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AUDIO • VIDEO • TEST REPORTS • MUSIC

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"HI-FI" VIDEOTAPES:

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REVIEWED:

19 New Compact Discs



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NEC

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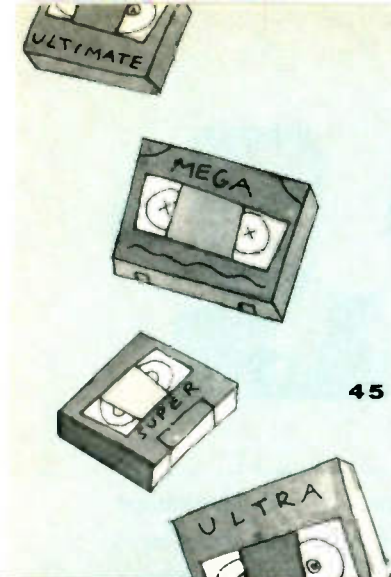
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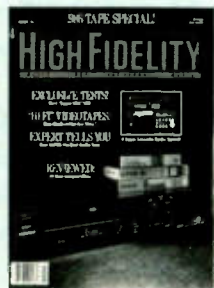
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Cover Design: Michael G. Delevante and Robert W. Delevante, Jr.

Cover Photos: Nick Basilion

On the Cover: JVC's HR-D566U HQ VHS Hi-Fi VCR with high-grade tapes from Sony, TDK, and Maxell; inset, Yamaha K-1020 and Tandberg TCD-3014A cassette decks

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Editorial correspondence should be addressed to The Editor, *HIGH FIDELITY*, 825 7th Ave., New York, N.Y. 10019. Editorial contributions will be welcomed, and payment for articles accepted will be arranged prior to publication. Submissions must be accompanied by return postage and will be handled with reasonable care; however, the publisher assumes no responsibility for return of unsolicited photographs or manuscripts.



Magazine Publishers Association

PUBLISHER'S PAGE

by William Tynan



Are the days of cheap hi-fi gone?

Sometimes it's difficult to believe how inexpensive audio and video components are. Especially in heavily competitive areas, such as New York City, it has regularly been possible to find turntables, cassette decks, receivers—virtually anything—for less than \$100. VCRs routinely are advertised in the \$250–\$300 range. True, these prices usually are for the basic models, or for particular closeout ones, but even top-line units have been a good buy.

For the first time, a combination of elements may disrupt the fundamental structure that has continually kept home entertainment products among the best buys over the past 15 years: the emergence of a new low-cost labor force in countries such as Korea, Malaysia, and Singapore, which challenges the grip the Japanese have had on the market, and the dramatic drop in recent months in the value of the U.S. dollar. Effects of the latter factor already are being felt. Several Japanese companies have announced price increases, ranging from 12 to 20 percent, that take effect about now. As the warehouses and dealer pipelines empty of lower-valued stock, prices should begin to rise at retail.

The strength of the dollar in the first half of the '80s has created an atmosphere in which the "gray market" has thrived. The term refers to the importing of products—whether audio or video equipment, cameras, or cars—through nontraditional, low-cost channels, enabling them to be sold at or below retail price. Part of the profit comes from the difference in currency values. As the dollar drops closer to parity with other currencies, the attractiveness of the U.S. as a market for "gray" goods will diminish, and with it some of the heavy discounting we've become accustomed to.

Are we about to see the last of inexpensive home entertainment equipment? Probably not. A growing consideration is the presence of new brands from Korea and other countries. The reduced labor costs there and the fact that the Korean currency has been more closely tied to the U.S. dollar than has the Japanese yen will mean a steady flow of moderately priced components for the foreseeable future.

One factor that is not directly quantifiable—quality—will likely assume greater importance. Cheap goods that don't work are no bargain. So, while the market will remain price-competitive, we can look for an increased emphasis on performance and reliability. The next generation of audio and video products may cost more, but they will continue to be among the best cost/value items around.

Oh, yes. The "new face" alluded to last month: Type. ●

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LETTERS

CD SAMPLING DISTASTEFUL

I find Robert E. Benson's review of the University of Michigan Symphony Band's recording of *Stars and Stripes Forever* ["A CD Sampler," October] at odds with objective fact and unworthy of a serious critic. To say that this recording has "no high frequencies at all" is an irresponsible, hyperbolic, off-the-cuff remark that reflects only Mr. Benson's subjective taste regarding the brilliance of recorded sound. Being a conscientious and successful producer (32 years of experience, two gold records, four Grammys), I would not produce a recording with "no high frequencies at all," and an established company like Pro Arte would not release such a recording. This digital entry falls well within accepted industry standards for brightness, although it may not be bright enough for Mr. Benson's ears.

It is interesting to note that a major record magazine recently reviewed three Compact Discs of marches, among them the Michigan recording. That release was rated

8½ on a scale of 10 for sound quality and praised for the sound of "the ensemble's brassiness . . . the percussion's impact."

Thomas Frost

Thomas Frost Productions
New York, N.Y.

Robert E. Benson replies: I have the greatest respect for Mr. Frost's achievements over many years. But my review copy of this Pro Arte CD did not have the qualities he claims for his recording. It certainly didn't have the sizzle, the bang, the bright brass that I thought it should have had. The brilliance and impact of Morton Gould's band recordings on RCA or of Frederick Fennell's with the Eastman Wind Ensemble on Mercury are not to be found here. Perhaps the copy I listened to was defective. I hope readers understood that my reference to "no high frequencies" was meant to be taken in context: The lower frequencies on this recording are overly prominent.

TELARC, ATLANTA SYMPHONY FORGE AHEAD

Ted Libbey's "Medley" column in your December issue implies that the Atlanta Symphony Orchestra is no longer recording with Telarc. This is not true.

We have enjoyed a long and fruitful collaboration with the label and look forward to a longer continuing relationship. In 1978, Telarc and the Atlanta Symphony pioneered digital recording in the United States with the release of our *Firebird*. Since that time, the Telarc/Atlanta relationship has produced numerous recordings, four of which have been nominated for Grammy Awards.

While it is true that we are now recording with Pro Arte in addition to Telarc, it is not an exclusive arrangement by any stretch of the imagination. Planning is underway for projects with Telarc through the 1989-90 season.

Tom Bacchetti

Executive Vice President and
General Manager
Atlanta Symphony Orchestra

THE CHOCOLATE WATCH BAND CONTROVERSY

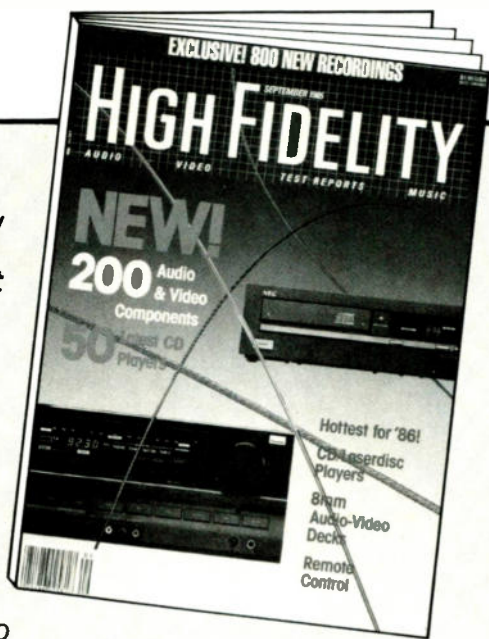
Nitpickers of the world, unite! Sean Toby (rhythm guitar) of the Chocolate Watch Band has said, "Jerry Miller from Moby Grape played guitar on 'Devil's Motorcycle,' but he had a contract with Columbia, so we couldn't put his name on the cover." And since that Jerry Miller was born on July 10, 1943, and Steve Miller on October 5, 1943, only Billy Altman can make them brothers ["Let's Get Trivial," August, and "Trivia Pursued" in "Medley," November].

Part of the fun of being a professional nitpicker is being right! Thanks for the opportunity.

Clifford Ocheltree

Hatboro, Penn.

Popular Music Editor Georgia Christgau replies: Question No. 10 in our trivia contest asked: "Steve Miller's brother Jerry played guitar for which California psychedelic band?" Both the Chocolate Watch Band and Moby Grape were possible answers. In our answer, we asserted that there must have been two Jerry Millers, judging from the number of responses we received citing the same dates of birth. Finally we called Steve Miller's management and found out that although he does have



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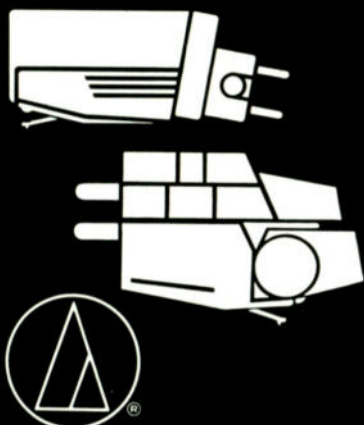
So don't settle for an audiophile system that only plays in one room when you can own the one audiophile system that plays in three.



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a brother, his name isn't Jerry! So I guess we goofed—but hey, give us a break. R. H. Marron just wrote in from Palatka, Florida, to say that the answer to Question No. 32—"What do the Clash, Meat Loaf, and NBC's Night Court have in common?"—is Saturday Night Live. Sorry, bud; try Ellen Folcy.

ROCK AND STEAMROLLER

I have been waiting and waiting for a review of Mannheim Steamroller in your magazine. I like their entire *Fresh Aire* series, but I know little about them except that their records sell fast when they come in. Furthermore, Compact Discs are hard to come by, and CDs of *Fresh Aire III* and *IV* have not as yet been released.

If the group's music sells so well, why doesn't it get airplay or receive attention in your magazine?

Vic Becker

Address unknown

Fresh Aire I through V, as well as numerous other titles, are available from American Gramophone Records, 9130 Mormon Bridge Rd., Omaha, Neb. 68152. Like some

other deserving groups, Mannheim Steamroller unfortunately may have fallen between the cracks of the Classical and Popular Music Departments. We'll listen some more.—Ed.

MONTEVERDI ON "DYNASTY"?

I agree with Michael Fleming that the madrigals of Monteverdi show a brilliant talent [August]. But as for the cultural content of his life's work, it was all downhill from there.

Monteverdi's first opera, *Orfeo*, is a touching and at times highly dramatic set-

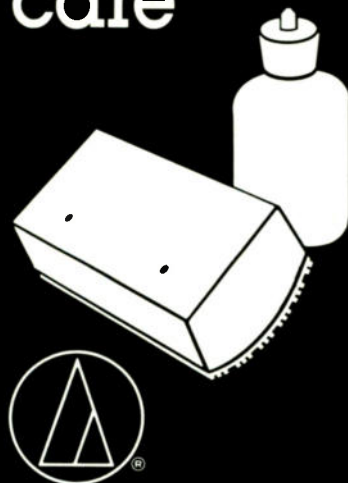
Classical Music Editor Theodore W. Libbey, Jr., replies: We think it may just be possible that Monteverdi, while portraying in his operas the tendencies you mention, was not endorsing them. His greatness as a composer was in his range and, for the time in which he lived, in his unique ability to characterize human emotion. But his vision was primarily moral: The cynical irony of the finale of L'incoronazione, in which virtue is defeated in the triumphant union of Nero and Poppea, should not be lost on the modern listener.

CORRECTION

In last month's review of the Barcus-Berry BBE-2002R signal processor, the sentence beginning at the very end of page 42 should read: "Such dynamic equalization is said to correct the system's final output without imparting the shrillness that similar amounts of conventional equalization might create."—Ed.

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

The last word in record care



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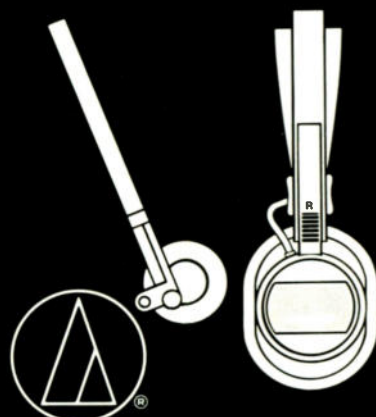
ting of the human condition as total hedonism. His last opera, *L'incoronazione di Poppea*, presents a plot that has degenerated from mere hedonism into depravity, fully worthy of a segment of *Dallas* or *Dynasty*.

I do not agree with Mr. Fleming that Monteverdi can be compared with Beethoven. Monteverdi is better equated with Wagner and his descent into the idolization of barbaric myths, while Monteverdi's contemporary, Heinrich Schütz, shows a maturation more comparable to that of Beethoven.

Peter Carlston

Oberursel, West Germany

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"This receiver combines the best elements of Carver's separate tuner and amplifier... The Carver Receiver is, without question, one of the finest products of its kind I have ever tested and used. Bob Carver is definitely an audio and r.f. genius." *Leonard Feldman, Audio Magazine, June 1984*

"I consider the Carver Receiver to be the "most" receiver I have yet tested in terms of the quantitative and qualitative superiority of almost all its basic functions." *Julian D. Hirsch, Stereo Review, April 1984*

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An infrared remote control is included in the \$350 price. It provides source selection and volume adjustment, as well as controls for other compatible JVC products (such as videocassette recorders and television sets). The power amplifier section is rated at 50 watts (17 dBW) per channel, with no more than 0.15 percent THD. The quartz-locked tuner has presets for ten AM and ten FM stations, a rated stereo separation of 45 dB, and a rated stereo signal-to-noise ratio of 73 dB. The receiver is jet black with orange indicator lights. For more information, write JVC Company of America, 41 Slater Dr., Elmwood Park, N.J. 07407.

