamic range and more accurate imaging. 2.) a monocoque cabinet with elaborate bracing and MDF baffle for lower cabinet read-out and lower coloration. 3.) progressive variation of the high frequency high-pass circuitry for point-source

#### "the best SDAs yet... impressive and worthy of Matt Polk's signature" High Fidelity Magazine

operation and wide vertical dispersion. 4.) the use of small active drivers in a full complement sub-bass drive configuration coupled to a large 15" sub-bass radiator for extraordinarily tight, quick and three-dimensional mid and upper bass detail combined with low and sub-bass capabilities which are exceptional. The speakers are beautifully finished in oiled oak and walnut.

#### Other superb sounding Polk speakers from \$85. ea.

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 start as low as \$85 ea. The breathtaking sonic benefits of Polk's revolutionary True Stereo SDA technology are available in all Polk's SDA loudspeakers which begin as low as \$395. each.

#### "Our advice is not to buy speakers until you've beard the Polks"

Musician Magazine

The experts agree: Polk speakers sound better! Hear them for yourself. Use the reader service card for more information and visit your nearest Polk dealer today. Your ears will thank you.



5601 Metro Drive, Baltimore, Md. 21215

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

#### Matthew Polk's Incredible/Affordable Monitors



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

olk 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"

Off 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 Trilaminate 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 Priz 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 Audiog am Magazine, "At the price they re simply a steal." Like the 12, the - 0 utilizes dual Polk trilam nate polymer bass midrange drivers coupled to a builtin subworder for outstanding bass perform ance 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 58 (\$189,95 ea.) is similar in design and performance to the 7, however it utilizes an 8° subwoofer rather than a 10°.

The Monitor Sir. (\$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.

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

#### "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.

## 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.



5601 Metro Drive Baltimore, Md. 21215

### Win a Free Pair of Awesome Sounding Polk Audio SDA SRSs

Win a Pair	<ul> <li>Listen to the Polks</li> <li>Give this coupon</li> </ul>	Before Dec. 15, 1986				
of SRSs to your Polk dealer You may win a \$2800 pair of SRSs						
This is an entry form leave it with your part		SRS Joudspeakers Simply fill out this form and				
Name						
Address						
City	State C	County Zip				
	e area code)					
What most impressed	you about the Polks?					
<ul> <li>Deep, tight, tull b</li> <li>Huge sound field</li> </ul>	ass ☐ High efficiency ar and image ☐ Crisp, lifelike clar					









Cover Design: Robert V. Dele vante, Jr., and Michael O. Dele vante

#### Cover Photo: Nick Basilion

On the Cover: Denon DRA-95VR audio-video receiver (top), Nasami chi OMS-7All Compact Disc player

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# Challenging Design.

#### FOR UNDER \$500 YOU CAN OWN AN AMPLIFIER JUDGED TO HAVE THE EXACT SOUND CHARACTERISTICS OF AN ESOTERIC \$3000 MODEL.

Bob Carver recently shocked the staid audiophile world by winning a challenge that no other amplifier designer could ever consider.

The new M-1.0t was judged, in extensive listening tests by one of America's most respected audiophile publications, to be the sonic equivalent of a PAIR of legendary, esoteric mono amplifiers which retail for \$3000 each!

#### CARVER'S GREAT AMPLIFIER CHALLENGE.

Last year, Bob Carver made an audacious offer to the editors of *Stereophile Magazine*, one of America's exacting and critical audio publications. He would make his forthcoming amplifier design sound exactly like ANY high-priced, esoteric, perfectionist amplifier (or amplifiers) the editors could choose. In just 48 hours. In a hotel room near *Stereophile's* offices in New Mexico! As the magazine put it, *"If it were possible, wouldn't it already have been done? Bob's claim was something we just couldn't pass up unchallenged."* 

What transpired is now high fidelity history. From the start, the *Stereophile* evaluation team was skeptical ("We wanted Bob to fail. We wanted to hear a difference"). They drove the product of Bob's roundthe-clock modifications and their nominees for "best power amplifier" with some of the finest components in the world. Through reference speakers that are nothing short of awesome. Ultimately, after exhaustive listening tests with carefully selected music ranging from chamber to symphonic to high-impact pop that led them to write, "... each time we'd put the other amplifier in and listen to the same musical passage again, and hear exactly the same thing. On the second day of listening to his final design, we

**XVER** 

threw in the towel and conceded Bob the bout. According to the rules...Bob had won."

**BRAIN CHALLENGES BRAWN.** Below is a photo of the 20-pound, cool-running N-1.0t. Above it are the outlines of the *pair* of legendary mono



amplifiers used in the *Stereophile* challenge. Even individually, they can hardly be lifted and demand stringent ventilation requirements. And yet, according to some of the most discriminating audiophiles in the world, Bob's new design is their sonic equal.

The M-1.0t's secret is its patented Magnetic Field Coil. Instead of increasing cost, size and heat output with huge storage circuits, Magnetic Field Amplification delivers its awesome output from this small but powerful component. The result is a design with the dynamic power to reproduce the leading edge attacks of musical notes which form the keen edge of musical reality.

#### A DESIGN FOR THE CHALLENGES OF MODERN MUSIC REPRODUCTION. The M-1.0t's

astorishingly high voltage/high current output and exclusive operation features make it perfect for the demands of compact digital discs, video hi-fi and other wide dynamic range playback media. The M-1.0t

- Has a continuous FTC sine-wave output conservatively rated at 200 watts per channel. \*
- Produces 350-500 watts per channel of RMS power and 800-1100 watts momentary peak power (depending on impedance).
- Delivers 1000 watts continuous sine wave output at 8 ohms in bridging mode without switching or modification.
- Is capable of handling unintended 1-ohm speaker loads without shutting down.
- Includes elaborate safeguards including DC Offset and Short Circuit Power Interrupt protection.

**SHARE THE RESULTS OF VICTORY.** We invite you to compare the new M-1.0t against any and all competition. Including the very expensive amplifiers that have been deemed the M-1.0t's sonic equivalent. You'll discover that the real winner of Bob's remarkable challenge is you. Because world class, superlative electronics are now available at reasonable prices simply by visiting your nearest Carver dealer.

\* SPECIFICATIONS: Power, 200 watts/channel into 8 ohms 20Hz to 20k Hz, both channels driven with no more than 0.15% THD. Long Term Sustained RMS power, 500 watts into 4 ohms 350 watts into 8 ohms Bridged Mono power, 1000 watts into 8 ohms Noise, 110dB IHF A-weighted Weight, 20 lbs



PO Box 1237 Lynnwood, WA 98046

POWERFUL

MUSICAL

ACCURATE



B Y AA L A 1 A N

#### NEXT YEAR'S STAR?

HIS YEAR FOR THE FIRST TIME, WE ARE RECOGNIZING significant audio and video products through the HIGH FIDELITY Product of the Year awards. As elaborated upon elsewhere in these pages by Editor Michael Riggs, finalists are those products that are deemed truly innovative, either through the introduction of a new technology or in their application of an existing technology.

Some idea of what innovative products are expected in the coming year can be gleaned from the Japan Audio Fair held in October, about three months prior to the Winter Consumer Electronics Show here in the U.S. As the capsule report below shows, digital audio tape (DAT) was the hot item.



LEFT TO RIGHT, FROM TOP: AT THE 35TH JAPAN AUDIO FAIR HELD IN TOKYO IN EARLY OCTOBER, SEVERAL COMPANIES SHOWED CD-ROM PLAY-ERS. YCR& RECEIVED A SHOT OF DIGITAL TECHNOLOGY, SPROUTING SUCH SPECIAL-EFFECTS MODES AS "STROBE" AND "ART," WHICH ALLOW YOU TO DIGITALLY ALTER THE IMAGE ON YOUR MONITOR. PROMINENT WERE DOZENS OF PROTOTYPE DAT DECKS, SUCH AS THE VICTOR (JVC) MODEL SHOWN HERE. TAPE COMPANIES DISPLAYED PROTOTYPE DAT CASSETTES, AND CAR STEREO MANUFACTURERS DEMONSTRATED IN-DASH DAT DECKS, SOME OF WHICH WERE PAIRED WITH DIGITAL SURROUND-SOUND SYSTEMS.

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#### CD PLAYER RELIABILITY

SINCE THE SONIC DIFFERENCES BETWEEN MOST good Compact Disc players are almost nil, the significant concern for most of us will be how dependable the machines we buy turn out to be. I could have used some reports along these lines before I acquired my lemon, but in fact, all the reviews of CD players I ever read were favorable and spent more time rattling off the bells and whistles, with hardly a word about long-term reliability. Now that some of the brands have been around for a while, could you report on their track records? That kind of information might be hard to come by, but if you could do it, you might raise some eyebrows. John Barr

F

Narberth, Pa.

See October's "Basically Speaking" for a full treatment of this subject. In short, you are right on both counts: Information on reliability would be very useful, but it is very hard to come by. We do not have the players we review on hand long enough to determine how reliable they are (the reports would be obsolete by the time they hit the stands), and even if we did, how would we know in any particular case whether a failure was the result of a design weakness or just a fluke? We would need many samples of

each model tested. The only other way we can think of to obtain such data would be to survey dealers and repair shops, and given the time required for that plus our three-month publication lead time, the information would be hadly out of date by the time it reached print.-Ed.

#### **VIDEO COVERAGE DEBATED**

I AGREE WITH JOHN L. MILEWSHI ["LETTERS," June]: If I wanted information and articles about video. I'd buy a video magazine. In other words, I think that HIGH FIDELITY is a great source of information to its readers and that it shouldn't waste space on matters that are of no use or interest to many of them.

#### Al Patuzzi

WMNR-FM Monroe. Conn.

I SUBSCRIBE TO YOUR MAGAZINE (AND NOT TO your competition) precisely because of the completeness of your video product coverage. Your attention to the technical aspects of video is all the more welcome now that one of the dedicated video monthlies has oriented itself more toward "lifestyle" articles. In fact, I would welcome more video coverage-a test report on at least one video

product per month, for example, and a regular monthly column on the subject. How about it?

R

S

Ronald J. Kopnicki New York, N.Y.

F

It's a rare issue that doesn't include a test of at least one video component. For the time being, however, Technical Editor David Ranada's video column. "Scan Lines," will run approximately every other month.-Ed.

#### DUAL SOLUTION

LIKE EDWARD PICKERING ["CROSSTALK," October]. I own a Dual turntable with which I have had tracking problems. Recently, I could not get any of my records to play properly with either of my two principal cartridges. I thought that maybe by some coincidence both styli had worn out or broken simultaneously, but inspection proved that both were in very good condition. I finally traced the trouble to a rubber ring (part reference number 230, part number 216 845) in the detent mechanism for the 1229Q "single/multi" selector. If this ring is not tight enough, the tonearm can rise just enough to cause the two other parts to rub against each other, resulting in excessive

## Discwasher gets the grubbies out of your grooves.



The Discwasher® D4+<sup>™</sup> Record Care System features a unique fluid and special directional micro-fiber pad to clean your records safely and effectively. It picks up the grubbies without leaving behind any

Stylus Care System loosens and wipes away all damaging contaminants. Gently and thoroughly.

Discwasher is the technological leader in keeping your records and equipment in top condition. Discwasher, 4309 Transworld Road, Schiller Park, IL 60176.

Find out what we can do for your tape, compact disc and video equipment, too!

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horizontal friction and mistracking. I replaced the ring with a vinyl grommet and have had no more trouble of this type.

#### David O'Banion

Santa Maria, Calif.

#### FREEDOM AND CULTURE

HAVE FOLLOWED THE DEBATE ON THE TIKHON Khrennikov interview ["The Czar of Soviet Music," March; see also "Letters," May and July, and "A Reply to Tikhon Krennikov," August], and I must say that, whatever the limitations on intellectual freedom under communism, the anti-Soviet diatribes that make up most of the replies generate more heat than light. One correspondent suggests that the dearth of Russian composers of the stature of Prokofiev and Shostakovich means that the system finally has won. Well, all I can say is that a system that takes that many years to win clearly is not trying very hard.

Is there even any obvious correlation between freedom and cultural flowering? Would your readers, I wonder, consider 19th-century England relatively free compared with much of continental Europe at the time? If so, how can we account for this being a musical (though not literary) Dark Age in Britain? Is it possible that some form of oppression can be a spur to creative activity, just as the Great War produced great poetry with the same prodigality with which it slaughtered the poets?

#### **Robert Young**

Midanbury, England

#### THE IDENTITY OF "RECORDING AMOUR"

HARLOW ROBINSON'S EXCELLENT ARTICLE ON the Soviet record company Melodiya [ June] failed to identify the "private concern bearing the romantic name 'Recording Amour' [that] operated out of the same building" before the Revolution. Its disc label bore the name *Pushushchy Amour* (in Cyrillic, of course) and EMI's 1898 trademark, which we still call the Recording Angel. Fred Gaisberg's pioneering recordings—produced in Russia for EMI (then the Gramophone Company) before and after the Revolution were locally marketed with the little angel secularized as Cupid or Amour.

#### George Sponhaitz

Angel Records Hollywood, Calif.

#### BAD BUSINESS?

LAGREE WITH IAY C. TAYLOR'S OBSERVATION IN the July "Autophile" that "a HIGH FIDELETY reader can't be considered an average American." So shame on Telarc and High FIDELITY, both for doing business in South Africa, and the latter especially for letting its readers know that a South African businessman is "overwhelmed by the demand" for CDs, despite "the strong dollar that has made their prices outrageous" ["Letters," May]. Surely none are so obtuse as those who fail to see that for the average black South African-indeed, for all 24 million of them-neither Telarc nor HIGH FIDELITY is within reach, to say nothing of liberty and freedom.

#### Cynthia A. Forsberg Williamsville, N.Y.

We can't see what harm South African sales of HIGHT FIDELATY (or Telarc recordings, for that matter) could do that country's blacks. (Our sales there are very small, in any event.) And why is it bad for our readers to know that there is strong demand for Compact Discs in South Africa? We are reminded, paradoxically, of a letter we received some time back from a reader incensed at our description of Nelson Mandela as a South African nationalist. He felt that Mandela was a Communist and a terrorist and that we had unwittingly served the cause of Soviet imperialism. Sometimes you just can't win.— Ed.

#### ANOTHER REMEMBRANCE OF RUBBRA

t was moved by ROBERT R. REILLY'S EULOGY for Edmund Rubbra ["Medley," August].

How right he is in his remarks.

It might interest your readers to know that the Albany Symphony Orchestra commissioned what turned out to be Rubbra's final composition: *Sinfonietta for Large String Orchestra*. It will be given its world premiere on December 5, 1986. Rubbra was a superb composer. Too few people know this, especially in the United States. I hope Mr. Reilly's remarks help correct this.

#### Peter R. Kermani

President, Board of Directors Albany Symphony Orchestra

#### BACK ISSUES WANTED

I'VE ENJOYED READING HIGH FIDELITY FOR almost 20 years: You have a truly fine magazine. I would now like to add to my collection of copies from the 1950s and 1960s. If any readers have individual copies or whole collections that they would like to sell, please contact me at 505 King Ave., Columbus, Ohio 43201.

#### **Freeman Matthews**

Columbus, Ohio

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



FROM THE PERSPECTIVE OF AN ELECTRONICS aficionado, this decade could very well be regarded as the beginning of mankind's Digital Era. Nonetheless, decisions on new product development are being made with more than a little consideration for compatibility with existing goods.

For home and car

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recorder, which, though seemingly an ultramodern device, has remained fundamentally unchanged from its predecessors of ten years past. Differing formats aside, efforts to improve VCR performance have been reined in by the need to maintain compatibility with those models already in 30 percent of American homes. So far, audio per-

A case in point is today's videocassette

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formance has made the greatest strides, as evidenced by Beta Hi-Fi, VHS Hi-Fi, and, more recently, the entirely new 8mm format with both AFM and PCM sound recording. More subtle have been the picture improvements made possible by Super Beta and HQ circuitry. Digital circuitry has *not* been a factor in improving actual picture quality: Field-storage techniques have been employed in so-called digital VCRs solely to provide jitter-free still frames and slow motion, clearer picture scanning, special effects, and picture-in-picture displays.

But now NEC, the world's largest producer of semiconductors, has developed a digital video noise reduction system for VCRs that actually seeks to improve the picture quality of any tape being played. The technique is said to increase the video signal-to-noise ratio by as much as 9 dB (as



compared to 2 or 3 dB with HQ alone). Video noise manifests itself in three ways: as flecks of spurious color, as graininess in the dark areas of a scene, or as "snow." Since the noise is random, some of it can be canceled if successive video fields (two fields equal one picture "frame") are averaged. The NEC circuit does this by digitizing and temporarily storing one field, then adding it to the next and halving their sum (in effect, taking the average), creating a single field with as much as 29 percent less noise (a figure derived from the probability of the two fields canceling some of each other's noise). Each successive original video field is then averaged with the previously stored noise-reduced field (which is itself an average). All of this, of course, is happening very rapidly, displaying a picture that is composed entirely of these noise-reduced fields. The degree of noise reduction is governed by a feedback loop and can be adjusted to suit the quality of the tape being played (high-quality material might actually be compromised if too much noise reduction were to be used).

Two NEC VHS videocassette recorders are the first to get this digital treatment: the monaural DX-1000U and the VHS Hi-Fi DX-2000U (pictured). Definition is improved by the effects of two HQ circuits: white-clip extension and detail enhancement. Although each model has just two video heads, the quality of effects like slow motion and still frame is said to surpass that of conventional four-head machines-an added benefit of the digital field-storage process. Also, a freeze frame can be taken from any off-air broadcast received on the VCR's tuner. Other features common to both models are a wireless remote control that also works with current NEC TV monitors, an electronic cable-compatible tuner. and on-screen timer programming. The DX-2000U has an MTS/SAP TV tuner and can record and play back both VHS Hi-Fi and Dolby linear stereo soundtracks. Price is \$700 for the DX-1000U and not yet announced for the DX-2000U. For further information, write NEC Home Electronics, 1255 Michael Dr., Wood Dale, Ill. 60191.

#### VERSATILITY, FOR SHURE



SHURE BROTHERS CALLS ITS MODEL AVC-20 the Power Station. It's a remote-controlled four-channel integrated amplifier with a built-in Dolby Surround decoder and video

#### CURRENTS

and audio switching and processing controls, and according to the company, it is designed to act as a "foundation on which to build a home entertainment center."

The unit contains four amplifiers rated at 30 watts (14.8 dBW) per channel (bridgeable to 60 watts, or 17.8 dBW, per channel for stereo), making it possible to connect two pairs of speakers for surround sound without using an additional back-channel amplifier. A monaural center-channel output can be used to reproduce the dialogue in Dolby Surround-encoded movies (a separate amplifier is needed); a separate subwoofer output is also provided. In addition to Dolby, there are two surround modes for use with other stereo sources. Three sets of video connections (one for playback only) and a fourth hookup for an audio tape deck are included. Switching among the sources is arranged for easy dubbing. An unusual (and welcome) feature for a component of this type is a phono input, although owing to Shure's heritage, it seems almost obligatory.

Other features include a video image enhancer, a high-frequency noise filter for videotape hiss, individual volume controls for the four channels, and a master volume control. Most functions can be operated from the wireless remote. The AVC-20 integrated amplifier is priced at \$550 and is available from Shure Brothers, Inc., 222 Hartrey Ave., Evanston, III, 60202.

#### **CLARION CAR COMPONENTS**



CLARION AUDIA 200 (TOP), AUDIA 200E (BOTTOM)

CLARION'S TOP-OF-THE-LINE CAR UNITS ARE headed by the Audia 200 (\$580), which includes a digital tuner that receives both FM and AM stereo broadcasts, a full-logic autoreverse cassette deck with Dolby B and C, a preamp output, and separate bass and treble controls. The 200E is a DIN-size version priced at \$590. The Audia 20 (\$500, available in compact chassis only) is a similar model without full-logic control or AM stereo reception.

Two passive seven-band equalizers, the EQX-70 (\$200) and the EQX-700 (\$330), each have RCA and DIN inputs in a slim 1-inch-high chassis. The EQX-70 has an "ef-

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A word of caution, however. Knowing about Technics CD players could lead to another obsession: wanting to cwn all of them.





fector" control that is said to create a "concert hall" experience. The EQX-700 is an electronic design with an LED spectrum analyzer, a three-preset EQ memory, and separate front/rear defeat controls.

A fourth model has been added to Clarion's amplifier line. The slimline four-channel AFX-20 (\$100) delivers a claimed 20 watts (13 dBW) per channel (5 percent total harmonic distortion) in its bridged stereo mode. Additional information may be obtained by writing Clarion Corporation of America, 5500 Rosecrans Ave., Lawndale, Calif. 90260.

#### ZENITH'S HI-FI TVs

ZENITH DEVELOPED THE TECHNOLOGY FOR multichannel television sound (MTS), which showed the potential for high-quality stereo audio in TV broadcasts. Unfortunately, the dismal audio quality of most TV sets severely limits the benefit of MTS; serious listeners have to run the sound through their hi-fi systems. But not anymore, according to Zenith. The company has retained the services of the loudspeaker manufacturer Bose for the design of a high-performance sound system



ZENITH SC-27935 STEREO TELEVISION

that's built into a 27-inch digital set.

The Bose system is centered on the company's "acoustic waveguide" design, which is basically a small woofer with two differentlength tubes (waveguides) attached at either end. The tubes are folded so that each end is directed out the back of the set, and the entire assembly fits into the top rear portion of the cabinet, making the TV no deeper than competitive models. The key characteristics of the waveguide design are high operating efficiency and extended bass reproduction unusual for such a small enclosure. (See our report on the Bose Acoustic Wave Music System in the June 1985 issue.)

One amplifier powers the driver in the waveguide, while mid and high frequencies are reproduced through two front-mounted "twiddlers" (a name coined by Bose for combination midrange-tweeters), each driven by its own amplifier. Loudness compensation is achieved by what Bose calls its "dynamic equalization circuitry," which automatically adjusts the bass output to maintain the same tonal balance at all volume levels. To permit the Bose system's use as a hi-fi sound system, an "audio only" switch disengages the TV picture.

The set itself rides on a digital chassis, converting incoming video and audio signals to their digital equivalents; an on-board computer then controls the picture-processing circuitry and ensures that the set stays up to spec. Naturally, an MTS/SAP decoder is part of the package. Other features include on-screen display of remote-controlled functions and 178-channel tuning.

The Digital System 3 Color TV with Sound by Bose is available in four styles: The SC-2793S and the SC-2793P are table models with slate and pecan finishes, respective-



ly; the SC-2747P is a pecan-finish compact console with doors; and the SC-2749Y is a black-lacquer compact console with "Chinese style" doors. Prices are expected to range from \$1,400 to \$1,700. More information is available from Zenith Electronics Corp., 1000 Milwaukee Ave., Glenview, III. 60025.

#### AUDIOSOURCE SURROUND PROCESSOR



THE REAR-CHANNEL SOUNDS ENCODED IN Dolby movies can be reproduced using Audiosource's Model SS-One Dolby Surround Processor. It features an amplifier rated at 15 watts (11.8 dBW) per channel to power the back-channel speakers for two additional effects: "Matrix" is said to create a stereo image from a mono source, and "Hall" uses a variable delay (10 to 30 milliseconds) to simulate the acoustics of a larger listening room. Delay time is variable as well in the Dolby Surround mode, to optimize the effect in rooms of different sizes. Separate left and right "calibration" controls can be adjusted to effectively cancel any front-channel information coming out the back, according to the company. There are two tonal boost switches, centered at 100 Hz and 10 kHz, that affect only the back-channel signals. Overall balance between front and back requires adjustment of both the SS-One's volume control and that of the front amplifier. Price is \$290 For \$50 more, a pair of LS-Ten two-way speakers (with 4-inch woofers) is included for the surround channel. For more information, contact Audiosource, 1185 Chess Dr., Foster City, Calif. 94404.

#### **DISCWASHER CD RACK**

MADE OF DARK GRAY ABS PLASTIC, THE CD Storage System from Discwasher can be wall-mounted or placed on any flat surface. Its light weight makes it easily portable between home and car. Measuring 6 by 15 by 2 inches, the \$20 device can hold as many as 20 Compact Disc jewel boxes in its pivoting storage clips. Details are available from Discwasher, 4309 Transworld Rd., Schiller Park, III, 60176.

#### SHERWOOD'S TOP RECEIVER



THE S-2770R RECEIVER INCLUDES A WIRELESS remote control that can also operate certain other Sherwood components. A seven-band graphic equalizer can memorize four EQ settings that can be called up by the remote. Three video components can be connected (two for playback only), and an RF terminal is provided for hookup to a standard TV. During video dubbing, an original soundtrack can be replaced with audio from any connected source. A surround-sound circuit is said to create a "home theater" experience when a pair of back-channel speakers is used. Other features include a digital frequency-synthesis AM/FM tuner with 16 presets and inputs for tape deck, turntable, and CD player. The receiver is rated at 70 watts (18.5 dBW) per channel. The price is \$450. Details can be obtained by writing Sherwood, 13845 Artesia Blvd., Cerritos, Calif. 90701



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OPEN/CLOSE

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At Denon, we believe that superior sound is the only thing that makes high fidelity worth the money. We call this philosophy Design Integrity. And it's evident in every new Denon remote component — from the top of the line you see here\* to our most affordable remote models.

The DCD-1500 Compact Disc Player (shown) has already been declared "Reference Class" by Germany's Audio and HiFi Vision magazines. In the U.S., Digital Audio proclaimed, "The Denon engineers who created the DCD-1500 should be honored in public."

Denon's expertise in making pro digital recarders and blank tape is reflected in the new DRM-30HX Cassette Deck. You can see it in the three-head design. In the super-smooth threemotor transport. And in the choice of Dolby B, C, and HX Pro.

Thanks to Design Integrity, the DRA-95VR Receiver uses the same Pure Current Power Supply, Non-NFB circuitry, and MC cartridge inputs as Denon integrated amps. What's more, every Denon receiver provides switching facilities for a VCR, a video disk player and a video monitor.

So before you buy components whose most impressive feature is a remote control, get yourself to a Denon dealer. And listen to the remote control whose most impressive feature is the components it controls.

> DENON DESIGN INTEGRITY



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Source of the second se than any other. I wish I could be of some help to our readers: frankly, it has me entirely stymied. I've experienced it—but not for many years, though I work with all sorts of decks and all sorts of tapes.

Squealing is a form of scrape flutter. Instead of moving at a constant speed, the tape is slowed by friction,

jumps ahead when tension overcomes the friction, slows when the tension is released, and so on. This not only modulates tones that the recorder is trying to record or play but produces acoustic output directly from the site of the friction. The frequency of the squeal is a function of both the deck and the tape, just as tonearm resonance in turntables is determined by both the arm and the cartridge.

I've brought up the subject with deck and blank-tape manufacturers. Most don't seem to know what I'm talking about; others acknowledge that such a problem could exist, with tape makers citing the deck and deck makers citing the tape. Usually, the only concrete advice I turn up is to try a different brand of tape (if not another deck).

Most of those who have written to me about the problem have done just that. Along the way, they have compiled lists of the variety of decks and tape types and brands used (ranging from well-known, high-quality brands to some that I've never heard of or would avoid using anyway).

I understand the frustration that this problem generates. But while I can empathize with it, I can't dispel it beyond citing some obvious remedies: readjustment of the deck's tape tensioning, checking the capstan(s) for worn bearings or a bent shaft, examining all parts in the tape path (guides, heads, pucks) for signs of wear or misalignment, checking the reel- or hub-drive parts for alignment or friction, and cleaning the deck.

#### **AUDIO-ONLY VCRs?**

LETTERS CONTINUE TO ARRIVE ASKING ABOUT the potential of Hi-Fi videocassette recorders for audio-only use. As a reader from Hollywood, Maryland, puts it: "We need better metering, level controls that are easier to use (larger and visibly calibrated), and easier cueing." And, as he goes on to imply, offthe-tape monitoring during recording.

Frankly, I don't see much hope of VCR-



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0 G based recorders replacing open-reel home audio decks, though that looked like a fair bet only a few years ago. The reason is that digital audio tape recorders (using the RDAT format) are close to introduction, and that's where the manufacturers willing to go after a new high-performance audio format are placing their chips. The storage density is far better (two-

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hour RDAT cassettes are even tinier than 8mm videocassettes), and the RDAT format is engineered from the ground up for audio, whereas Hi-Fi VCRs (and the PCM digitalsound option in 8mm video decks) are designed with video as the top priority.

Among other things, that means cramped and undercalibrated audio controls. Even as is, many VCRs are monstrously complicated. I know of one line of models that can't be operated until the owner has gone through a complex installation ritual that is difficult for many to understand. The result: The decks come back to the company in droves as "defective." The company in question can legitimately point out that the manual gives all of the necessary instructions, so if buyers can't or won't follow that much, the prospect of piling on still more functions and controls for audio use is dim. Add to this the fact that the potential market for audio-only features is minute compared with that for the advanced video capabilities, and you can see why there's little incentive. for designers to compromise good video designs by catering to audiophiles. And that readily translates into no dollars for the development of monitoring rotary heads. With all that's going on already in a Hi-Fi VCR head assembly, I shudder to think what the structure would be like with an added set of playback heads.