RHOADES STEREO-TV DECODER



Said to be suitable for use with almost any TV set or VCR, the \$199 Rhoades TF-800 is a full-fledged MTS decoder providing the discrete left and right channels of the stereo broadcasting standard (but no SAP). It hooks up to mono or stereo audio outputs or headphone jacks of TVs or

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**PERREAUX'S HIGH
TRADE-IN VALUE**

**an interview with Anthony Federici
Marketing Director of
Perreaux International**

Q. Why does Perreaux have such a high trade-in value?

A. That can be attributed to several factors. First, Perreaux's value, when new, is exceptionally good. Perreaux's Series 2 engineering advancements are still at the leading edge of technology, therefore the engineering is not even close to outdated. Quality of construction is very important. A hand crafted, hand finished piece is always more valuable than a mass produced product. Reliability is an important factor. We know Perreaux's reliability — that's why we're giving a one year limited warranty on pre-owned Series 2 that's been traded toward Series 3. Another factor is the simplicity of styling. Flashy, trendy styling with lights and meters rapidly looks out of date. Simple elegance never goes out of style.

Q. So you believe people will pay as much or more for a used Perreaux as for a new product from another manufacturer?

A. Certainly. That's been the case with Perreaux for quite some time now. Our major contribution to increasing the trade-in value even further is backing it by the previously mentioned warranty.

The auto industry has been this way for as long as I can remember. Many people pay more for a used Mercedes, Porsche or BMW than for a new car from another manufacturer. I was thinking how ironic it is that in a vote by audio reviewers and retailers Perreaux won the Audio/Video Magazine Hi Fi Grand Prix Award for "its Mercedes-like construction".

Now Perreaux's trade-in value seems to be at least as high as Mercedes. Looks like the reviewers and retailers called it right!

Q. Do you think this leads the way for audio components other than Perreaux to increase their trade-in value?

A. I hope so. I believe we've lead the way in technology and quality of construction. Nothing would please me more than leading the way in trade-in value. If this happens industry-wide the entire audio industry and the general public come out ahead because more people will be able to afford quality audio.

Let me give you an example. We've just introduced a set of Perreaux components that retails for about \$2,000. If it retains about 75% of its original purchase price towards trade-in, as the Series 2 presently does, its trade-in value toward a new Perreaux would be \$1,500. Then, it really costs only \$500 to own and enjoy the Perreaux set. This means far more people can afford Perreaux.

After all, if a Mercedes had no trade-in value far fewer people could afford or want it.

VCRs and apparently picks up enough stray IF signal through that connection to enable successful demodulation and decoding of the MTS signal. Using a special isolating adapter (not included), the device can even be hooked up to the speaker leads of a monitor/receiver and still obtain the correct signal necessary for decoding. The company says that special circuitry was developed to let the TE-800 decode "from almost any audio output containing a TV audio signal." For monaural broadcasts, the unit has a stereo synthesizer circuit, and for monitor/receivers already equipped with MPX outputs, the TE-800 has an MPX input dedicated to stereo-TV decoding.

The system determines when an MTS transmission is being received and automatically turns on the decoding circuitry.

Audio from the decoder is meant to be fed into the auxiliary or spare tape input of a stereo system. If the TE-800 is connected to a speaker or headphone output, the control of volume for the TV is available only through the stereo system, because changing the TV's audio output level would disturb the user-aligned noise-reduction tracking levels. Frequency response is given as ± 3 dB, 20 Hz to 20 kHz; distortion as 0.02 percent; and separation as greater than 40 dB.

Finish is black-anodized brushed aluminum, and the dimensions are $8\frac{1}{2}$ by $1\frac{3}{4}$ by $7\frac{1}{2}$ inches. The TE-800 runs off of house current. Additional information about this interesting component is available from Rhoades National Corp., P.O. Box 1316, Dept. 603, Columbia, Tenn. 38402.

TWO NAKAMICHI DECKS

The CR-7A and the CR-5A cassette decks from Nakamichi are both three-head models using versions of the company's direct-drive, asymmetrical, dual-capstan, diffused-resonance transport with motorized-cam-driven head-block movement. Also common to the two designs are crystalloy recording and playback heads and Dolby B and C noise reduction employing hand-matched integrated circuits for more accurate tracking. Tape type is automatically sensed by the cassette notches, but unlike most other recent decks, these models permit manual override for both bias and equalization. It is possible, for example, to make recordings on Type 2 tape with 120-microsecond equalization (as is done for some prerecorded cassettes). The peak-reading meters have a 50-dB range, and on the CR-7A a two-second peak hold may be engaged. Each deck has an output level control, independent left and right recording-level controls in addition to a master level control, and an automatic two-speed fade function. The multiplex filter is switchable, as is the CR-7A's infrasonic filter.

Principal among differences between the decks is the versatility of the tape-matching systems. The CR-7A uses a 15-

second, microprocessor-controlled tuning procedure to automatically match both bias and Dolby calibration to the tape in use. So as not to adjust the recording characteristics to compensate for azimuth misalignments, the 7A aligns its playback head before proceeding with the calibration. The deck stores independent tape-alignment settings for Types 1, 2, and 4. You can also adjust the playback azimuth of the 7A manually, either by the front-panel knob or by the supplied infrared remote control. The CR-5A has only a manual bias-tune control. The tape counter in the CR-7A can be switched to show either elapsed or remaining time.

Nakamichi gives the frequency response of the CR-7A as ± 3 dB, 18 Hz to 21 kHz, and that of the CR-5A as ± 3 dB, 20 Hz to 20 kHz. Weighted peak flutter is said to be 0.048 percent (0.027 percent WRMS), and the A-weighted signal-to-noise ratio with metal tape and Dolby C is claimed to be better than 72 dB. The 7A and 5A sell for \$1,350 and \$850, respectively, and each unit measures $17\frac{1}{8}$ by $5\frac{1}{4}$ by 12 inches. More information is available from Nakamichi U.S.A. Corp., 19701 S. Vermont Ave., Torrance, Calif. 90502.



NAKAMICHI'S CR-7A (LEFT) AND CR-5A (RIGHT) CASSETTE DECKS

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by Robert Long



TOO CLEAN?

My VCR head cleaner recommends use every 20 to 30 hours. I hear that cleaning this often is not necessary and can actually damage the heads. How often should I do it? And, is demagnetization necessary? If so, how should it be done?

Ray Chasin

Milwaukee, Wis.

I'm a firm believer in not fixing "what ain't broke," but this case is different, in that keeping the heads clean may be viewed as preventive maintenance. Nevertheless, I would use the cleaner sparingly—not until excessive picture "snow" or a sudden loss of half the screen to video hash suggests dirty heads. Most cleaners currently on the market seem to be quite nonabrasive, but it is still possible to get too much of a good thing. As far as I'm aware, VCRs don't need degaussing, probably because most of the heads are record/play devices that get degaussed by the high-frequency video recording signals. Since there's no equipment on the market to do the job, in any event, you're out of luck if you only play back tapes and never record on the machine. If nothing else, the edge-track audio heads will eventually become magnetized, though perhaps not to a serious degree.

ROAD NOISE

I just bought a Chrysler New Yorker with an equipment package that includes the company's best AM/FM radio/

deck. At night it looks beautiful when every detail lights, but the FM sound often is marred by static, distortion, and interference. I don't understand why the stereo pilot doesn't even flicker when this happens, or why it doesn't happen at all when I drive my son's car on the same day and over the same route. I took my radio to be fixed, but it's still just as bad.

Joseph R. Parella

Jersey City, N.J.

There are several possible trade-offs in the way a car stereo FM tuner copes with fading signals and multipath, and a stereo indicator seldom tells you how the tuner is faring. For example, your son's setup may be much quicker to blend channels and sacrifice the stereo in the interest of reducing static. Or, his antenna could be optimized more for FM than yours is (and yours more for AM than his, perhaps). There is, of course, the possibility that Chrysler's best isn't good enough. Write Mr. Iacocca.

CAN OF WRMS

I think your readers need an explanation of the difference between WRMS and ANSI wow-and-flutter specifications. What is the formula for converting one into the other?

Ben Widmann

Ashton, Idaho

Sorry, but there isn't one. The weighted root-mean-square (WRMS) rating, used by many Asian manufactur-

ers in their product literature, averages out rapid changes in speed irregularity in a way that hides some clearly audible phenomena. The ANSI (American National Standards Institute) rating, which originated as a DIN (Deutsche Industrie Norm, or German Industry Standard) measurement and is used in our equipment reports, yields higher numbers because it takes into account those short-term hurbles. How much higher the numbers go depends on the quantity and severity of the speed aberrations—and, to some extent, on how the flutter meter is read. We (and most U.S. organizations concerned with setting audio testing standards) are satisfied that ANSI is more useful, more indicative of actual sound quality. Just ignore any WRMS ratings if ANSI or DIN readings also are given.

UNHAPPY MEDIUM

With my old, non-Hi-Fi VHS videocassette recorder, I found the medium (LP) speed to offer the best all-around compromise, and I want to use it with my Panasonic PV-1430 Hi-Fi deck. But its manual says that the deck may automatically switch from the Hi-Fi sound to the edge track either during tracking adjustment or in playing LP-speed tapes recorded on another machine. So it appears that if I continue to use the LP speed, I may be unable to play the tapes with Hi-Fi sound when the Panasonic wears out and I

have to buy a new deck. Is this true? And does the absence of such a warning in the manual for my Sony SL-5200 Beta Hi-Fi deck mean that the Beta Hi-Fi is technically superior?

Steve Vanderplatt

New York, N.Y.

Beta Hi-Fi is different. A case can be made for its technical superiority, but the point is arguable. It has some advantage in using transport speeds that aren't as radically different from each other. Panasonic confirms that tracking is critical to Hi-Fi sound recovery and that it is most likely to be problematic at the LP (medium) speed. The SP (high) speed leaves room for a guard band that eases the problem, even in a deck that (like the PV-1430) has a single pair of video heads, optimized for the slowest speed—EP, or SLP, as it may be called on your deck. Machines with two pairs of video heads sometimes optimize one for SP, one for EP, and read LP (some can't record it at all) with the EP pair. Since LP lacks both the guard band and the optimized heads, it has the poorest shot at reading the Hi-Fi sound correctly, though it should work reliably for tapes recorded and played on the same deck. For maximum interchangeability, you'd better make all your VHS Hi-Fi tapes at either SP or EP.

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

BASICALLY SPEAKING

by Michael Riggs



Audio Frontiers

For much of the last year, I devoted this column to what you can and (mostly) can't hear, with an eye particularly to deflating some of the puffed-up nonsense that too often is passed off as fact in the audio world. But this can be a dangerous course, because it can leave the impression that all the problems have been solved and nothing really matters anymore—that there no longer is any frontier.

And that's not so. We're still a long way from the ultimate goal of high fidelity. If you doubt that, try going to a concert and then coming home and listening to a recording of the same music on your stereo system. No matter how good your equipment is, it will be a sobering experience. Reproduced music, even at its modern digital best, almost never sounds quite like the real thing.

The reasons are fairly well understood (in broad outline, at least), and they have little to do with the ICs in your amplifier or the filters in your Compact Disc player. It comes down to the way music is recorded and the way it is played back with speakers. What goes on in between mostly amounts to providing a signal pipeline from the microphones to the loudspeakers. With today's audio technology, that pipeline can be made so close

to perfect that it no longer affects the sound quality in any significant way.

Why, then, do we continue to test amplifiers, CD players, phono cartridges, and so forth? Because they are not always as close to perfection as they could or should be. For example, many amplifiers have phono equalization curves that are off enough to cause very slight audible colorations, and cartridges and tape decks are even more prone to this type of error. We have also encountered products with relatively high noise, improper input or output impedances, and the like. Some tuners have better reception characteristics than others, some CD players have better error correction than others, and so on. In other words, the existence of advanced technology does not guarantee that it will be properly taken advantage of. And there often are matters of degree or questions of relative value to be considered.

Still, it is unlikely that the performance of your amplifier or CD player will be a crucial determinant of your system's sound quality. In that, your speakers and the recordings themselves play by far the biggest role. And that is why I think it is important to put to rest the many myths that distract attention from the work that really needs to be done.

What we want is a way of simulating the sound field that

exists at a live performance. We therefore need to distinguish what makes recorded music sound so different. Dynamic range clearly is one element. This is most obvious to me in recordings of drums, which almost always sound squashed and dead compared to the real thing. But the most important difference is in the spatial cues we receive. In a concert, the sound is emitted by a number of discrete sources, from which it spreads out and is reflected off a multitude of surfaces, creating a complex set of signals arriving from many directions after both long and short delays. Most of the sound we hear is this reflected energy, which strongly influences our perception of the music and of the acoustic space in which it was performed.

Unfortunately, the standard methods of recording and reproducing music do not mimic this process very well. Sound is radiated into the listening room from two sources and is then subjected to a series of reflections that result in only short-term delays. And we hear this artificiality. I do not want to imply that this is the only problem: Excessively close miking, poor equalization practices, compression, and other forms of overproduction play a role as well. But the inability of conventional stereo systems to convey a realistic sense of acoustic space is a more fundamental shortcoming.

It may not be altogether intractable, however. Well-

made multichannel recordings (using, for example, the Ambisonic process), properly designed delay systems, or even specially configured speaker setups can help immensely. It is gratifying to see interest in this issue on the rise among manufacturers. Acoustic Research and Polk Audio both have introduced speakers that attempt to overcome some of the limitations of conventional stereo sound. And the increasing number of products designed to reproduce Dolby surround-sound movie soundtracks in the home give promise of a resurgence in multichannel audio recording and playback.

The reason more attention has not been directed at the problem of obtaining natural spatial reproduction may simply be that it is a relatively tough nut. It's a lot easier to add a sonically irrelevant zero after the decimal point in an amplifier's distortion specification. And I doubt that there will be much progress on this front as long as audio enthusiasts can be distracted by red herrings like polystyrene vs. Mylar capacitors and tubes vs. transistors. It's up to us to pressure manufacturers to give us the technological improvements that will yield truly enhanced sonic realism. ●



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VBS32 P-NN P-PK

by David Ranada



Designs on the Future

At the last Audio Engineering Society convention, held in New York in October 1985, engineers from Sony presented a technical report on a couple of integrated circuits they had developed. While a worthy achievement in themselves, the chips point up aspects of what could soon become a major issue in the growth of home audio technology: the overall design or "architecture" of digital signal processing (DSP) systems.