But monitoring heads aren't as important with Hi-Fi VCRs as they are with conventional audio recorders because what comes off the tape has less opportunity to differ from what's fed to it; and if there is a difference you don't like, there's relatively little you can do about it. With conventional machines-particularly professional-grade open-reel decks-you can tweak bias, recording EQ, or head azimuth or some combination of the three to tailor the sound. The frequency modulation system in a Hi-Fi VCR doesn't respond the same way to these factors. And digital systems (such as RDAT) are virtually unaffected by them. .

#### CD OVER LP

I'VE NOTICED THAT SOME CD PACKAGES CARRY the message that the enclosed disc is limited by the quality of the original tape from which it was mastered. Is it safe to assume that if an LP contains a lot of background noise or sounds bad, then the CD version also will sound inferior because it was made from the same master tape? If so, why can't the noise be filtered out of the original tape to make a better-sounding Compact Disc?

R

#### John Pondiccio

Hawthorne, N.Y.

It all depends. If the reason an LP sounds bad is that the original master tape was hissy or poorly recorded, the CD version is not going to sound much, if ony, better. But moking o record is o complicated process: There can be mony a slip 'twixt tope ond disc. In other words, you can take a good moster tape and make mediocre records. It's even possible (though harder) to goof up the CD transfer. So the short answer to your first question is that unless the fault you're hearing is steady, lowlevel hiss (which most likely is tape hiss from an old analog moster), you can't be certain that it will be duplicated on CD—or even on a reissue of the LP.

The answer to your second question is less equivocal but may change soon. It's very hard with

current technology to remove preexisting noise without taking some of the desired signol olong. However, ofter-the-foct noise reduction schemes based on digital signal processing are under intensive development. When such methods become available, record companies will be able to issue CDs (and LPs, for that matter) from old master topes that will sound (at least in terms of noise) as though they were recorded on modern equipment.

#### TAPE FOR TOMORROW

WHENEVER FBUY A PRERECORDED TAPE, 1 DUB it onto a Type 4 (metal) blank cassette; I then store the original safely away and use the copy for listening. This keeps the original tape in mint condition, so that if the dub ever wears out or gets damaged, I can easily replace it with a new copy that's just as good. However, a friend tells me that Compact Discs have greater longevity than cassette tapes, which can wear out and will stick after being stored for a long time. Would it make sense for me to get a CD player and copy the discs onto cassettes, instead of buying and copying prerecorded cassettes the way I do now? Which approach will give me the best sound and greatest longevity?

Steven Douglas Taylor Norton A.F.B., Calif. You will be better off on both counts buying CDs instead of cossettes. In foct, you probably will be omozed ot how much better Compoct Discs (ond topes mode from them) sound compared to prerecorded topes, which often ore pretty bod sonicolly. And since Compact Discs do not wear out and only rarely sustoin permanent damage in normal handling, you probably could forgo the hassle of dubbing to tape every one you buy, unless you make the topes primarily for use in a portoble or car cossette deck.

Κ

#### QUAD DECODERS

ARE THERE ANY COMPANIES THAT CURRENTLY manufacture matrix decoders for extracting back-channel information from old QS and SQ quadriphonic recordings? Poul R. Wilkinson

Washington, D.C.

Many surround-sound decoders have settings that either are designed specifically for this purpose or will do a creditable job of it. Sansui's DS-77, for example, has a QS setting, and the Sony SDP-505ES's Matrix mode is intended for use with SQ and QS records.

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



A Balanchine Album features four of George Balanchine's most enduring ballets: Tchaikovsky's Serenade, Hindemith's The Four Temperaments, Stravinsky's Agon, and Emeralds (with music from Fauré's Pelleas and Shylock), performed by the New York City Ballet Orchestra, Robert Irving, conductor. "Just as there is a Balanchine style in choreography and in dancing, there is a Balanchine – or Balanchine/ Irving-style in the performance of music. Irving brings to the music years of watching the ballets being created, reshaped, rehearsed and performed... and so the score for him is not only a cluster of black notes on white paper, but the images of dancers dancing as well." (from the liner notes) Noresuch (7915)



#### STRATAS SINGS WEILL

Stratas Sings Weill is Teresa Stratas' long-awaited follow-up to The Unknown Kurt Weill, Only the second solo recording in her career, it features fifteen of Weill's greatest American, French and German theatre songs in the composer's original orchestrations, with Gerard Schwarz conducting the Y Chamber Symphony. Newsuch (2011)



The release of "the dancing, hypnotically involving" (N.Y. Times) Sextet and Six Marimbas marks Steve Reich's first compositions for percussion ensemble since the classic Music for 18 Musicians. Nearth (1918)

photo credits (clockwise from left' Henri Cartier Bresson, Beth Bergman © 1986, Clive Barda)



ON NONESUCH RECORDS, CASSETTES AND COMPACT DISCS



## ENERGY 22

The Energy 22 Pro Monitor has been hailed by critics as one of the major loudspeaker design breakthroughs of the last decade.

In fact, the Energy 22 may well rank as a standard against which other speakers should be judged. Audition either the Energy 22 Pro Monitors or the Reference Connoisseurs and we think you'll agree that they are not only the most exciting speakers you've ever hearc, but "a stunning achievement" indeed!



## "A STUNNING ACHIEVEMENT"

#### **Top Retail Experts Personal Views About The Energy 22**

New York, New York, The Listening Room, Ron Mintz – Owner. "As one of the First dealers in the U.S. to realize the cuality of the E-22, we continue to be amazed by the imaging and spaciousness of this speaker of such compact size & price."

Hicksville, Long Island, New York, Designatron, John Thomas – Manager. "Never before have we experienced a speaker system which exhibits the level of realism that the Energy 22 provides. The excitement generated by Energy speakers is only exceeded by the pleasure of owning them. The Energy 22 sets a reference standard by which all other speakers must be judged."

Washington, D.C., Audio Associates, Mike Zazanis – Owner. "The ENERGY 22 is a very musical speaker at a very inexpensive price that easily could cost a lot more money."

Chicago, Illincis, Pro Musica, Ken Christianson, John Schwarz – Co-owners. "The Energy 22 Reference Connoisseur & Pro Monitors simply outperform the competition. Musically satisfying to the most demanding listeners: Miami, Florida, Audio By Caruso, Don Caruso – Owner. "The REFERENCE CONNOISSEURS are among the most neutral, uncolored, speakers we have found!!! They provide very relaxing listening."

El Paso, Texas, Sound Room, Mark Pearson – Owner. "Energy 22 pro monitor is the most three dimensional speaker ever."

Phoenix, Mesa, Arizona, HI FI Sales, Dave Ross – G. Mgr. "ENERGY 22. One of the most accurate, best imaging speakers we have ever heard."

Los Angeles, California, Christopher Hanson Ltd., Christopher Hanson – Owner. "The Energy 22 is very musically involving – 'Absolutely Brilliant'."

San Diego, California, Stereo Sound Co., Bob Kokley – Owner. "Over the years we have heard many promises of new breakthroughs in speakers with disappointing results. The ENERGY 22 is one of the only products which performed beyond those promises. A job well done!"

#### Berkley, California, The Sounding Board, Jeff Smith, Jim Serena Co-Owners.

"The Energy 22 is an outstanding speaker. What's incredible is the value, compact size and its performace level."

THE DEALER'S #1 CHOICE



Energy Loudspeakers, 135 Torbay Road, Markham, Ontarlo L3R 1G7 – (416) 475-0050 « TLX 06-986689





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.

## Nakamichi OMS-7All Compact Disc Player

DIMENSIONS: 17½ BY 4½ INCHES (FRONT), 12½ INCHES DEEP PLUS CLEARANCE FOR CONNECTIONS. PRICE: \$1,650. WARRANTY: "LIMIT-ED," ONE YEAR PARTS AND LABOR. MANUFACTURER: NAKAMICHI CORP., JAPAN; U.S. DISTRIBUTOR: NAKAMICHI U.S.A. CORP., 19701 S. VERMONT AVE., TORRANCE, CALIF. 90502.

TERNALLY, THE OMS-7AII COMPACT DISC player shows its heritage most obviously in its use of well-placed, luxurionsfeeling slanted-keypad transport controls similar to those found on Nakamichi cassette decks. A 24-slot programmed-playback memory is provided, and the tastefully simple status readout is all of one color (pale yellow-green), not the usual razzle-dazzle. The remote control duplicates every frontpanel function except the power switch and the headphone volume control. The output pin jacks are gold plated, and a subcode output jack is provided. And yes, the player does grant direct access to each track or index point on a disc via a numeric keypad. Despite all this, the Nakamichi OMS-7AII is most special where it counts; inside.

One can get an inkling of what's going on from some of the test results. The channel separation of 1331/4 dB at 1 kHz is in itself extraordinary, but what is really astounding is that it is still 116 dB at 20 kHz. Although these figures are far in excess of what is necessary for subjectively complete stereo separation, they speak volumes about the quality of engineering behind this product: Such performance is difficult to achieve even in something as simple as a preamplifier.

There's more. The linearity figures (which portray the difference in actual vs. expected output level) are the best we have ever encountered. In fact, Diversified Science Laboratories couldn't find any error except at the lowest test level (=90 dB), and there it amounted to less than 1 dB. This is

one player that approaches "the theoretical limits imposed by the digital system," to quote from a Nakamichi white paper. That paper also goes on to explain some of the details of the OMS-7AII circuitry, which may be responsible for this exemplary behavior.

Digital-to-analog conversion, that most crucial of processes in a CD player, has apparently come under intense engineering scrutiny at Nakamichi. The OMS-7AII contains two digital-to-analog converter 1Cs (DACs), a separate one for each channel, which restore the binary numbers decoded from the CD to analog voltages. Most, but not all, DACs used in CD players generate small bursts of noise ("glitches") before their output settles down to the value it is supposed to have according to the binary number fed to it. Glitches are commonly removed by a sample-and-hold circuit placed at the output of the DAC to store the correct analog voltage reached after the DAC output has stabilized. Nakamichi's designers have opted to eliminate this stage and to try instead to reduce glitch generation by adjusting the timings of the eight most significant bits (the "leftmost" eight digits in a binary number) of each sample value as it enters the DAC. Two glitch-prevention trimming adjustments are made on each converter: one to optimize performance at 1 kHz, the other at 10 kHz.

Nakamichi makes a third adjustment following the recommendation of the DAC chip's manufacturer (Burr-Brown of Tuscon, Arizona). The particular converter used in the OMS-7AII (the PCM54KP) can be trimmed to a most-significant-bit differential nonlinearity of nearly zero at "bipolar zero," which reduces distortion as a signal crosses between positive and negative voltage values. Each of these three adjustments can improve measured linearity, though this last is probably the most important. Also improving linearity is the running of the DACs at four times the normal CD sampling rate. They operate at 176.4 kHz to convert the outputs of the player's four-times oversampling digital filters. In any case, Nakamichi's three adjustments are three more than most other CD player manufacturers make when using the same DACs-another example of the lengths the company has gone to improve player performance.

As for the other test results, none is less than excellent. Frequency response both with and without de-emphasis is unusually flat, the signal-to-noise ratio is exceptionally



WITH A COMPREHEN-SIVE WIRELESS REMOTE CONTROL

DB

high, and the channel imbalance (measured as 0.07 dB) is strikingly small, And the player easily passed the now somewhat tame torture trials of the Philips error-correction test disc

How much Nakamichi's extra efforts have contributed to the OMS-7AII's sound quality is hard to say. In a single-blind comparison with another high-quality player, using pink noise and music, we could not hear any difference between the two machines. Output levels were matched to within 0.01 volt at 1 kHz (by means of the other player's volume control), listening was over headphones, and music playback was synchronized by using pairs of the same discs.

This is not to say that the Nakamichi necessarily sounds the same as all other CD players-merely that its sound quality is not unique. Fortunately, that sound is very cleanand smooth; we heard nothing untoward that could not be attributed to the software. This is to be expected from the player's measured performance. It also comes as no surprise that the controls operated smootbly, faultlessly, and with decisive tactile feedback as each metal pushbutton snapped home under our fingers (no cheap plastic parts here or anywhere else on the player). Our overall impression-from the sound, the measurements, and the feel of the controls-is of engineering of the highest quality. Yet that, too, could have been predicted. After all, the OMS-7AII is made by Nakamichi. (CONTINUED ON PAGE 26)



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UM DISTORTION (70-Hz d	ifference:	300 H	z to 20	) kHz)		
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maximum surface obstruction ≥ 800 µm					m	
simulated-fingerprint test pass						
MAXIMUM OUTPUT LEVEL						
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headphone output 2 09 volts						
OUTPUT IMPEDANCE						
line output				1	15 ohms	
headphone output 11 phms						
SQUARE-WAVE RESPONSE	(1 kHz)			_		



**IMPULSE RESPONSI** 





## Denon DRA-95VR Audio-Video Receiver

E S T

REPORTS



#### **FM TUNER SECTION**

**Channel** separation

FREQUENCY RESPONSE & CHANNEL SEPARATION



≥ 24 dB, 40 Hz to 15 kHz



DIMENSIONS: 17 BY SINCHES (FRONT), 131/4 INCHES DEEP PLUS CLEAR-ANCE FOR CONTROLS AND CONNECTIONS. AC CONVENIENCE OUT-LETS: ONE SWITCHED (100 WATTS MAX.), ONE UNSWITCHED (250 WATTS MAX.). PRICE: \$650, INCLUDING RC-95 WIRELESS REMOTE CONTROL; OPTIONAL ACA-37 WOOD ENDPIECES, \$30 PER PAIR. WAR-RANTY: "LIMITED," TWO YEARS PARTS AND LABOR. MANUFACTURER: NIPPON COLUMBIA COMPANY, LTD., JAPAN; U.S. DISTRIBUTOR: DENON AMERICA, INC., 27 LAW DR., FAIRFIELD, N.J. 07006.

N THE DRA-95VR, DENON BRINGS THE SORT of circuit refinements that have characterized its purely audio components to the service of audio-video systems. No video circuitry is built in (no TV tuner, for instance), but switching is provided for two video sources, whose associated audio may be chosen for reproduction through the receiver or replaced by a different audio source—as for simulcasts. All switching, including the volume adjustment, is electronic, which offers performance benefits in addition to making possible the receiver's wireless remote control.

The total complement of connections includes two direct video inputs—VCR and Video, intended for a video recorder and a play-only video source such as a videodisc player, respectively—and two video outputs. Each of the video inputs also has an associated set of stereo audio connections: inputs and outputs for the VCR, inputs only for the other. The selected video signal will be fed to both video outputs. And if the video source button is pressed, the audio from that video input will be sent to the amplifier section.

The remaining audio portion includes

the receiver's own tuner section, a CD (aux) input, a phono section (switchable for use with either moving-coil or fixed-coil cartridges), and two audio tape inputs. When the monitor/copy button is off, any input except those for tape will feed the recording outputs; for dubbing from deck to deck, you must turn the monitor/copy switch on and choose the source machine at the audio selector buttons. As a result, you cannot use the monitor/copy button for source/tape switching during dubbing, although it will serve this function (provided you have a three-head deck) during taping from other sources.

To simplify operation, Denon has limited the tuner section to two modes: one includes automatic stereo switching (for stereo FM stations received above the stereo threshold), automatic seek of the next "receivable" station when you press the up or down tuning button, and automatic muting

#### **REPORT POLICY**

EQUIPMENT REPORTS ARE BASED ON LABORATORY MEASURE-MENTS AND CONTROLLED LISTENING TESTS, UNLESS OTHER-WISE NOTED, TEST DATA ARE PROVIDED BY DIVERSIFIED SCI-ENCE LABORATORIES. THE CHOICE OF EQUIPMENT TO BE TESTED RESTS WITH THE EDITORS OF HIGH HDELITY. SAMPLES NORMALLY ARE SUPPLIED ON LOAN FROM THE MANUFACTUR-RE, MANUFACTURESS ARE NOT PERMITTED TO REA PROVID DVANCE OF PUBLICATION, AND NO REPORT OR PORTION THEREOF MAY BE REPRODUCED FOR ANY PURPOSE OF IN ANY FORM WITHOUT WRITTEN PERMISSION OF THE PUBLISHER. ALL REPORTS SHOULD BE CONSTRUED AS APPLYING TO THE SPECIF-IC SAMPLES TESTED. HIGH HDELITY AND DIVERSIFIED SCIENCE LABORATORIES ASSUME NO RESPONSIBILITY FOR PRODUCT PERFORMANCE OR QUAUTY. of interstation noise. The other offers mono reception only, manual tuning (100-MHz half-channel steps on FM, 10-kHz full-channel steps on AM), and no muting (so that you can listen for signs of life down in the roar).

There are 16 station presets—each of which will hold one AM or one FM frequency—ranged in two eight-button banks, with a shift button for toggling between them. The tuner automatically shifts bands if you choose a memorized AM station while you're tuned to the FM band or vice versa. A signal-strength "meter" consisting of three LED pairs operates on both bands. We found the FM thresholds (28, 34½, and 51 dBf) well chosen in that they all lie within the range where antenna rotation is most likely to be needed.

The tuner-mode switch is only one mono/stereo option; there is also a frontpanel switch that blends channels from any source. Another simulates stereo from mono sources, though it's specifically intended for the audio from mono TV broadcasts or videotapes. Subjectively, it seems to do little more than shift the mono sound toward the right speaker, so we were no more impressed by it than we usually are by such stereo-simulation features. Also on the front panel is a loudness-compensation knob that delivers flat response at its maximum setting and introduces a deepening midband dip (together with some overall attenuation) as it is turned down.

Further signal manipulation can be added by removing the pre-out/main-in jumpers on the back panel and patching in an outboard processor (an equalizer, ambience-recovery device, or whatever). Because of the speaker-connector design, we advise taking care to get good, solid connections at the speaker outputs. The antenna inputs for

#### **ABOUT THE dBW**

We currently are expressing power in terms of dBW meaning power in dB with a reference (0 dBW) of 1 wath. 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

300-ohm FM twinlead and the supplied AM loop are conventional lightweight fingerscrew terminals, but we were delighted to find that Denon also provides a 75-ohm coaxial F connector, which has become the standard in the U.S. for coaxial FM and TV leads.

The supplied RC-95 remote handset duplicates most of the front-panel controls. One significant difference is in the way the power switches work. The main chassis's power switch is marked to indicate that on is STANDBY and OFF is just OFF. If you leave the receiver on STANDBY and turn it off at the remote, it will return to the current source and volume settings when you once again press the remote's power switch. But when it has been turned off at the chassis switch, it always reverts to the tuner section (though to the last-tuned station) and to the minimum volume setting.

All such preset controls plus the up and down tuning buttons are included on the remote, but not the tuning-mode button, so you can't tune manually from the remote unless you've left the receiver itself in the mono mode. Also on the remote are all of the source selectors (audio and video) and tape monitor/dub controls of the front panel plus its "muting" (actually, 20-dB attenuation) switch. And the manual says that the control also can be used with Denon cassette decks and Compact Disc players (except the DCD-1800R). For these purposes, most commonly-used options (recording, skip, repeat, programming, pause, and so on) are included.

On Diversified Science Laboratories' test bench, the loudness-compensation and tone controls proved relatively gentle in their action. The treble control itself shelves above 10 kHz or so at the extreme settings, delivering about 8 dB of boost or cut in that range; less extreme settings begin shelving at lower frequencies—as low as about 500 Hz for a 1dB attenuation. The BASS shelves below about 100 Hz at any setting, with the same 8 dB or so of maximum boost or cut.

Turning the LOUDNESS to its minimum setting attenuates the range near 1 kHz by a maximum of just over 15 dB, the bass below 80 dB by no more than about 6 dB, and the treble above 10 kHz by about 10 to 11 dB. Relative to the 1-kHz range, then, maximum compensation boosts the deep bass by less than 10 dB, the extreme treble by about 5 dB. The volume control is very unusual, but beneficially so, in being "linear." (Standard practice is to taper the control's action so that a median setting delivers much more than median level, giving the uninitiated the impression that the receiver or amplifier must be very powerful.) It steps in increments of very nearly 2 dB for the most part, though some are closer to 1 dB.

No filters are built into the DRA-95VR. What attenuation of infrasonics (from warps or feedback) it provides is inherent in the phono preamp and—as is usually the case is greater for the moving-coil option than

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ohm load	23 0 dBW	
ohm load	23 2 dBW	
NAMICHEADROOM (re rated pewer; 8-ohm load)	+ 1 6 dB	
ARMONIC DISTORTION (THD; 20 Hz to 20 kHz)		
19.3 d&W (85 watts)	≤ 0 050	
0 dBW (1 watt)	- 0 000	

Storeo sensitivity (for 50-dB noise suppression

19 1/2 dBf at 98 MHz with 0 36% THD + N

#### FREQUENTY RESPONSE

#### RIAA PHONO EQUALIZATION

20						
• <b>r</b> =						
-5		DRA-95VR (3)				
HZ 20 50 100 200	500 1K 2	5K 10K 20				
fixed-coil		+ 1/4, - 1/2 dB, 20 Hz to 20 kHz. - 3 3/4 dB at 5 Hz				
moving-coil		+ $1/4$ , -1 $1/4$ dB, 20 Hz to 20 kHz. -9 $1/2$ dB at 5 Hz				
SENSITIVITY & NOISE (re 0 di	BW; A-weighting)					
	sensitivity	S/N ratio				
oux input	178 mV	86 dB				
fixed-coil phone	031 mV	76 1/4 dB				
moving-cail phono	32 µV	75 dB				
PHONO OVERLOAD (1-kHz d	ipping)					
fixed-coil phono		165 mV				
moving-cail phone		17 5 mV				
INPUT IMPEDANCE						
aux input	46k ohms					
fixed-coil phone	47k ohms, 170 pł					
moving-coil phono	100 ohms					
OUTPUT IMPEDANCE (to top	e)					
from oux input		1,200 ohms				
from tuner section		2,300 ohms				
from phono input		910 ohms				
DAMPING FACTOR (or 50 Hz	; re 8 ohms)	75				
CHANNEL SEPARATION (or 1	kHz)	88 1/2 dB				
CITATING SET ADDITION (UT 1						

± 1/4 dB, 17 Hz to 26.6 kHz

+ 1/4. - 3 dB. < 10 Hz to 87 8 kHz



DRA-95VR'S REMOTE WORKS WITH OTHER DENON COMPONENTS.

otherwise. With fixed-coil cartridges (or high-output moving-coil models), response is very flat through most of the range, with a very slight ( $\frac{1}{4}$  dB) rise in the bass around 200 Hz and a very gradual rolloff in the very deep bass and infrasonic region. The moving-coil option has a similar response, but with about twice the bass rise and somewhat more rolloff below 50 Hz. But even then, response is down by less than 10 dB at 5 Hz.

The slight bass rise evidently is not a characteristic of the phono section itself, because it appears in the measurements through the aux input and from the tuner section. Overall, though, FM response is flatter than that of most receivers we test. FM separation, at a little less than 25 dB, is lower than average (though remarkably consistent across the frequency band) but still more than adequate. Adjacent-channel selectivity is remarkably good, and measured distortion is quite low; in other respects, the tuner section is quite typical of the models we test-meaning that we would rate it somewhat better than average overall, particularly for an audio-video receiver.

The amplifier section is the 95VR's highlight. Its Non-Switching-A circuitry (Denon's way of approaching Class A performance with Class AB efficiency) uses no overall negative feedback. The Pure Current power supply uses a floating ground for isolation from the audio circuitry, and an unusual paralleled-capacitor configuration is credited with reducing DC ripple and supplying unfettered current peaks from the specially designed power transformer.

The amp section is rated at a not inconsiderable 85 watts (19.3 dBW) per channel, and some Denon literature credits it with more than 200 watts (23 dBW) of dynamic power into a 2-ohm load. Though the owner's manual cautions against running the output into so low an impedance, the lab not only tested it that way but confirmed the latter rating with a slight margin to spare. In fact, it will also deliver 23 dBW of dynamic power into a 4-ohm load and more than 20 dBW (100 watts) per channel continuously into any typical load.

And despite Denon's avoidance of the usual negative feedback, harmonic distortion is quite low: below our 0.01-percent reporting threshold through all but the very highest frequencies at 0 dBW (1 watt) and measuring only a little more throughout the range even at full rated power. Distortion is, in a word, negligible.

The DRA-95VR is an excellent choice for the centerpiece of an audio-video system in which video signal processing will be handled elsewhere but switched at the receiver. Considering the number of features and capabilities, the control scheme is surprisingly uncluttered and uncomplicated—far better than is common for this type of component. And on the basis of the lab measurements together with our listening tests, we would rate sonic performance as distinctly better than we have come to expect in audio-video gear.





DIMENSIONS: 151/2 BY 27 INCHES (FRONT), 121/2 INCHES DEEP PLUS CLEARANCE FOR GRILLE. PRICE: \$1,000 PER PAIR. WARRANTY: "LIMIT-ED," THREE YEARS PARTS AND LABOR. MANUFACTURER: PIONEER ELECTRONIC CORP., JAPAN; U.S. DISTRIBUTOR: PIONEER ELECTRONICS (U.S.A.), INC., P.O. BOX 1760, LONG BEACH, CALIF. 90801.

IONEER-A MAJOR MANUFACTURER OF loudspeaker drivers and systems even before it established its present international reputation in electronics-has applied some innovative technology to each of the three drivers in its DSS-E10. The model number's prefix derives from Digital Standard Speaker and is intended to suggest a design engineered for exceptional dynamic range and handling of transients. The E indicates that the model is part of the Elite Series, Pioneer's premium component line-a designation fully deserved in that it sounds far better than the host of one-brand-system speakers it superficially resembles. The DSS-E10 also qualifies for its high-class billing by its incorporation of several advanced manufacturing techniques.

For starters, the tweeter is a unique ribbon-diaphragm device mounted in a shallow horn designed, say Pioneer engineers, to help overcome the inherent sensitivity imbalance between the high- and low-frequency ranges of ribbon tweeters. By adding several dB to the sensitivity at the low end of the tweeter's range, the horn matches it to the more efficiently produced upper range and prevents the high-frequency peakiness that could otherwise result.

The ribbon itself is made of beryllium to overcome a key shortcoming that has hampered conventional aluminum-ribbon designs: limited power handling because of aluminum's low melting point and tendency to fail under repeated excessive thermal stress. Beryllium is much stiffer than aluminum, which makes for a diaphragm that behaves more like an ideal acoustic piston. But As soon as the dealer said. "Towithout/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 terminal, and insulated flcating mechan sm.

#### 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 -hat's ir. between just like a CD should.

It blew me away.

### AKAI

Akai. Easy-to-program CD systems. Akai America, Ltd. Dept. R 800 West Artesia Blvd., Compton, CA 90220











DIGITAL

PHONES

COMPACT DISC PLAYER CD-A70

ACCESS SYSTEM

**ROOM RESPONSE CHARACTERISTICS** DB +5 0 -5 - 10 DSS E10 HZ 20 50 100 200 500 1K 2K 5K 10K 20K dary-dependent region on-axis respe eff-axis (30°) respo SENSITIVITY (at 1 meter; 2.8-volt pink noise) 90.5 dB SPL AVERAGE IMPEDANCE (250 Hz to 6 kHz) 10.9 ohms APPROX. TWEETER CONTROL RANGE (re "flet") + 1 -12 dB/nctave above 3.5 kHz APPROX, MIDRANGE CONTROL RANGE (re "flat") see text

beryllium is also difficult to work with, so Pioneer has adopted a rather arcane metalevaporation technique to make the tweeter.

A copper strip is used as a "mold"; it has transverse pleats near each end, with a pattern of hexagonal pyramids in the central section that actually will become the diaphragm proper. The ends are then masked with an acid-resistant coating and the central section evaporation-coated with bervllium. After further masking, the diaphragm is bathed in acid to dissolve the copper from the center section, leaving a stiff, multifaceted beryllium panel permanently attached to the pleats and copper end pieces. The hexagonal facets are a form of corrugation and increase the tweeter's rigidity. The pleats are part of the damping to absorb internal ribbon reflections; the copper easily accepts soldered leads, which beryllium doesn't. Because of the extremely low impedance of such a short conductor compared with the traditional voice coil, an impedance-matching transformer is built into the tweeter to enable its use with conventional crossovers and amplifiers.

The midrange driver's diaphragm—both its 4%-inch cone and the central domed cap-is made of what Pioneer calls boronized titanium. Titanium alone is fairly lightweight, having a density about halfway between that of aluminum and that of iron. But its stiffness is greater than that of aluminum and much higher than that of the cone paper from which midrange diaphragms traditionally are made. Boron alone is potentially better in both respects, but it's essentially unworkable by normal industrial processes. Pioneer manages to combine the two by another unusual technique: heating a titanium substrate surrounded with a powdered mixture of boron, carbon, and sodium bicarbonate in a vacuum chamber. The boron combines with the outer surface of the titanium to produce a material that is slightly less dense than the original titanium yet is considerably stiffer. The resulting diaphragm, according to Pioneer's tests, delivers a broader, smoother frequency response with less harmonic distortion than comparable paper-cone speakers.