Sony's high-speed processor and multiplier chips form the heart of a computer specialized for processing audio signals while they are in digital form. Doing so has three major advantages: The distortion and noise inherent in analog processing and in repeated analog-to-digital (A/D) conversion are avoided, much more complex processing is practical than with analog circuits, and alterations of the processing are achieved by changing computer programs (software), not hardware.

Sony's chips are very accurate and very fast. At 8 million instructions per second, they perform their operations faster than any personal computer programmed to do the same things. The engineers' suggested applications for the chips include equalizers, mixers, reverberators, compressors, expanders, spectrum analyzers, and sampling-rate converters. It is conceivable that the circuits will appear in consumer products.

What's most important about these chips is that they represent the leading edge of

the iceberg, so to speak. Their functions and capabilities, though considerable, are not unique. The military has used similar devices for several years, and other, vaguely comparable signal processors are available from Texas Instruments and NEC. More audio-oriented DSP circuits are undoubtedly under development. Marantz of Japan has already announced an amplifier utilizing five Philips DSP chips (see January's "Currents"). All these circuits, though they can be programmed to perform the same functions, are different and incompatible: Software designed to run on the TI chips will not operate on the Sony devices, and vice versa.

The internal design of such complex integrated circuits can have a profound effect on their performance in a DSP system. Whereas some chips may be able to do several things at once (equalization and compression, plus artificial reverberation, for example), others may have to be connected in parallel. On the whole, there is now, and will continue to be for some time, a wide diversity in the abilities of DSP chips, which may have important design and performance consequences for the consumer.

Watchers of and participants in the personal-computer marketplace have already seen the effects of such chip-to-chip differences. At present, nearly all of the personal-computer industry is clustered around three architecturally distinct microprocessors. The IBM PC and

its clones use the Intel 8086 family, the Apple II and Commodore 64 computers both use the Commodore-originated 6502 (though in totally incompatible ways), and the Apple McIntosh and Commodore Amiga use the Motorola 68000, also incompatibly. The nontransferability of software between these machines prevents someone from using a program developed for Computer A in Computer B, unless the software writer provides another version for the second machine or the operator buys an expensive circuit that essentially turns Computer B into a temporary mimic of Computer A.

This is not a call for standardization, however. Those aspects of consumer digital audio most needing regulation (the CD and RDAT systems and the signal format for direct digital connections between home digital-audio components) already have been standardized. Anyway, the home audio industry has never handled attempts at standardization very well. Just remember the 45- vs. 33-rpm controversy, the various quadraphonic systems, the clumsy methods of mounting phono cartridges (until P-Mount), and the current multitude of incompatible infrared remote controls. What the nascent digital-audio business does not need is an ossification of development around a specific, and not necessarily good, processor architecture. I certainly would not endorse any standard that would saddle the next generation with the digi-

tal equivalent of the pin plug (a despicable little connector from the beginning).

If not standardization, what would I like to see? At least one DSP system with a configuration "open" (non-proprietary) enough to allow software development independent of the system's originators. This is how IBM has handled personal computers, and it is one of the main reasons for that company's success in the field. Contrast this with the difficulty Apple has had marketing the rather proprietary McIntosh to the business community.

As I see it, the consumer has been and will be best served by the availability of different and competitive approaches to the solution of sonic problems. But that competition must not come only from parties overseas. Once home DSP gets over the equalizer-on-a-chip stage, and after software for all the standard audio functions has been written, further developments will depend more on psychoacoustics and taste. And the latter, at least, seems to be quite culture-specific. I fear that many good domestic ideas for improving sound quality via DSP may never receive commercial embodiment, since all the consumer DSP hardware will originate overseas. As the vivacity of the domestic personal-computer market has shown, a healthy diversity can come only when the necessary development tools are freely available to all potential software writers. ●

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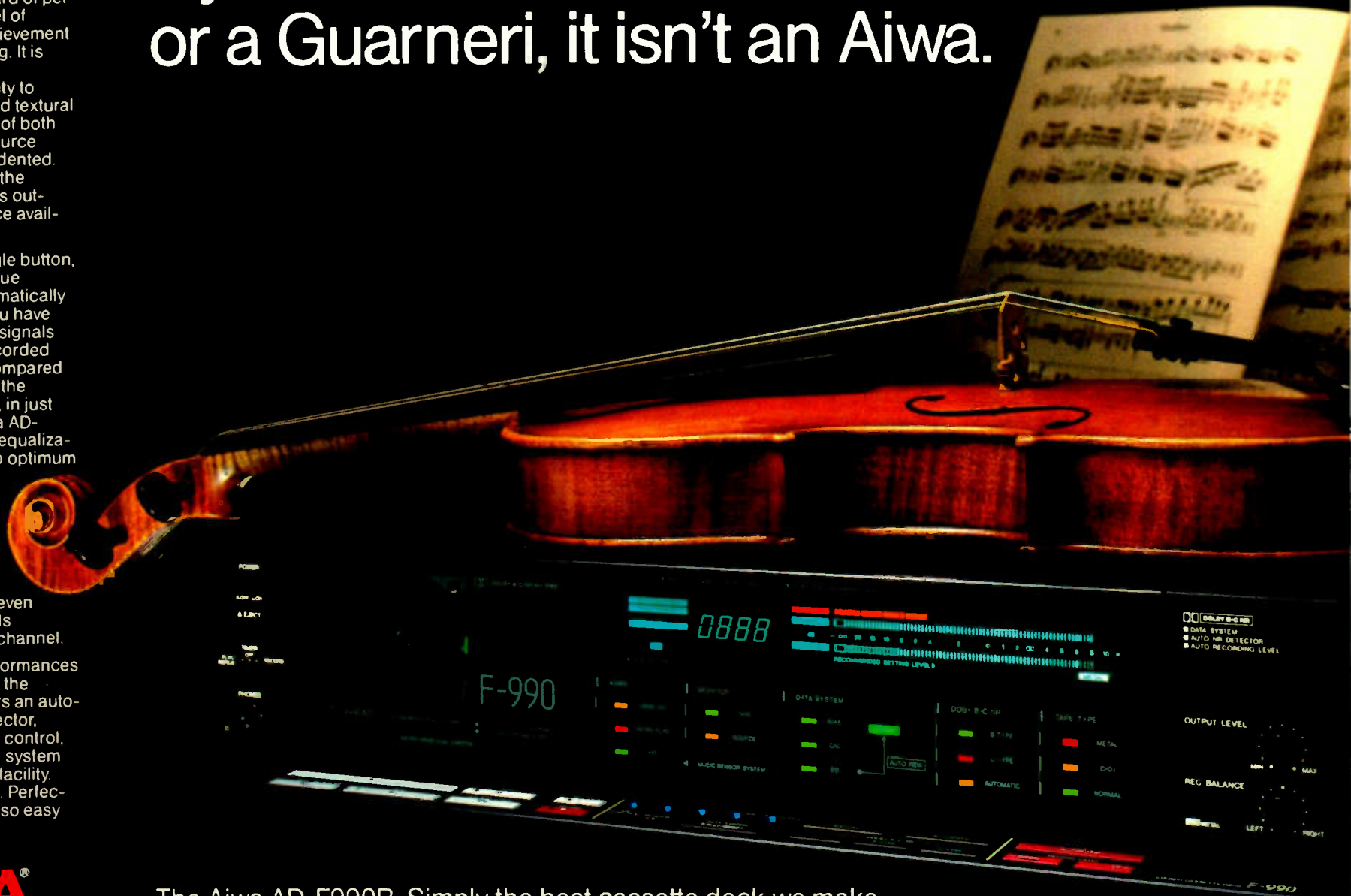
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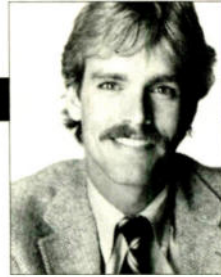


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by Jay C. Taylor



Powering Up For Digital Recordings

As car buyers have steered away from econoboxes in recent years, opting instead for high-performance road machines, they've also become increasingly demanding about the quality of their car stereo systems. Certainly, it was not a moment of whimsy that led the Motown giants General Motors and Ford to ally themselves with audiophile companies in producing factory-installed car stereos.

Most recently, with the introduction of the first Compact Disc players for cars, audio-conscious drivers have started asking the same questions home-system owners often ask about the additional power required to handle digital program sources. And the answer is pretty much the same as it is for home systems: more. In fact, undoubtedly more than is offered by a standard head end, which typically tops out at about 12 watts. Cranking up your car CD player without turbocharging your amplifier would be about as satisfying as driving a Porsche with a Chevette engine.

No need to worry. The car stereo after-market is rolling out a luscious smorgasbord of high-end, high-power car amplifiers, amplifier/crossovers, and similar products. And, to no one's real surprise, you'll find some "home audio" companies offering car models for the first time.

In the monster amplifier

category, Carver gets its Magnetic Field technology on the road with the Carver Car Amplifier M-240 (\$350). Rated at 120 watts (20 $\frac{3}{4}$ dBW) per channel (into 4 ohms), it can be strapped into mono by pushing a button. A built-in 115-Hz crossover allows biamping with another M-240. Other features include an automatic protection/reset circuit, variable input sensitivity, and delayed power-on to prevent fuses from blowing because of unregulated turn-on electrical surges.

Another member of the turbocharged club is Kenwood's KAC-9020 amp (less than \$450), which incorporates the Direct Linear Drive Circuit used in the company's home amps. The DLD design employs two amps: an 8-watt (9-dBW) unit for routine playback and an 80-watt (19-dBW) one for peak power. Side benefits are said to be lower power consumption and cooler operation than with conventional high-power amps. Switchable input sensitivity is provided.

Recognizing that flexibility is an asset in car stereo components, Crown's CMA-1 Mobile Amplifier (\$995) is a switchable design that can be configured in three ways: three channels at 100 watts (20 dBW); four channels, with two at 100 watts and two at 50 (17 dBW); and five channels, with one at 100 watts (for use with a subwoofer) and four at 50. Among its other features are current-limiting for safe operation at very low load imped-

ances, a shielded power supply, and heat-dissipation fins made of heavy aluminum.

Fujitsu Ten's 140-watt (21 $\frac{1}{2}$ -dBW) QM-582 (\$210) has a thermostat that cuts the power-supply voltage by half whenever the unit's interior temperature exceeds 85 degrees. A large aluminum heat sink is provided.

The new top-of-the-line power amp for Alpine is the 3533 (\$330), spec'd at 110 watts (20 $\frac{1}{2}$ dBW) per channel into 4 ohms and 140 watts (21 $\frac{1}{2}$ dBW) mono in the bridged configuration. It comes with both DIN and RCA input connectors and is only two inches high, to facilitate installation in tight spaces, such as under a seat.

A new name to car stereo is Hifonics, a Ridgefield, N.J., company, which recently acquired distribution rights for Visonik products in the U.S. Its own line of five power amps—all named after Greek gods—is headed up by the ZEUS II (\$650), rated at 250 watts (24 dBW) per channel. Features include bridging capability, variable input sensitivity, delayed power-on, full-power rating with battery voltages of 11.5 and up, and protection circuitry.

Offering the only Class A car amp that I've heard of is Alphasonik, whose A-2075 (\$375) is rated at 75 watts (18 $\frac{3}{4}$ dBW) per channel into 2 to 4 ohms and at 150 watts (21 $\frac{3}{4}$ dBW) bridged mono into 4 to 8 ohms. It boasts delayed power-on, a special power supply for immunity to battery voltage changes, and a Permatect

circuit to protect against overheating and speaker wire shorts.

Proton's Model 250 power amp (\$300) features a soft-clipping circuit, which is said to prevent audible distortion when the amp is momentarily overdriven. Rated at 50 watts (17 dBW) per channel (12-volt power, into 4 ohms), it is bridgeable to 150 watts (21 $\frac{3}{4}$ dBW) in mono. The unit also incorporates a shielded power supply, high- and low-level inputs, thermal protection circuits, and a pulse-width-modulation power supply to stabilize varying battery power.

Mention should also be made of Infinity, which has complemented its 75-watt (18 $\frac{3}{4}$ -dBW) amp with a "half-power" version, the MRA-90 (\$199), rated at 45 watts (16 $\frac{1}{2}$ dBW) per channel.

Among those offering combination power-amp/equalizers is Metrosound, whose EQ-345 (\$200) is said to deliver a total of about 90 watts (19 $\frac{1}{2}$ dBW) to four speakers and includes separate ± 10 -dB equalization over nine frequency bands for front and rear speaker pairs.

Panasonic's combination unit, the CY-SG60 (\$120), is only an inch thick. Rated at 12 watts (10 $\frac{1}{4}$ dBW) per channel, it also has a 20-dB volume-attenuation button.

Jay C. Taylor is Car Stereo Products Manager for Crutchfield.

JVC Just Did Something About the Great Image of VHS – They Made It Extraordinary



HR-D566U
HQ HI-FI STEREO
VIDEOCASSETTE
RECORDER WITH
MTS DECODER

HQ High Quality VHS

How?

Introducing HQ (High Quality) System technologies. A new way of processing VHS signals with two noise reduction circuits and a higher white clip level.

The result of the HQ System is immediately clear. The picture is sharper. Colors are more natural. Video noise is virtually eliminated.

And, if you record with a new HQ VHS recorder, your recording can be viewed on any existing VHS recorder. JVC ensures that complete compatibility is maintained.

The HR-D566 and HR-D565, JVC's latest Hi-Fi VHS VCRs, are the first to incorporate the HQ System. Proof that HQ pictures are a visual equivalent to Hi-Fi VHS sound is now available at a JVC dealer near you.

HQ System pictures make the VHS advantage clearer than ever before – its quality you'll recognize on sight.



HR-D565U
HQ HI-FI STEREO VIDEOCASSETTE RECORDER

THE GOAL IS PERFECTION.



Hi-Fi VIDSTAR™ VHS

One of the most advanced cassette decks in recorded history.

With its advanced technology and features, Yamaha's new K-1020 cassette deck makes most others seem like ancient history.