Most radical of the three drivers, perhaps, is the woofer: It has two voice coils. One operates in the conventional way; the other acts in parallel but only below the first woofer's resonance frequency. The combination behaves rather like a so-called electronic subwoofer, drawing extra power from the amplifier in the range where bass rolloff otherwise would take over. In fact, Pioneer calls it Electronic Bass Drive, or EBD. In the DSS-E10, it is used in conjunction with bassreflex woofer loading (via a ducted port on the back panel).

To allow for the extra voice-coil excursion produced when the woofer descends at maximum levels into deeper-than-normal bass, the main magnet pole piece on the inside of the magnetic gap is specially contoured to direct the magnetic flux in a pattern intended to reduce distortion at high excursions (a design called LDMC, for Linear-Drive Magnetic Circuit). The 12-inch woofer cone is made of PG (a polymergraphite composite)-chosen, again, for its density and stiffness as well as its insensitivity to changes in humidity and temperature. The surround also embodies a proprietary Pioneer design: DRS (Dynamic Response Suspension), which is said to maintain linearity over an unusually broad dynamic range.

The system combines these three drivers, with crossovers at 650 Hz and 4 kHz, in what looks like an oversize "bookshelf" enclosure, though the labeling everywhere confirms that it is designed to be upright. Beyond that, the folder that serves as an owner's manual offers no specific instructions or recommendations about placement-only a drawing in which the speakers seem to be placed directly on the floor. The folder does say, however, that you must take care not to transpose left and right speakers, which are so marked on the speaker boxes and on the backs of the enclosures themselves. (The DSS-E10s are sold only in matched pairs, despite the per-speaker reference on Pioneer's price list.) Correct placement puts the tweeters at the upper outside corner of their baffles. Midrange and tweeter level adjustments are at the very bottom of the panel.

The grille, which covers the entire baffle, is made of stretch fabric over a rigid plastic frame. It has solid stiffening pieces at top and bottom but leaves the sides open for least possible impediment of sideward sound propagation. Not incidentally, these slots also offer a ready hand grip for removing the grille to gain access to the controls. The edges of the baffle itself are beveled and rounded at the sides to reduce diffraction. Electrical connections are made in a large, shallow well on the back panel. Our test samples had heavy-duty color-coded binding posts designed to accept only bared wires. (The text in the manual describes a more conventional connector, though its illustration shows the type on the samples.)

Diversified Science Laboratories measured response of the DSS-E10 with the speaker on a 12-inch stand and about three feet out from the wall behind it, with both controls set at their undetented "0" median calibrations. The results are remarkably flat: Normalized for average response in the socalled music band, the on-axis curve lies within +3.2, -1.6 dB from below 50 Hz to above 20 kHz except for a slight dip (to -2dB) in the 320-Hz band (probably the result of a floor reflection). Off-axis, this dip measures a little deeper in both level and pitch, reaching -2.5 dB in the 250-Hz band, and a new dip appears at the top of the midrange driver's assigned frequency band, suggesting some beaming in that range. Although the off-axis curve is distinctly rougher than the on-axis, it actually suggests less beaming at the very top of the band, which may be a tribute to the ribbon-horn design.

Measured behavior of the two level controls is somewhat surprising. Both have little effect when turned to the plus side, a lot when turned fully in the opposite direction. The tweeter adjustment bends the top range upward slightly at the maximum setting, downward quite steeply-like a 12-dB-peroctave filter at 3.5 kHz-at its minimum, indicating perhaps that the tweeter is removed from operation altogether at that setting. At its maximum, the midrange control introduces a shelf that is up about 3 dB from the "0" setting through the center portion of the driver's range, tapering off at the two crossovers; at its minimum, it introduces a dip of about 4 dB in the 500-Hz band together with a deep midrange void extending to about -22.5 dB at around the 2-kHz band. Obviously, we won't recommend turning the midrange control all the way down.

Distortion figures are good-about what you'd expect of a three-way system in this price range. Also typical of its size and design is the sensitivity figure. The unit accepted the full 63-volt peak output of the test amplifier (equivalent to 496 watts, or 27 dBW, into 8 ohms) during DSL's 300-Hz pulse test, to deliver a calculated peak sound pressure level of 117.5 dB at 1 meter. Impedance, which isn't influenced to any significant extent by the control settings, is fairly well controlled, ranging within the audio band from a high of 23 ohms (at the primary bass resonance near 60 Hz) to a low of 4.4 ohms (near 45 Hz, in the range where the two woofer voice coils are operating in parallel). The midbass impedance is low enough (5.8 ohms at around 100 Hz) that running extension speakers in parallel with the E10s might not be the best of ideas, but the average impedance is high enough (more than 10 ohms) that you need not be seriously concerned in doing so with most amps.

In our listening tests, we confirmed the appropriateness of the lab's 12-inch stand. With the speakers on the floor but away from other room boundaries, we judged the bass distinctly on the heavy side. With the speakers raised off the floor, the bass goes remarkably deep and remains rather prominent yet better balanced with the upper bands. In addition, the stand raises tweeter and mid-

#### 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 programming on every one of their models."

So Isaid, "Okav, okay. Akai"

Akai America, Ltd. Dept. R 800 West Artesia Blvd., Compton CA 90220

AKAI





VHS MIS STE

range driver closer to typical ear levels, a desirable condition inasmuch as this speaker's sound depends more than that of most other recently tested units on the relative heights of drivers and listener. This is the result, we think, of the deliberately limited vertical dispersion of the tweeter and the horizontal staggering of the drivers. When auditioning the DSS-E10, try to have it placed at the same height relative to your ears as it will be used in the home. You might also experiment with the controls set for a slight reduction in treble sensitivity and, depending on speaker position and program material, perhaps a slight midrange increase; these are the settings we liked.

To us, the E10's most appealing, and perhaps most obvious, quality is its crystal-

line delineation of instrumental textures—a little on the cool, bright side, but otherwise quite uncolored and natural-sounding. On some poorly recorded program material, it sounded a trifle hard, but still with very sharp transients and with an almost tactile immediacy that's very involving, whether on intimate chamber music or complex largeorchestra scores. With rock music, the bass heft was useful but never boomy.

Stereo imaging is less sharply defined, presenting a wider and deeper stage than average among similar speakers we've tested recently, but with slightly blurred instrumental placement, depending on the program material, Related to this phenomenon is the speaker's smallish "sweet spot": It sounds best from a centrally placed seat with the drivers pointed inward, directly toward the listener.

The extraordinary measures that Pioneer has used to engineer the DSS-E10 for the rigors of digital sound presumably account for its sharp, crisp sound on transients, its ability to sustain high playback levels with no sense of strain, and its potential for prodigious deep-bass output-three characteristics we particularly noted in our listening (ests. Yet despite the unusual technologies embodied in the drivers, the speakers are not unreasonably priced, suggesting that their innovations may find application in a relatively wide range of models. And because the virtues of the E10 appear to be the direct result of those innovations, we look forward to their further development.





DIMENSIONS: 171/3 BY 15 INCHES (BASE), 5 INCHES HIGH WITH COVER CLOSED; ADDITIONAL 11 INCHES OF CLEARANCE ABOVE AND 2 INCHES AT BACK NEEDED TO OPEN COVER FULLY. PRICE: \$400, INCLUD-ING 18B HEADSHELL (ADJUSTABLE VTA); ACCESSORY 18A OR 18B HEADSHELLS, \$15 EACH. WARRANTY: "LIMITED," ONE YEAR PARTS AND LABOR. MANUFACTURER: DUAL GMBH, SWITZERLAND; U.S. DIS-TRIBUTOR: ORTOFON, INC., 122 DUPONT ST., PLAINVIEW, N.Y. 11803.

T LAST! THE TURNTABLE A VERY VOCAL (if small) faction of our readers has been agitating for: a modern, no-nonsense, consumer-priced semiautomatic that need make no apologies in playing regular LPs and even 45s, one that is further equipped with a 78-rpm speed so that music lovers can play those antiques as well. In addition, the Dual CS-5000 has some important design features you will be hard put to find elsewhere. The CS-5000 is a quartz-lock design in which an optical control circuit monitors the frequency of passage of a pair of reflectors mounted on the underside of the platter. A precision-ground belt couples the platter to the drive shaft and motor, isolating them from the subchassis on which the platter bearing and tonearm are mounted. The platter itself is made of cast and machined aluminum alloy with a weighting bead in the outer edge, encased in a plastic sleeve to damp vibration. The heavy platter mat further helps damp any internal vibration.

The dual chassis rests on feet offering two degrees of damping, depending on the forces to which your record-playing system is subjected. As delivered, the turntable goes for maximum isolation from acoustic feedback. If you find the CS-5000 unduly affected by footfalls—and on the basis of our tests, we don't expect that you will—you can add supplied dampers to the feet, which then become exceptionally insensitive to footfalls. You can easily hear the difference by tapping on the top panel of the base, which is less isolated from the platter/tonearm subchassis with the dampers installed. (In the earliest production units, the dampers were inserted at the factory and should be removed unless you have a footfall problem.)

The arm is dynamically balanced, meaning that it doesn't depend on gravity to supply vertical tracking force and thus can theoretically be used without leveling the turntable. A counterweight balances the arm, then an independent mechanismusually, as here, a coil spring-creates the required VTF. The idea, as expounded by Dual, is to keep the arm as perfectly balanced as possible for behavior that is predictable and consistent. As the data from Diversified Science Laboratories show, the precision of the spring in the CS-5000's arm is above question. Periodic checking with a good VTF gauge may be in order in future years, because springs do fatigue, but Dual's point that an inherently balanced arm can be better behaved in some respects than a deliberately unbalanced one is well taken. The adjustable antiskating bias, set at a movable screw just in front of the arm mount, evidently works a similar spring arrangement around the vertical axis.

An important aspect of the design is the

#### The dealer said, "Surround Sound" is the difference between okay and Akai.

And *every* Akai receiver has "Surround Sound."

So I surrendered. Wouldn't you?

Wouldn't you buy a receiver that wrapped you in a saxophone sound so big it made you shiver and so real it woke up your cat?

Especially if it came with a seven-band graphic equalizer and wireless remote?

Wouldn't you?

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Building a breakthrough color TV takes brains: the computer brains of IC chips. Unlike the analog workings of conventional TVs, these new chips from NEC store, process, and control the picture in digital form. So TV performance can be raised to a higher level. The level of NEC Digital Television. Take a look at our 26" square picture. You'll see richer color, more contrast, more resolution, and more picture than ever before.\* With a VCR connected, NEC's digital Picture-in-Picture lets you watch two shows at the same time on the same screen. And our three-way digital freeze lets you stop even the fastest running back in his tracks.

It shouldn't surprise anyone that the company behind this surprising new TV is NEC. We're at the forefront of computers, monitors, and broadcast video. And that takes real brains.


#### TONEARM/CARTRIDGE MATCHING GRAPH

By means of this nomograph, you can quickly and easily determine the compatibility of any cartridge and fonearm 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 cattridge 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 harizontal line for the cartridge's dynamic compliance. 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  $22.5 \times 10^{-}$  cm<sup>-</sup> 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 nounted 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.



SPEED ACCURACY (105 to 127 VAC)

no measurable error at any speed	
WOW & FLUTTER (ANSI weighted peak)	
average	±0.045%
	±0.060%
TOTAL AUDIBLE RUMBLE (ARLL)	≈~66 dB
EFFECTIVE "ONEARM MASS	
with nonadjustable shell	≈ 12 grams
with variable-VTA shell	≈ 16 grams
VTF-GAUGE ACCURACY	
no measurable error, 0 5 to 3 0 grams	
TOTAL LEAD CAPACITANCE	165 pF

"discontinuity" of the arm at the four-point "gyroscopic" gimbal. This arrangement brings the arm's center of rotation into coincidence with its center of gravity, a must if the advantages of a dynamically balanced arm are to be realized. The configuration is necessitated by the vertical pivot being at the level of the record's surface—one of the few instances of this optimum positioning we have seen in many years of turntable watching.

When a warp raises and lowers the pickup mounted in the CS-5000, there is virtually no fore-and-aft movement of the stylus in the groove, as there is in a conventional arm with a vertical pivot above the level of the groove. This fore-and-aft motion "scrubs" the stylus tip with a velocity that alternately adds to and subtracts from the record's rotational speed, creating the characteristic pitch wavers known as "warp wow" that we all have learned to know and hate in playing analog records (its elimination is doubtless one of the reasons for the success of the Compact Disc). And in playing warped LPs on the CS-5000, we were indeed impressed by its absence. Dual's literature also implies some advantage to the design in playing offcenter pressings, though here we could perceive and, because of the geometry of the situation, would expect none.

At the front end of the straight, tubular tonearm is a removable headshell with an adjustment for vertical tracking angle. In the days of record changers (a format in which the company was a leader), such an adjustment could be used to compensate for the height of the record stack, though it never caught on for that purpose because it required attention each time the stack was added to. Here, it makes it possible to minimize distortion by compensating for a known disparity between vertical cutting angle and the cartridge's inherent vertical tracking angle.

The instructions in the multilingual owner's manual assume that your records were cut with a vertical angle of about 20 degrees simply because that is an international standard. (Many aren't, but you normally have no way of knowing what the real angle is, so Dual's assumption is as good as any.) The manual gives adjustment data for several well-known cartridges, and we publish measured VTA for each cartridge we test. On the basis of these figures, if they include your cartridge, you can tell by how many degrees it departs from the standard and, therefore, how much compensation (up to 5 degrees either way) should be dialed in at the calibrated knob in the top of the shell.

A plain headshell, without the VTA adjustment, is available as well. If you need extra headshells to house additional cartridges, you might automatically go for the adjustable model. But we can think of one circumstance where the nonadjustable version might prove better: to avoid excessive sensitivity to warps when using an extremely compliant cartridge by keeping total mass as low as possible (the nonadjustable shell lowers the arm's effective mass by about 4 grams). Our test reports on cartridges give arm-mass recommendations in order to avoid any problems in this area. The relationship also is explained by a nomograph that we make a practice of publishing with turntable or cartridge reports.

For the record, Diversified Science Laboratories tested the CS-5000 with the lighter shell (except where results with both are specified), though this should make absolutely no difference in the other performance figures as long as the mass is appropriate to the cartridge in use. As you can see in our data column, the lab could measure no speed error, and flutter is on a par with that of other top models these days. Measured with an unmodulated test lacquer (our regular method), the rumble figure isn't quite in the championship league, but it's very good nonetheless.

Performance, then, is excellent all around. The only technical feature that might be considered wanting is a variable speed adjustment. How serious an omission this is will depend on the use you plan for the CS-5000. With electrical recordings at any of the three basic speeds, it's a nonissue for all but the rarest of exceptions or special needs. However, if you want to play acoustically recorded 78s, an adjustment range of at least  $\pm 10$  percent would be desirable (and even that won't quite accommodate some

relatively esoteric discs) for reproduction to be at true pitch—if you can determine what that is. Then again, many owners will be delighted to hear their ancient artifacts at all, even transposed by a half-tone and with vocal and instrumental colors, as well as tempos, slightly altered.

In more obvious and practical terms, the CS-5000 strikes us as very attractive. The base (which deserves the British term "plinth" in this case) is covered with real walnut veneer and is engagingly sculptural in form. The controls are inside the dust cover, but since cueing is manual, this is no hardship: The cover must be open when you start play under any circumstance. When you move the arm toward the platter, the drive starts automatically. At the end of play, the arm rises and the drive shuts off. This minimum of automation keeps the design from ever getting in your way but supplies the two features of automatics that are, in our opinion, the most desirable. The CS-5000 is, in fact, among the most handsome and capable models we have ever tested from D.ial-and that includes more than a few that were trendsetters in their day. (CONTINUED ON PAGE 39)

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# Linn LK-1 Preamplifier

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DIMENSIONS: 101/2 BY 3 INCHES (FRONT), 101/2 INCHES DEEP PLUS CLEARANCE FOR CONNECTIONS. AC CONVENIENCE OUTLET: SEE TEXT. PRICE: \$795; OPTIONAL WIRELESS REMOTE CONTROL, \$95. WARRAN-TY: "LIMITED," TWO YEARS PARTS AND LABOR. MANUFACTUZER: LINN PRODUCTS, LTD., SCOTLAND; U.S. DISTRIBUTOR: AUDIOPHILE SYS-TEMS, LTD., 8709 CASTLE PARK DR., INDIANAPOLIS, IND. 46256.

INN HAS LONG BEEN CELEBRATED AS THE source of the estimable Linn Sondek turntable, but recently it has branched into other component categories with accelerating vigor. Among its most impressive achievements so far are the LK-1 preamplifier and matching LK-2 power amp, which, though designed to be operated together, can also be used separately. We chose to test the preamp with its optional wireless remote control, which makes use of the microprocessor-supervised signal-routing logic built into the LK-1.

By means of that microcomputer, the controls-contained in a keypad on the front of the preamp (and duplicated on the remote)-operate semiconductor switches placed in the signal path (as opposed to mechanical switches on the front panel). Such a layout, which requires no signal leads to the front panel, keeps both circuit-board traces and point-to-point wiring as short and simple as possible. The volume control is also digitally controlled, using a 256-step "ladder" of resistor elements (built into an IC) instead of the voltage-controlled amplification stage or similar means commonly employed. The result is much finer resolution than we usually encounter in electronic volume controls-about 1/4 to 1/2 dB per step

over most of the operating range-and no added noise or distortion.

Linn's literature has a lot to say about similar concerns for detail, such as the extraordinary pains taken to keep control-signal noise out of the audio path. Although these efforts certainly contribute to the unit's sonic quality, they are no less than we would expect of the company. More telling in conveying the LK-1's flavor is the absence of tone controls. In the context of the sort of sonic precision Linn is after, conventional tone controls make little sense; if you want deliberate response alterations, a high-quality equalizer would be more to the point.

The last selected signal-route and volume setting remains memorized at shutoff, as do any differences in gain adjustment you choose to make for the various inputs, thanks to a built-in nicad battery that recharges automatically and runs for several months even with the power cord disconnected. Life expectancy of the battery itself, which can be replaced by Linn dealers, is five to ten years; when it fails, the preamp continues to work normally except that it fires up with all controls in their "zero" settings: minimum volume, centered balance, all inputs disconnected, and so on.

Listening and recording functions are separate, so that you can record from one source while you listen to another. The only exception is the phono section, which has a single RIAA-equalization stage and cannot provide simultaneous use of the two phono inputs: one for moving-coil cartridges, the other for fixed-coil (moving-magnet or mov-

DUTPUT AT 1% THD (at 1 kHz	; see text)			5.2 vo	lts
HARMONIC DISTORTION (TH	ID; 20 Hz 1	o 20	kHz)		
aux input				≤01	12%
phono input (fixed-cuil)				$\le 0.0$	)54%
FREQUENCY RESPONSE					
	+01	2 dB.	36 Hz	to 18.6	k Hiz
	+0,-3	dB, 1	3 Hz Io	51 9 kH	Iz
REAA PHONO EQUALIZATION					
DB	T		-	-	17
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-5		-	+	+	UK T
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12 20 00 100 200	+ 03	- 0.7	-	20 1.111	
fixed-coil	-26 1/4			ZU KHIZ	
moving-col	- < 1/2	i, -1	1/2 dB.	20 Hz 1	o 20 kHz:
	-14 dB a	1 5 H	Z		
SENSITIVITY & NOISE (re 0.1	5 volt; A-v	veigt	nting)		_
	sensitiv	ity			ratio
aux input	230 mV			91 1/	
fixed-coil phono	2.17 mV			78 di	
moving-coil phono	۷4 145 µ۷			82 dl	3
PHONO OVERLOAD (1-kHz cl	ipping)				
fixed-coil phono				68 m	V
moving-coil phono				4.5 n	nV
INPUT IMPEDANCE					

moving-coil phono		4.5 mV
INPUT IMPEDANCE		
aux input	11k ohms	
fized-coil phono	91k ohms: see ter	đ
moving-coil phono	150 ohms	
OUTPUT IMPEDANCE		
main output		80 ohms
tape output from aux inpu	ıt	550 ohms
tape output from phono in	nput	560 ohms
CHANNEL SEPARATION	(at 1 kHz)	86 dB

ing-iron) models. You can, however, use either one of the phono sources in conjunction with another source for recording or listening. For testing, there are quick-set commands for full-left and full-right balance—as well as one to recenter the balance (which has no "center detent" because it consists of a button pair, rather than a knob). And there are commands to disable the controls (for kid- or party-proofing) or to disable just the remote, leaving the front panel in sole command.

On the back panel-in addition to the two sets of gold-plated pin-jack phono connections-are two high-level inputs (TUNER and AUX), two tape input/output sets, and two outputs. These line-level signals are connected via XLR multipin jacks and plugs-what often are called Cannon connectors, after the company that introduced them. Those for the tape connections have five pins (input and output signals for each channel plus ground), while the remainder have three pins. In professional gear, XLRs usually are employed for "balanced," "push-pull" connections: a pair of conductors for the signal plus a ground shield. Here they evidently have been chosen for their ruggedness and the surety of their connections; electrically, they provide the same unbalanced hot-plus-ground setup as conventional pin jacks.

Fortunately, that makes it relatively easy to fabricate the necessary adapters, because no matching transformers are needed, as might be the case with balanced connections. And Audiophile Systems, which supplied adapters for our tests, says they can be acquired through Linn dealers; you are not likely to find them at your local parts store. Nor will you find an AC cord to mate the single IEC-style grounded accessory outlet on the back panel. Since the outlet is unswitched, most U.S. users probably will simply ignore it.

As with many of the products we test that are designed for listening quality rather than specsmanship, there are some measurements that would seem a trifle disappointing if you were to place them against comparable data for competing products that are more spec-oriented in design. For example, harmonic distortion is a little higher than average for a top preamp, and response rolls off slightly toward the frequency extremes. But one must always assess the significance of such disparities: The LK-I's departures from flat response are so small and so limited to the frequency extremes as to be of no material importance. Its distortion performance is likewise more than adequate for subjectively distortion-free listening.

Our primary response measurement is through the aux input. The low-frequency rolloff is greater through the phono inputs, and the moving-coil stage is a hair less flat overall—but again by only a trifling amount. The fixed-coil input actually rolls off more in the deep bass. This isn't all bad, because it also achieves greater warp-signal attenuation than the moving-coil input. No other infrasonic filtering is supplied, and none is needed for the other inputs.

Most surprising, however, is the fixedcoil phono input impedance, which (at least in our test sample) varies with frequency and cannot be represented as a simple resistor/ capacitor network. And at 1 kHz (the frequency at which phono input impedance normally is specified), the resistive component measures nearly twice the standard 47,000 (47k) ohms. With many pickups, this presumably would make little or no difference, but some fixed-coil models are loadsensitive and therefore may deliver more irregular treble response than could be expected with a more conventional impedance characteristic.

But if the sound of the phono section may, to that extent, depend on the cartridge you choose, the overall sound of the preamp impressed us with its clean openness. More immediately remarkable, however, is the digital control scheme, which, though taking some study to master, is well thought out and a pleasure to use.



#### VCR SECTION

Except where otherwise indicated, the recording data shown here apply to all three speeds—Beta Is, Beta II, and Beta III—with Super Beta on. All measurements were made at the direct audio and video outputs, with test signals injected through the direct audio and video injuts. For Beta III-F1, the 0-dB reference injut level is the voltage required to produce 3-percent third-harmonic distortion at 315 Hz; for the standard audio recording mode, it is 10 dB above the voltage at which the automatic level control (ALC) produces 3 dB of compression at 315 Hz. The 0-dB reference output level is the output voltage from a 0-dB input

#### BETA HI-FI RECORD/PLAY RESPONSE (-20 dB)

DB	r		T	r	<u> </u>	<u> </u>	r	<u> </u>		n l
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HZ :	20 !	0 1	00 2	00 5	00 1	К 2	2K 5	K 10	DK 2	OK
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#### STANDARD RECORD/PLAY RESPONSE (-20 dB)

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SL H	F750 (2)				+	-	~	
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HZ 20	50 100	200	500	1K	2K	5K	10K	200
	Betu is		+28	. – 3 dB.	84 Hz to	10.3	kHz	
	Beta H		+1,-	-3 dB, 8	2 Hz to 7	1 kHz		
	Beta III		+05	, -3 dB,	100 Hz t	0361	cHz	

DIMENSIONS: 171/2 BY 41/2 INCHES (FRONT), 161/2 INCHES DEEP PLUS CLEARANCE FOR CONNECTIONS. PRICE \$1,300. WARRANTY: "LIMIT-ED," ONE YEAR PARTS, 90 DAYS LABOR. MANUFACTURER: SONY CORP., JAPAN. U.S. DISTRIBUTOR: SONY CORPORATION OF AMERICA, 1 SONY DR., PARK RIDGE, N.J. 07656.

O JUDGE BY SONY'S SL-HF750 VCR, THE reports of the death of the Beta format are as exaggerated as were those of the demise of Mark Twain. As if deliberately combatting such rumors, the SL-HF750 has almost every feature you could imagine: both Super Beta and standard Beta recording, Beta Hi-Fi stereo audio, a six-event/ three-week programming system, the extensive variable-speed plavback facilities unique to the Beta format, equally comprehensive on-screen displays and programming aids, and a top-notch cable- and MTSready tuner. And, wonder of wonders, the SL-HF750 reintroduces the Beta I recording speed of the first Betamaxes. To be more precise, the VCR incorporates a variation, Beta Is; while partially incompatible with the original Beta I format, it is claimed to produce the best home video sound and picture available today.

Beta Is is simply a Super Beta recording made at the fast Beta I speed. In theory, the combination should result in video resolution and signal-to-noise ratios unexcelled by any other home video recording system. On the SL-HF750, Beta Is recordings are made in the Super Beta mode regardless of the Super Beta switch setting. For that reason, they cannot be properly reproduced on a non-Beta Is deck even if it is able to reproduce conventional Beta I tapes. And though the Super Beta switch has no effect when recording a Beta Is tape, it must be set in the Super Beta position to play that tape without overload. The off position is used to reproduce conventional Beta I tapes and to make recordings for use on non-Super Beta VCRs. Naturally, the SL-HF750 also records and plays at the popular Beta II and Beta III speeds. Playback speed is set automatically; choice of recording speed and Super Beta



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	standard	Bet	a Hii-Fi
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Beta II	43 dB	90 c	18
Beta III	42 1/2 dB	90 0	18
INDICATOR CALIBRATION (3	315 Hz; Beta Hi-Fij	)	
for 0-dB input		> ·	+5 dB
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	standard		u Hi-Fi
Beta is	≤ 0 58%		15%
Beta II	≤ 0 80%		15%
Beta III	≤1.11%		15%
CHANNEL SEPARATION (31)	5 Hz; Beta Hi-Fi)	67 0	18
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Response time		14	msec
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SENSITIVITY (for O-dB output	vi: 315 Hz)		
Beta Hi-Fi		360	mV
standard			6 volts
MAXIMUM AUDIO OUTPUT	(from 0. dll incode	216 Max	
Beta Hi-Fi	(ITOM O-OD IMPOI)		4 volts
standard			+ volts
AUDIO INPUT IMPEDANCE	(Beta Hi-Fi)	87k	ohms
SUPER BETA VIDEO RECORD	PLAY RESPONSE		
	Bota Is	Beta II	Beta III
at 500 kHz	flat	+ 0.25 dB	+ 0.75 dB
at 1.5 MHz	+ 2.25 dB	+ 1 75 dB	-1 75 dB
at 2.0 MHz	+10 dB	-0 5 dB	-7 <u>0</u> dB
at 3.0 MHz	-19 25 dB	-19 25 dB	-23 5 dB
et 3.58 MHz	•	•	•
	-20 75 dB	-18 75 dB	-17 25 dB
et 4.2 MHz			
et 4.2 MHz STANDARD VIDEO RECORD,	/PLAY		
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et 4.2 MHz STANDARD VIDEO RECORD/ RESPONSE	Beta Is		
et 4.2 MHz STANDARD VIDEO RECORD/ RESPONSE et 500 kHz	Beta Is N/A	-0.25 dB	flat
et 4.2 MHz STANDARD VIDEO RECORD/ RESPONSE et 500 kHz et 1.5 MHz	N/A N/A	-0.25 dB -0.25 dB	flat -3.25 d8
of 4.2 MHz STANDARD VIDEO RECORD/ RESPONSE of 500 kHz of 1.5 MHz of 2.0 MHz	Beta Is N/A N/A N/A	-0.25 dB -0.25 dB -7 0 dB	flat -3.25 dB

+ 1 25, -1 dB
+ 28 dB
+ 3 7515 75 dB
+ 3, -6 dB
no measurable effect
6% high

are made via switches behind a fold-down door on the far right of the front panel.

To aid in locating taped segments, the SL-HF750 automatically records an index mark on the tape whenever a recording is initiated by means other than releasing the pause control. Pressing INDEX MARK enables you to place such cueing points on other parts of the program during recording and normal playback even if the safety tab on the cassette has been removed; in this way, you can mark favorite scenes in prerecorded tapes. If you press INDEX on the main panel once and then press FAST FORWARD or RE-WIND, the deck will scan through the tape in the desired direction and reproduce about 10 seconds of the recording at each mark. You can stop the scan and resume normal playback at the desired program by pressing PLAY. You also can search for a particular program as many as 15 index marks away by repeatedly pressing INDEx before pressing a fast-wind button. Index marks can also be erased

All these indexing operations are accompanied by illumination of appropriate indicator lights on the SL-HF750 and—if you press DISPLAY on the hidden panel—by words superimposed on the picture on the monitor (none of the text is recorded, however). In addition to putting up the index legends mentioned above, the on-screen display can also be switched to show the tape-counter reading and the various deck modes, including playback speed and direction, and to set and check the programmer. It also indicates the channel number for a few seconds each time it is changed.

EDIT (on the hidden subpanel) reduces the inevitable degradation in picture quality when copying Super Beta tapes to another deck. With a compatible second deck, automatic assemble and synchro editing can be performed by interconnecting the two machines with an optional RK-69A cable, which fits into a special back-panel connector. For the advanced videographer, the SL-HF750 also is compatible with Sony's RM-E100/E100V Video Editing Controller.

The main transport controls are on the lower half of the main panel between the display and the subpanel door. Above them are the variable-speed picture controls and buttons that determine the direction in which the special effects occur. The complement provides not only still-frame and frame-advance/reverse with each press of STILL but also one-tenth, one-fifth, normal-speed, and double-speed motion (except in Beta I or Is) in either direction and continuous Beta Scan. Beta Scan also operates for as long as you press FAST FORWARD or REWIND during playback. The controls further allow momentary viewing of a picture while fast-forwarding or fast-rewinding (Beta Skip Scan).

The SL-HF750 has a cassette-loading system that we've not encountered before. Linear Skate Cassette Loading uses a slideout tray (which makes up most of the left half of the front panel) that combines the primary advantages of both top- and front-loading VCRs: to wit, the ability to stack other equipment on the VCR while minimizing the height of the VCR itself. Touching EJECT causes the tray to glide out of the VCR proper and the tray's internal cassette holder to tilt up so you can load or unload a tape easily. The larger open/close button causes the tray to slide back into the chassis or to slide out again during normal operation so you can check the amount of tape remaining (the holder does not elevate in this case). For convenience, pressing EJECT with the poweroff automatically turns the deck on, and you cannot eject a tape while recording.

On the lower right half of the cassette tray are the TV/VTR, counter reset, index, and tape return buttons. The last automatically returns the tape to counter-zero-indicated as "0H 00M 00S," since the counterreads time rather than "footage." If you press PLAY during the rewind period, the SL-HF750 will automatically replay the tape after rewinding. Above these buttons are dual sliders that control audio recording level for the Beta Hi-Fi mode. Recording level on the edge track is set automatically. Audiolevel is indicated by two peak-reading LED meters, with the recommended setting for off-the-air taping suggested by a detent at the midpoint of each control.

The SL-HF750's Remote Commander operates all important deck functions and then some. It also can be used to control certain functions of compatible Sony televisions. And it has a command-set selector that must be switched to match the mode of the SL-HF750 as described above. Then, from the remote, you can control power, raise and lower volume, mute the sound, switch from TV to VCR viewing, scan up or down through the channel memory (or raise and lower the timer setting), tune any channel directly via a ten-key pad, and set and check the program memory contents. Other buttons enable you to switch the deck into the timer-recording or quick-timer modes, place and erase index marks, reset the tape counter, activate and deactivate the onscreen display, and control the special playback effects (still frame, Beta Scan, and onetenth, one-fifth, normal, and double speed in either direction). The preceding is only a partial list of what the SL-HF750 Remote Commander will do. The complete list is so extensive that Sony has seen fit to design the remote with a translucent door that covers all the aforementioned keys except the most important tuner and VCR controls.

Also on the remote are index and tapereturn buttons and Sony's unusual log Dial and Shuttle Ring with accompanying channel/timer and Jog Shuttle buttons. By pressing CHANNEL/TIMER and rotating the log Dial clockwise, you advance through the channels toward the higher-numbered stations. Counterclockwise takes you the other way. Similarly, the Jog Dial can be used to adjust the programmer time settings. In tape playback, a press of log Shuttle initially freezes the picture and enables you to play the tape in either direction at a variable speed determined by the rate at which you rotate the Jog Dial. The Shuttle Ring (which surrounds the log Dial) selects one-fifth. normal, or double speed or continuous Beta Scan in either direction.

Diversified Science Laboratories' bench tests and our viewing tests basically confirmed each other: Picture quality is excellent. In the Super Beta mode, video frequency response (proportional to horizontal resolution) is exceptionally good at both the Beta II and Beta Is speeds. Luminance response is essentially flat to 2 MHz at either speed—something we've not seen often in a consumer VCR, and then only with Beta machines-implying a resolution comfortably in excess of 160 lines. Even at the Beta III speed, Super Beta recording yields a resolution of almost 160 lines (based on a -6-dB criterion), a response almost identical to that of a Beta II tape recorded without Super-Beta. Clearly, for best performance you should use the Super Beta recording mode whenever possible.

Luminance level is fairly accurate at all three speeds, although the gray-scale linearity is somewhat better at the two faster speeds than at Beta III. Chroma level and average phase error (corresponding to saturation and hue, respectively) are excellent at all speeds, with only a slight edge given to Beta Is. In all cases, the chroma differential gain and phase were less than the residual AM and PM chroma noise. Nonetheless, the faster the tape speed, the less the chroma noise (both on the test bench and in viewing), so here's one respect in which Beta Is has a slight but visible edge.

However, neither on the bench nor in the viewing room did the Beta Is mode exhibit such superior performance that we'd willingly sacrifice half the recording time (compared to Beta II) to get it. That's not to say that it isn't better. It's just that, in our opinion, it will be only a rare occasion (like an important live recording) that warrants the trading off of time for performance, especially in light of the excellent performance available at the Beta II speed in the Super Beta mode. Still, the SL-HF750's Beta Is mode offers the best picture quality of any home VCR we've tested.

If there is one respect in which Beta Is performance is clearly superior to that at the slower speeds, it is for normal edge-track audio recording. Flutter at the fastest speed is lower than we've ever before measured on a VCR and a match for that of a good audio cassette deck. Flutter at Beta II is admirably low as well. Distortion is lowest at the Beta Is speed (about two-thirds that of Beta II and half that of the slowest speed), and Aweighted noise is 3 to 4 dB lower as well. Frequency response with Beta Is edge-track recording is substantially better than can be had at the slower speeds.

As is to be expected from the way the system operates, Beta Hi-Fi performance is essentially identical at all speeds; in the case of the SL-HF750, it's excellent. The tracking of the noise reduction system is as perfect as we could document. At every speed, A-weighted noise is a full 90 dB below 3-percent distortion, and flutter is below our reporting limit of  $\pm 0.01$  percent. Distortion performance at 10 dB below the 3-percent point (a level equivalent to approximately a 0-dB reading on the meters) is about the best we can recall seeing from any VCR.

The SL-HF750's tuner is first-rate. Audio response is very flat, and the signal-tonoise ratio is substantially better than we usually measure, even with highly repetitive, noise-inducing video patterns. Stereo TV performance also is more pleasing to the ear than we've experienced before. And though the lab found a trace of whistle at half the horizontal-scan frequency, it was quite low (inaudible during our viewing tests); at the full-scan frequency, it was almost completely suppressed.

Tuner video performance also measured well. Its frequency response implies a resolution of about 300 lines or so if the signal is fed directly to a good monitor. Luminance level and gray-scale linearity are good. And though the lab found a somewhat greater than usual chroma differential gain, the discrepancy is confined to the brightest scene level, where it is likely to go unnoticed. Chroma differential phase (hue change with scene brightness) is very low, as is actual chroma phase (hue) error.

All our measurements and viewing point

**GRAY-SCALL NONLINEARITY (worst case)** Beta Is ≈11% Beta II ≈11% Beta III ≈ 16% CHROMA LEVEL Beto is standard Beta II ≈05dBlcw Reta III ≈0.5 dB low CHROMA DIFFERENTIAL GAIN ... CHROMA DIFFERENTIAL PHASE MEDIAN CHROMA PHASE ERROR Beto Is none Beta II + 7\* + 7

Beta III + Too low to measure "Below the recarder's video noise floor

Deidwithe Lachtoel 2 Alden Holze Hod

#### TV TUNER SECTION

All measurements were taken at the direct audio and video outputs

UDIO	FREQUENCY	RESPONSE	(ma

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нz		50		200	500	1K	2K	5K	TOK	20
					+1,	-3 dB.	25 Hz 13	14.5 kl	Hz	

best case (no color or luminanc	(e)	58 dB
worst case (multiburst signal)		46 25 dB
RESIDUAL HORIZONTAL-SCAN	COMPONENT (15	.7 kHz}
		-62 75 dB
MAXIMUM AUDIO OUTPUT (1	00% modulation)	
Beta Hi-Fi	`	2 31 volts
Standard		0 30 volt
AUDIO OUTPUT IMPEDANCE		1,530 ohm:
VIDEO FREQUENCY RESPONSE		
et 500 kHz		+ 0 25 dB
et 1.5 MHz		-0 25 dB
et 2.0 MHz		-0 5 dB
at 3.0 MHz		-2 5 dB
at 3.58 MHz		-5 0 dB
at 4.2 MHz		-14 75 dB
LUMINANCE LEVEL		12% high
GRAY-SCALE NONLINEARITY (	worst case)	≈11%
CHROMA DIFFERENTIAL GAIN		≈ 32%
CHROMA DIFFERENTIAL PHASE		≈±5°
CHROMA EEROR		
	level	phase
ned	-4 5 dB	+ 2*
maganta	_4 5 dB	+ 3°
blue	-4 25 dB	+1*
CYBR	~45 dB	+ 6*

-45 dB

-45 dB

an errer

rrectuble error

4 375 dB

+0.125 #8

+ 4"

+ 4°

+35

± 2 5\*

to one conclusion: The Sony SL-HF750 is an extraordinary VCR. If we seem a bit down on its Beta Is mode, that's only because of how impressed we are with the deck's Super Beta performance at the Beta II speed. In the Beta Is mode, there is no question that the Sony SL-HF750 produces the finest picture we've seen from a home VCR to date. Then again, were it not for the presence of Beta Is, we'd also say that about the SL-HF750's Beta II mode! Either way, it's a real winner.

# A man's home is



The revolutionary Yamaha DSP-1 brings world-famous acoustical environments into your listening norm at the push of a button. Its 30-key wireless remote unit (below) controls a two-line, 16-character backlit LCD that displays all program functions on the DSP-1.

With the introduction of the new Yamaha DSP-1 Digital Sound Field Processor, listening to recorded music at home is no longer the next best thing to being there.

It is being there. Quite literally.

The most significant advancement in acoustic realism since stereo, the DSP-1 enables you to enjoy performances in the actual listening environments in which they were intended to be heard in the first place. Without leaving your home.

In twelve of the world's most famous sites, to be exact. Including three concert halls, a chamber, cathedral, church, disco, jazz club, rock concert arena, warehouse loft, pavilion, and outdoor stadium.

Additionally, the DSP-1 offers a four-directional presence mode as well as three surroundsound systems: a large theater, a medium sized theater and even digital delay Dolby' surround. Previous analog "surround" processors

simply produced the illusion of a sound field by altering the existing stereo signal. The new DSP-1, however, digitally reproduces the actual sound fields of the world's finest listening environments, without affecting the purity of the original source material.

Utilizing the Yamaha-developed fourmicrophone Single Point Quad sound field analysis technique, Yamaha engineers spent five years analyzing the acoustic architecture of the world's most noted performance facilities, including echo patterns, reflective personalities and such data as timing, volume level and apparent source directionality. This information was then programmed into the

DSP-1's computer memory (ROM).

The frequency response and dynamic range

# It's his cathedral, church, disco, stadium



# no longer his castle.

characteristics from your stereo source material trigger the continuous release of this information, to precisely reproduce the acoustic personalities of selected performance environments.

The reproduction of this acoustic architecture in your home is made possible by the development of a proprietary Yamaha VLSI (very large scale integrated circuit), the YM-3804. It calculates early sound reflections in real time based on the echo patterns stored in the DSP-1 memory—enabling accurate re-creations of these listening environments at the push of a button.

Each reflection is calculated using the very same sampling rate and quantization as compact discs (44.1 kHz, 16 bit linear), producing an output with dynamic range of 94 dB and 0.006% THD, making audiophile quality digital sound field synthesis possible for the very first time.

Every DSP-1 acoustic response pattern has several key response parameters you can alter to customize the size, shape and character of the listening environment.

These include room size, liveness, initial delay time, high pass filter cutoff, low pass filter cutoff and reverberation time.

After modifying a program, you can then give it a name, and store it in one of the DSP-1's 16 user memories.

In addition, there are 16 sound effector programs built in, such as time-delay, stereo flange, tremolo, chorus, pitch change and auto panning. So the DSP-1 can also be used effectively as a musical instruments effects device.

000

All sound field modes and parameters are controlled from the palm of your hand, since the DSP-1 is operated by a 30-key wireless remote control. This allows you to select the performance environment and adjust parameters — even program them into memory — without sacrificing the perspective of your listening position.

Its large backlit LCD confirms all mode selections and parameter readings as you make them. The remote control also lets you adjust the effect level and front/rear balance, and even give titles to those new modes you program.

The full benefits of Yamaha sound field synthesis is best experienced with four speakers which are powered by the new Yamaha 4channel M-35B power amplifier, in addition to the front stereo speaker pair, driven by your existing amplifier.

If desired, however, the front left and front right output may be combined with the existing main-channel speakers.

For our thorough White Paper on Yamaha digital sound field synthesis, please write us at the address shown below.

But mere words can never hope to convey the magnitude of this accomplishment. Visit an authorized Yamaha dealer today for a complete demonstration. And discover why stereo alone is now as outdated as living in a castle.

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

CONCERT



# concert hall, jazz club, and theater.

DIGITAL

# Reality Realized

#### SONIC HOLOGRAPHY TRANSFORMS EXCITING **NEW PROGAM SOURCES AS WELL AS FAMILIAR OLD ONES INTO TRULY LIFELIKE MUSIC EXPERIENCES.**

Watch a movie on a 13" black and white TV. Now see it in 70 millimeter Technicolor with Surround Sound.

Listen to your favorite musicians on a portable radio. Now sit three rows back from the stage at a live concert.

The difference is dimension: Width, depth, breadth and detail that turn flat sensory input into breathtaking reality. They're the missing ingredients of live musical performance that Sonic Holography restores to records, compact discs and even hi-fi movie soundtracks.

The most experienced and knowledgeable experts in the audio industry have concurred. Julian Hirsch wrote in Stereo Review. "The effect strains credibility - had I not experienced it, I probably would not believe it.'

High Fidelity magazine noted that "...it seems to open a curtain and reveal a deployment of musical forces extending behind, between and beyond the speakers." According to another reviewer, "It brings the listener substantially closer to that elusive sonic illusion of being in the presence of a live performance.

All this with your existing speakers and music collection.

HOW SONIC HOLOGRAPHY WORKS. Unfortunately, conventional stereo cannot isolate the output of left and right speakers and send their output only to your left and right ears. Left and right versions of a sound occurrence also cross in the middle of your listening room, confusing your ears with additional extra sound arrivals a split second apart. Stereo imaging and separation suffer because both speakers are heard by both ears, confusing your spatial perception.

The Sonic Hologram Generator in the Carver 4000t Preamplifier, C-1 Preamplifier and Carver Receiver 2000 solve this muddling of sound arrivals

POWFRFUI

by creating a third set of sound arrivals. These special impulses cancel the objectionable second sound arrival, leaving only the original sound from each loudspeaker.

The result is a vast sound field extending not only wider than your speakers, but higher than your speakers as well. Sounds will occasionally even seem to come from behind you! It is as if a dense fog has lifted and you suddenly find yourself in the midst of the musical experience. Or, as the Senior Editor of a major electronics magazine put it. "When the lights were turned out, we could almost have sworn we were in the presence of a live orchestra."

**IMAGINE THE POSSIBILITIES.** Thanks to VHS and Beta Hi-Fi stereo soundtracks (found even on rental tapes), and the increasing number of stereo TV broadcasts, Sonic Holography can put you inside the video experience, too.

It's a breathtaking experience. Without the need for additional rear speakers, extra amplifiers or decoders, the visual experience is psychoacoustically expanded by lifelike sound that envelops you, transforming stereo from monochromatic flatness into vibrant three-dimensional reality. Instead of being at arm's length from the action, you are immersed in it.

Then there are the familiar audio sources which Carver innovation has further improved upon, each of which gains character and

heightened impact through Sonic Holography.

Compact discs, whose potential is still trapped in the two-dimensionality of conventional stereo, are even more lifelike with Sonic Holography.

Thanks to the Carver Asymmetrical Charge-Coupled FM Detector, FM stereo broadcasts can be received hiss- and interference-free, ready to take on an astonishing presence and dimension through Sonic Holography.

Even AM stereo can actually become a threedimensional phenomenon with Sonic Holography and the new Carver TX-11aAM/FM tuner which delivers AM stereo broadcasts with the same dynamics and fidelity as FM.

#### ENHANCE YOUR SPATIAL AWARENESS WITH CARVER COMPONENTS. When considering the purchase of a new preamplifier or receiver, remember how much more you get from the Carver 4000t, C-1 and Receiver 2000. Or add Sonic Holography to your existing system with the C-9

add-on unit. Each can transcend the limits of your listening (and viewing) experiences by adding the breathtaking, spine-tingling excitement that comes from being transported directly into the midst of audio-

video reality Visit your nearest Carver dealer soon and expand your range of experiences with Sonic Holography.



MUSICAL

# PRODUCTION A TABLADA AND MICHAEL RICGS PRODUCTS AND MICHAEL RICGS

#### HIGH FIDELITY'S EDITORS PICK THE BEST AND THE BRIGHTEST OF THE YEAR'S AUDIO AND VIDEO COMPONENTS.

HEN TECHNICAL EDITOR DAVID RANADA FIRST SUGGESTED that we start giving an award for product of the year, we had two reactions. The first was "Great idea!" The second was "If only we'd thought of this before." Last year, for example, saw the introduction of the Acoustic Research MGC-1 loudspeaker, the Sony Handycam, the Shure HTS-5000 surround-sound decoder, and the Pioneer PD-M6 Compact Disc player—and those are just the products that come immediately to mind. Contenders from earlier years might have included the Compact Disc itself (surely), the first Carver Magnetic Field amplifier, the Allison One loudspeaker, the original Apt electronics (the Holman preamp and Model One power amp. CONTINE UEDON PAGE 5

NICK BASILION

# A Denon amp VS. its only competition.

DENON

Denon PMA-900V Integrated Amplifier

Denon Americo, Inc., 27 Law Drive, Fairfield, NJ 07006 Denon Canada, Inc., 17 Denison Street, Markham, Ont. L3R 1B5 Canada ERA-95VR: Remote Cortral; Video Capability; 85 W/chboth ch. driven, 8 Ohans. 20 Hz-20 kHz, 0.03% THD.



DRA-55V: Non-Switching Class A Circuitry; Video Copobility; 52 W/ch., both ch. driver, 8 Oams, 20 Hz-20 kHz, 0.015% ThD.



DRA-75VR: Rerente Contral; Vic 30 Capability; 65 W/ch. both ch. driven, 3 Olims, 2C Hz-30 kHz, 0.03% THD.



DRA-35V: Non-Switching Class & Circuitry; V.deo Capability 40 W(ch., both ca. driver, 80 ms, 20 Hz-20 kHz, 0.05% TAD.

Admittedly, I's lough to compete with Denon's integrated amplifiers. In Japan. they've been praised for "a wide balance and richness in sound" and called "nothing short of phenomenal." But row Denon amps are getting a run for their money... from the new Denon receivers.

Combining a separates-quality amplifier and tuner on the same chassis is not a new idea. But who else actually does it? Lock inside the new DRA-95VR Receiver and you'll find precise y the same circuits that make Denon amps so highly acclaimed.

You'll discover the same Pure Curren Power Supply for an amazing 60 d3 reduction in dynamic IM distortion. You'll see the same discrete output transistors (not cheap IC "power packs") for superior sonic resolution. The same video inputs and outputs. And the same MC carridge head amp.

Beyond even this, Denon's top two Receivers are supplied with an integrated remote control that also operates a Denon Cassette Deck and any of three Denon CD Players.

So before you make your next high ficelity purchase, get yourself to a Denon dealer. He'll show you the only receivers with the guts to stand up to the world's finest integrated amps.



Danon DRA-95VR AM/FM Receiver

# 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.

With 4 times over-sampling and digital filtering, all you hear is the absolutely flawless reproduction of sound. What else would you expect from the people who

invented CD technology?

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The CDB650. Unforgettable.

Flawless sound. The ultimate memory. Nobody puts it together like MAGNAVOX. ( C O N T I N U E D F R O M P A G E 4 7 ) which embodied important new ideas about how such components should be designed), the first Sony Betamaz VCR, the Nakamichi 1000 cassette deck, the Advent 201 cassette deck and Videobeam projection television, the Pioneer TX-9100 tuner, the AR-I speaker and AR-XA turntable, the Shure V-15 Type II phono cartridge (and most of its successors), the Phase Linear 700 power amp, the Crown DC-300 power amp, and the original Quad electrostatic speaker (not to mention the more recent ESL-63).

If I had time, I could make the above list considerably longer—as you might, too, though perhaps not always with the same choices. In fact, you may be wondering exactly how we selected our eight finalists for this year. There were two main requirements. One was that a component had to be a consumer audio or video product introduced between September 15, 1985, and the same time this year. The other was that it had to represent a significant advance in the state of the art or in the application of existing technology. All of our finalists embody technical innovations that in some way further the cause of high fidelity, in the broadest sense of that term.

One would expect the nominations to reflect underlying trends in product development, and as you look through the pages that follow, you will discover that to be the case. The recurrent themes are loudspeakers, signal processing, and digital technology—categories that have almost vibrated with excitement over the last few years. When I sat down with HF's technical editors to make the final cut, my biggest fear was that it might be difficult to arrive at a consensus. There were some heated discussions, but in the end, we all were satisfied with the list of finalists—and delighted to find ourselves in complete agreement on the winner. So without further ado, the silver and the gold. The envelope please.

Michael Riggs

### B&W MATRIX Loudspeakers

SIMPLE AND EFFECTIVE INNOVATIONS ARE FEW AND FAR between in speaker design these days (one of the last was ferrofluid damping and cooling of driver voice coils). But the Matrix technology invented by Laurence Dickie, chief electronics engineer of B&W, is at once almost comically uncomplicated and seriously efficient in attacking the old speakerconstruction problem of cabinet vibration and resonance.

Although the amplitude of enclosure vibration in a typical speaker is small, B&W rightly points out that the cabinet's to-



tal surface area is often as much as 30 times greater than that of the driver diaphragms. Measurements made on some cabinets show that their low- and mid-frequency radiation level may be only 30 dB below that of the driver emissions. And since ths spurious sound is not deliberately designed for, its effect on the speaker's sound quality is similarly uncontrolled. Cabinets also tend to resonate, or "ring," after application of a sound, the vibrations taking a while to die down since they are not directly controlled by the amplifier as are the driver diaphragms.

The Matrix reduces these effects quite elegantly by crossbracing the entire inside volume of the enclosure with a honeycomb-like structure. This is a series of interlocking, perforated sheets of a wood-composite material that slides into grooves cut into the inside surface of the speaker cabinet. Not only is an enclosure's external vibration reduced, but the Matrix, whose interstices are filled with acoustic foam, also serves as a more effective absorber for internal standing waves and resonances than the typical foam or acoustic-wool enclosure stuffing. A review of one of the first B&W speakers based on the Matrix construction, the Matrix 2, appears in our November issue.

## FRED

THE DUPLICATION OR REPLACEMENT OF VIDEO EQUIPMENT encouraged by the introduction of stereo TV (otherwise known as multichannel television sound, or MTS) undoubt-





edly struck peripatetic tuner designer Larry Schotz as ridiculous. Could there be a way to provide MTS decoding without having to completely replace the TV set or duplicate its tuner section? There is, and Schotz found it: By picking up a certain stray signal emitted by nearly every television receiver, it is possible to decode stereo TV broadcasts without altering any of the set's original features—indeed, without even a direct electrical connection, meaning that the set's remote control remains fully effective except for changing the volume.

This concept is now embodied in the FRED series of components from Recoton. With each Friendly Recoton Entertainment Decoder comes a wired probe that mounts on the cabinet of a monaural TV. When positioned properly, it picks up stray 4.5-MHz "intercarrier" radiation from the television's audio demodulation circuitry. This signal carries all the MTS information (stereo sum and difference signals and the secondary audio program, or SAP) for the selected channel. The FRED simply substitutes for the tail end of a television set's audio demodulator: Using the 4.5-MHz signal, it extracts the baseband MTS signal, decodes the stereo information, applies the required DBX-TV noise reduction, and produces a stereo line-level output. The latest FRED models also provide SAP decoding.

Some televisions are too well shielded for the external pickup to work, so Recoton makes available an internal probe for installation by a technician. The system is quite forgiving of the quality of the set with which it is used, however, and is a sensible alternative to junking your present television in favor of one with built-in MTS decoding.

## KLOSS NOVABEAM 100 PROJECTION VIDEO MONITOR

KLOSS VIDEO HAS FOR SOME YEARS BEEN PRODUCING THE BEST front-projection video monitors available to the consumer. The quality of their pictures, especially their rarely equaled combination of large image size and brightness, stems not only from Henry Kloss's Novatron image tubes but also from the company's attention to the small but crucial details of video signal processing. And it is its treatment of small *image* details that merits the Novabeam the attention it is receiving here. The Novabeam 100 is the first home video product to incorporate a sophisticated detail-enhancing system called Faroudja Image Processing, named after its developer, Yves Faroudja (pronounced "Fa-roo-jah").

In his patent, Faroudja describes why his system is needed, especially when playing videocassettes. To minimize picture noise (snow), VCRs incorporate circuitry that



reduces or eliminates low-level, high-frequency transitions in the video signal-those portions of the image containing fine picture details. Once lost, they cannot be restored-certainly not by conventional sharpness controls-and the resulting picture can end up looking cartoonlike or pasty. The Novabeam 100's Faroudja circuit modifies and boosts the low-level portions of the video signal in both the horizontal and vertical directions without also increasing noise or adding distortion. This is achieved by enhancing only rapid signal transitions that fall in a middle brightness range. Processing small transitions would end up increasing noise, and enhancing large brightness changes would overemphasize detail, leading to undesirable white or black outlines around objects. As we concluded in our July test report, the system works superbly, adding an obvious sense of detail without (CONTINUED ON PAGE 55)

# STEREO DEMANDS THE <u>REAL</u> SOUND OF AMERICA'S BEST-SELLING SPEAKERS

Realistic<sup>®</sup> brand speakers from Radio Shack are the first choice of music lovers who know uncompremised sound when they hear it ... and solid-value craftsmanship when they see it. Every Realist 2

.

speaker is engineered and built to our demancing quality standards, from the mighty Mach Two<sup>®</sup> tc our widely acclaimed Minimus<sup>®</sup> series. For the real sound of stereo, millions choose Realistic.

517

# Exclusively at Radio Shack®

# Panasonic puts more power in the dash than most cars have under the hood.

#### The 90-Watt AM/FM Cassette Car Stereo.

It goes from 0 to 90 watts in less than 1.0 second. It gives you a choice of Dolby' B & C plus dbx. So you not only reduce tape noise, but eliminate it.

And its Full Logic Control with easy glide in and out loading will help keep your tapes from being jammed or destroyed. It's the new Panasonic CO-E650 AM/FM Cassette Car Stereo with 90 watts of power.

And it's just one of a new line of Panasonic car stereos that come loaded with state-of-the-art sophistication.

Example: electronic juning that automatically searches for and locks in the strongest signals. A Hypertuner that uses three separate systems to

"Available on models CQ-E452 and CQ-E352 only. †Dolby is a trademark of Dolby \_aboratories. to dbx is a registered trademark of dbx, Inc.

help eliminate interference.

A built-in jack allows you to play your portable CD Player through your Car Audio System. And, of course, auto reverse is standard on most every Panasonic car stereo.

There's even a multi-function display that on some models" actually changes from a soft orange to green when you go from radio to cassette.

So the next time you take to the road, take along a Panasonic car stereo. You'll experience a power that will move you like **Panasonic** 

never before.



just slightly ahead of our time.



(CONTINUEDFROMPAGE52)undesirable side effects. We hope other manufacturers follow Kloss's pioneering efforts to help standard NTSC television reach its full but seldom approached potential.