To begin with, the K-1020 has a specially designed closed-loop dual-capstan transport system. There's one capstan on either side of the record and playback heads. This insures that the tape is always in optimum contact for exceptional frequency response and low wow and flutter. And separate reel and capstan motors insure that the tape drive stays isolated from the reel operation for increased reliability and reduced modulation distortion.

Each of the three heads in the K-1020 is specifically designed to maximize its performance. The pure Sendust record head has a 2-micron gap for precise signal recording. The pure Sendust playback head has a 0.7-micron gap for accurate reproduction as high as 23 kHz. And the double-gap erase head has an ion-plated 0.3-micron glass coating to insure that it erases even difficult metal tape formulations completely.

To set the correct bias for not only different

tape formulations, but each individual tape, the K-1020 has an Optimum Record Bias Tuning system. Just press the TEST button and adjust the bias control until the ORBiT tuning indicator shows you the bias is precisely set. Then to prevent saturation, use the variable O-VU recording level indicators to set the level for each tape formulation/noise reduction combination.

Of course, a deck as advanced as the K-1020 gives you a choice of Dolby* B and C as well as dbx** noise reduction. Plus full-time Dolby HX Pro* to increase headroom by as much as 8db at 20 kHz. Along with a full complement of convenience features including a four-digit real-time counter with auto memory.

And the K-1020 is just one in a complete line of new Yamaha cassette decks. Because history has a way of repeating itself.

K-1020 shown with Yamaha YHD-1 Orthodynamic Headphones
*Dolby and Dolby HX Pro are trademarks of Dolby Laboratories
**dbx is a trademark of dbx, Inc.

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



TEST REPORTS

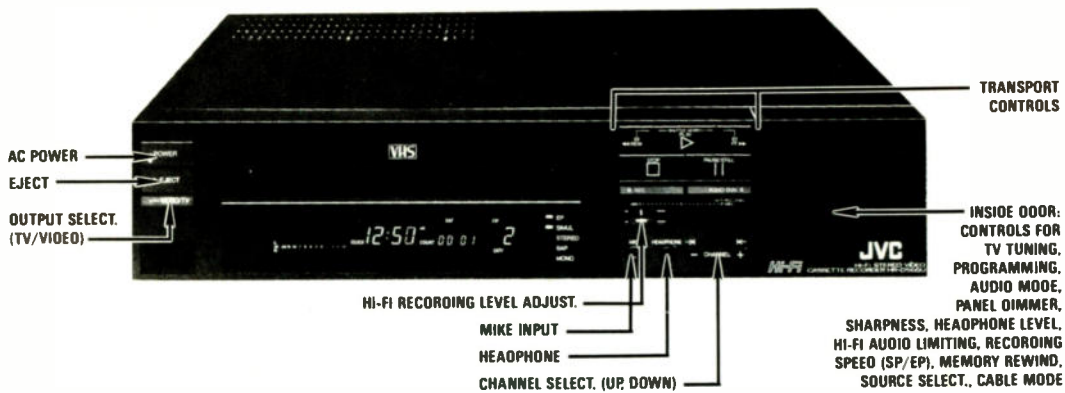


PHOTOS BY NICK BASHILON

JVC HR-D566U HQ VHS Hi-Fi VCR

Report preparation supervised by Michael Riggs, David Ranada, Robert Long, and Edward J. Foster. Laboratory data (unless otherwise indicated) is supplied by Diversified Science Laboratories.

NOT TO BE LEFT BEHIND BY the improvements in VCR picture quality afforded by the Super Beta format, JVC, the inventor of VHS, has launched the VHS HQ (High Quality) system of video recording. Unlike Super Beta, which places the luminance carrier at a frequency higher than that used in standard Beta (and which may therefore not always be compatible with the older system), VHS HQ is claimed to be completely compatible with the VHS standard: Tapes made on an HQ machine should play back on all other VHS machines and vice versa. In fact, given the way the process works, an HQ deck may provide some improvement in picture quality to tapes recorded without it.



DIMENSIONS: 17 1/2" BY 3 1/2" INCHES (FRONT PANEL), 14 1/2" INCHES DEEP PLUS CLEARANCE FOR CONNECTIONS. **PRICE:** \$899. **WARRANTY:** "LIMITED," ONE YEAR PARTS, 90 DAYS LABOR. **MANUFACTURER:** VIKTOR COMPANY OF JAPAN; **U.S. DISTRIBUTOR:** JVC COMPANY OF AMERICA, 41 SLATER DR., ELMWOOD PARK, N.J. 07407.

Just what does HQ do? For a technical explanation, see "What VHS HQ Does" on page 26. In simple terms, the system is supposed to reduce the apparent video noise and increase the apparent contrast of a reproduced image.

In addition to HQ video circuitry, the HR-D566U includes an MTS (Multi-channel Television Sound) decoder for reception of stereo TV broadcasts and VHS Hi-Fi audio recording for getting them down on tape intact. As with other JVC machines, the unit records only at the two outer VHS speeds (SP and EP), though it will play back tapes made at the intermediate LP speed. Its tuner covers the standard VHF and UHF channels and 113 cable channels. There are two F connectors: one for a VHF/UHF/CATV input, the other for an RF output (with mono audio) on either Channel 3 or Channel 4. JVC provides antenna splitter/mixers to adapt the single RF input to multiple-lead-in systems.

Most of the VCR's secondary controls are easily reached behind a flip-down door at the right of the front panel. There are quite a few knobs and switches, but they add to the model's versatility. For example, you can set it to record video from the composite-video input jack and audio from the line-level stereo inputs, video from the internal TV tuner and audio from the line-input jacks (for taping simulcasts), or both sound and picture from the internal TV tuner. Another switch affects the audio recording mode when the selected source is either the tuner or a simulcast, putting a monophonic blend of the left and right channels on both the edge track and the VHS Hi-Fi tracks, the mono SAP (separate audio program) on the edge track and the main program on the Hi-Fi tracks, or the

main soundtrack on the Hi-Fi channels in stereo and on the edge track in mono. Indicator lights warn you when you've chosen the mono mode, while separate indicators show when an MTS transmission is being received and whether it includes an SAP.

There also is a choice of what audio signals you hear on playback: the Hi-Fi channels only, a blend of the Hi-Fi and edge tracks, or the edge tracks only. Another switch chooses how the Hi-Fi audio signals are recorded and fed out in playback—stereo, left channel to both sides, or right channel to both sides. Also behind the door are switches for selecting the antenna input and tape speed and for turning the tuner's automatic frequency control (AFC) and the recorder's internal audio limiter on and off. (The audio limiter always functions on the edge track, but can be used or not, as desired, for Hi-Fi recording.) And there is a switch that converts the right channel of the audio recording-level indicators into a "tracking" indicator to aid in obtaining the best picture and sound during playback.

Knobs controlling picture sharpness (in playback only) and headphone level also lie behind the flip-down door, as do switches to activate and calibrate the time-remaining counter for T-120 and T-160 cassettes. An "instant recording" button starts taping immediately from any mode, even if the machine is turned off, as long as the line cord is plugged in. The first press starts a 30-minute timer; additional presses increase the recording time in 30-minute increments up to a maximum of four hours (eight hours if you use the numeric keypad and enter button). A timer switch on the subpanel sets up the VCR for unattended recording.

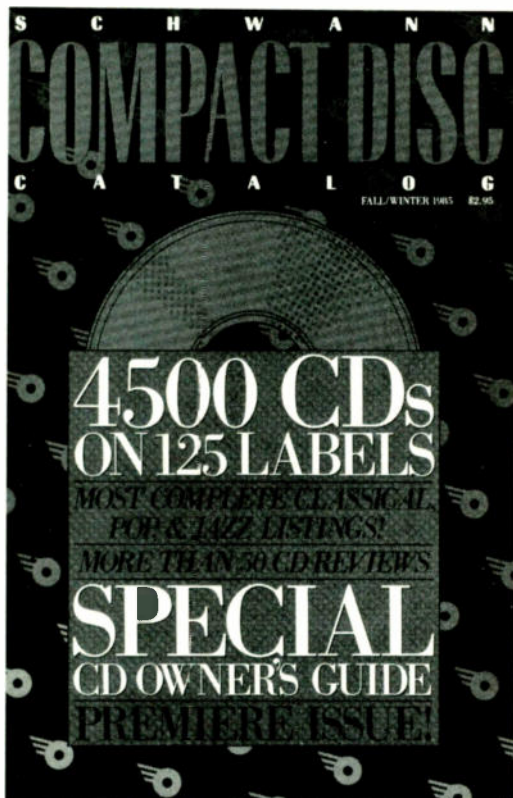
The programming controls are



JVC HR-D566U REMOTE CONTROL HANDSET

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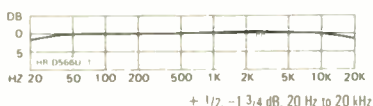
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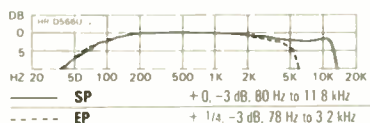
VCR SECTION

Except where otherwise indicated, the recording data shown here apply to both speeds, SP and EP (SLP), data listed for standard edge track audio recording were taken with the Dolby B noise reduction engaged. All measurements were made at the direct audio and video outputs, with test signals injected through the direct audio and video inputs. For audio recording, the 0 dB reference input level is the voltage required to produce 3 percent third harmonic distortion at 315 Hz. The 0 dB reference output level is the output voltage from a 0 dB input.

VHS HI-FI RECORD/PLAY RESPONSE (-20 dB)



STANDARD RECORD/PLAY RESPONSE (-20 dB)



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

	standard	VHS Hi-Fi
SP	48 1/2 dB	83 1/4 dB
EP	46 1/2 dB	82 dB

INDICATOR CALIBRATION (315 Hz; VHS Hi-Fi)

for 0-dB input	+ 8 dB
for -10-dB input	-3 dB

DISTORTION (THO at -10-dB input; 50 Hz to 5 kHz)

	standard	VHS Hi-Fi
SP	≤ 1.36%	≤ 0.69%
EP	≤ 2.25%	≤ 0.69%

CHANNEL SEPARATION (315 Hz; VHS Hi-Fi)

	58 dB
--	-------

INDICATOR "BALLISTICS"

Response time	23 msec
Decay time	≈ 270 msec
Overshoot	0 dB

FLUTTER (ANSI weighted peak; R/P; average)

	standard	VHS Hi-Fi
SP	± 0.17%	< 0.01%
EP	± 0.28%	± < 0.01%

SENSITIVITY (for 0-dB output; 315 Hz)

	mike	line
VHS Hi-Fi	0.28 mV	230 mV
standard	1.3 mV	1,090 mV

AUDIO OUTPUT LEVEL (from 0-dB input; 315 Hz)

VHS Hi-Fi	0.97 volt
standard	0.41 volt

AUDIO INPUT IMPEDANCE (VHS Hi-Fi)

line input	64.5k ohms
mike input	10.2k ohms

VIDEO RECORD/PLAY RESPONSE

	SP	EP
at 500 kHz	+ 3 1/4 dB	+ 3 1/4 dB
at 1.5 MHz	-3 1/2 dB	-5 1/4 dB
at 2.0 MHz	5 1/2 dB	-9 1/4 dB
at 3.0 MHz	-17 dB	-16 1/4 dB
at 3.58 MHz	-	-10 1/4 dB*
at 4.2 MHz	-	-

SHARPNESS CONTROL RANGE

at 500 kHz	+ 1 3/4 dB
at 1.5 MHz	+ 3 1/2 -7 1/4 dB
at 2.0 MHz	+ 4 -9 3/4 dB
at 3.0 MHz	+ 1 1/4 -3.4 dB
3.58 to 4.2 MHz	no measurable effect

LUMINANCE LEVEL

SP	4% low
EP	10% low

GRAY-SCALE NONLINEARITY (worst case)

	≈ 10%
--	-------

CHROMA LEVEL

SP	≈ 1 1/2 dB low
EP	≈ 1 3/4 dB low

CHROMA DIFFERENTIAL GAIN

	none
--	------

CHROMA DIFFERENTIAL PHASE

SP	+ < 5°
EP	+ < 8°

MEDIA CHROMA PHASE ERROR

	+ 6°
--	------

* Unstable or too low to measure

WHAT VHS HQ DOES

JVC's version of the VHS HQ (High Quality) system concentrates on reducing luminance (black and white) and chrominance (color) noise and expanding the "white clip" level, all to produce sharper edges on black-to-white transitions and to improve apparent picture contrast. Since it doesn't attempt to extend video bandwidth, HQ leaves the luminance carrier frequency unchanged, and it is said that tapes recorded on HQ machines are completely compatible with existing VHS recorders.

To a major extent, the VHS HQ system capitalizes on the presence of redundant information in a normal video picture. A video image on a monitor is formed by the scanning of an electron beam across the inner, phosphor-coated surface of the picture tube's screen. The picture is composed of a series of almost horizontal scan lines stacked up vertically to give the illusion of a continuous image. In the vast majority of scenes, the information changes very little from one scan line to the next, at least when compared point by point along adjacent lines. For example, if a given point on a given line is bright, the point directly above it and below it will probably be bright, too.

The HQ system uses a CCD (charge-coupled device) to delay video playback information by one horizontal scan line, which it adds to the next incoming one. To the extent that the two lines are the same (correlated), the video signals add directly and double in level (increase by 6 dB). The noise content of the signals is random (uncorrelated), so after addition, the noise will increase by only 3 dB (the square root of the sum of

the squares of the signals' instantaneous amplitudes). Thus, the adding of adjacent scan lines should produce a net improvement of 3 dB in luminance signal-to-noise (S/N) ratio. The actual processing is somewhat more complex than this, yielding, according to JVC, more than 3 dB of effective luminance noise reduction. In a similar manner, the VHS HQ Chrominance Vertical Processor correlates the color information line by line to effect a 3-dB improvement in the chroma S/N ratio.