## MAGNAVOX CDB-650 Compact Disc Player



IN A TIME WHEN, DESPITE CLAIMS TO THE CONTRARY, MOST CD players behave, measure, and sound almost identical to each other, any model using new technology to provide truly audible gains in performance *and* several unusual operating features stands out automatically. The Magnavox CDB-650 is such a player.

Among the CDB-650's claims to fame (though not the reason for its appearance here) is its use of two separate 16bit digital-to-analog converters running at four times the normal sampling rate (176.4 vs. 44.1 kHz) with digital filtration—a formidable technological achievement. More significant, however, is the player's unique Favorite Track Selection (FTS) system, which can memorize a programmed playback sequence for a particular disc. Place that disc in the player at a later date, and the sequence is immediately called out of a nonvolatile memory circuit that stores the sequence with the record number identifying the CD. The player can store sequences for any number of discs up to a total of 785 tracks.

But the main reason the CDB-650 is so special is not what comes immediately to mind when one thinks of player features or sound quality. Then again, if the disc you are trying to listen to skips, sticks, clicks, pops, or is otherwise unplayable, sound quality is ruined absolutely. The CDB-650 provides audibly improved performance not as a result of its audio circuitry, but because it is the first player promising a degree of tracking, error-correction, and error-concealment capability substantially exceeding that of the first generation of machines (which date from 1982).

Three factors are responsible for the improvements. First, the already top-performing Philips (parent of Magnavox) single-beam laser-scanning mechanism has been trimmed down (to 325 grams, about 10 ounces), leading to lower inertia, greater shock and vibration resistance, and better control of laser positioning. Second, unlike most other players, the CDB-650 uses error-correction chips that exploit the full theoretical potential of the CD system's Cross-Interleave Reed-Solomon Code (CIRC). About 60 different error-correction processing "paths" are available to the player; the strategy chosen at any instant is the one most likely to completely correct the particular configuration of errors detected by the system (a process called adaptive error-correction). Lastly, when the error-correction system is swamped with errors from a severely damaged or defective disc, the digital filters in the CDB-650 are able to interpolate over eight consecutive bad samples (the previous Philips chip, like most others, could interpolate over only one sample). The integrated circuits that give this player its unusual capabilities undoubtedly will be used by other manufacturers. We can only hope that they are as successful with the resulting products as Magnavox deserves to be with the CDB-650.

# SONY CDX-A10 DISC JOCKEY CAR COMPACT DISC PLAYER



ALTHOUGH SONY IS A LEADER IN BOTH COMPACT DISC AND CAR stereo technology, nothing prepared us for its thoroughly thought-out combination of the two in the CDX-A10 Disc Jockey, a ten-disc car CD changer. Several features immediately mark it as something special. The most obvious is that, to paraphrase an old commercial for a TV set, the works are in the trunk: The player mechanism, its preamplifier, and its optional tuner are designed to be firmly bolted to the inside of the trunk, leaving only a very complete wired remote control in the passenger compartment. Use of a changer eliminates the dangerously distracting task of disc handling while



driving, reduces the chance of disc damage from handling or dust and grit, and provides extended playing times and fingertip control of a wide selection of music. The vibration-isolated player takes a ten-disc cartridge, which in theory can hold as much as 12½ hours of music, and the operator has direct access to any track on any disc.

As if all this weren't enough, the Disc Jockey is the first car CD player to provide a crucial feature that should be in any car system: a switchable compressor, so that you can play music at a reasonable level above the road noise without risking deafness on crescendos. While this is absolutely vital to enjoyable playback of wide-dynamic-range CDs in the car, it is also suitable for use with Dolby-encoded cassettes and the rare live music broadcast. We hope Sony will be imitated in this feature, as it assuredly will be in the Disc Jockey's revolutionary trunk-mounted changer.



THE KEF 107 IS THE CULMINATION OF A LINE OF DEVELOPMENT stretching back more than half a decade, to the Model 105. Its most obvious debt to that respected progenitor is the separate, swivelable housing for the midrange and high-frequency drivers. This lends the 107 many of the structural and acoustical advantages typically enjoyed by small speakers. But there are less obvious borrowings as well, such as decoupling woofer mountings.

Otherwise, however, the 107 is more similar to the Model 104/2, introduced last year. Most significant is its adoption

of the 104/2's coupled-cavity bass loading, which combines the advantages of acoustic suspension and bass reflex enclosures, yielding a very desirable combination of deep-bass extension, efficiency, and cone control below resonance. A further gain in effective sensitivity is achieved by means of what KEF calls conjugate load matching, which gives the speaker an almost purely resistive 4-ohm impedance, free of the reactive elements that can severely limit the power output of some amplifiers.

Completely new to the 107 is the Kube: an electronic equalizer designed for connection between preamp and power amp or in a tape monitor loop. The Kube's response is tailored to that of the 107, extending low-frequency response to below 20 Hz while smoothing irregularities at middle and high frequencies that otherwise would require addition of power-wasting elements to the speaker's internal passive crossover networks.

The result of all this innovation is truly splendid reproduction, as documented in last month's test report.





SONY'S SDP-505ES HAS THE DISTINCTION OF BEING THE FIRST consumer product based on digital signal processing. As such, it marks the start of the DSP era in audio, one promising increased product versatility and higher sonic quality.

DSP is the mathematical transformation of a signal: One series of numbers is changed into a different series under control of an equation or set of equations (for a more detailed explanation, see "Bits & Pieces," September). Those formulas can embody virtually any audio function: switching, mixing, filtering, reverberation, delay, image enhancement, and so forth. The best "number crunchers" for DSP are highspeed digital computer circuits such as those contained in the SDP-505ES. They apply their formulas to the input signals with incredible speed, but only after those signals have been turned into 16-bit binary numbers by the unit's internal analog-to-digital converters. The processed output of the SDP-505ES is in analog form, obtained from 16-bit digital-to-analog converters.



That output hints at the power of DSP. For ambience enhancement, either channel can be delayed from 0 to 90 milliseconds in 0.1-millisecond increments, with no loss of sound quality accompanying longer settings, as happens with analog (charge-coupled device or bucket-brigade) signal delays.

And for accurate Dolby Surround decoding, the 505 implements the required 7-kHz difference-signal filter very precisely and totally in the "digital domain"—no resistors or capacitors here, just arithmetic at work. Our test report on the SDP-505ES is in the September issue.



IN THE MEETINGS TO SELECT HIGH FIDELITY'S PRODUCT OF THE Year, one nominee went straight to the top of the list: Yamaha's DSP-1 Digital Sound Field Processor. In both concept and execution, it's an extraordinary component.

The DSP-1 is the most sophisticated realization to date of the principle of listening enhancement by multiple-speaker presentation of recovered or synthesized ambience. As such, it represents the culmination of a decade's worth of component designs from a host of companies. It creates the multiple delayed and recirculated signals available from previous devices, but in a wholly innovative way: The spacings of the synthesized reflections, in both time and direction, along with their amplitudes and spectral characteristics, are derived from data taken in actual concert halls and listening spaces and stored in the DSP-1's digital read-only memory. The encoded hall is accurately re-created around the listener by means of digital signal processing. When played over a four- or six-speaker system, the results are stunningly realistic.

The DSP-1 represents an important milestone in the transition from analog to digital audio in that it is the first consumer product to give a real taste of the enormous potential of digital signal processing. Only one of its multitude of functions is performed in the analog domain: the Dolby B decoding required for correct reproduction of Dolby Surround movie soundtracks.

Yet for all its 16 surround-sound simulations and re-creations, its 16 special-effects modes, its ability to vary each hall simulation or effect over an impressively wide range, and its excellent performance by all the traditional criteria of fidelity (distortion, noise, and frequency response), the DSP-1 is not a very complex device. There is less going on in it than in a CD player and possibly even an FM tuner. Like all other digital signal processors, the DSP-1 has only three principal subsections: analog-to-digital converters, a microcomputer, and digital-to-analog converters. That microcomputer, and others like it, will eventually alter some cherished concepts of audio component design and manufacture.

For instance, because all the versatility of the DSP-1 stems from the microcomputer's programming, it is not very practical to make a stripped-down version by omitting features the conventional way to create a line of less costly products. As long as a processing-mode program fits within the available digital memory—and there's evidently quite a bit of it in the DSP-1—it costs no more for the manufacturer to put it in than to leave it out. The most costly parts of the system, the converter chips and the microprocessor, can scarcely be eliminated without also making the device inoperable. Lower-cost digital signal processing will come only with mass production and higher levels of circuit integration, so that more functions are performed by fewer parts.

If digital signal processing develops as we hope it will, the DSP-1 will be seen to be a landmark device, as important a development as, say, the acoustic suspension loudspeaker. At the very least, the Yamaha DSP-1 is, as we said in our September test report, "the most important audio product released since the beginning of the Compact Disc era, the most significant advance in the control of auditory space since stereo, and one of the few components in the history of high fidelity truly meriting the accolade 'breakthrough.'"

# ANGUS BERT VHS-C vs. 8mm

0



IVC's GR-C7U goes lens to lens with Sony's CCD-V8AFu in a camcorder format faceoff.

How happy I could be with either, Were t'other dear charmer away. But while you thus tease me together, To neither a word will I say.

– John Gay

HE TRUTH ABOUT JVC'S DIMINUTIVE GR-C7U VHS-C and Sony's CCD-V8AFu 8mm camcorders is that both are outstanding pieces of equipment. I'd be happy to own either one, and so, I believe, would most readers of this magazine. But you'd never guess this from what is being said about them, most notably by Sony and JVC themselves. These cam-

corders are pawns in a power struggle between two Japanese electronics giants, and as they see it, it's a battle to determine the future of home video into the 1990s.

What's at issue is whether the familiar VHS format will continue as the medium of choice in the home and whether its little brother, VHS-C (or Compact VHS, as JVC calls it), can gain acceptance as a portable tape system. Or will Sony and its allies in the photographic and home electronics industries replace VHS both in the field and in the

Robert Angus is an avid videophile and a frequent contributor to this magazine.

## DNVENTIONAL AUD O



#### THE ONKYO INTEGRA DX-320 WITH OPTO-COUPLING THE SOUND IS NO ILLUSION

The Integra DX-320 Compact Disc player is the first of ONKYO's new generation of CD players to incorporate cur unique Opto-Coupling digital signal processing system. Conventional CD players transmit digital data internally via printed circuit baard wiring, which interacts with analog audio signals to produce Digital Signal Interference (DSI), resulting in an audible "harshness" in the music. Specially designed high speec Opto-Coupling madules in the DX-320 transfer the digital audio and other data signals to the analog autor stage via fiber optics, preventing DSI. The result is noise-free, life-like manduction with none of the barsh sound characteristics often attributed to other CD players. This remembrable

reproduction with none of the harsh sound characteristics often attributed to other CD players. This remarkable rew technology can only be found in the ONKYO DX-320.

Double oversampling and cigital filtering greatly improve phase and harmonic accuracy. A fully programmable wireless remote control includes memory selection, phrase acpability, and indexing for maximum convenience.

Our unique transport design incorporates ONKYO's exclusive Poly-Sarb a rubber-like compound that improves isolat on by absorbing extraneous vibratians, eliminating skipping and mistracking.

The Integra DX-320 Compact Disc player fulfills the promise of digital audio, with sound quality that's as close to the original as anything you've ever heard. Aud tion the DX-320 at your outhor zed ONKYO dealer today.

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home with 8mm videocassettes? At stake are not only the reputations but also the wallets of some very large corporations on both sides of the Pacific.

Hence, the war of words over these two camcorders. Sony, it seems, not only objects to much of the design and engineering of the GR-C7U but considers the VHS-C format itself to be an abomination. This is hardly surprising for the people who invented the Beta format and watched it go down to defeat by the technically inferior VHS system. Nor is it surprising that IVC would utter equally unkind words about the 8mm format and its ultimate camcorder representative to date: the CCD-V8AFu. The charges and countercharges have been heated, confusing to the would-be consumer, and often downright misleading. (One might be tempted to say untrue, but companies of this size and stature never dissemble-well, hardly ever.)

For the moment, however, let's step aside from the verbal skirmishing and take a look at the equipment. What we find are two top-of-the-line video systems, both offering the latest in technology and crammed with convenience features and performance. Both use a charge-coupled device (CCD) solid-state imager instead of a conventional camera tube, and they have such features as electronic viewfinders with instant-replay, automatic color balancing, 6:1 power zoom lenses, autofocusing, low-light capability, one-hand operation, and the often useful ability to override any or all of the automatic controls.

The Sony machine also offers a maximum recording time of two hours, AFM high fidelity audio recording (in mono, though), the use of 8mm metal-particle tape (with the promise of improved performance when metal-evaporated videocassettes become generally available), a 1-inch viewfinder (JVC's is 0.6-inch), a shoulder mount, and a "flying" erase head, which permits cleaner insertion edits and scene-to-scene cuts. It costs \$1,500.

The IVC unit is both lighter and smaller (2.9 pounds vs. Sony's 5.1 pounds; 43/4 by inches, all dimensions including viewfinder). It uses the VHS-C format, which means that the diminutive cassettes can be played on any VHS deck when slipped into an adapter, which is supplied. There are two speeds, equivalent to the SP and EP modes on home decks. At the former speed, you can record up to 20 minutes with a VHS-C cassette; the slow (EP) speed yields a 60-minute recording time. Battery packs capable of driving the system for as long as 120 minutes are available in addition to the 30-minute battery supplied. The list price for the system is \$1,800.

In the GR-C7U, JVC has used two of the available HQ processes for improving VHS picture quality. (Not all HQ machines are created equal: this one offers detail enhancement and a 20-percent extension of the white-clip level.) Even slow-speed recordings look very good indeed. It has a macro switch for shooting close-ups and an automatic fader for smooth transitions between scenes (the stationary erase head used will not perform glitch-free scene-to-scene cuts)

## CAMERA COMFOR

IN TERMS OF HANDLING, I FOUND THE IVC. generally easier to use and to tote around. Its controls are easier to find and operate, and the unit is probably simpler for a novice to control. Although Sony's zoom control and recording start/stop buttons are located in the same relative positions as JVC's (within fingertip reach with the right hand inserted in the grip handle), I never seemed to be able to reach the one I wanted when I needed to, mainly because they require greater finger movement from "rest position" (unless you have fairly large hands). It took me a while to get the V8AFu into the record mode the first couple of times I tried it. And while 2 pounds difference in weight may not sound like much, you'll feel it at the end of a day of sightseeing and recording.

I discovered early on, however, that one pays for IVC's lightness and compactness. It's much easier to brace Sony's shoeboxsize unit against your shoulder while shooting than to balance the IVC in your hand. The resulting jitter from camera unsteadiness, although present with both machines, is particularly noticeable in the zoom shots of distant objects made by the JVC. If you're willing to lug around the extra weight and bulk of a tripod or if you plan to rest the camcorder on a solid surface while shooting, the IVC will do just fine.

IVC's viewfinder offers a rotary focusing adjustment that is a boon for those who wear glasses. Sony's viewfinder, on the other hand, produces a bigger picture, and I found it easier to see what I was shooting. The Sony viewfinder is more securely attached to the camera body, too. It mounts on a shoe so that it can be removed for packing, and it slides toward or away from the camera body to suit each user. [VC's telescoping viewfinder is affixed to the top of the camera by a swivel bracket, which I found none too sturdy and likely to rotate when I least expected it. The bracket moves a full 360 degrees in the horizontal plane and 90 degrees vertically, which seems almost too much of a good thing: The instruction book warns against using it for a handle, as well it might. When zooming and focusing manually, the Sony lens controls proved easier to manipulate without accidentally blocking the lens with the hand.

A few words about the recording times of the two units are in order here. I've traveled with camcorders of various formats on three continents; I've used them for family outings and business purposes; and I've made documentaries and covered meetings for cable TV with them. And only very rarely have I found the 20-minute recording time of a VHS-C cassette used in the SP mode to pose a problem. In fact, in conducting tests on the V8AFu for this report, I used 15-minute 8mm cassettes (they're also available in 30-, 60-, 90-, and 120-minute lengths) to facilitate location of particular recorded segments. Most camcorder shots are relatively short: from 11/2 to 5 minutes at most. When you're shooting continuously for 10 minutes or more, it seems like an eternity, and the arm and shoulder joints start to get sore. Likewise, watching a full 10 minutes of home movies can seem like forever, especially if they're somebody else's. Therefore, the 20minute SP playing-time limit imposed by JVC isn't all that critical; if you need extended playing time, that's what the EP speed is for

## PICTURE QUALITY

SOME SONY DEALERS HAVE BEEN TELLING their customers that the JVC's picture is so bad that you can't make copies from it or that



it may not reproduce properly on some old VHS VCRs. The truth of the matter is that although more noise is evident in the JVC picture, it's nowhere near bad enough to make it unviewable, much less uncopyable. I recorded the same scenes at both speeds with the IVC and was almost unable to determine from the picture quality alone which was which. The giveaways were the details in certain scenes and the audio track, which in the EP mode is distinctly low-fi (because the tape speed is even slower than that of an audio microcassette). Even a copy made in the EP mode of the EP original was found very satisfactory by friends I invited to watch. Part of the credit for this must surely go to the HQ circuitry, the rest to JVC's CCD imager. However, I did notice one unwanted side effect: a sharp outline around two tan dogs frolicking on a shaded green lawn.

I expected to find a good deal of chroma (color) noise visible in the 8mm recordings I made, particularly in large areas of red and vellow, because I had found it in previous 8mm camcorder models. I was pleasantly surprised. Sony was at least as successful as JVC in hiding this granular quality. In sum, while JVC's SP image was very, very good, Sony's was just a hair better: It had sharper detail and better color.

Just how superior was the Sony? Not so much that you're likely to notice the differences-unless you conduct side-by-side tests, as I did-and possibly not enough to outweigh the GR-C7U's many advantages. In fact, only an experienced eye could notice most of the differences between recordings made simultaneously of the same scene. For example, one of our test scenes showed thick New England foliage blowing in a brisk wind. We panned to a deep-blue sky containing fluffy white clouds over a white satellite antenna, a yellow house, and a recently plowed field. Both the GR-C7U in SP and the V8AFu did very well with the blowing leaves. Detail was good, and the autofocus system locked in with both camcorders. JVC's green was tinged with blue, however, resulting in a darker, duller, and less natural color than Sony's—but again, casual viewers would be unlikely to pick up the difference without a side-by-side comparison (and the original scene just outside the front door). In any case, the JVC results were perfectly satisfactory for all but video fidelity purists.

Video 8AF

As the camera panned from the leaves to the white expanse of the satellite dish, the sky became distinctly darker in all three recordings, although the Sony seemed to have less trouble coping with the change in overall light level. JVC's version of the satellite dish and the clouds had a faintly pinkish tinge, compared to Sony's snowy white. The only difference between SP and EP on the IVC was in picture definition (worse with EP). Color values remained the same, regardless of VHS tape speed. Another scene had a mass of ripening apples on a tree. Both JVC SP and Sony did well in separating the still-green fruit from the green foliage around them, but Sony's colors seemed slightly truer and its images sharper. JVC EP scored much lower on this test.

Both cameras did very well in low-light situations: in a dimly lit shed during the day and by candlelight at night. It would be unfair to award a prize to either model here, but JVC's automatic focus seemed to have more trouble adjusting to low light than Sony's. Until we switched the autofocus off, it kept focusing on whatever light source was available in the room rather than on the subject to be photographed.

## SOUND QUALITY

IN VIEW OF THE PICTURE-RELATED VITRIOL being spewed by both sides in the camcorder controversy, it's surprising that it was in the audio tests where the greatest differences showed up. Because live music wasn't available to us during the test period, we made do with Compact Discs played through a pair of particularly good outdoor speakers. We placed the two camcorders side by side to re-

cord audio through their built-in microphones while recording a stationary video scene. No doubt about it: Sony's AFM audio sounded bright and natural while JVC's SP sound tended toward the dull and noisy. In the EP mode, the JVC results were even worse, with the loss of high frequencies tending to limit the intelligibility of the spoken word. And when the background music happened to consist of a solo piano, the wow was excruciating.

So which camcorder is for you? Well, the plain fact is that neither is a clear-cut winner; each has its strong and weak points. Your choice may depend on how you plan to use the equipment, what you're most likely to record, and just how good your eyes and ears really are. The differences we've outlined above (except for sound quality) are mostly very minor; we've exaggerated them simply to be able to draw distinctions. If your sole consideration is for the very best picture and sound quality, you will opt for the Sony. If you're willing to make some very minor compromises on some of these points in favor of greater portability and ease of use, you should instead choose the JVC.

Your choice also depends on what you're used to in home video. Both of these camcorders will produce excellent results when you're taping the kids' birthday parties or the highlights of your vacation. Both will do well in most business and hobbyist applications, and both suffice as a kind of video Instamatic.

But when it comes to critical videophile applications, each camcorder has something special to offer. JVC has touch-button fading and macro (ultra-close-up) capabilities, while Sony does not. Sony offers a slight edge on picture quality under varying or low-light conditions. JVC is easier to pack and carry on trips, although its larger cassettes can add considerably to the bulk: It takes six of them (or two in the EP mode) to equal the playing time of one 120-minute 8mm tape. The Sony does an excellent job of recording musicians and other scenes enhanced by sound (trains, airplanes, cable cars, tour guides). And so it goes.

Either of these camcorders is a worthy piece of equipment that will satisfy your video-recording needs for many years. To decide which camcorder is right for you, examine your needs and its possible uses and compare these with the strengths and weaknesses listed above. But don't just take our word for it: Never buy a camcorder without examining it. Ask the dealer to let you handle various units. See for yourself whether their weight, size, and control placement are comfortable. Make a few test recordings under various lighting conditions. Watch the recorded results on a full-size TV screen, not through the viewfinder, paying attention to detail, noise, color accuracy, and how the camera copes with different light and focusing situations. In short, retrace some of the steps I have taken and you'll be able to make a well-informed purchase.

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



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•Finally, the Denon DCD-1500 tops my list. It's the player I recommend most highly. It has oversampling, du al D/A converters, remote controller formidable specifications, full fear tures, and Denon sound. The Denon engineers who created it should honored in public.

the mean Interna wouldn't pose too nit ties however, as the board 1.36.



Tae current range of Denon players covers the ground from true budget to audiophile mod-els. The DCD-1500 fits bang in themiddle of the range as far as erice is concerned and could price is concerned and could price is concerned and could best be described as being a full-faature domestic machine that is built with audiophile thet atension to detail! Patt erlike the second general

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Ken Pohimann is a contributing editor to Dig.

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Rich, atmospheric sounding player This Denon DCD. 1500 in Wall de

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The facia has to pack in a lot of buttons but remains fairly easy to understand. The main Search and Skip controls are in a strip in the centre bottom of the player. The keypad is duplicated to the right side of the comprehensive display while the Repeat, memory call and clear functions are up with the Play, Pause and Stop controls on the top right. The display gives continuous readout of Track/Index numbers, time and a 0-20 track grid

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IY MICHAELH, GRAY



Some reflections as the early-music movement reaches Beethoven's symphonies and piano concertos

> ONG BEFORE SUCH THINGS BECAME FASHIONABLE, A series of chamber music concerts performed on antique instruments prompted a young London music critic, intrigued by their "new" sound, to ask for more. "It is greatly to be desired," George Bernard

Shaw wrote in 1885, "that some orchestral concerts be attempted with a view to reproducing the effects heard by Bach, Handel, Haydn, and Mozart, during what may be called the pre-clarinet period of orchestration." At last, the leaders of the movement he

foresaw over a century ago are taking up Shaw's challenge, not only in his beloved Mozart and Handel and not only in public concerts. The early-music movement has now reached Beethoven, and in such recordings as Christopher Hogwood's of Beethoven's *Eroica* Symphony, recently released on Oiseau-Lyre Florilegium (417-235-1, -2, and -4), it has posed a challenge to the hallowed performances recorded by many of the great names of 20th-century conducting.

The challenge, some would say, is that the conductors of period-instrument bands have set out to do Beethoven not their way, but his. But are musicians reared on Baroque niceties up to the sweat and passion Beethoven demands? And how will audiences take to the new scholar-musicians who aspire to replace Bernstein, Furtwängler, and Toscanini?

The answers won't be long in coming. Two cycles of the Beethoven sym-

phonies are already underway, the one from Oiseau-Lyre that passed the halfway point in September with sessions for the Fourth and Fifth, and a second one from archrival EMI/Reflexe, which recorded the Second and Eighth with Roger Norrington's London Classical Players in July and plans to have all nine finished by the end of next year. On this side of the Atlantic, the Smithsonian Chamber Orchestra under visiting music director Jaap Schröder is slated to record Symphonies Nos. 1, 2, and 3 next year, while American pianists Malcolm Bilson (with John Eliot Gardiner's English Baroque Soloists, for Philips) ind Steven Lubin (with the Academy of Ancient Music, for Oiseau-Lyre) prepare cycles of Beethoven's piano concertos. While not everybody is doing Beethoven (Trevor Pinnock, on records at least, is sticking to Haydn, Vivaldi, and Handel), the period-orchestra world is buzzing with activity that would have been unimaginable just a

decade ago.

It's not surprising that the city of London, with five full-time conventional orchestras, turns out to be the center of all this activity. Impresario/conductors like Hogwood, Norrington, Gardiner, and Pinnock draw upon a pool of about 100 musicians to form their ensembles, which in each case center upon a continuing core of principal players. In the small world of period music, loyalty still counts for a lot, and as the careers of several leaders have grown more peripatetic, some of their formerly loyal collaborators have concluded that their own careers are just as important as those of their old bosses. The result has been the creation of a new, self-governing period orchestra called The Age of Enlightenment, which made its debut in June under the direction of the Belgian violinist Sigiswald Kuijken. With advice from musicologist H. C. Robbins-Landon, this band has outlined an ambitious series of concerts over the next three years featuring invited directors, among them Norrington, Sir Charles Mackerras, Simon Rattle, Nikolaus Harnoncourt, and Gustav Leonhardt, chosen from both the periodand conventional-music scenes.

London is not, however, the only locus of period-orchestra activity. From the Netherlands, long a hotbed of period players, comes Frans Brüggen's Orchestra of the 18th Century. Germany is home to the veteran ensemble Collegium Aureum; France boasts several Baroque ensembles, including Kuijken's La Petite Bande; and Hungary has the Capella Savaria, a new ensemble that has already recorded music by Vivaldi. Haydn, and Telemann for Hungaroton Records. Here in the United States, in addition to Washington, D.C.'s Smithsonian Chamber Orchestra, there are California's Philharmonia Baroque Orchestra, led by former Academy of Ancient Music principal flute Nicholas McGegan; Boston's Early Music Festival Orchestra and Banchetto Musicale (now in its fifth season under music director Martin Pearlman); and Steven Lubin's Mozartean Players in New York City.

Playing original instruments, whether in Europe or America, doesn't necessarily mean abandoning conventional work, because there simply aren't enough period gigs to give more than a handful of key instrumentalists a full-time career. But mastering a period style does mean rejecting conventional playing techniques in favor of methods sanctioned by scholarship and motivated by the musicianly instinct that inspired Pinnock, for one, to "experiment with the instruments that the composer knew." Indeed, learning the old style is often facilitated by the instruments themselves. Players and conductors alike acquire what Schröder has called a "natural education" as they familiarize themselves with the alliance between the notes on the page and descriptions in old (and frequently contradictory) musical treatises. The results of this relearning process are often striking. Take the case of the Mozart piano concertos. While Gardiner characterizes modern performances of these scores as a dialogue between a glossysounding orchestra and a piece of "monster furniture," performances conceived around period pianos must come to terms with the wholly different timbres those instruments have, which not only dictate to a certain extent the music's phrasing and articulation but disallow what's so grandly possible on today's louder and more penetrating concert grand. Furthermore, wind instruments in the classical orchestra, playing at lower pitch and without the mechanical improvements made in range and flexibility in the 19th century, tend more toward mellowness than brilliance, a characteristic shared by the string instruments of the period.

The testimony of period players and the evidence of their scholarly allies should be converting droves to the cause of historically informed performance. Certainly more and more professional musicians, who used to leave old instruments to students and amateurs, are being attracted to some kind of period-instrument training. Yet for every Schröder or Pinnock willing to abandon conventional instruments to experimentoften uncertainly at first-with period ones, there are hundreds of musicians still perfectly satisfied to continue to play the way they were taught. Those pioneering the path of authenticity have done so knowing that the experience could, as Bilson learned, be a "very hard road" professionally.

But that road is a whole lot easier now that conductors who specialize in period-instrument performance-the stars of the burgeoning movement-are attracting scores of invitations to appear with the big boys: the major orchestras of the "establishment" concert world. For a musician whose career has been based on rejecting conventional means and methods, such engagements almost invariably lead to artistic compromises that are never satisfactorily achieved. Gardiner avoids the dilemma by refusing to perform music with modern orchestras if he feels it should be done only on period instruments. Last year alone, he turned down almost 30 guest conducting engagements with American orchestras, Pinnock, McGegan, Harnoncourt, and Hogwood, on the other hand, do lead large parts of their repertoire with modern bands, an activity Pinnock carefully points out does not supplant his ties to the English Consort. Harnoncourt, rather high-handedly, ignores the period bands, recording the Viennese Classical repertory with modern orchestras in Vienna and Amsterdam. And the much-travelled Hogwood stands accused of devoting more time to his popular guest-conducting stints away from London than to the standards of his concerts there with the Academy of Ancient Music.

Stylistically, the period conductors' lead has been followed so far by only a handful of mainstream figures, among them Gerard Schwarz, Michael Tilson Thomas, David Zinman, and the Boston-based Benjamin

Zander. In performing such works as the Beethoven symphonies, these conductors have made a strong case for observing, even with modern forces, what is known about the orchestral layout of Beethoven's day, the size of the ensembles he had available, and the meaning of the metronome markings he gave in his scores. The period leaders are learning things, too: Even as their successes force mainstream colleagues to start paying attention to historical performance practice, they are having to learn how to mix chamber music democracy with a more dictatorial approach to conducting. The need for podium authority in place of democratic give-andtake is amply demonstrated by recordings like the Hannover Band's disappointing conductorless version of Beethoven's Fifth Symphony.

The cross-pollination between the period and conventional worlds wouldn't be progressing so well without the prominence that has come to the period conductors as the result of making a lot of very popular records. Recording also makes it easier for period-instrument orchestras to survive without having to risk too many public concerts, the losses from which the players must cover out of their own pockets. Some conductors, Gardiner in particular, nonetheless insist that pieces be played live before being recorded, not to waste money, but to ensure that the recorded result represents a completely thought-through performance. Hogwood, on the other hand, is committing so much repertory to disc that the records he made this year will be filled with pieces he may not have played even once in public.

With all this activity, it's easy to overlook the fact that the record companies continue to play it safe by issuing yet another version of Vivaldi's *Four Seasons* or Mozart's Clarinet Concerto, pieces that already have plenty of representation in the catalog. Marketing concerns dictate such moves and explain why Philips is matching Hogwood's complete recording of Mozart's symphonies with a new traversal by Gardiner, and why there will be another recording of Beethoven's *Eroica* (this one with Brüggen) on the heels of the Hogwood, aimed at the same audience.

It's not surprising that it's the European labels, with most of the groups based in their own territory, that have made period-orchestra records hot items on the American classical charts. So far, the boom has been led by Oiseau-Lyre's Florilegium series, transformed by executive producer Peter Wadland in a little over a decade from a superb connoisseur's label into a major market force almost solely on the strength of Hogwood's Academy of Ancient Music. But with EMI/Reflexe running Parrott's Taverner Players in Baroque music and Norrington's London Classical Players in Beethoven, as well as Philips fielding Gardiner in Mozart and Brüggen in other classical repertory, Oiseau-Lyre and Hogwood have to cover all by (CONTINUED ON PAGE 83)






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### OTHENBURG, CHUNG

THIS SECOND INSTALLMENT IN MYUNG-WHUN Chung's traversal of the orchestral works of Carl Nielsen for BIS was rather long in coming (the first, BIS CD 321, devoted to the Second Symphony and the Incidental Music from Aladdin, was issued over two years ago). but, as expected, it was worth the wait. On a generously packed CD, Chung, leading the Gothenburg Symphony, gives us the Maskerade Overture, the Clarinet Concerto, and the Third Symphony (Espansiva). Once again, the young Korean conductor shows a splendidly firm grasp of the tricky Nielsen idiom, and in the case of the Espansiva, he gives a reading of immense heroic breadth and power that recalls Leonard Bernstein's superb performance of it with the Royal Danish Orchestra some 25 years ago. Chung is equally assured in the spiky Clarinet Concerto (Ole Schill is a fine soloist), and the Maskerade Overture possesses optimum bounce. The Gothenburgers' playing seems beyond cavil, and the sound is up to BIS's high standards for intrumental focus and allover openness of tone. Now for the next volume! Playing time: 67:45. (BIS CD 321.) B.Z.

#### • ROSSINI SONATAS FOR STRINGS: CAMERATA BERN

ROSSINI'S SIX SONATE A QUATTRO FOR TWO violins, cello, and double bass were written in 1804, when the composer was a mere twelve years old. Though far from profound, they are remarkably precocious and meticulously crafted works. Child Rossini had no interest in Viennese motivic development or contrapuntal interplay; here, sunny, uncomplicated melody reigns supreme, alternating with frothy, effervescent passagework. The latter gift usually saves the day. Particularly fascinating are those moments when the mature composer shines through: The finales, with their motoric repetitions of rapid passages, presage the radiant climaxes of countless later overtures.

The Camerata Bern's performances are polished, graceful, and polite; passion and force are hardly required by this music. Especially remarkable is the impeccable ensemble that prevails even through the fiendishly difficult violin passagework. Playing time: 54:19. (Deutsche Grammophon 413 310-2.) K.R.S.

#### BRITTEN ORCHESTRAL WORKS: BIRMINGHAM, RATTLE

SIMON RATTLE'S TRANSFORMATION OF THE City of Birmingham Symphony Orchestra from a regional outfit into a world-class ensemble continues to be one of the great success stories of our time. The latest recorded chapter in the saga is devoted to the substantial Sinfonia da Requiem of Britten and the same composer's flimsier but certainly not charinless An American Overture, Occasional Overture, and Suite on English Folk Tunes (the latter three from 1942, 1946, and 1966-75. respectively). Under Rattle's direction, all of it comes off brilliantly, especially those passages that feature the orchestra's percussion and brass sections in tandem. Playing time: 52:47. (Angel EMI CDC 47343.) J. W.

#### BRITTEN "PETER GRIMES": ROYAL OPERA, BRITTEN

LONDON'S 1958 RECORDING OF BENJAMIN Britten's opera Peter Grimes is of historic significance: Britten himself conducts, the late Peter Pears is an outstanding presence in the title role, which was written for him, and the supporting cast, featuring Claire Watson as Ellen Orford, James Pease as Captain Balstrode, David Kelly as Hobson, and Owen Brannigan as Swallow, is superb. The Orchestra and Chorus of the Royal Opera House, Covent Garden, complete the stellar list of participants. The result is an authoritative, powerful performance, essential for all interested in 20th-century opera.

Sonically, this issue (for which Erik Smith was the producer and Kenneth Wilkinson the engineer) is quite amazing. Britten's score is revealed in uncommonly beautiful richness and detail, and there is a warmth and depth to the recording that, in spite of its age, is unfortunately missing from many contemporary digital efforts. A complete libretto is provided, and there are 45 reference cues. Each of the three acts occupies one CD, which, while convenient, is rather dear for the collector; the entire opera, with a total playing time of about 142 minutes, could have fit onto just two CDs, costing one-third less. Even so, this is a wonderful recording, well worth adding to any collection. Playing time: 141:59. (London 414 577-2) *R.E.B.* 

#### BEETHOVEN SYMPHONIES: BERLIN, FURTWÄNGLER

IN ONE OF HIS FIRST POST-WORLD WAR II concerts with the London Philharmonic. Wilhelm Furtwängler performed Beethoven's Seventh. A part of the final movement drew this description from Edward Lockspeiser: ".... a long bridge passage, chiefly in the lower strings, was made to sound almost Musorgskyan [sic] in its harrowing gruesomeness." Thus it always was with Furtwängler, who could produce totally absorbing revelations in sections of masterpieces other conductors merely passed over. In that sense, most of Furtwängler's recorded performances have become self-recommending. These wonderful accounts of the Seventh and Eighth symphonies-both from a broadcast of April 14, 1953-fall directly into that category. What with six performances of the Seventh and five of the Eighth listed in the latest Furtwängler discography (published by the British Furtwängler Society), it would be impossible to discuss the variations in each within the scope of a limited review. Suffice it to say that these accounts, issued by Deutsche Grammophon in recognition of the Furtwängler centenary, represent the conductor and his beloved Berlin Philharmonic in top form, and that the sound engineers of the time and the DG restorers of the present day have together achieved something of a sonic miracle. The Eighth in particular emerges with a degree of symphonic weight that all but removes it from the category of "lighter" Beethoven to which it seems to have been assigned by so many other conductors.

It is surely one of the glories of the CD medium that we are offered such classics as these. Who says the industry has no vision? I doubt that any record catalog contains more absorbing performances. Playing time: 66:20. (Deutsche Grammophon 415 666-2.) *T.L.D.* 

#### BEETHOVEN SEVENTH: KEILBERTH

**OF THE 12 VERSIONS OF BEETHOVEN'S SEVENTH** Symphony I possess, this one by loseph Keilberth and the Berlin Philharmonic is the best-or should I say, my favorite. It came as a surprise when I first encountered it on a Telefunken record I have long since treasured; I had not really heard of Keilberth, who was little known in comparison with the great name conductors whom he displaced. That first impression is now strongly reaffirmed by Teldec's reissue of this classic performance on a CD generously filled out by the Egmont Overture and Leonore Overture No. 3. The CD is one of a series dedicated to the artistry of Keilberth, who died in 1968 during the second act of a performance of Tristan und Isolde.

Few works of music can communicate so terrifying a sense of power as the Seventh, if it is allowed to build in all its inexorable force. Keilberth had the controlled pacing, combined with the lack of eccentricity, necessary to gather and release that overwhelming power. There is an overhang of tension in his performance that makes even its most pastoral moments electrifying.

The sound, from a 1967 analog recording, is greatly improved over the original incarnation on Telefunken. Though not of audiophile quality, it is still considerably more than acceptable. The excellent performances of the overtures date from 1960 and 1961. Their slightly dated sound in no way diminishes their power. Playing time: 57:18. (Teldec 8.43192.) R.R.R.

#### BRAHMS FIRST; HAYDN VARIATIONS: FURTWÄNGLER

CONTRARY TO PREVALENT OPINION, CRITICS should allow themselves a holiday once in a while, even while reviewing. I intend to do just that now.

The Furtwängler discography lists 12 recordings of the Brahms First Symphony. After having sampled a fair share of them, along with most of the other major versions of the present and past, I am happily forced to concede that this account by the Berlin Philharmonic, released by Deutsche Grammophon as part of its Furtwängler centenary observation, is the greatest performance of this majestic human drama I have ever heard. (And I would add that the only living conductor capable of making passionate music on this level is Leonard Bernstein.) Coupled with the symphony are the Haydn Variations, which receive a performance on the same plateau.

The original broadcast sound (from 1952 and 1950) was fine. The CD restorations are wonderful. Playing time: 68:23. (Deutsche Grammophon 415 662-2.) *T.L.D.* 

#### OVOŘÁK, GOLDMARK VIOLIN CONCERTOS: MILSTEIN

THIS ANGEL COMPACT DISC RESUSCITATES beautiful performances by Nathan Milstein of the Dvořák and the Goldmark violin concertos, recorded a year apart—the Dvořák in 1966 with Rafael Frühbeck de Burgos conducting the New Philharmonia Orchestra, and the Goldmark in 1967, with Harry Blech and the Philharmonia Orchestra. The Goldmark was previously issued on Seraphim.

Both works were written in the 1870s, and one would have to be a grump not to like them. Although they remain on the periphery of the concert repertory, they are hard to resist in performances as enlivening as these: Milstein plays them as serious music, not simply as showpieces, yet he is scintillating in the bravura passages. His approach is shared by both of his collaborators; as a result, the music shines. The sound, if not the latest, is fine and only occasionally constricted in the tutti passages. Playing time: 60:36. (Angel EMI CDC 47421.) R.R.R.

#### HAYDN, SCHUMANN SYMPHONIES: FURTWÄNGLER

THIS VOLUME IN THE DEUTSCHE GRAMMOPHON series of CD reissues in honor of Wilhelm Furtwängler deserves the most careful consideration, by anti- and pro-Furtwänglerians alike, as well as by anyone foolish enough to get caught in the middle.

The account of Haydn's Symphony No. 88 is a fine one, a performance full of insight, yet with a degree of solemnity that may leave some wondering. Alongside it, Schumann's Manfred Overture receives a statement distinguished by a quality of sympathetic attention that I have heard only in the same conductor's commercial recording of the work (made in 1951, two years after this live performance) and in Charles Munch's early mono LP. For the collector, of course, the performance of the Schumann Fourth Symphony is what claims the major consideration. In this, one of Furtwängler's final studio recordings (made on May 14, 1953), the difficult-to-interpret Fourth emerges with more of the feeling of a passionate tone poem than I have ever experienced on records. Although it is understood that there will be those who prefer the "classic" understanding lavished on the score by Guido Cantelli, I find myself completely swept away in my enthusiasm for conducting as passionate as Furtwängler's.

As with every other volume in this series, the performances by the Berlin Philharmonic are arresting, and, in their unique way, quite beyond normal criticism. Playing time: 65:50. (Deutsche Grammophon 415 661-2.) T.L.D.

#### SCHUMANN SYMPHONIC WORKS: STUTTGART RADIO, MARRINER

THE APPEAL OF THIS DISC WILL BE FOR THOSE Schumann lovers who (like me) are happy to have a Compact Disc version of the seldom performed Overture, Scherzo, and Finale. I hasten to add, however, that earlier accounts, such as the one by Herbert von Karajan, will probably loom longer in memory than this one.

The disc offers in addition average per-

fornances of Schumann's Symphony No. 1 and the *Manfred* Overture that will add little luster to Neville Marriner's magnificent discography. The reading of the symphony does not stand up to the hurricane competition offered by the Vienna Philharmonic and Leonard Bernstein on CD, to say nothing of older performances on standard LPs.

Let us hope, then, that this is not the beginning of another Schumann cycle [It is.— Ed.], unless Marriner's personal symphathy for the other symphonies greatly exceeds what is all too obvious here. The catalog is already crowded with tepid, neutral performances of these works—and whatever faults they may contain, the symphonies of Schumann are not by nature pallid. Playing time: 60:01. (Capriccio CDC 10063. Distributed by Delos International.) T.L.D.

#### FAURÉ REQUIEM, "ÉLÉGIE," "MESSE BASSE"

THIS DISC, ADMIRABLY REMASTERED FROM analog, offers one major work and two shorter ones of Gabriel Fauré, all involving separate performers. The Requiem is presented in its full orchestral version but performed under the direction of Michel Corboz with such restraint as to be chamberlike. This seems to be a family affair: The organist is Phillipe Corboz and the chorus master André Corboz. Fortunately, there are no squabbles. The collaboration produces a hushed, beautiful reading, full of feeling. Soloists are boy soprano Alain Clément and baritone Philippe Huttenlocher, with the chorus of the Maîtrise Saint-Pierre-aux-Liens de Bulle and the Bern Symphony Orchestra.

As a bridge between two church works, Frédéric Lodeon plays the *Élégie* for Cello and Orchestra with Armin Jordan leading the Monte Carlo Philharmonic. The disc ends with the short *Messe basse*, also lovely, sung by soprano Arlette Steyer, with organist Marie-Claire Alain and the Ensemble Vocale "Audite Nova" of Paris directed by Jean Sourisse. While the booklet says the disc's playing time is 66:26, it reads out as 56:34. (Erato ECD 88126.) B.W.

#### MAHLER SYMPHONY NO. 4: VIENNA PHILHARMONIC

BRUNO WALTER DIED IN 1962, A DOZEN YEARS after this recording was made at the Salzburg Festival. His account of Mahler's Fourth Symphony is characterized by his highly uncommon sense of both the music and the style of playing of the Vienna Philharmonic and is defined by his identity with the composer, a man whose musical life he shared. Unfortunately, the recorded sound is not the best, and Irmgard Seefried's singing in the finale lacks the expressiveness she imparted to the music in a later, more responsive effort in live performances of the New York Philharmonic conducted by Georg Solti in January 1962. Playing time: 54:30. (Varèse Sarabande VCD 47228.)

I.K.

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## **OPER** RAR **RIDES AGAIN**

SOME OF THE UNHERALDED VOCALISTS WHO MAKE THIS A WORTHWHILE COLLECTION (TOP TO BOTTOM): DELLA JONES, YVONNE KENNY, AND MARILYN HILL SMITH

#### VARIOUS PERFORMERS: 100 Years of Italian Opera, Volume One (1800 -1810)

Various artists; Geoffrey Mitchell Choir; Phil- $\odot$ harmonia Orchestra, Parry. Patric Schmid, prod. Opera Rara ORH 101 (3). (25 Compton Terrace, Canonbury, London N1, England.)

Sopranos: Nan Christie, Sandra Dugdale, Eiddwen Harrhy, Marilyn Hill Smith, Yvonne Kenny, Beryl Korman. Mezzo sopranos: Della Jones, Alexandra Mercer, Diana Montague. Tenors: Ian Caley, Michael Goldthorpe, Kevin John, Robin Leggate, Keith Lewis, Alexander Oliver. Baritones: Christian du Plessis, Allan Opie, Russell Smythe. Bass: Roderick Earle.

MOSCA: Li Sposi in cimento: Alto là, alto là. ... Se non avete in seno. CIMAROSA: Artemisia: Ti calma . . . Tremante, confusa. NICOLINI: I Baccanali di Roma: Parmi sentir nell'anima. PAER: Achille: Giusti Numi, ah sostenete; Sargino, ossia l'allievo dell'amore: Ah, Sofial mio caro bene; Sofonisba: Una soave calma; L'Agnese: Se sentissi qual fiamma vorace. WEIGL: Ginevra di Scozia: Dopo il fremente nembo. RIGHINI: Gerusalemme liberata: Un Cenno mi chiedi? GNECCO: La prima prova dell'opera Gli Orazi e Curiazi: Ed a un tal patto solo. ZINGARELLI: Ines de Castro: Anima mia, deh cedi. GENERALI: Pamela nubile: Addio Isacco... Sorgerà la nuova aurora. WINTER: II Ratto di Proserpina: Mi lasci, o madre amata; Zaira: Sommo Dio, che in sen mi vedi. MAYR: Elisa:

Overture; L'Amor conjugale: Si, ne profitterò . . . Rendi il consorte amato, PORTOGALLO: La Semiramide: Sconsigliata che fo!... Son Regina! LAVIGNA: Hoango: Como potrò resistere? NI-COLINI: Trajano in Dacia: Gelida mano io sento. PAISIELLO: Il Passaggio di Monte San Bernardo: Del mio gentil Sebeto. FIORAVANTI: I Virtuosi ambulanti: Con pazienza sopportiamo. MOSCA: L'Italiana in Algeri: Ai capricci della sorte PUCITTA: La Caccia di Enrico IV: Un Palpito mi sento. PAVESI: Elisabetta d'Inghilterra: Minacci, ah! parti indegno.

SOME MIGHT ASSUME THAT IF 24 OPERAS BY 17 composers have been undisturbed for 175 years there must be a reason and that Opera Rara must be digging up the dregs. Nothing could be further from the truth. All of the music recorded on these three discs is worth hearing—more than once—and we should be in Opera Rara's debt for making it available to us.

Opera was clearly the form of popular entertainment in Europe in the first half of the 19th century; the public demanded and got new operas the way Americans currently demand dozens of new movies each year. Judging from these works, the level of performance was quite high. Nothing here is easy to toss off; the arias, duets, and ensembles require disciplined, well-trained singers with the ability to execute a smooth legato line, trill, perform various vocal acrobatics, and command a two-octave range, all while making the words, particularly in the comic pieces, clear and meaningful. These discs present the complete range of Italian opera at the start of the 19th century-from opera seria to historical drama to farce to opera buffa-works that were presented not only in Italy but in France, England, Austria, and Germany as well.

It would be impossible to analyze each selection offered here without turning the review into an academic tract, but several must be singled out for particular praise. One is Giovanni Simone Mayr's L'Amore coniugale, which appeared in 1805, three years before Beethoven set the same story in his Fidelio, Eiddwen Harrhy sings the role of Zeliska (the action of the opera has been moved from Spain to Poland), and the aria recorded is the equivalent of Leonora's "Abscheulicher." It is a gentler piece, more spiritually probing than furious, but the dramatic coloratura of the final part is as thrilling a piece as one would want to hear. Similarly, there is an excerpt from Marco Portogallo's La Semiramide that stands up superbly alongside Rossini's setting, which was presented 17 years later. It is sung here by the spectacular Yvonne Kenny, and it makes one wonder why this singer's career is not on the international level. This aria would throw fear into even Joan Sutherland's heart; its high-flying fioriture, rapid scalework, and staccato passages make a fitting challenge to a great singer.

Fernando Paer's Sargino is represented by a Mozartian tenor aria exquisitely sung by Keith Lewis, who takes a high D with grace and follows it with a fine trill. The finale to the first act of Niccolo Zingarelli's *Ines de Castro* is given here complete. It is an energetic quartet sung by Marilyn Hill Smith (with bell-like coloratura), Della Jones (whose mellow mezzo-soprano is a welcome addition to every piece of music she participates in), tenor 1an Caley, and baritone Russell Smythe. Zingarelli was a great melodist, and judging by this quartet, his obscurity is undeserved.

Francesco Gnecco is not a name that trips off the tongue of even the most passionate opera lover, but the sextet from his one-act farce La prima prova dell'opera Gli

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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.

Orazi e Curiazi is a delightful piece of virtuoso buffoonery. It is expertly performed by Sandra Dugdale, Alexandra Mercer, Alan Opie, Roderick Earle, Alexander Oliver, and Michael Goldthorpe, all with big smiles in their voices. But for real comic brilliance, à la Mozart's The Impresario, one must turn to Valentino Fioravanti's I Virtuosi ambulanti. This 1807 dramma giocoso is a riotous takeoff on theatrical rivalries, the excerpt recorded here being a trio from the second act in which a manager (Russell Smythe) puts his two rival prima donnas (Hill Smith and Dugdale) through their paces. The ladies attempt to sing one another under the tableand almost succeed. It's a great joke on vocal exercises, and the singers appear to be having a great time.

I realize that I've only begun to uncarth the treasures to be found here. Each listener will have his favorites: It might be the Rossini-like duet from Vincenzo Lavigna's *Hoango*, flawlessly sung by Harrhy and Jones, or the glorious canonic trio from Joseph Weigl's *Ginevra di Scozia*. Or it might be Pamela's aria from Pietro Generali's *Pamela nubile*, with its lovely bassoon obbligato.

There are over two and a half hours of music on these discs, all of it worthy of careful scrutiny. The performances are first-rate throughout. If one had to find a flaw, it would be that there is no real Italian sound to be found among the men on this set-but that would remain a minor complaint. The album comes with a profusely illustrated 64page booklet containing texts, translations, and historical notes about each opera and composer. David Parry conducts the Philharmonia Orchestra with great verve and knowledge of the period, and the sound throughout, though a bit shinier than we've become accustomed to, is excellent. One can only look forward to Opera Rara's next nine volumes with great joy. This is a must Robert Levine for any opera lover.

#### BACH:

#### Sultes for Solo Cello, B.W.V. 1007–12.

 Maisky. Mischa Maisky and Hanno Rinke, prods. Deutsche Grammophon 415 416-2 (D, 3). ⊙ (3). ☺ (3).

#### BACH

#### Sonatas for Collo and Plano, B.W.Y. 1027– 29.

Maisky, Argerich. Hanno Rinke, prod. Deutsche Grammophon 415 471-2 (D).⊙ ⊡

MISCHA MAISKY, THE RUSSIAN-ISRAELI CELLIST now living in London, has on this recording taken a radically personal approach to the six Bach Suites for unaccompanied cello. He has rethought every measure of the music; as a result, each movement emerges a bit different from what we have heard before. Yet his playing never loses that spontaneous, rhapsodic edge that makes the best performances of these works exciting rather than studied.

Maisky's interpretations will alienate many, especially the purists. His tempos are generally broad (the Sarabandes and Allemandes are especially slow), though on occasion they become excessive in the other direction, as in the overly fast Courante of No. 6. Moreover, the fluctuations of tempo within certain movements often seem mannered and disruptive. Maisky's application of rubato is especially noticeable in the Preludes and the slower movements; in the faster Dances, he is forced to be more rhythmically disciplined.

Yet Maisky's freedom of tempo, his immense dynamic range, and his extraordinary timbral variety-from a hushed, breathy pianissimo to a bright, assertive fortissimoturn out to be more than mere mannerisms. Maisky is an insightful musician who employs his methods as a means to achieving long, thoughtfully directed phrases, sustained to nearly impossible lengths. His rich tone and utterly seamless bow stroke aid him in shaping those phrases and in elucidating implied polyphonic lines. The result is Bach of harrowing intensity and visionary power: In Maisky's hands, a simple three-line Sarabande becomes a cataclysmic event. Yet-it is just as viable as the dutiful, impersonal performances that sometimes pass for "authentic," and although I object to Maisky's unidiomatic excesses, I find his interpretations strangely compelling.

Martha Argerich joins Maisky in a performance of the three cello and piano (really viola da gamba and harpsichord) sonatas. She succeeds in tempering some of his mannerisms, but she shares his questing, poetic spirit. While the tempos are less extreme and the rubato more sparing, the dynamic and timbral variety and that ability to craft lengthy musical lines are still much in evidence. Argerich applies a pleasantly light touch, though the piano's recorded sound is somewhat muddy. The accounts are imbued with a marvelous combination of probing intellect and impetuous spontaneity, and while hardly idiomatic, they are never less K. Robert Schwarz than challenging.

#### **BEETHOVEN:**

#### Symphonies: No. 7, in A, Op. 92; No. 8, in F, Op. 93.

Concertgebouw Orchestra, Mengelberg, Tadaatsu Atarashi, prod. Philips 416 204-2. REFTHOVEN

#### Symphony No. 9, in D minor, Op. 125.

Van der Sluys, Luger, Van Tulder, Ravelli; Amsterdam Toonkunst Chorus, Royal Oratorio Society, Concertgebouw Orchestra, Mengelberg. Tadaatsu Atarashi, prod. Philips 416 205-2.

#### FRANCK:

Symphony in D minor.

#### STRAUSS:

#### Don Juan, Op. 20.

Concertgebouw Orchestra, Mengelberg. Ta-daatsu Atarashi, prod. Philips 416 214-2. MAHLER:

#### Symphony No. 4, in G.

Vincent; Concertgebouw Orchestra, Mengel-0 berg. Tadaatsu Atarashi, prod. Philips 416 211-2.

#### SCHURFRT:

#### Symphonies: No. 8, in 8 minor, D.759 ("Unfinished"); No. 9, in C, D. 944 ("The Great").

Concertgebouw Orchestra, Mengelberg, Tadaatsu Atarashi, prod. Philips 416 212-2. THE BOONS OF COMPACT-DISC RECORDING seem to have no bounds, even when the technology is applied to the restoration of performances that were originally recorded on acetate transcription discs. The Philips label is now in the process of reissuing the famous 1939-40 broadcast performances by the Concertgebouw Orchestra of Amsterdam under Willem Mengelberg that were once available in LP format. Listeners who are partial to the unique Mengelberg style (and even those who emphatically are not) need no introduction to these performances. Mengelberg was a law unto himself, and there was scarcely a score that emerged from his scrutiny without cutting or revisions to tempos, phrasing, and orchestration. He was definitely not a conductor for purists, but the purists themselves had to admit that he was one of the great podium geniuses of all time. Moreover, he hewed the Concertgebouw into an instrument of rare perfection of response (sorry to say, the orchestra today just doesn't play the way it did in 1940).

A detailed description of these performances would be impossible here-as I said, anyway, they are familiar to most record collectors. Included are definitive readings of the Beethoven Eighth and Don Juan (notably superior to their studio counterparts), a most illuminating Franck Symphony, and a classically inimitable Mahler Fourth. On the debit side are some infuriating idiosyncrasies, mainly the patently absurd treatment of the last few chords of the Beethoven Ninth. Never mind-these performances remain compulsory listening. By the way, one thing remarkable about them is that several took place immediately before or after the German invasion of the Netherlands; that sad event apparently had no effect artistically upon conductor or orchestra. Philips's CD processing hasn't removed the surface noise of the original discs, but otherwise the sound quality is markedly improved, especially with regard to the defective dynamics that plagued the original issues. All in all, a noble project, which thus far Philips has nobly ac-**Bill Zakariasen** complished.

#### **BEETHOVEN:**

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

Ber in Philharmonic, Karajan, Günther Breest, prod. Deutsche Grammophon 415 505-4 (D). 00

#### **BEETHOVEN:**

#### Symphonies: No. 1, in C, Op. 21;

#### No. 2, in D, Op. 36.

English Chamber Orchestra, Thomas. Steven Epstein, prod. CBS Masterworks IMT 39707-4 

#### SEETHOVEN:

#### Symphonies: No. 1, in C, Op. 21;

No. 2, in D, Op. 36.

Accdemy of Ancient Music, Hogwood. Peter Wadland, prod. L'Oiseau-Lyre 414 338-4 (D). 00

THE ACADEMY OF ANCIENT MUSIC'S DIGITAL coupling of Beethoven's First and Second Symphonies, the first installment of a new Beethoven cycle played on original instruments, is one of the most striking Beethoven symphony recordings to come along in



5

### Critics' Choice

The most noteworthy releases reviewed recently

#### ALWYN:

#### Rhapsody for Plano Quartet\*;

String Trio; String Quartet No. 3. D. Willison\*; Quartet of London. ⊙ Chandos ABRD 1153, Nov.