The third benefit claimed for HQ is an extension of the "white clip" level by 20 percent over that of previous VHS recorders. In a conventional VCR, video signals are pre-emphasized (high frequencies are boosted) before modulating the luminance carrier, so that compensatory de-emphasis after playback demodulation will reduce noise introduced by the recording process. On a sharp full-black-to-full-white transition, the pre-emphasis causes the signal to overshoot the full-white level corresponding to 100-percent video modulation.

To prevent overmodulation of the video FM carrier, a clipping circuit trims off the overshoot. After playback demodulation and de-emphasis, the signal no longer appears as it originally did. The transition from black to white starts off rapidly enough, but before reaching full white, it slows down, slightly smearing the edges of images. Raising the white-clip level reduces the high-frequency loss, sharpening black-to-white transitions and thereby enhancing apparent contrast and detail.

Edward J. Foster

touchpads on the inside surface of the subpanel door. The counter-reset and counter-mode (clock, tape counter, or remaining time) controls are here, too, along with a dimmer switch for the display. The HR-D566U's programmer enables you to record as many as eight events over a two-week period with daily and weekly repeat functions. Clock time and program memory are retained for as long as an hour during power outages, and the deck loads the tape ten seconds before the appointed start time and commences recording two seconds early so you don't miss the beginning of a show. You can even choose the recording speed independently for each

program—a nicety we've encountered on few other VCRs.

The numerical programming touchpads also can be used to tune a channel directly, even if you're not in the timer mode, or you can scan through the channels via front-panel up/down buttons. As received, the unit is set to run through all VHF and 18 UHF channels, but you can add to or delete from the memory. The VCR's infrared remote control operates all the normal transport modes as well as the scan and direct-access tuning functions. You also can use it to turn the VCR on and off and switch between antenna and VCR.

You can always tell what mode the



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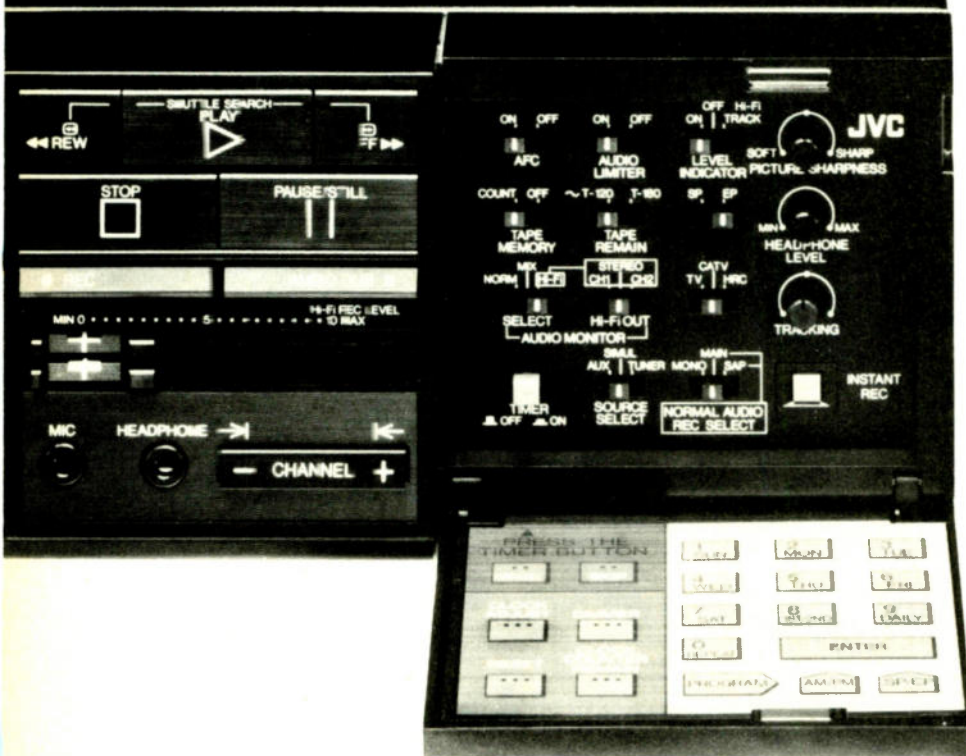
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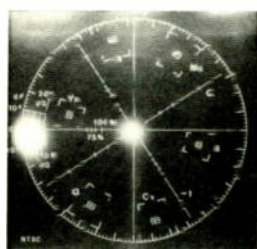
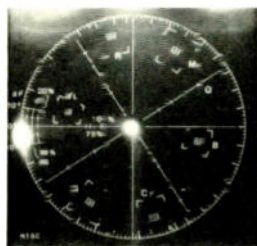


SONY
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THE HR-D566U'S SECONDARY CONTROLS ARE BEHIND A FLIP-DOWN DOOR ON THE FRONT PANEL, WITH THE PROGRAMMING KEYS ARRANGED ON THE INSIDE SURFACE OF THE DOOR ITSELF. IMMEDIATELY TO THE LEFT, ON THE FRONT PANEL PROPER, ARE THE MOST COMMONLY USED OPERATING CONTROLS: THE TRANSPORT KEYS, THE RECORDING-LEVEL SLIDERS, AND THE CHANNEL-STEPPER BAR.

CHROMA DIFFERENTIAL PHASE AND GAIN OF THE VIDEO RECORDER SECTION AT SP (TOP) AND EP (BOTTOM), INDICATED BY THE ANGULAR AND RADIAL SPREADS, RESPECTIVELY, OF THE WHITE BLOBS NEAR THE LEFT EDGE OF THE VECTORSCOPE GRIDS. BOTH ARE ENLARGED BY CHROMA NOISE (ESPECIALLY AT THE SLOWER SPEED), BUT THE FACT THAT THE SPOTS ARE ESSENTIALLY CIRCULAR, RATHER THAN DRAMATICALLY ELLIPTICAL, AND CONTAINED IN A SINGLE AREA INDICATES THAT THE DIFFERENTIAL PHASE (HUE VARIATION WITH CHANGES IN BRIGHTNESS) AND GAIN (VARIATION OF COLOR SATURATION WITH CHANGES IN BRIGHTNESS) ARE WELL CONTROLLED.



transport is in by the large illuminated symbols that appear on the left in the display below the tape slot. There are separate symbols for playback, pause, recording, fast forward, and rewind. Submodes are indicated by a combination of symbols. For example, when in recording-pause, the recording symbol (a circle) is combined with the pause symbol (two vertical lines). Shuttle search (at seven times playing speed in either direction) is indicated by the play symbol and the fast-forward or reverse symbol. Audio-only dubbing (available for the edge track only) is represented by a split circle. All in all, it's a very clever display.

Diversified Science Laboratories reports that the HR-D566U's tuner is one of the finest it has tested—especially with regard to video frequency response, which is virtually flat to the color-burst frequency (3.58 MHz) and less than 9 dB down at the top of the NTSC (broadcast video) band (4.2 MHz). With a superior monitor, horizontal resolution should be just about as good as the NTSC system is capable of providing. The tuner's luminance level is very close to the mark, and gray-scale linearity is virtually perfect. Chroma differential phase is admirably low, and the reported chroma differential gain occurs only at the brightest lumi-

nance step, so it is not likely that you'll notice it. This means that neither hue nor color saturation will be affected by changes in scene brightness. Chroma level is low (as usual), but it is almost perfectly uniform across the spectrum and therefore easily correctable at the monitor. Phase (hue) accuracy is very good, too, with a median error of just 3½ degrees and an equivalent uncorrectable spread.

The tuner's audio frequency response is about average. Apparently JVC uses a sharp filter to remove the horizontal-scan component, for it is exceptionally well suppressed in this model. Signal-to-noise (S/N) ratio also is substantially better than average. The audio limiter affects output level when used, but on or off, there's sufficient signal to fully drive a stereo amplifier, and the output impedance is well suited to interconnection with your system.

Video response through the unit's recorder section is significantly better at SP than at EP. With the sharpness control at its center detent, we'd estimate SP resolution to be somewhat better than 160 lines (typical of good VCRs). In extended-play mode, it would be about 120 to 130 lines based on the same -6-dB criterion. Advancing the sharpness knob produces almost perfect video response to 2 MHz in the SP

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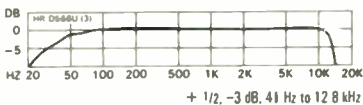
Sansui

Putting More Pleasure in Sound.

TV TUNER SECTION

All measurements were taken at the direct audio and video outputs

AUDIO FREQUENCY RESPONSE (mono)



AUDIO S/N RATIO (mono; A-weighted)

best case (no color or luminance)	66 3/4 dB
worst case (crosshatch pattern)	46 1/4 dB

RESIDUAL HORIZONTAL-SCAN COMPONENT (15.7 kHz)

	-96 dB
--	--------

AUDIO OUTPUT LEVEL (100% modulation)

ALC off	1.67 volts
ALC on	0.49 volt

AUDIO OUTPUT IMPEDANCE

	970 ohms
--	----------

VIDEO FREQUENCY RESPONSE

at 500 kHz	- 1/4 dB
at 1.5 MHz	+ 3/4 dB
at 2.0 MHz	+ 3/4 dB
at 3.0 MHz	- 1/4 dB
at 3.58 MHz	-1 1/2 dB
at 4.2 MHz	-8 3/4 dB

LUMINANCE LEVEL

	4% low
--	--------

GRAY-SCALE NONLINEARITY (worst case)

	≈ 5%
--	------

CHROMA DIFFERENTIAL GAIN

	≈ 20%
--	-------

CHROMA DIFFERENTIAL PHASE

	≈ ± 4°
--	--------

CHROMA ERROR

	level	phase
red	-3 1/2 dB	+ 2°
magenta	-3 1/2 dB	+ 3°
blue	-3 dB	0°
cyan	-3 1/2 dB	+ 7°
green	-3 1/2 dB	+ 6°
yellow	-3 1/2 dB	+ 7°
median error	-3 1/2 dB	+ 3 1/2°
uncorrectable error	± 1/4 dB	± 3 1/2°

mode and increases EP resolution to about 160 lines, although this results in a perceptible increase in video noise. In practice, the picture seems somewhat clearer than these numbers would imply, because of the slight accentuation the HQ system gives to sharp edges. Nonetheless, images recorded at the standard speed are noticeably better defined and less grainy than those recorded at EP.

On the back panel is a video noise reduction switch, which JVC recommends be left on for normal playback and defeated when making copies. (DSL measured the VCR's video performance with the switch turned on and rechecked playback with it off.) Defeating the video noise reduction system produces a slight response improvement between 2 and 3 MHz (especially in EP), but at the expense of increased snow. Luminance and chroma levels also are a bit more accurate at SP, although the differences between the speeds are here too small to have any significant effect. Gray-scale linearity is very good at both speeds, and there's essentially no chroma differential gain at either. Average chroma phase error is the same at both speeds, and though the chroma differential phase is slightly worse at EP than at SP, again, the difference is too small to be seen.

Measured with the audio limiter off, VHS Hi-Fi performance is admirable. Flutter is below our reporting limit at both speeds, as you might expect from a Hi-Fi recording system, and distortion, which is primarily the unobtrusive second harmonic, is acceptably low (less than 1 percent from 50 Hz to 10 kHz at -10 dB referred to the 3-percent distortion point). Dynamic range—also measured with respect to 3-percent distortion—is 82 dB at the slow speed and 83 1/4 dB at standard speed, both very good figures. Frequency response is quite flat at both speeds and varies only slightly with changes in recording level. These measurements confirm JVC's claim that the HR-D566U makes an excellent eight-hour audio recorder.

Input and output voltages and impedances are well chosen, although the rather low overload margin on the microphone input suggests that you use care in selecting and placing the mike. Channel separation is not the best

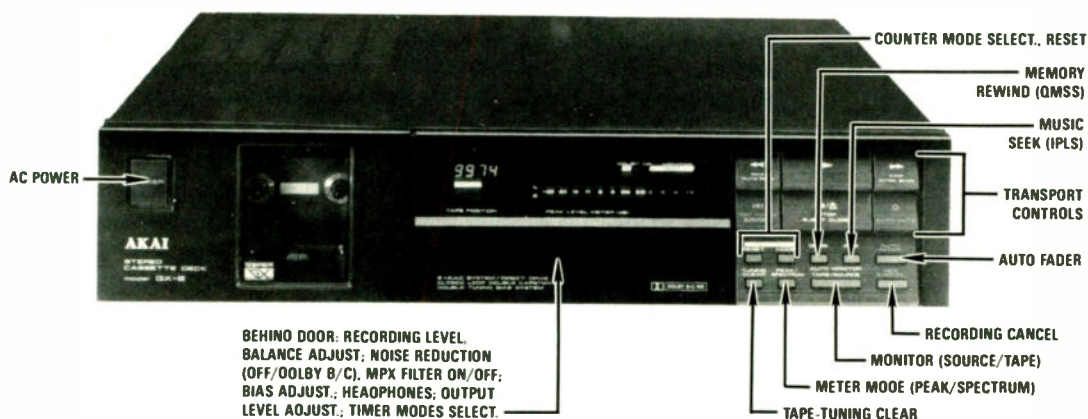
we've measured, but it is more than adequate for excellent stereo imaging. The level indicator is calibrated somewhat lower than we've measured on other Hi-Fi VCRs, which is preferable, in our view; as long as you keep the peaks to about 0 dB on the meters, all should be well.

Edge-track recording is in mono, with levels controlled by the audio limiter regardless of the setting of the audio limiter switch. Since third-harmonic distortion reached 3 percent before the limiter became fully effective, DSL used that level as its reference. The limiter comes in 2 dB higher and prevents any further increase in distortion. Ten decibels below the reference, distortion is less than 1 percent from 100 Hz to 5 kHz at SP and a little less than twice that at EP. S/N ratio is respectable at both speeds. Flutter is about par for edge-track recording. Overall edge-track frequency response is quite good at SP but is 3 dB down at only about 4.5 kHz at EP.