#### 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.

#### HAYDN:

#### Symphonies Nos. 94 and 96.

Academy of Ancient Music, Hogwood. 
Oiseau-Lyre 414 330-4, June.

#### JANEQUIN:

Chansons (9). SERMISY:

#### Chansons (8).

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

#### MOZART:

Fantasia in C minor; Plano Sonatas Nos. 1, 12, and 17. Uchida. Philips 412 617-4, Nov.

#### RAVEL:

#### Songs (complete).

Bacquier, Berganza, Van Dam, Lott, Mesplé, Norman, Baldwin; Orchestre du capitole de Toulouse, Ensemble de chambre de l'Orchestre de Paris, Plasson. ⊙ Angel EMI DSCX 3965, July.

#### SCHUMANN:

#### Symphonies Nos. 1 and 4.

Vienna Philharmonic Orchestra, Bernstein. • Deutsche Grammophon 415 274-2, July.

#### SCHUMANN:

#### Symphony No. 3; Piano Concerto in A minor, Op. 54\*.

Frantz\*; Vienna Philharmonic Orchestra, Bernstein. • Deutsche Grammophon 415 358-2, July.

#### RECITALS AND MISCELLANY

#### CARMINA BURANA (original version).

Clemencic Consort, René Clemencic. Harmonia Mundi HMC 90335, Nov. years. Both performances were recorded without a conductor (Christopher Hogwood led from the fortepiano). The tonal scale is modest, the tempos fast and unmodified, the overall approach strongly reminiscent of the later Toscanini in its clean lines and agogic simplicity. Heard next to these remarkable performances, Herbert von Karajan's latest digital recordings of Beethoven's First and Second Symphonies, with their stodgy tempos and jumbo orchestral forces, sound almost as obese and ponderous as Klemperer on a bad day.

Michael Tilson Thomas's digital recording of this coupling on CBS is part of a "chamber version" of the Beethoven symphonies that he is currently recording with the English Chamber Orchestra. These interpretations lie somewhere between the anachronistic romanticism of Karajan and the radically "new" approach of Hogwood. Thomas's generally conventional tempos are energized by the passionate playing that he draws from the English Chamber Orchestra. For those who find the sound of original instruments unattractively raw but like the idea of Beethoven's symphonies performed on a comparatively small orchestral scale, these excitingly intelligent performances will prove very satisfactory. Even if you definitely prefer original instruments, you should listen to this recording. Michael Tilson Thomas is the best conductor we have today, and everything he does is worth hear-Terry Teachout ing.

#### BERLIOZ:

#### Nuits d'été, Op. 7. RAVEL:

#### Shéhérazade.

Baker; New Philharmonia Orchestra, Barbirolli. Christopher Bishop, prod. Angel EM1 4AE 34473 (A). O

DAME JANET BAKER'S MEMORABLE SIXTIES recordings of Berlioz's Nuits d'été and Ravel's Shéhérazade have been digitally remastered by Angel and are now available on LP and cassette. Though not always ideally idiomatic, Dame Janet's extraordinarily intense and sensitive singing, beautifully accompanied by Sir John Barbirolli and the New Philharmonia, remains an expressive touchstone in both works. The remastering is quite effective, and there is still no more satisfying coupling of these great cycles. Terry Teachout

#### BERNSTEIN:

#### Candide.

 Mills, Eisler, Lankston, Castle, Reeve, Harrold,
 Billings, Clement; New York City Opera Chorus and Orchestra, Mauceri. Elizabeth Ostrow, prod. New World Records NW 340/341 (D, 2). 
 (2). ● (2).

WHEN LEONARD BERNSTEIN'S CANDIDE, THE comic opera based on Voltaire's novella, opened at the Martin Beck Theatre on Broadway on December 1, 1956, Walter Kerr in the *Herald Tribune* led the charge: "Three of the most talented people our theatre possesses---Lillian Hellman, Leonard

Bernstein, and Tyrone Guthrie—have joined hands transforming Voltaire's *Candule* into a really spectacular disaster." Other critics were far more favorably disposed toward the work, but the public was not won over. The curtain came down for good after 73 indifferently attended performances.

The blame was placed on those proverbial broth-spoilers: too many cooks. There was Lillian Hellman's libretto, straining to find a parallel between the hero's naive belief in the philosophy of his teacher, Dr. Pangloss, that "all is for the best in this best of all possible worlds" and the excesses of Senator McCarthy's then rampaging witch-hunt for Communists. There were the lyrics of poet Richard Wilbur, which had been turned over for renovation to the clever John Latouche and the even cleverer Dorothy Parker. There was the eye-filling but lumbering production staged by Tyrone Guthrie, who up to then had dealt with operas but never with a musical. Though caught in the middle, the cast-Max Adrian, Robert Rounseville, Barbara Cook, Irra Petina, et al.---was an abundantly gifted one.

Bernstein had proven his worth as a contriver of sophisticated scores with On the Town and Wonderful Town and was to do it again a year later with West Side Story. For Candide, he concocted a lavish score that was hailed as delightful. But it took a persistent cult of admirers—armed with Columbia's stunning original-cast recording—to sustain hopes down through the years that Candide would emerge as a viable work for the stage.

In 1974, with a new book by Hugh Wheeler, additional lyrics by Stephen Sondheim, John Mauceri as musical director, and a cast of young, willing, athletic interpreters with attractive looks and voices, Ruth Mitchell and Harold Prince (who also directed) brought Candide back to Broadway (after 73 performances at BAM's Chelsea Theatre Center) for a 740-performance, critical if not financial, theater-in-the-round success. The revival, complete with dialogue, was released on a two-disc set by Columbia (S2X-32923). A decade later, on October 13, 1982, Candide awoke once more, this time as a full-fledged operatic work in an elaborate, much-praised staging by the New York City Opera. It is that version, also staged by Prince, that New World Records has now recorded on two LPs-marking its initial venture into the Compact Disc and cassette formats at the same time. (When I checked with the label, it had just sent the entire lot of cassettes back to the manufacturer for failing to meet the company's technical standards.)

The question is, which *Candide* to choose? The landmark original-cast recording in stereo (Columbia OS 2350) lives up to its vaunted reputation but contains only a part—the best part, to be sure—of the music. The later Columbia release, with every note and all the dialogue intact, sweeps the listener into the action and holds him there so intriguingly that when I listened to it recently to refresh my memory, I couldn't re-



CLEMENT, EISLER, MILLS, REEVE, AND LANKSTON (FROM LEFT) AT A RECORDING SESSION: THEIR COMBINED FORCES DO JUSTICE TO "CANDIDE."

sist playing all four sides. It was recorded, however, with a chamber orchestra of only 13 players, and the singing, for all its youthful appeal, is less than spectacular. Let's face it: Any true Candide afficionado is simply going to have to find room on the shelf for all three versions

The new album, with only a scattering of spoken lines, can't purport to take the listener along step by step on that bitter but hilarious voyage around the globe that all but shatters the innocent hero's faith in the credo of Dr. Pangloss, but it does contain absolutely all the music, as the composer originally orchestrated it with help from Hershy Kay. It is exuberantly performed-again under Mauceri's intrepid supervision-by the New York City Opera Chorus and Orchestra and a cast of certified opera singers who may not be household names yet but assuredly know their business. These forces combine to do Bernstein's scintillating and ambitious-if occasionally pretentious-conception proud.

David Eisler's lusty tenor is just right for the title role, though Erie Mills, fine as she is, is not quite as enthralling as was the inimitable Barbara Cook in the part of Cunegonde, the indestructible heroine whom even concubinage cannot corrupt. Scott Reeve makes Maximilian sound as good as he is alleged to look. Joyce Castle, as the Old Lady from Rovno Gubernya who is "easily assimilated" into Hispanic ways, may not sound as ribticklingly right in the role as did Irra Petina, but she is a vigorous comic companion as she sets sail with the principals for fresh disillusionments in the "new world" of their dreams, where New World's exacting engineers have adroitly caught up with them. "What a Day for an Auto-da-fé" resounds as dazzlingly as you dreamed it might; "Glitter

and Be Gay" couldn't be gayer or more glittery; the earthquake music will curl your hair. Even the sticky finale, "Make Our Garden Grow," has its tongue firmly enough in cheek to make one almost forgive what a Bernsteinishly Panglossian bit of force-fed optimism it really is. (One thinks of the sugar-topped "There's a Place for Us" ending of West Side Story and the "affirming" chord bringing the otherwise pristine pages of The Age of Anxiety to a lump-in-the-throat close.)

In the aggregate, the three albums demonstrate that, whether regarded as musical comedy, operetta, opéra bouffe, or Opera with a capital O, Candide is a sturdy, ear-filling something to treasure. It has already survived both scornful neglect and standing-room popularity, and it is likely to go on ingratiating itself with all sorts of audiences-and listeners at home-for a long time to come.

Paul Kresh

#### LIST:

#### Piano Works.

Watts. Marc Aubort and Joanna Nickrenz, ▶ prods. Angel EMI 4DS 37354 (D). ⊙ ● CDC 47380

Grand études after Paganini (6): Au lac de Wallenstadt, Il Penseroso, Les Jeux d'eau à la Villa d'Este (Années de Pèlerinage); Hungarian Rhapsody No. 13

#### LIST

#### Pigno Works.

Watts, Marc Aubort and Joanna Nickrenz, prods. Angel EMI 4DS 37355 (D). ⊙ ● CDC 47381.

Sonata in B minor; Valse oubliée No. 1; Nuages gris; En rêve; Schlaflos, Frage und Antwort; Transencendental Étude No. 10; Bagatelle ohne Tonart

ANDRÉ WATTS, HAVING SWITCHED FROM CBS Masterworks to Angel EMI after a long ab-



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sence from the recording studios, has just brought out a matched pair of Liszt recitals. Each of these thoughtfully programmed albums, recorded in long takes so as to capture the atmosphere of a live performance, contains one major work and an assortment of shorter pieces. The selections range from the B minor Sonata and the Paganini Études to the later (and greater) Liszt of such subtle miniatures as "Nuages gris" and "Les Jeux d'eau à la Villa d'Este." Watts's playing is dazzling in its technical finish and refreshing in its lack of interpretive idiosyncrasy. Though some listeners will prefer a more explicitly personal approach to these Liszt works, the performances are highly satisfactory all the same, and André Watts's playing has never sounded so good on record.

Terry Teachout

POWELL:

#### Sonate psychologique; Variations and Double-fugue on a Thome of F. C. Hahr, Op. 20.

○ Johnson. Carter Harman and Eve Beglarian, prods. Composers Recordings CRI SD 505 (A). VIRGINIAN JOHN POWELL WAS A PIANIST AND composer whose work is generally given short shrift in history texts. Yet Powell's mixing of Anglo-Saxon folk elements with turnof-the-century German post-Romanticism resulted in a highly distinctive, if at times tortuous, style that is reinspiring a new cadre of supporters. One is University of Maryland professor/pianist Roy Hamlin Johnson, who here provides a convincing presentation of two Powell piano pieces: Sonate psychologique and Variations and Double-fugue on a Theme of F. C. Hahr. The sonata enters a morally dif-

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fuse, psychologically troubled world that, for me, has a strong resonance with the later novels of Henry James. The recording is fine, the Composers Recording pressing a bit on the noisy side. *Noah André Trudeau* 

#### SIBELIUS:

#### "Kullerve" Symphony, Op. 7\*; Tulon synty (The Origin of Fire)†; Ome man (Our Native Land)°.

Naumanen<sup>e</sup>, Hynninen<sup>e</sup>†; Helsinki University Male Choir<sup>e</sup>†<sup>\*</sup>, Estonian State Academic Male Choir<sup>e</sup>†, Helsinki Philharmonic Orchestra, Berglund. Brian Culverhouse, prod. Angel EMI CDC 47496 (D, 2). ⊙ DS 3984 (2). (2).

SIBELIUS'S IMPERFECT YET UNDENIABLY powerful early masterpiece Kullervo has, in recent years, fared much better as a concert work than it ever did in the composer's lifetime. Shortly after conducting the world premiere of the massive 75-minute score in 1892, Sibelius withdrew it from performance. Perhaps he took the critics' comments too much to heart-some complained that Kullervo's form was diffuse or even abstruse (was it a symphony, an oratorio, or what?), while others stated they wanted Sibelius to write Finnish music, but not music quite that Finnish (whatever that was supposed to mean). At any rate, Kullervo wasn't heard complete again until the composer's son-in-law, Jussi Jalas, revived it during the Helsinki Sibelius Festival of 1958, a year after its creator had died. It didn't pass into the international repertory, however, until Paavo Berglund led the Bournemouth Symphony Orchestra and Finnish vocal forces in a 1971 Angel recording, which became a surprise best-seller. Since then, other conductors (notably Kenneth Schermerhorn in Milwaukee) have taken up the Kullervo gauntlet to great audience and critical acclaim.

The character of Kullervo himself might be described as the Joe Btflspk of the Kalevala (the Finnish national epic). In the main, this immense multicanto poem celebrates Finland's legendary heroes and their superhuman deeds of greatness; Kullervo, however, never does anything right. He spoils everything he touches, including his own sister, whom he unwittingly beds during a whirlwind sleigh ride over the snow (oh, those Finns!). Sibelius's powerful-if at times rather ruminative-music mirrors the stark, larger-than-life tragedy of this hapless character: in the somber, almost Brucknerian Introduction; the anguished, Tchaikovsky-tinted second movement ("Kullervo's Youth"); the frenetic, rhythmically jagged third ("Kullervo and His Sister"); the empty heroics of the fourth ("Kullervo Goes to War''); and the crushing denouement of the finale ("The Death of Kullervo"), in which our antihero meets his end by falling on his own sword. It is a flawed masterwork that Sibelius has given us in this sprawling yet compelling opus, but it's a masterwork nevertheless-and one that sounds ever more gripping with each hearing.

Certainly it sounds so in this superb new presentation, which notably surpasses Berglund's earlier effort. The greater clarity and impact of digital sound has a lot to do with this, but Berglund has, in addition, completely rethought the piece. In his first recording, he made many emendations in the original orchestration, taking out some inner voices that he claimed muddled the instrumental texture, but at the same time removing some important midrange divisi string writing, the loss of which left the second movement, for instance, sounding rather barren. Berglund has restored some of these passages, and the improvement should be apparent to any Sibelian. Moreover, slow tempos are slower and fast ones faster, which helps considerably in holding the listener's interest. The playing of the Helsinki Philharmonic seems bevond cavil, as does the singing of chorus and soloists. Jorma Hynninen's contribution in the title role is, as expected, definitive.

Hynninen is also featured on the first recording in some 25 years of *The Origin of Fire*. an inimitably burly, blunt setting of the miracle that is described in the 47th canto of the *Kalevala*. Written in 1902, it's a striking example of Sibelius's most uncompromising style: tough, not especially attractive, but impressive all the same. A late, purely choral work, *Our Native Land*, receives its first recording. Written during the bloody Civil War of 1918, it's a surprisingly conciliatory and optimistic piece, quite winning in its lyricism and (when one follows the translation of Sanuli Kustaa Kallio's poem) very inspiring as well. In sum, this superbly performed and recorded set (especially for the oddities on the last side) will be an indispensible one for some time to come—especially in the Compact Disc format. There is, however, a performance of *Kullervo* alone by Neeme Järvi waiting in the wings on a prospective BIS CD. Comparisons between his conception and Berglund's should prove fascinating.

In the meantime, the CD of Berglund's performance scores over the LP version in two ways: There is a more apparent feeling of space, while the occasional pre-echo and the overcutting that plagued a few loud spots are of course absent.

Bill Zakariasen

#### VERDI

#### Messa da Requiem (for Manzoni).

• Tomowa-Sintow, Baltsa, Carreras, Van Dam; • Vienna Philharmonic Orchestra, State Opera Chorus, Sofia National Opera Chorus, Karajan. Deutsche Grommophon 415 592-2 (2). ⊙(2). ©(2). • IF ONE WERE TO COMPARE THIS RELEASE WITH Herbert von Karajan's first opera on Compact Disc, the 1984 Falstaff, one would come close to summing up the schizoid career of the man they used to call Herr Generalmusikdirektor of Europe.

All the expected Karajan trademarks

were in place in *Falstaff*: shiny colors, widescreen dynamic range, Swiss-watch precision, and a kind of socialist miking that puts nearly everything front and center nearly all of the time. On its own terms, it can't be beat. Still, a drill team isn't the ideal comic ensemble, and this ironclad performance had most of the score's spontaneity and human joy corseted out of it.

There is, of course, another side to Karajan—one we used to see rather a lot of, as in his buoyant earlier *Falstaff* with Tito Gobbi on Angel. We've recently been granted close encounters with that side again, as in his unbearably moving Mahler Ninth Symphony for DG (I'm speaking of the one on CD only, which captures, not coincidentally, a live performance.) It's a live performance of the Verdi Requiem we are offered here (or as near as makes no difference—who'll complain about a few patches?), and like the Mahler, it's a stunner.

Or rather, it's not, and that's what makes it one. Where Karajan's multimiked competitors spotlight diesel-powered soloists, he presents his more distant quartet of veterans not as stars in an opera but as first-amongfellow-souls. Here the conductor gives up the split-second timing and glimmering tone of his earlier cut-and-paste recording of the work for the spontaneity and tension of long takes. If others have brought a tighter precision to the syncopations of the *Dies irae* or offered a more exaggerated palette through-

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out the Requiem, Karajan's simplicity now shows up that style for the stunt it is.

Sonically, as well, he surrenders his usual dictatorial control of the mikes for the more naked sound of an orchestra and live singers in a real space. A thrilling sound it is, too. (When was the last time we heard genuine hall resonance in a Karajan recording?) Here the swelling and dying away of the *Res tremendae* inspires genuine awe, conveying, like no recording I've heard, the terrifying majesty the text evokes. (It's the quick decrescendo with the hall still resounding that defines the power of the initial jolt.)

The perceived life of Karajan's present account of the Requiem lies less in its occasional hints of heaven than in its constant terror of eternal death, that "Mors" to which the basses especially keep returning. The work begins by asking merciful intercession for others; it ends in the higher truth of helpless selfishness: "Libera me... libera me." In a performance grand in its humility, Karajan conducts as if for once the stakes were truly eternal—as of course they are.

Thomas W. Russell III

#### WAGNER:

Parsifal.

Dalis, Thomas, London, Hotter, Neidlinger; Bayreuth Fest'val Orchestra and Chorus, Knappertsbusch. Philips 416 390-2 (A, 4).

#### BERLIOZ:

Requiem\*; Symphonie funèbre et triemphale.

 Dowd\*; London Symphony Orchestra and Chorus, Davis. Philips 416 283-2 (A, 2).0 6700
 019 (2). © 7699 008 (2).

THERE EXIST NO FINER EXAMPLES OF THE successful transfer of older analog tapes to Compact Disc than these two Philips albums originally recorded in the '60s: the 1962 Bavreuth Festival performance of Wagner's Parsifal and the 1969 Colin Davis/London Symphony Orchestra and Chorus version of the Berlioz Requiem. Both performances have received their share of deserved praise in previous issues of this magazine, so it's unnecessary to dwell on the virtues of Hans Knappertsbusch's elevated conducting and the fine singing of Jess Thomas, Irene Dalis, George London, and Hans Hotter in Parsifal or Davis's impeccably paced traversal of the Berlioz masterpiece. The fact is, the CDs of both are sonically so superior to their LP counterparts that the listener will be tempted to insist that these are different-and noticeably better-performances. The original issue of Parsifal was plagued with foggy sonics (in many ways, it was actually inferior to the 1951 mono London version), but on CD, Wagner and his interpreters are at last completely in focus. Hearing this edition, one truly feels as if he is seated square center in the acoustically perfect Festspielhaus, Davis's Requiem, on the other hand, was regarded as a state-of-the-art recording when it was first issued, but even then, the LP just couldn't quite take the cataclysmic roars of the Tuba mirum or the Lacrymosa without sonic breakup. On CD, these passages now register with remarkable clarity and an impact that, despite the volume, sounds completely natural. Philips also offers a bonus in this version: Davis's fine rendition of the Symphonie funèbre et triomphale—and the results are equally impressive. As with Parsifal, Philips's sonic restoration of the Requiem is little short of miraculous. These CDs must now be regarded as benchmark examples of audio technology as well as performance.

Bili Zakarıasen

#### **RECITALS AND MISCELLANY**

#### GIDON KREMER:

#### Edition Lockenhaus, Volumes 1, 2.

O Various performers. Manfred Eicher and Gidon Kremer, prods. ECM 1304/5-1 (D. 2).

CAPLET: Conte fantastique d'après une des histoires extraordinaires d'Edgar Allan Poe: "Le Masque de la mort rouge." FRANCK. Quintet for Piano and Strings in F minor. Janáček: String Quartet No. 1. POULENC: Two Songs from Fiançailles pour rire. SHOSTAKOVICH: Two Pieces for String Octet, Op. 11; Two Waltzes for Flute, Clarinet, and Piano. STRAVINSKY: Concerto in D; Tango, Waltz, and Ragtime from Histoire du soldat.

THE FESTIVAL THAT VIOLINIST GIDON KREMER directs each year in the Austrian village of Lockenhaus has a reputation not too different from Kremer's own: "Lockenhaus has been called an anti-festival, and I have been described as a musical dissident," says the violinist. He has become known for offering daring interpretations of the standard repertory and for championing new and unusual music. This nonconformist spirit is much in evidence in *Edition Lockenhaus*, Volumes 1 and 2, a retrospective survey of recent performances that inaugurates an ongoing relationship between the festival and ECM.

Edition Lockenhaus is evenly divided between French and Slavic repertory. The bulk of the French is taken up by Franck's Piano Quintet in Fminor, which receives an impassioned but oddly unsatisfying reading from members of the Hagen Quartet and Alexandre Rabinovitch, piano. First violinist Lukas Hagen is rough and overly strident, emphasizing Franck's Germanic angst at the expense of his sensuous French subtlety. Only Rabinovitch fully communicates the quintet's poetry and lyricism. André Caplet's fantasy on Poe's Masque of the Red Death combines Debussyan color and Stravinskvan rhythmic vitality with an adventurous harmonic palette. Though aimless and somewhat disjointed, Caplet's work receives an evocative reading from Ursula Holliger, harp, Michael Schnitzler and Daniel Phillips, violins, Gérard Caussé, viola, and Ko Iwasaki, cello. Two Poulenc songs are treated to delicate, understated, but exquisitely perfumed performances by soprano Catherine Whittlesev

The Hagen Quartet fares far better in Janáček's String Quartet No. 1 than in the Franck; here their rough-hewn, rhythmically incisive approach perfectly matches Janá-( CONTINUEDONPAGE95)

#### THE PAST

**†** CONTINUED FROM PAGE 70) themselves the ground their competitors can divide between complementary ensembles.

For the European labels, picking up an American group is one way to cover (or steal) all the musical bases: McGegan's Philharmonia Baroque Orchestra records Handel for Harmonia Mundi France, and Ioshua Rifkin's Bach Ensemble and Stephen Hammer's Amadeus Winds record for-you guessed it-Oiseau-Lyre. As it happens, American companies had their chance to get there first; Bilson, for instance, made records for Nonesuch and Titanic before starting his Mozart concerto cycle for Archiv. And while Arabesque has just issued Banchetto Musicale's new recording of Haydn's Lord Nelson Mass and continues to support Lubin's Mozart concerto cycle (the latest installment of which, pairing K. 414 and K. 450, appears on Compact Disc Z 6552), one of the largest American period recording operations isn't run by a record company at all, but by a museum: the Smithsonian Institution. The latest offering from their Division of Recordings is a Mozart box with the Smithsonian Chamber Orchestra, the Smithson Quartet, and other artists (set N 031, LP or cassette, available by writing to P.O. Box 10230, Des Moines, Iowa 50336). It is the initial release in a series that will include music of Beethoven and Schubert in forthcoming sets.

Original-instrument orchestras and the period movement in general are still a relatively small part of today's musical scene. To be sure, the better-known groups are appearing in concert more than ever before. with Hogwood's Baroque and Classical ensembles alone scheduled to complete three U.S. tours by the end of 1988. Early music has won lots of fans who are turned on to the "new" sound without necessarily being excited by the scholarship behind it, a trend that some insiders say will continue as charisma overtakes learning in propelling successful careers. There is clearly a need for more players, not just for today's periodonly bands, but for the conventional orchestras that (in 50 years, according to musicologist Robert Winter) will be playing the music of Mozart, Beethoven, and Weber in period style, as they now do that of Copland and Stravinsky.

The cry for standards sounding loudly in the period-instrument community is a warning that it had better match its playing to its propaganda, a message to those who have heretofore told us what their Beethoven isn't and now have a chance to show us what it is. In assaulting new frontiers, the period movement has already redefined instrumental and operatic repertories by calling into question playing styles long sanctified by tradition. One thing is certain already: The intersection of the new and "old" musicmaking worlds will inevitably reshape our ideas about composers like Beethoven, whom we all thought we knew so well. 

## Mini-reviews of 17 rock, jazz, and country releases on CD, LP, and videocassette

For those of you who may need a few recommendations for your holiday shopping list—and a few pointers on what to keep off of it—we offer the first installment of "In Short Order," a column of mini-reviews that will appear in these pages every month. Our aim is to cover a variety of musical styles on a variety of formats. In this way, we hope to report on many releases that we otherwise would not have the space to mention.

With that limited space in mind, we have adopted for this column a condensed version of the headings used in our regular section of reviews. Please note that these revised headings supply only the reviewed format and its catalog number. Ken Richardson

#### QUICKSILVER:

• Peace by Piece. Capitol ST 12498. IF JEFFERSON STARSHIP CAN GO PLATINUM BY shortening its name and beefing up its sound with gloppy synthesizers, then why can't a 1986 version of Quicksilver Messenger Service? Well, for one thing, the "reunion" boils down to only one original member, guitarist/singer Garv Duncan, which is like a Beatles reunion featuring only Ringo Starr. For another, Duncan's nondescript voice lacks even the recognition factor of, say, that of the Starship's Mickey Thomas, not to mention ex-Quicksilver singer Dino Valenti. And last, forty-year-old hippies should never, ever, name a song "Good Thang" or, as on the 9:54 title track, attempt a rap loaded with lines like "You gets no chance . . . You gets no breakdance." As they used to say, a bad trip. David Browne

#### CHICK COREA:

#### Children's Sengs. ECM 25005-2.

WHY THESE FRAGMENTS FOR SOLO PIANO, most between one and two minutes long, are designated for children I'm not sure, as there's a range of unchildlike moods here, from hopefully romantic to dissonantly anxious; some of the languorous moments even suggest a certain world-weariness. Maybe it's the brevity of the pieces, which probably would match a child's attention span. At any rate, Chick Corea fans should find this of interest since several of his past (and probably future) ideas and melodies are touched upon. Others may find the 20 songs in 30 minutes a little skimpy, if not a little precious. For the CD, a five-minute track called "Addendum" has been included, a sprightly piece for piano, cello, and violin that, despite its length, actually *does* sound like a child's song. *Richard C. Walls* 

#### XTC:

IV Best Hits. Virgin Video TE-M 546 (Beta, VHS). THIS IS AN EXCELLENT COLLECTION OF VIDEOS that, despite being available only as a Japanese import, is well worth taking the time to search out. XTC debuted in 1978 with a fun, quirky brand of new wave; since then, Andy Partridge's lyrics have become pungent and purposeful, and the band's music has matured into artful (not arty), aggressive British rock. Best Hits has nothing from 1984's neglected masterwork The Big Express or its quiet predecessor, Mummer, but it does offer 11 videos of tracks from XTC's five other LPs and, as such, is the visual counterpart to the band's compilation of U.K. singles, Waxworks. Partridge's humor is front and center in the early clips: He gleefully eats a record in "This Is Pop" and plucks a violin during the opening guitar of "Respectable Street." Things get serious in "Senses Working Overtime," a standard performance clip, and "All of a Sudden (It's Too Late)," a precursor to the video of "Every Breath You Take," "Making Plans for Nigel" and "Generals and Majors" are here, too. Essential for XTC devotees, recommended for all others. Ken Richardson

#### LIONEL RICHIE:

**Dencing on the Colling.** Motown 6158 ML. LIONEL RICHIE'S EMPHASIS ON PRODUCTION values, plus his remarkable ability to act out



a lyric, creates some confusion between style and substance: The question may arise, "Does he really mean it?" If you like Lionel, you won't be disappointed by any of this: a message number done in flawless reggae fashion ("Se La"), a big radio hit ("Say You, Say Me"), and some very pretty love songs, as usual. What I can't help feeling is that to make this record, Richie and coproducer James Anthony Carmichael went into a laboratory and isolated the essence of what his fans like. The formula may work, but only on those fans. *Joe Blum* 

#### KEITH JARRETT:

#### **Changes.** ECM 25007-2.

THIS IS THE FAMOUS STANDARDS TRIO, PIANIST Keith Jarrett joined by bassist Gary Peacock and drummer Jack DeJohnette, exploring two Jarrett compositions: the half-hour "Flying" (Parts 1 and 2) and the truly beautiful "Prism." a 61/2-minute ballad. "Flying" ebbs and flows from impressionistic introspection to more turbulent passages with Jarrett at his most beguiling, though occasionally his habit of "singing" along in a whiney, strangled voice gives the proceedings an unintentional avant-garde dimension. The CD sound is great, with Peacock benefiting most from the enhanced clarity. And though you no longer have to flip a record over to hear all of "Flying," the pause between the two parts remains; fortunately, it comes at a perfectly logical point in the composition.

Richard C. Walls

#### AMY GRANT:

#### • The Collection. A&M/Myrrh SP 3900.

I'M CYNICAL ABOUT ANY ARTIST WHO'S SINGING to the converted, especially a "Christian pop" vocalist who crossed over after selling millions on a religious label. But Amy Grant's mainstream anthology showcases a decent vocalist, and her co-written singles are better than I'd imagined. "Stay for Awhile" has trite lyrics about childhood friendships, but its cotton-candy melody is catchy. The equally nonsecular "Find a Way" is a perfectly okay rock song, and I









Together for the first time on the same pages (from fur left): Ted Nugent, Rodney Crowell, Chick Coree, Krones Quartet, Gwen Guthrie, and Eurythmics lead vocalist Annie Lennex

can't get over how much I dig the chorus on "Angels," the religious rocker about God's attendants saving people from near accidents. The slower, prayerful stuff ("El Shaddai," "Thy Word") isn't as good. All those sweeping strings and celestial harmonies make me feel like I died and went to heaven. It's still too early for that. (Note to collectors: The cassette version includes five extra tracks, and the CD version adds seven extra tracks.) Kate Walter

#### JOHN EDDIE:

John Eddie, Columbia CK 40181.

THIS DEBUT ALBUM QUITE OBVIOUSLY SHOWS John Eddie to be an East Coast rocker firmly—perhaps too firmly—in the Springsteen mode, but he knows it and seems to be trying to build upon it. So where the hollow voice, phrasing, and attack all come dangerously close to sound-alike, the writing is more concise, youthful, and rocky and lacking any of his mentor's visionary pretensions. Though many songs follow classic rock 'n' roll song tradition, tunes like "Stranded" also show Eddie to be an affecting balladeer. The CD particularly emphasizes Ian MacLagan's piano and organ crispness. *Jun Bessman* 

#### **GWEN GUTHRIE:**

#### ⊙ Good to Go Lover. Polydor 829 532-1.

BIG GIRLS DON'T CRY, CHUNKY GWEN GUTHRIE testifies. Those looking for some genuine emotion, some tear stains, some love pain, won't find them here. The first single, "Ain't Nothin' Goin' On but the Rent," contends that love has little to do with it: "Gotta have a j-o-b if you wanna be with me/No romance without finance." Cold and brutal, upbeat and down, it's a natural club anthem—a liberating theme. Sturdy jigsaw rhythms hold up more flygirl funk, and two ballads come off like Gwen's fronting, thinking about getting on with the party. *Havelock Nelson* 

#### HANK WILLIAMS, JR.:

⊙ Montana Cafe. Warner/Curb 25412-1. AS WITH MOST ALBUMS BY HANK WILLIAMS, JR., this one is guest-filled, including Huey Lewis splendidly trading lines on "You Can't Judge a Book (By Looking at the Cover)" and Reba McEntire, Willie Nelson, Tom Petty, and Reverend Ike on his Daddy's rollicking "Mind Your Own Business." The other selections mix the artist's keen sense of humor and satire with relaxed observations of simple country living in an all-inclusive American pop music framework ranging from ragtime to rock. Standing out among standouts is "When Something Is Good (Why Does It Change)," in which Williams relates the grievous loss of old cars and old Coke to good love gone bad. *Jum Bessman* 

#### KATE BUSH:

#### The Single File.

EMI/Picture Music TT13-1060HI (Beta, VHS). KATE BUSH'S EARLY VIDEOS HAVE NOT DONE much to advance the art form. Still, there's a beauty to the simplicity of Bush cartwheeling in a white dress for "Wuthering Heights." As her music gets more sophisticated, so do her visuals, as when she plays an embryonic child worrying about The Bomb in "Breathing," but the videos remain straightforward and low-budget. The 12 songs in this 1983 Japanese compilation include four from *The Dreaming* but none from the more recent *Hounds of Low*. Because the clusive Bush has never toured in this coun-

the more recent *Hounds of Love*. Because the elusive Bush has never toured in this country. American fans may welcome the opportunity to see her in action, gesticulating wildly to dramatic choreography as eccentric as her vocals. *Andrew Nash* 

#### EURYTHMICS:

#### **Revenge.** RCA PCD 1-5847.

JIMMY "Z" ZAVALA'S CHIGAGO BLUES harmonica intro to lead track "Missionary Man," together with his sax playing and ex-Blondie drummer Clem Burke's heavyhanded slugging, gives this recording a harder rock sound at the outset than that of previous work. But while it carries over to the pop gem "Thorn in My Side," things eventually stray toward the too flighty, orchestrated, and electronicized, though the overabundance of effects sparkles on CD. And while all of the remaining songs are beautifully produced and sung, the writing is less memorable. *Jim Bessman* 

#### WEATHER REPORT:

#### O This Is This. Columbia FC 40280.

PROBABLY THE LAST RECORD BY WEATHER Report, This Is This is adorned with a picture. of co-leaders Josef Zawinul and Wayne Shorter shaking hands and includes innersleeve drawings of all the musicians who played with the group in its 15-year existence. The music it contains seems equally concerned with the group's past. Its funky numbers, "This Is This" and "Man with the Copper Fingers," sound almost perfunctory. Better is Zawinul's "I'll Never Forget You," an agreeable ballad dedicated to his parents, while "Jungle Stuff (Part 1)," written and sung by percussionist Mino Cinelu, sounds freshly energetic. Much of the restbreaks no new ground, and Shorter is barely to be heard throughout. Michael Ullman

#### KRONOS QUARTET:

• Music of Bill Evans. Landmark LLP 1510. IN THESE INGENIOUS ADAPTATIONS, THE string quartet gives great drama to Bill Evans's most innocent piano progressions (like "Waltz for Debby") as well as enhances the lyrical qualities inherent in any Evans original. The telling question is whether the first violinist, David Harrington, can carry out the improvised uptempo passages (we know that guest artists Eddie Gomez and Jim Hall won't have any trouble), but he does it impressively and without hesitation. Why none of Evans's drummers was invited I don't know, but the purpose is nonetheless admirably fulfilled: We are given a new way to appreciate Evans and, if we wish, to study him. Joe Blum

#### ALVIN "RED" TYLER:

#### • Heritage. Rounder 2047.

DESPITE ITS INCLUSION IN THE ROUNDER series Modern New Orleans Masters, Alvin "Red" Tyler's *Heritage* turns out to be a pretty standard slice of postbop. Not bad for



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that, but there is very little here that's extraordinary. Though Tyler's influences run from Dave Bartholomew and the sire of the Marsalis dynasty, Ellis, to Professor Longhair, the meters are sometimes tricky but definitely not funky (nor were they meant to be). Johnny Adams offers up a pleasant surprise and expands his musical horizons with a version of "I'll Only Miss Her When I Think of Her" that sounds like a higher-register Billy Eckstein. This track has all the warmth that Germaine Bazzle's take on "Lush Life" lacks. Beyond these vocal excursions, the side-closing instrumentals "New Day" and "No Relation" are also quietly noteworthy. Hank Bordowitz

#### TED NUGENT:

#### Great Gonzos! Epic EK 37667.

THIS TEN-TRACK 1981 COMPILATION—OF which such titles as "Cat Scratch Fever," "Dog Eat Dog," and the immortal "Wango Tango" say it all—is full of the tasteless and obscene young-male sex-and-aggression fantasies that have made Ted Nugent the premier rock 'n' roll beast. At the same time, the blues-based tunes showcase an always exciting rock guitarist of the first order. The CD format thus becomes the perfect medium for delivering Nugent's muddied guitar textures as cleanly as possible. Jim Bessman

#### LET'S ACTIVE:

O Big Plans for Everybody. I.R.S. IRS 5703. OVERDUBBING HIMSELF INTO A BAND WITH THE residual help of some fellow hermits, Mitch Easter turns Let's Active's third release into an oddly decadent pleasure: easy listening for the memory-overloaded hipster. Ringing with catch phrases and melody lines both familiar and half-forgotten, the finest songs ("Whispered News," "Writing the Book of Last Pages," "In Little Ways") are mosaics of post-Beatles guitar riffing and choral vocals as addictive as they are evanescent. It's as if Easter had shrunken the universe to the size of his bedroom and the most complicated choice was choosing the next record to queue up. Is that the ghost of Marc Bolan being resurrected on "Last Chance Town"? Is that the ghost of John Bonham on drums throughout? Is this head music for people who have given up drugs? Mark Moses

#### RODNEY CROWELL:

Street Language. Columbia FC 40116. PERHAPS BEST KNOWN, IF UNFAIRLY, AS MR. Roseanne Cash, Rodney Crowell delivers a righteous good time here. Crowell makes country that rocks: The rhythms slice, the guitars bite, and the horns swing, brawl, and lust over singing that alternately soothes and scorches. Best-of-show goes to "When the Blue Hour Comes," which counters the despair of co-writer Roy Orbison's finest work with a redemptive offer of love and faith. If it's difficult to separate the pitch for New Country from the hype surrounding, let's say, New Coke, Rodney Crowell stands tall as the real thing. Wayne King



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## SIMON SAYS, "IVE!"





JOSEPH SHABALALA (LEFT) AND MEMBERS OF HIS VOCAL GROUP LADYSMITH BLACK MAMBAZO COL-LABORATE WITH SIMON: EERILY BEAUTIFUL AND JOYOUS

#### PAUL SIMON: Graceland.

Doub Simon, prod. Worner Bros. 25447-4. WITH HIS LATEST ALBUM, PAUL SIMON HAS made a major move toward cultural imperialism. He freely admits that the music for about a third of the songs is more than loosely based on material by the South African bands with which he recorded them. That still doesn't stop him from taking first credit among the listed writers. It doesn't matter, though, because the end result is brilliant.

Grown from the seed of an idea Simon had when he was first exposed to the "township jive" music of South Africa, Graceland covers a broad stylistic range, from the almost country feel of the title track to "Homeless," an eerily beautiful a cappella collaboration with the 13-member vocal group Ladysmith Black Mambazo, Just to show what a small place the world is, Simon includes two songs recorded with American bands Los Lobos and Good Rockin' Dopsie and the Twisters. The common theme is the accordion. Indeed, "The Boy in the Bubble," recorded with the group Tao Ea Matsekha, sounds as much like zydeco as does "That Was Your Mother," the Dopsie track.

The concept of grace runs through many

of the songs, less in a religious sense than as a spiritual centering. Besides the title track's metaphor of a pilgrimage to Elvis Presley's home, it crops up sardonically in "The Boy in the Bubble," as "the days of miracle and wonder" are equated with "the days of lasers in the jungle." And it manifests itself as beauty in both "Homeless" and "Under AFrican Skies."

The latter song also benefits from the gorgeous vocal pairing of Simon with Linda Ronstadt. The Everly Brothers' appearance on "Graceland," however, is largely wasted. Best are the Ladysmith group and the Gaza Sisters, who turn in some extraordinary high harmonies on "I Know What I Know."

Graceland seems to have been made by an entirely different artist from the one who recorded the droning *Hearts and Bones* two years ago. If nothing else, Paul Simon's African sojourn gives this album a joyous feel, attained when you don't think too much.

Hank Bordowitz

#### VAN MORRISON:

#### No Guru, No Method, No Teacher.

⊙ Von Morrison, prod. Mercury 830 077-1. STUBBORNLY DISOBEDIENT OF POP FORM, VAN Morrison's last three albums offered mystical Celtic jazz as uplifting as it was hermetic. The elements of No Guru, No Method, No Teacher are the same: ethereal melodies, transcendent scat singing, and a thematic obsession with the intertwining of sexual fulfillment and spiritual healing. But Morrison hasn't sounded this spontaneously passionate or direct since 1979's masterful Into the Music.

"Got to Go Back" opens the LP with a memory of Morrison running home from school to play Ray Charles's "I Believe to My Soul" and falling into epiphany-Charles revealed as the ideal of rapture-via-music by which Morrison sull measures his own work. That tone of rededication recurs throughout the album. "In the Garden" is Morrison's most purifying erotica since Into the Music's "And the Healing Has Begun," blissful lovemaking in the rain the only proof he needs of the existence of a Divinity ("No guru, no method, no teacher/just you and I and nature/And the Father in the garden"). "Tir Na Nog" follows these lovers into heaven; Morrison testifies about eternal love and reincarnation while a string section shadows his vocals like a choir of mischievous angels.

The rest of Side 2 sustains an eloquently cantankerous note, as Morrison denies his

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own pop divinity ("Here Comes the Knight"), denounces false security ("Thanks for the Information"), and, on "Ivory Tower," scolds a spoiled rich girl. "Ivory Tower" is his swinglest, most succinct pop tune in years, proving that he may be cranky but he hasn't forgotten how to rock. Joyce Millman

#### ANITA BAKER: Rapture.

Michael J. Powell, Marti Sharron, and Gary 0 Skardina, prods. Elektra 60444-2. 🔿 🚥

I'LL FOREVER ENJOY WEEKEND MASTER-MIX dance parties, multiple edits by the Latin Rascals, and other creative exercises in funk. Still, there will always be a warm spot in my heart for good, old-fashioned rhythm 'n' blues. For a while, it seemed like an endangered species: A little more than a decade ago, black pop became dominated by electronics, and writing skills suffered. But back in 1982, when Luther Vandross came onto the scene, the song returned. Since then, women have tugged on a few heartstrings as well; Stephanie Mills, Meli'sa Morgan, and Patti LaBelle come to mind. The real trendsetter, though, was Sade.

Maybe it isn't fair to call Detroit-born Anita Baker America's Sade, but it's irresistible. Both singers eschew fast tunes, use real bass and drums, and possess a husky throat, all scotch and smoke. As with Sade, there is something definitely sexy about the way Baker extends notes, prolonging ecstasy and forestalling climax. Anyhow, a comparison isn't a dismissal, for I love Rapture to death. And the translation of this analog recording to Compact Disc results in a markedly clearer sound (which, unfortunately, also reveals slight tape hiss.)

With just one allusion to '80s slickness out of eight cuts (a still listenable "Watch Your Step"), Rapture speaks of love and loss in well-crafted soul-jazz dependent on the beauty of the Afro-American vocal cord. Instrumentation is sympathetic to Baker's voice, which caresses and consoles. At twenty-eight, she has a cadence, tonality, and register that are fundamentally pleasing to the ear, an instinct reminiscent of Sarah Vaughan's. But there's also a powerful streak. On Rod Temperton's "Mystery," she delivers charged, flowing whoops; on David Lasley's "You Bring Me Joy," there are shades of gospel and LaBelle-ish shouting.

Still, Baker's own "Been So Long" and "Sweet Love" suggest that jazz is her main influence. She slides through the latter with the grace of John Coltrane's sax, directing Freddie Washington's bass (deeper throughout on CD) and Rick Lawson's drum kit (tighter in this format) with controlled ease. And though she has been dazzling at venues as large as Radio City and Carnegie Hall, when I listen to the dark, pleading "Been So Long," I picture her in a supperclub setting, where Saturday night trendoids like me aren't even welcome.

Havelock Nelson

## Format Key



Large symbol beneath title indicates reviewed format Small symbols following catalog number of reviewed format indicate other available formats lif 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 re viewed 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.

#### CAMPER VAN BEETHOVEN: H & 10.

Pitch a Tent 01. (Distributed by Rough Trade,  $\odot$ 326 Sixth St., San Francisco, Calif. 94103.) SOMEONE HAS TO CARRY ON THE WARPED acid-folk legacy of the Holy Modal Rounders, and it may as well be Santa Cruz's Camper Van Beethoven. At their early gigs, they would risk life and limb by playing Russian folk songs to hardcore crowds, and when they finally committed themselves to vinyl with last year's Telephone Free Landslide Victory, they crammed 19 disparate songs onto one record. 11 & 111 finds them with a better distribution deal but still using the same buckshot approach to record-making: The 19 songs on this album wander from oddball international instrumentals to mild raveups and scruffy, hummable folk-rock

This isn't so much an album as one long hairpin curve. "Sad Lovers' Waltz," which wouldn't be out of place on a Flying Burrito Brothers LP, is quickly followed by the psychedelic bluegrass instrumental "Turtlehead," which in turn is followed by a loping cover of Sonic Youth's "I Love Her All the Time." Then it's on to "No Flies on Us," a Celtic-flavored march driven by violinist Jonathan Segel, and then-well, you get the idea. Some of it works, some of it doesn't. but with so many songs, it's easy to overlook the clinkers.

Luckily, the Campers have retained the deadpan humor of the first album's "Take the Skinheads Bowling" and the self-explanatory "The Day that Lassie Went to the Moon." In "Down and Out," a parody of collegiate angst, the narrator informs us he's "gonna practice being depressed/And I think I'll go to film school." And in "(We're a) Bad Trip," guitarist/frequent lead singer David Lowery tells of crashing a party hosted by a spoiled jerk: "Answered the phone and said you didn't live here anymore," he goads, and the band chimes in, "And it was your mom?" Peter Stampfel would be proud. David Browne

#### JA747

#### GRIOT GALAXY:

#### Opus Krampus.

Pedro de Freitas, prod. Sound Aspects SAS
 004. (Distributed by Polygram Special Imports.)

#### BAREFIELD/HOLLAND/TABBAL TRIO: Live at Nickelsderf Konfrontationen.

Pedro de Freitas, prod. Sound Aspects SAS 007.

WHEN, AND IF, YOU THINK OF DETROIT'S contribution to jazz, you probably think of its great postbop stylists: Barry Harris, Kenny Burrell, Yusef Lateef, Donald Byrd, Ron Carter, the Brothers Jones (Thad, Hank, and Elvin—actually from nearby Pontiac, but why quibble?). That the city has had, for the past two decades, an active avant-garde as well is a fact less widely known.

These two LPs, recorded within days of each other at the same Austrian jazz fest, may help a little in rectifying that. Griot Galaxy has been a leading Detroit new music group for quite a while, and in its current incarnation as a quartet fronted by two saxophonists-tenor/altoist Faruq Z. Bey and soprano/altoist Anthony Holland-it plays a music wholly appropriate for the city: The songs are anchored by muscular, circular riffs, a relentlessly repetitive framework of wheels turning and gears meshing, reflecting the grinding reality of both the factories and day-to-day inner-city life. Bey's two compositions combine this base with extended written lines in a manner reminiscent of Archie Shepp c. Fire Music. Over the harddriving rhythm of bassist Jaribu Shahid and drummer Tani Tabbal, Bey digs in with a hoarse, earthy tone, swinging mercilessly. By contrast, Holland comes on cooler, more contemplative, but still forced to acknowledge the fierce pulse. And Shahid's 25-minute suite "Necrophilia" travels convincingly from the lilting soprano intro to a shrieking energy outburst from the saxes sans rhythm.

On the trio record, Holland and Tabbal are joined by guitarist Spencer Barefield, best known (as are Tabbal and Shahid) as a member of Roscoe Mitchell's Sound Ensemble. This group displays the same penchant for "mechanical" riffing as the Griots, but with Barefield's acoustic guitars and Holland's silvery alto and soprano, the attack is somewhat softened. Barefield's "Xenogenesis" approaches trance music, while Tabbal's "Hindola Spring," with its 12 minutes of tabla and African harp, ventures toward monotony. But with the tumbling, menacing riff of Holland's "IOCAB-4," we're back to that apposite Detroit avant-garde sound.

Either of these records would be a good intro to this corner of the Detroit scene, though the Griot set is the hot one. And the fact that they were recorded in Europe and are available only as German imports is ironic in a way that jazz fans hardly notice anymore. We don't like it, but we're used to it. *Richard C. Walls* 

#### THE BILL EVANS TRIO: Portrait in Jazz.

Orrin Keepnews, prod. Riverside JCD 630-1162. ⊙ OJC 088. ☎ (Distributed by Fantasy, Inc.)

#### **Explorations.**

Sunday at the Village Vanguard.

Orrin Keepnews, prod. Riverside JCD 645-9376.⊙OJC 140. ☺

#### Waltz for Debby.

THESE COMPACT DISCS REPRODUCE WITH NEW definition the original commercial recordings of the Bill Evans trio that featured drummer Paul Motian and bassist Scott La Faro. The group lasted from late in 1959 until La Faro's accidental death on July 6, 1961, which drove Evans into temporary retirement and brought to a premature end one of the most influential and exciting groups of the Sixties.

Evans said early in the trio's life that he wanted the three of them to "grow in the direction of simultaneous improvisation." They were able to do so because of the remarkable and almost unprecedented agility of La Faro, who played his bass as swiftly as if it were a guitar. His surprising countermelodies enlivened Evans's introspective playing; his sophisticated harmonic sense echoed Evans's own. And in Motian, the trio had its ideal drummer. Tastefully melodic, Motian was witty as well as swinging, as we hear in the crisply chattering figures he plays on his cymbals during the first and last choruses of "Israel" (on *Explorations*).

Brilliant though it is, 1959's Portrait in Jazz shows that the group was still evolving toward that ideal of simultaneous improvisation, realized only on the two takes of "Autumn Leaves." Yet there is nothing tentative about the playing on "Witchcraft," "Come Rain or Come Shine," or Evans's collaboration with Miles Davis, "Blue in Green." Explorations, recorded in February 1961, shows the trio's progress. It is notable for Evans's warmly lyrical introduction to "Haunted Heart," where he manages to play out of tempo without losing the pulse. On "Sweet and Lovely," La Faro weaves between Evans's notes in what sounds like a zestful game of tag.

The Village Vanguard session from June 1961 proved to be the trio's swan song, and it caught them at the top of their game, relaxed and exuberant and occasionally experimental. La Faro bursts in on Evans's statement of the theme of "Solar" with a kind of good-humored fury while Motian lets his cymbals ring. Evans recorded his "Waltz for Debby" repeatedly, but never with as much energy and power as with this trio. And "My Man's Gone Now" and "My Foolish Heart" are classics in jazz ballad plaving.

The CD versions do not eliminate the slight tape hiss that was part of the original

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recordings, but their more precise imaging makes them attractive: The format allows us to hear the buoyant interplay among these three musicians better than ever before.

Michael Illman

#### SHADOWFAX

#### Too Far to Whisper.

Chuck Greenberg, prod. Windham Hill WH  $\odot$ 1051. 🖸 🛈

THE PROBLEM WITH SHADOWFAX IS NEVER that they're unlistenable. As with most Windham Hill artists, the problem is that sometimes you forget you're supposed to be listening. These talented musicians have largely managed to overcome that syndrome in the past, but Too Far to Whisper is the closest they've come to making the audio equivalent of tasteful wallpaper. Mind you, the band's brand of Third World-influenced fusion remains distinctive. But on Shadowfax's most electric outing since 1976's Watercourse Way, it's ironic that the electricity fails to generate much excitement.

Chuck Greenberg's production is impeccable as always; however, the "perfect" mix and the ensemble playing become frustrating. In particular, G. E. Stinson's wailing guitar, which provided some of the most intense moments on Shadowdance and The Dreams of Children, gets lost in the album's homogenized sound. In line with this democratic approach, the writing has never been more evenly divided, and that might be the biggest flaw. The band's first four LPs were written almost exclusively by Greenberg and Stinson; here, they contribute only a few songs. Suffice to say that the album's most satisfying cut is Stinson's title track.

With a few impressive recordings and surprisingly dynamic live performances, Shadowfax has gone a long way to dispel Windham Hill's image of two-dimensional prettiness. Too Far to Whisper just doesn't go far enough. Andrew Nash

#### **29th STREET SAXOPHONE QUARTET:** Watch Your Sten.

29th Street Saxophone Quartet, prod. New  $\odot$ Note NN 1002. (Distributed by New Music Distribution Service, 500 Broadway, New York, N.Y. 10012.)

I THOUGHT SOMETHING WICKED WAS happening on the 29th Street Saxophone Quartet's first release. This second LP confirms it: a quirky, narrative sensibility that turns rhythm and tone into visual metaphor. Clever liner notes help, but this music can tell stories on its own. With its brash skyscrapers of chords, scurrying riffs, blaring horns, and wise-guy jive, Watch Your Step often sounds right off the streets of New York City, but it also is elegant, intellectual, and at times unabashedly lyrical.

Composed by different members, the five cuts juxtapose free sections against tightly arranged riffs. Unlike the sometimes schizzy World Saxophone Quartet, howey-

er, these four reeds (two altos, tenor, and baritone) never wander too far off the map; a common lifeline of tonality jerks a soloist back just in time to make a grounding statement. The pièce de résistance is "Hotel de Funk" (pronounced "Ho-tell duh Fahnk"), narrated by an actor who sounds like Billy Crystal stuck in the Twilight Zone. It's the story of the band's stay at a seedy hotel "that may be in your city ... entrapping unsuspecting travelers by the thousands." In concert, the quartet acts out the scenario; on disc, you hear saxes making like trick mirrors, squeaking doors, and fungus-growing furniture. The short four-part vocal scat underneath the story's rap is impressive; when they pick up their horns again, they sound as if they're still talking.

As both performer and idea man, Robert Watson is a standout. His solo on his own "K.C.Q." perfectly depicts his "wheeh, boy" glee when faced with a plateful of Kansas City Barbecue; in "Lafiya," a musical portrait of his five-year-old daughter, he taps the group's ability to breathe into chord changes with one lung while giving Jim Hartog's baritone a rare chance to sing the melody. Despite the strong individuals here, however, the 29th Streeters ride on their collective consciousness; impeccable timing, luscious timbres, and out-of-joint humor make them a must for post-hard-bop fans still addicted to melody and pulse.

Pamela Bloom

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GIDON KREMER'S NON-CONFORMIST SPIRIT IS EVIDENT THROUGHOUT THE LOCKENHAUS FESTIVAL PERFORMANCES.

(CONTINUED FROM PAGE 83) ček's rhapsodic, folk-inflected utterances. Similarly, in Shostakovich's Two Pieces for String Octet, Op. 11, the Hagens succeed in capturing the music's melodramatic, wildly juxtaposed extremes of mood as well as its demonic edge. Stravinsky's Concerto in D is given a graceful, lean performance hy the Kammerorchester der Jungen Deutschen Philharmonie under the direction of Heinz Holliger.

Kremer himself appears only in the trio

version of Tango, Waltz, and Ragtime from Stravinsky's *Histoire du soldat*. Too many violinists play this music in a desiccated, inexpressive manner; Kremer's conception is alternately lilting, surging, and caressing. His irreverent spirit, which is evident not only in *Histoire* but throughout the festival performances, makes these Lockenhaus recordings challenging even when they are not entirely successful and bodes well for future ECM/Lockenhaus collaborations. *K. Robert Schwarz* 

#### JOAN MORRIS: Lime Jello.

Morris, Bolcom. Leroy Parkins, prod. RCA Red Seal AMK 1-5830 (D). O

HARNICK: The Boston Beguine. HARNICK/ BOCK: Artificial Flowers; Just a Map. BURR/SHE-PARD: Sweet-Mary-Go-to-the-Movies. LEIBER/ STOLLER: Moby Dick. SONDHEIM: The Miller's Son. ESPY/HYMAN: On the Rising Incidence of Jagging. WILDER: Did You Ever Cross Over to Sneden's? MANDEL/SAHL: Take Us Back to the Office Again. BOLCOM: The Same Thing; Lime Jello Marshmallow Cottage Cheese Surprise. MORRIS/ BOLCOM: Tears at the Happy Hour. NASH-WEILL: That's Him. SHIRE/MALTBY: I Don't Remember Christmas. BLOCK/MULLER/WINKLER: Tamara, Queen of the Nile.

JOAN MORRIS'S LATEST ALBUM, RECORDED last December at a pair of Ann Arbor, Michigan, recitals, is an unusually diverse collection of American cabaret songs interpreted with inspired straightforwardness. Morris is perfectly at home with this kind of *recherché* material, moving from the barbed misanthropy of Stephen Sondheim's "The Miller's Son," to the bleak urban pathos of Charles Burr's "Sweet-Mary-Go-to-the-Movies," to the hymnlike nostalgia of Alec Wilder's "Did You Ever Cross Over to Sneden's?" (an old Mabel Mercer standard) with miraculous ease.

The economy of interpretive means that is Morris's special gift is particularly welcome here, and she consistently escapes the campy archness that is the curse of so many cabaret singers. William Bolcom, who wrote the informative liner notes for this RCA Red Seal Skylark series release and composed two of the best songs on the album ("The Same Thing" and "Lime Jello Marshmallow Cottage Cheese Surprise"), accompanies his wife with his customary sympathy and flair.

Terry Teachout



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