For a top-of-the-line VCR, the HR-D566U's special video effects are somewhat limited, but we suspect most users will find them adequate (as we did). The unit provides search in both directions at seven times normal speed and a still frame that advances continuously if you hold the pause control down. There is a slight amount of "tearing" and some picture shake with still-frame and a few noise bars and evidence of tearing in the high-speed shuttle modes. But the picture is quite viewable in either case, and we've certainly seen worse. The special effects work equally well at both speeds, but not at all when reproducing an LP tape.

Audio performance is excellent on the Hi-Fi channels, but noisy and dull with edge-track recording at the EP speed. Color rendition was noticeably blotchier (especially in large solid areas) at EP than at SP, and as mentioned earlier, resolution was notably better at the faster speed, too. For all these reasons, we preferred SP for serious recording. At that speed, the JVC HR-D566U is a stellar performer, and it is only by comparison with that level of quality that we're given cause to complain about the EP reproduction. It's definitely a deck that merits serious consideration, particularly in view of its very competitive price. ●

Akai GX-9 Cassette Deck



The Akai GX-9 continues the tradition of the company's former flagship, the GX-7 (which impressed us when we tested it two years ago and to which the GX-9 bears a family resemblance), with the use of separate GX heads for recording and playback, Dolby B and C, automatic bias setting, and so on. The GX-9 isn't just an updating, however: Its control scheme has been rethought, and so has its complement of features. It now has a somewhat simpler appearance despite an exceptionally comprehensive range of capabilities that includes a much more sophisticated approach to tape matching and signal metering.

The transport door of the GX-9, like that of the GX-7, is motorized and will close automatically if you press any of the transport control keys. Akai even tells you not to close it manually—a hard stricture to honor if you're used to conventional hardware. Retained from the earlier model are two useful features: Intro Scan, to sample the first ten seconds of each selection in turn, and Auto Play, a feature that finds, in conjunction with the fast-wind controls, the beginning of the next selection in the chosen direction and automatically begins playback. Also held over is the automatic monitor switching: to tape during recording or playback, to source when in the recording-pause mode. A

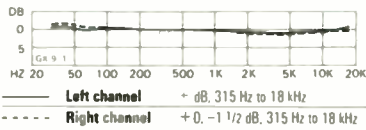
manual override is also provided.

Tape-type selection is on the basis of the cassette-shell cutouts. When you first press recording-pause (there is no playback-pause function) after loading a tape, the GX-9 fine-tunes for bias, recording EQ, and, apparently, tape sensitivity. This involves the recording and evaluation of test tones in the conventional fashion and automatic rewind to the point on the tape at which the process began. What is astonishing is the rapidity of the operation: In about two seconds you are ready to begin recording. The system is designed to do the best it can and let it go at that; the owner's manual warns against use of tapes in shells without the correct cutouts. Don't use ferrichromes either—if you insert one anyway, the readout panel won't warn you when the tape is beyond the deck's adjustment range.

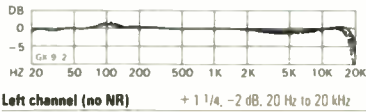
There is a further bias adjustment: a manual slider with a center detent to represent normal tuning. No special lights, meters, or other technical aids are provided for its adjustment, although the source/tape monitoring will enable you to hear the dulling effect of overbiasing and the peakiness of underbiasing. Unfortunately, the manual monitor switch introduces a brief output hiatus when toggled, making it harder to assess differences in brightness than with instantaneous switch-

DIMENSIONS: 17 $\frac{1}{4}$, BY 3 $\frac{1}{4}$, INCHES (FRONT PANEL), 14 $\frac{1}{4}$, INCHES DEEP PLUS CLEARANCE FOR CONNECTIONS. **PRICE:** \$500; **OPTIONAL RC-32 WIRED REMOTE CONTROL,** \$35; **OPTIONAL RC-92 WIRELESS REMOTE CONTROL,** \$115. **WARRANTY:** "LIMITED," ONE YEAR PARTS AND LABOR, 150,000 IN-USE HOURS PARTS ONLY ON SUPER-GX HEADS. **MANUFACTURER:** AKAI ELECTRIC CO., LTD., JAPAN; **U.S. DISTRIBUTOR:** AKAI AMERICA, LTD., 800 W. ARTESLIA BLVD., COMPTON, CALIF. 90220.

PLAYBACK RESPONSE (BASF test tape; -20 dB OIN)



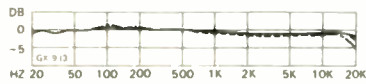
RECORD/PLAY RESPONSE, TYPE 2 TAPE (-20 dB)



Right channel:

no NR	+ 1/2, -3 dB, 20 Hz to 19.5 kHz
Dolby B	+ 1/2, -3 dB, 20 Hz to 17.5 kHz
Dolby C	+ 1/2, -3 dB, 20 Hz to 18.5 kHz

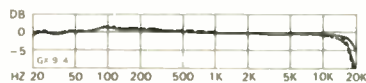
RECORD/PLAY RESPONSE, TYPE 4 TAPE (-20 dB)



Right channel:

no NR	+ 0, -2 dB, 20 Hz to 20 kHz
Dolby B	+ 0, -2 1/4 dB, 20 Hz to 20 kHz
Dolby C	+ 1/2, -3 dB, 20 Hz to 17 kHz

RECORD/PLAY RESPONSE, TYPE 1 TAPE (-20 dB)



Right channel:

no NR	+ 0, -3 dB, 20 Hz to 18.5 kHz
Dolby B	+ 1/2, -3 dB, 20 Hz to 16.5 kHz
Dolby C	+ 3/4, -3 dB, 20 Hz to 15.5 kHz

MULTIPLY FILTER (defeatable)

	- 3/4 dB at 15 kHz, -10 dB at 19 kHz (see text)
--	---

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

	Type 2 tape	Type 4 tape	Type 1 tape
no NR	58 3/4 dB	56 3/4 dB	55 dB
Dolby B	67 1/2 dB	66 dB	64 dB
Dolby C	72 1/4 dB	71 1/2 dB	70 3/4 dB

INDICATOR READINGS FOR OIN 0 DB (315 Hz)

Type 2 tape	0 dB (with 1.56% THD)
Type 4 tape	0 dB (with 0.71% THD)
Type 1 tape	0 dB (with 0.51% THD)

INDICATOR READINGS FOR 3% DISTORTION (315 Hz)

Type 2 tape	+ 4 dB (for + 2 1/4 dB DIN)
Type 4 tape	+ 4 dB (for + 5 1/2 dB DIN)
Type 1 tape	+ 4 dB (for + 4 dB DIN)

DISTORTION (THD at -10 dB OIN; 50 Hz to 5 kHz)

Type 2 tape	≤ 1.3%
Type 4 tape	≤ 1.0%
Type 1 tape	≤ 1.6%

ERASURE (at 100 Hz)

	≥ 68 1/2 dB
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CHANNEL SEPARATION (at 315 Hz)

	39 dB
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INDICATOR "BALLISTICS"

Response time	3.2 msec
Decay time	≈ 530 msec
Overshoot	0 dB

SPEED ACCURACY (105 to 127 VAC)

	0.2% fast
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FLUTTER (ANSI weighted peak; R/P)

	± 0.050%
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SENSITIVITY (re OIN 0 dB; 315 Hz)

	110 mV
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INPUT OVERLOAD (at 1 kHz)

	> 10 volts
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INPUT IMPEDANCE

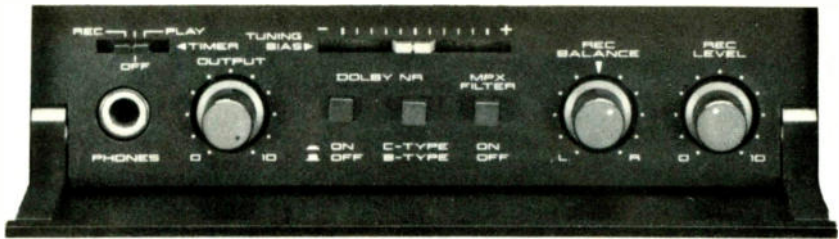
	67.4k ohms
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OUTPUT IMPEDANCE

	65 ohms
--	---------

MAXIMUM OUTPUT (from OIN 0 dB)

	0.60 volt
--	-----------



THE GX-9'S SECONDARY CONTROLS ARE BEHIND A FLIP-DOWN DOOR.

ing. The manual bias control's range is not extreme (Akai says 15 percent in either direction, evidently to limit the problems incurred should you set the slider for an oddball tape and then forget to readjust it when you come back to a more standard variety). We found that if you leave the slider at one extreme and then run the automatic tape-matching routine, the circuitry will try to compensate for the manual setting.

The instructions don't mention this at all, though they do make a valiant attempt to satisfy both the neophyte and the old recording hand in a series of show-and-tell essays that include technical matter along with basics. This tends to make descriptions rather unwieldy for both types of users, and some important material seems to get lost in the shuffle. The setting of the bias adjustment, for instance, is explained in terms of MML and SOL, defined by Akai as "maximum modulation level" and "saturation output level," respectively, even though they apparently are used here to signify midrange headroom and high-frequency headroom, respectively. But perhaps the point is moot because of the way Akai uses these terms in explaining the GX-9's very unusual metering system, which makes their purpose clear even if the terms themselves are not.

The metering has two button-selected operating modes: peak (a relatively conventional display, with separate overall-level indication for each channel) and spectrum. The latter mode displays signal level in the band around 8 kHz on the upper (normally, left channel) display and in the band around 400 Hz on the lower (right channel) one. Maximum recommended levels for each band are displayed (after the tape-tuning process is complete) as rows of lighted dots next to the appropriate meter sectors. The dots are labeled SOL and MML for the 8-kHz and 400-Hz bands, respectively. As you turn up the manual bias control, the SOL indication slides downward, the MML one up-

ward; decreasing bias has the reverse effect.

By using the spectrum mode you can see what sort of demands are made by the highs and midrange of the input signal and adjust the bias accordingly. However, we found that for gain-riding during recording, the peak meter mode is more useful, besides being obligatory for adjusting recording balance. The meter scales are most finely divided—into 2-dB increments—in the range between -6 and +4 dB. For some reason, possibly to dramatize the difference between the old mechanical VU meters and these peak-reading displays, Akai has chosen to label the -4 calibration "0 VU" even though there already is a 0-dB calibration on the scale at the point where the display changes from blue to red. Despite this point of confusion, which the manual ignores, we consider the metering very good even without the unusual and possibly useful spectral mode.

Recording level and balance are set by separate knobs, a sensible and useful approach. Four-second fades in or out can be created automatically at the press of the auto-fader button; after a fade-out, the control adds four seconds of silence and then enters the recording-pause mode. If you don't want the fade, but just the silence, you can use the auto-mute button instead. If you make a mistake, REC CANCEL aborts the recording that's in progress, rewinds the tape to its beginning, creates a four-second blank, and enters recording-pause.

The counter offers three modes: arbitrary numbers ("turns"), which keep track of tape position in all modes (including fast winding) and thus is recommended for indexing purposes; elapsed time, which counts only the time spent in playback or recording; and remaining time, which begins by evaluating the tape automatically for length (flashing "C-90," "C-60," and "C-46" in succession until it reaches a decision) and then shows how many min-

utes and seconds of tape remain on the supply hub.

The tapes DSL used in its tests are a close match to the manual's recommendations, though it lists the now-discontinued Maxell UD formulation as the Type 1 ferric and specifies C-60s. We use C-90s because buyers show such an overwhelming preference for them and presumably will use them in the decks we evaluate. In any case, the record/play response curves measured by the lab all are very good or excellent. Those for the Type 1 tape (Maxell UDS-I ferric) are the flattest; those for the Type 4 (TDK MA metal) have the most extended highs, particularly in the left channel (not shown); those for the Type 2 (TDK SA ferricobalt) seem very slightly underbiased, with a tendency to peak a bit (particularly, again, in the left channel) at the top. As level is increased to -10 and 0 dB, the curves take on some downward tilt, representing progressive compression toward the high-frequency end, but hold up well nonetheless—to about 10 kHz or

beyond with the Type 4 metal, for instance, depending on the noise reduction chosen.

Playback response is excellent—thanks, in part, to an excellent azimuth match between the deck and our BASF test tape. When the lab measured the multiplex-filter response, it found (as it did with the GX-7) that it could be deduced only through a comparison of the playback response with and without the filter. With noise reduction on (a necessity if the filter is to be active), response is rolling off so fast at 19 kHz that the attenuation figure shown in our data column can be only an approximation.

The remaining data for electrical and mechanical performance all are good or excellent, with one minor exception, which, in light of Akai's use of such perfectionist touches as direct-coupled circuitry and oxygen-free copper wiring, is rather surprising. The distortion at high frequencies (the 5-kHz measurement is worst-case for each of the three tapes) is a little higher than

usual. Moreover, the low-frequency (50-Hz) distortion, particularly for the Type 1 tape, contains significant quantities of the second harmonic, suggesting that the tape may not be the limiting factor in this respect (since tape distortion is typically of the odd-harmonic variety). On the other hand, these low-frequency measurements aren't worrisome: only 0.54 percent for the Type 2 tape, 0.33 percent for the other two.

We are, if anything, even more impressed with the GX-9 than we were with its predecessor. The speed and automation of the tape-matching system and the unusual spectral mode of the metering are among the standout features, together with the optimization of recording parameters that they help make possible. Also to the point is the closed-loop dual-capstan direct-drive transport, which surely is responsible for the excellent flutter figure. The remaining features, though less important in a performance sense and more a question of taste, also contribute to the GX-9's unique personality. ●

T E S T R E P O R T S

Revox B-215 Cassette Deck

Revox equipment is unique. If you've used any of the company's current electronics—or even if you've just read about them in our test reports on the B-285 receiver (April 1985) and B-252 preamplifier (December 1984)—you'll have some inkling of how this “computer” cassette deck works. If not, you may find it a little awesome at first. Its collection of silver, gray, and red buttons (or keys, as the manual aptly calls them) makes the B-215 do some things that other decks do in other ways or under other names and some that few decks do at all. But be of good cheer: The exotic quickly becomes the familiar, once you dive in, and the results are more than worth an initial moment of perplexity.

The controls actually are deployed

with unusual logic. The normal transport functions are handled by the buttons along the top right, with the level-metering and function readouts on two LCD (liquid-crystal display) panels at the top left. Below the LCDs are the recording controls; below the transport buttons are those for playback functions. The cassette well, in the center, has a pop-off plastic cover to protect it from dust when the deck's not in use. You insert and remove cassettes by hand, without mechanical intervention, so you can flip a cassette over at the end of Side 1 faster than you can with most other unidirectional decks.

Immediately above the well are two large metal buttons. SET LEVEL, on the left, will assess source-signal amplitude for as long as you push it and then will

DIMENSIONS: 17 $\frac{1}{4}$ BY 6 INCHES (FRONT), 13 $\frac{1}{4}$ INCHES DEEP PLUS CLEARANCE FOR CONNECTIONS. **PRICE:** \$1,390. **WARRANTY:** “LIMITED,” TWO YEARS PARTS AND LABOR, EXCEPT FUSES AND BULBS. **MANUFACTURER:** STUDER REVOX GMBH, WEST GERMANY; **U.S. DISTRIBUTOR:** STUDER REVOX AMERICA, INC., 1425 ELM HILL PIKE, NASHVILLE, TENN. 37210.

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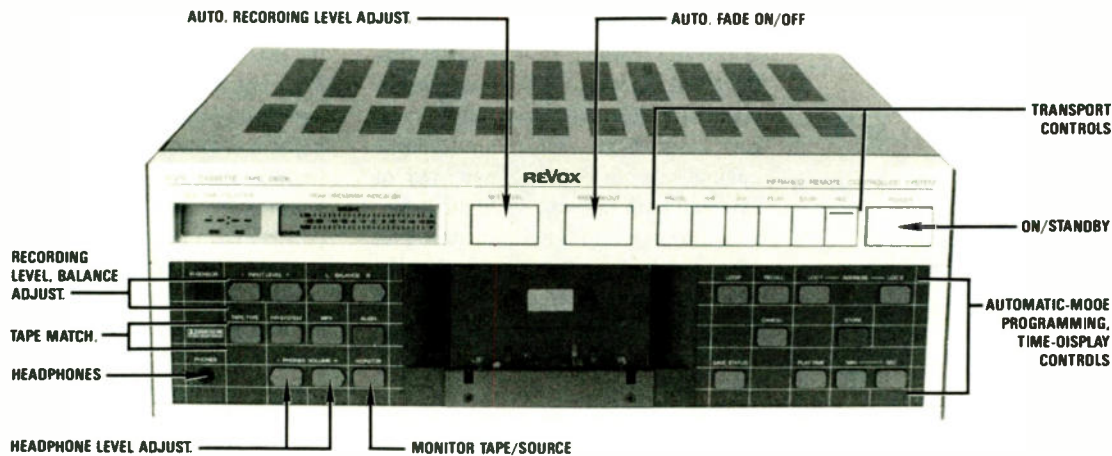
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set the recording level accordingly, for a maximum reading of +2 dB on the meters. The operation of FADE IN/OUT is unusual in that it imposes fades, rather than the usual instantaneous action, on the pause control in the recording mode. If you start from the recording-pause mode, the input will fade up to the preset level in about one second; pressing PAUSE again will fade back down and then stop the deck in PAUSE. If you want to halt recording immediately, without a fade-out, you must press STOP rather than PAUSE.

To eliminate the fade-in, you must press the fade button before starting the deck, extinguishing the FADE legend above the meters. However, the B-215 can leave a noticeable "chiff" in the recording if the transport is engaged with the signal at full level. You can sidestep this problem by using flying starts (pressing both PLAY and RECORD during playback to record over a portion of the music) when you want very tight edits, but in normal operation, the B-215's brisk fade consistently delivers the most pleasing results.

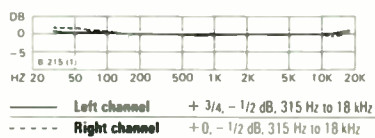
Recording parameters can be set automatically with manual participation by the recordist. The deck reads the keyways in the cassette shell and sets bias and equalization accordingly. But you can override its choices with the tape-type button, which steps through four options: Type 1 (ferric bias, with 120-microsecond EQ), Type 2 (bias for chrome or ferricobalt tapes, with their usual 70-microsecond EQ), Type 2-120 (the same bias, but with 120-microsecond EQ), and Type 4 (metal-tape bias, 70-microsecond EQ). This means that if you have a nonstandard shell, which would create incorrect set-

tings in most decks that match the tape automatically, you can overcome the problem manually. The extra Type 2 option enables you to do what some tape duplicators do: go for the extra high-frequency headroom of the 120-microsecond EQ with chromium dioxide or ferricobalt tapes, so that you can have both maximum midrange level (for the widest dynamic range) and clean highs even with demanding signals that would require a lower recording level with 70-microsecond equalization.

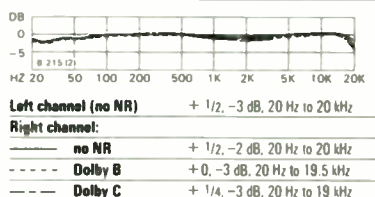
Once you (or the deck) have chosen the basic bias and EQ settings, the B-215 can fine-tune them and its input sensitivity (Dolby recording calibration) for the specific tape in use and then memorize the results. It has a total of six memories: three for Type 2 tapes, two for Type 1, and one for Type 4 (which are both the scarcest and the most consistent brand-to-brand and therefore the least in need of multiple memories). The memory is selected by pushing ALIGN to step the left display panel to the desired number; the fine-tuning itself is achieved by switching into the recording-pause mode and then pressing ALIGN once more. The B-215 records and evaluates a series of test tones, adjusts itself accordingly, stores the settings in the selected memory, and rewinds to the point at which the process began.

The transport includes an optical sensor, so rewinding proceeds only to the end of the recording tape—not to the end of the leader. Actually, the deck rewinds into the leader, then cues up a short distance into the tape itself (unless you hold the rewind button in until the tape stops, in which case it remains cued into the leader). This is necessary

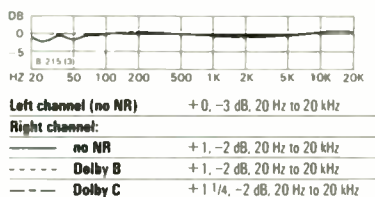
PLAYBACK RESPONSE (BASF test tape; -20 dB OIN)



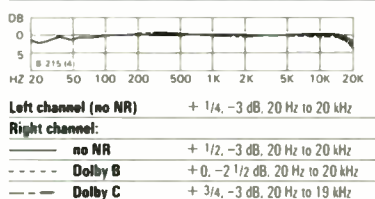
RECORD/PLAY RESPONSE, TYPE 2 TAPE (-20 dB)



RECORD/PLAY RESPONSE, TYPE 4 TAPE (-20 dB)



RECORD/PLAY RESPONSE, TYPE 1 TAPE (-20 dB)



MULTIPLEX FILTER (defeatable)			
	+ 1/2 dB at 15 kHz, -32 dB at 19 kHz		
S/N RATIO (re DIN 0 dB; R/P; A-weighted)			
	Type 2 tape	Type 4 tape	Type 1 tape
no NR	55 1/2 dB	51 3/4 dB	51 dB
Dolby B	65 1/2 dB	62 1/4 dB	61 1/4 dB
Dolby C	74 1/4 dB	70 3/4 dB	70 1/4 dB
INDICATOR READINGS FOR DIN 0 dB (315 Hz)			
Type 2 tape	+ 3 dB (with 4.0% THD)		
Type 4 tape	+ 2 dB (with 2.0% THD)		
Type 1 tape	+ 2 dB (with 1.1% THD)		
INDICATOR READINGS FOR 3% DISTORTION (315 Hz)			
Type 2 tape	+ 1 dB (for -1 1/4 dB DIN)		
Type 4 tape	+ 4 dB (for +1 3/4 dB DIN)		
Type 1 tape	+ 5 dB (for +2 1/2 dB DIN)		
DISTORTION (THD at -10 dB DIN; 50 Hz to 5 kHz)			
Type 2 tape	≤ 1.3%		
Type 4 tape	≤ 0.70%		
Type 1 tape	≤ 0.61%		
ERASURE (at 100 Hz)			
Type 2 tape	75 1/2 dB		
Type 4 tape	57 1/2 dB		
CHANNEL SEPARATION (at 315 Hz)			
Type 2 tape	57 1/2 dB		
INDICATOR "BALLISTICS"			
Response time	4.8 msec		
Decay time	≈ 1,000 msec		
Overshoot	0 dB		
SPEED ACCURACY (105 to 127 VAC)			
	0.5% fast		
FLUTTER (ANSI weighted peak; R/P)			
	± 0.07%		
SENSITIVITY (re DIN 0 dB; 315 Hz)			
	66 mV		
INPUT OVERLOAD (at 1 kHz)			
	2.9 volts		
INPUT IMPEDANCE			
	100k ohms		
OUTPUT IMPEDANCE			
	1,500 ohms		
OUTPUT LEVEL (from DIN 0 dB)			
	0.82 volt		

REPORT POLICY

Equipment reports are based on laboratory measurements and controlled listening tests. Unless otherwise noted, test data are provided by Diversified Science Laboratories. The choice of equipment to be tested rests with the editors of HIGH FIDELITY. Samples normally are supplied on loan from the manufacturer. Manufacturers are not permitted to read reports in advance of publication, and no report or portion thereof may be reproduced for any purpose or in any form without written permission of the publisher. All reports should be construed as applying to the specific samples tested. HIGH FIDELITY and Diversified Science Laboratories assume no responsibility for product performance or quality.

if you're recording over a signal that begins at the very start of the tape, the onset of which otherwise might remain unerased. In general, this automatic cueing scheme is an elegant way of avoiding both the wait while the leader runs through and the rough start that often results from putting signal on the first few inches of tape, though we found its operation rather inconsistent, apparently depending on the transparency of the leader.

Diversified Science Laboratories tested the B-215 with BASF Pro II chromium dioxide for the Type 2 formulation, BASF Metal IV for Type 4, and TDK AD-X superpremium ferric for Type 1. DSL followed our standard practice in using ALIGN to tune to each tape with the noise reduction turned off, then measuring response at all noise reduction settings without further fine-tuning. Many decks can be used only this way because engaging the tape-matching controls automatically defeats the noise reduction until the process is finished. Some that can be tuned either with or without noise reduction give better results if they're tuned without, even for noise-reduced recordings. However, the Revox manual (which, like the front panel, is a model of organization, if not of idiomatic English usage) suggests that you should choose your noise reduction mode before alignment.

So the record/play results, fine though they are, might have been slightly better yet if we had followed the manual rather than standard test practice. It's possible, for example, that the slight midrange bump in the Dolby C curve with Type 1 tape might have been smoothed a bit had the deck been retuned with Dolby C on. But the response curves all are so broad and flat as is that they are beyond comparison with those of most other decks. At higher levels (not shown), some slight peaking intrudes into the range above 10 kHz, suggesting relatively low bias settings or overreaction by the built-in Dolby HX Pro headroom-extension circuitry. But again, these curves are excellent by comparison with those of other decks, and the high-level curves remain quite flat to about 8 kHz even with Type 1 tape.

The Type 2 tape exhibits less headroom—not only at high frequencies (to

be expected with the 70-microsecond EQ), but also in the midrange, which again suggests underbiasing. The lab's highest recording level in the response tests is at DIN 0 dB (250 nanowebers per meter), which in this case actually is a little above the overload point (represented by 3 percent third harmonic distortion), and some compression is visible throughout the trace. The metering compensates for this, however, by reading 1 dB higher than for the other two tapes and thus encourages you to record 1 dB lower in normal practice. Chrome can stand it: As you can see from the data, its noise level is significantly lower than that of either of the other tapes, so that its total dynamic range actually is greater, despite the slightly restricted headroom.

The signal display has excellent range and resolution—increments of 1 dB (the same as in the recording-level adjustment circuitry) from -6 to +8, giving you a very clear view of any overrecording. The scale extends down to -30 dB, and though the element just below this calibration is always lit (or, in fact, blackened against the reflective background), there actually are two "meter" elements between it and the calibration at -20, giving you an unusually clear picture of signal behavior at low as well as high levels.

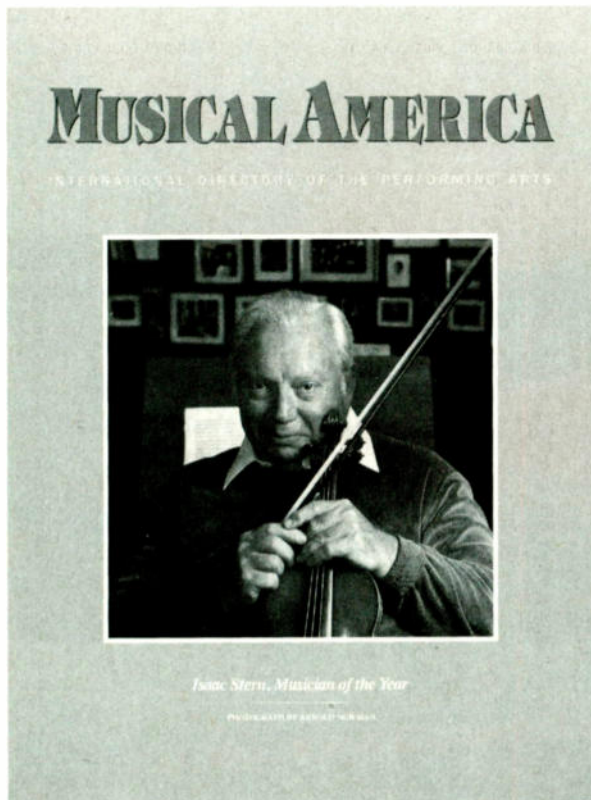
The counter (which, except during the tape-matching procedure, dominates the left-hand LCD panel) reads only in minutes and seconds from the head of the tape. The manual says that you will get the most accurate readings if you start out by cueing to the beginning of the tape and setting the counter for the appropriate tape length (using PLAY TIME to step the display through its cycle: C-46, C-60, C-90, C-120). But it also notes that even if you begin with an unrewound tape and misinform the logic about its length, the microprocessor assigned to this function will be able to approximate the time figure within a few seconds after you start playback or recording.

You can store the time "addresses" of two locations on the tape by finding the spot you want and pressing first STORE and then LOC (location) 1 or 2. You can then go to either of these spots by pressing LOC once again—which can be handy in returning to the start of whatever you just recorded, in order to

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

Denon America, Inc., 27 Law Drive, Fairfield, N.J. 07006

do it over or to double-check its quality. You can also press LOOP, and the deck will repeat the passage between the two markers as many times as you like. If you know the time address of the passage you want (and this system encourages keeping all your labeling records in those terms), you can zero in on it by watching the counter while pressing the appropriate fast-wind button and, as a brake, STOP. Or you can enter the desired elapsed time (which will appear on the display) by tapping or pressing MINUTES and SECONDS, then store it, and, by pressing LOC again, cue automatically to that address.

It all works superbly, though we wish that Revox had included more explanation of how and why, so that the

user could understand better everything that is going on. The manual has one brief section on the philosophy behind the use of 120-microsecond EQ with Type 2 tapes, but many users also would like to know more about the tape matching, the automatic leader cueing, the motion/length sensing, and the transport's logic priorities—which, among other things, automatically switch the monitor from SOURCE to TAPE when you begin recording.

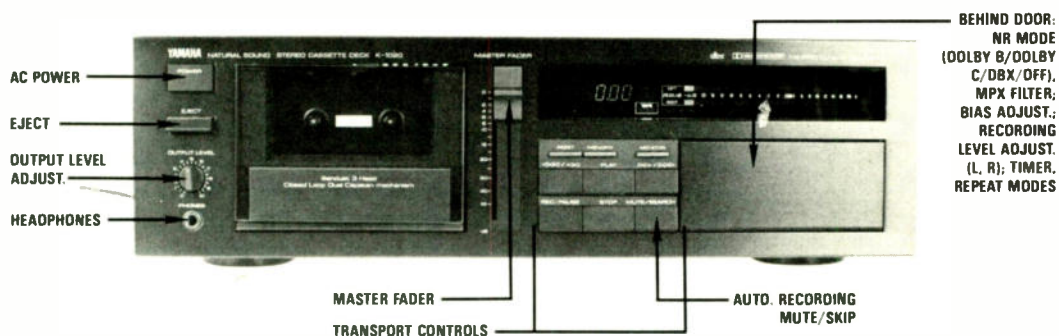
Little is said even about the dual-capstan drive, which is responsible for the B-215's excellent flutter figures. All the measurements are excellent, in fact. Input overload does occur at a surprisingly low level (most other decks and electronics clip at something more

than 10 volts), but 2.9 volts should be enough to pass even the most ambitious transients from typical source components. Impedances are well chosen to mate with other gear. The headphone output is adjustable in eight level increments.

It goes almost without saying that the B-215 can be controlled remotely—either with the wireless B-201 or as part of an interlinked Revox system, for which there are provisions on the back panel. The options in this respect, which even extend to multiple rooms, make the B-215 potentially part of the world's most sophisticated one-brand music system. But audiophiles will seek it out all by itself for its superb performance and elegant automation. ●

T E S T R E P O R T S

Yamaha K-1020 Cassette Deck



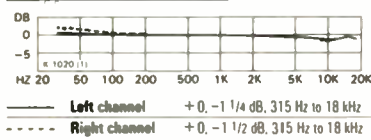
Performance seems to have been the top priority of Yamaha's designers in shaping the K-1020. While even a casual glance shows that its cannily chosen features emphasize utility rather than glitz, it is the internal refinements, which a typical user might overlook altogether, that more accurately characterize the deck's intentions. Among these are a dual-capstan closed-loop drive; a die-cast head-mounting block; high-performance audio circuitry that, for example, reduces ground loops through the use of a copper bus-bar ground instead of the usual printed-circuit ground; isolation of the

noise reduction from other circuits to minimize interference; and a double-gap erase head with a thin ("ion plated") glass coating.

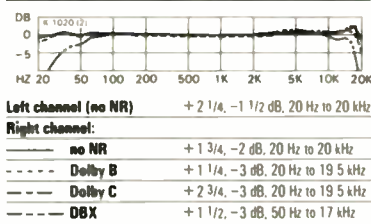
More obvious, even commonplace, but no less important to the overall aim, is the inclusion of all three major noise reduction systems—Dolby B, Dolby C, and DBX—plus Dolby HX-Pro headroom extension (aptly styled a "dynamic bias servo" here). The separate recording and playback head elements in the central cassette opening, together with the separate noise reduction circuits for recording and playback, make monitoring possible and (not incidental-

DIMENSIONS: 17 BY 4 1/4 INCHES (FRONT PANEL), 1 1/4 INCHES DEEP PLUS CLEARANCE FOR CONNECTIONS. PRICE: \$599; OPTIONAL RS-20 WIRED REMOTE CONTROL, \$50; OPTIONAL RMA-K20 EIA RACK-MOUNT ADAPTERS, \$17. WARRANTY: "LIMITED," ONE YEAR PARTS AND LABOR. MANUFACTURER: NIPPON GAKKI CO., LTD., JAPAN; U.S. DISTRIBUTOR: YAMAHA ELECTRONICS CORP., U.S.A., 6660 ORANGETHORPE AVE., BUENA PARK, CALIF. 90620.

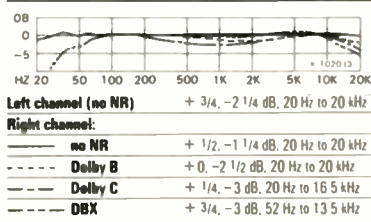
PLAYBACK RESPONSE (BASF test tape: -20 dB DIN)



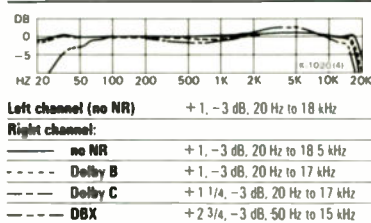
RECORD/PLAY RESPONSE, TYPE 2 TAPE (-20 dB)



RECORD/PLAY RESPONSE, TYPE 4 TAPE (-20 dB)



RECORD/PLAY RESPONSE, TYPE 1 TAPE (-20 dB)



ly) help in assessing the effectiveness of the deck's bias-setting feature (acronymed as "ORBIT," for "optimum record bias tuning").

In the realm of convenience functions, the K-1020 provides both timer-start and repeat—of either the whole cassette side or a portion that you program with the reset and memory buttons. Automatic mute and seek are triggered by the mute/search button. Tapping it during recording produces a four-second blank, and holding it in will extend the blank until you release it. Either way, after creating the blank, the deck stops in pause. Pressing PLAY during recording produces a blank without stopping the tape. Pressing MUTE/SEARCH together with one of the fast-wind buttons seeks out the next interselection blank in the indicated direction. Incidentally, the fast-wind speed increases by half if you hold your finger on the button instead of merely tapping it.

Then there is what Yamaha calls "recording return." When you press REWIND while the deck is in the recording mode, it will automatically return to the point where recording began or to zero on the tape counter, whichever is nearer. This makes it easy to redo a dub you've just botched. The deck's line and headphone outputs switch automatically to source (when the deck is stopped or in recording-pause) or to tape (during playback or recording), though it can also be switched manually. And finally there is automatic tape-type selection, based on the cassette-shell indicator notches.

To adjust the bias, you enter the recording mode, switch in an oscillator that puts a 1-kHz tone on the left channel and a 10-kHz tone on the right (by pressing the BIAS TEST), and start the tape. As you turn the BIAS ADJUST, the Orbit comparator circuitry reads the tones off the tape. Their relative levels are displayed on two LEDs, whose brightness should be equal for theoretically correct bias. Though the owner's manual doesn't say so, it's best to turn off Dolby noise reduction for this test because there's no tape-sensitivity adjustment, and a tape that is significantly nonstandard in this respect is likely to produce flatter overall response when tuned without the noise reduction, even if you'll eventually be mak-

ing a Dolby recording.

Diversified Science Laboratories found that the results obtained by following this procedure tended toward a slight, though broad, rise in the treble, with some minor peakiness at the extreme top in the Type 2 curves. The tapes used were TDK SA-X, a premium ferricobalt, as the Type 2; TDK MA for Type 4 (metal); and TDK AD, a middle-grade ferric, as the Type 1. You can use the bias knob to tweak the response up or down from the Orbit setting, and in the listening room we did marginally prefer the sound of some Type 2 tapes with a little more bias than the LEDs said was optimum. (Moderate increases in bias yield more midrange headroom but duller highs; moderate decreases give a little treble zing, particularly at high levels, but also result in less dynamic range in the mid frequencies, where most music needs it more.) The bias knob has a detented center position, which is calibrated for 20-percent increase or decrease at the extremes, relative to this norm.

In general, response is quite flat and reproduction struck us as very good. Curves made at 0 dB are excellent (thanks, no doubt, to the Dolby HX-Pro) and with metal tape exhibit only minor compression below 10 kHz or so. In fact, at -10 dB the responses from all three tapes (with no noise reduction) measure more perfectly flat right up to the onset of the final high-frequency rolloff (which is at 19 kHz with Type 4) than do the respective curves at -20 dB, shown in our graphs. The playback tests also produced excellent high-frequency results, with first-class azimuth agreement between the deck and the BASF test tape.

In making our recordings, we admired the deck's level-setting scheme: separate level-trimming knobs for each channel plus a single slider used as a master fader. You can preset the knobs with the fader all the way up, lower it, start the recording, and then fade in. The basic concept is excellent (we'd like to see it become more widespread), though the differentiation of look and feel between the slider and the knobs makes this realization particularly successful, and the calibration of the slider in dB below full-up 0-dB level can be genuinely helpful. We only wish the trimming knobs had been more useful-

ly calibrated; as it is, the dot on each knob's face is too far from the front-panel markings for its position to be clearly readable, unless the deck is viewed straight-on.

The metering reads in 2-dB increments from -16 to +16 dB (relative to its own 0-dB calibration), with additional elements representing +20, -20, and -30. Though some decks offer even finer scale divisions in the critical range, very few approach the breadth of this model's—32 dB in all! The upper half of this range actually is the important part, however, because the mid-range overload points for the three test tapes are all close to +8 dB, and the saturation levels for other typical tapes can be expected to fall nearby. Down the center of the display is a strip that lights in response to the tape type to suggest the useful recording-level range for the tape. It lights to +8 for Type 2 and Type 1, to +10 for Type 4—almost spot-on the 3-percent midrange distortion points measured by DSL. All in all, the metering is first-rate.

Many decks have difficulty erasing metal (Type 4) tapes because their coercivity is higher than that of formulations in the other two groups. Yamaha claims unusually high performance for the K-1020's erase head (though only at ultrasonic frequencies), so we were a little taken aback by the disparity in DSL's data between the excellent erasure figure for the Type 2 tape and that for Type 4. The test was made with a

100-Hz test signal—a frequency that is much harder to erase than an ultrasonic one because it records deeper into the tape's magnetic coating. Since very loud sound that has been reduced by only 50 dB may well be audible during pauses in the music, it might be prudent to bulk-erase metal tapes before reuse.

Speed accuracy is excellent. The wow and flutter figure is good, though not as low as might be hoped, given the closed-loop drive. The input is very sensitive (with typical sources, we left the recording-level knobs only about one-quarter open), but the overload level is nonetheless generous (more than 10 volts). For A/B comparisons, output level can be adjusted to match input by means of the front-panel knob (which also controls output to the headphone jack). However, in cases where input level is unusually high, you must use the K-1020's own monitor switch.

There are many impressive details to the new Yamaha. Among those we haven't described is the tape counter, which reads in minutes and seconds and requires no advance calibration (a task we often forget to do on other decks). Such touches help make this deck an unabashed pleasure to test, beyond simple admiration for its demonstrable technical competency. Given how diverse and elusive these matters—essentially of taste—can be, you may not react to the K-1020 as we did. But you'll never know unless you test-drive it.

MULTIPLEX FILTER (defeatable)

+ 1/4 dB at 15 kHz, -35 1/2 dB at 19 kHz

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

	Type 2 tape	Type 4 tape	Type 1 tape
no NR	56 dB	55 1/2 dB	53 1/4 dB
Dolby B	64 3/4 dB	64 1/4 dB	62 3/4 dB
Dolby C	71 1/2 dB	71 1/4 dB	69 dB
DBX	78 3/4 dB	80 dB	79 dB

INDICATOR READINGS FOR DIN 0 DB (315 Hz)

Type 2 tape	+ 4 dB (with 2.23% THD)
Type 4 tape	+ 6 dB (with 0.87% THD)
Type 1 tape	+ 6 dB (with 1.14% THD)

INDICATOR READINGS FOR 3% DISTORTION (315 Hz)

Type 2 tape	+ 6 dB (for +1 dB DIN)
Type 4 tape	+ 10 dB (for +4 1/2 dB DIN)
Type 1 tape	+ 8 dB (for +2 1/2 dB DIN)

DISTORTION (THD at -10 dB DIN; 50 Hz to 5 kHz)

Type 2 tape	≤ 0.71%
Type 4 tape	≤ 0.55%
Type 1 tape	≤ 0.48%

ERASURE (at 100 Hz)

Type 2 tape	76 1/2 dB
Type 4 tape	49 1/2 dB

CHANNEL SEPARATION (at 315 Hz)

	47 3/4 dB
--	-----------

INDICATOR "BALLISTICS"

Response time	3.4 msec
Decay time	≈ 740 msec
Overshoot	0 dB

SPEED ACCURACY (105 to 127 VAC)

	0.3% fast
--	-----------

FLUTTER (ANSI weighted peak; R/P)

	± 0.095%
--	----------

SENSITIVITY (re DIN 0 dB; 315 Hz)

	68 mV
--	-------

INPUT OVERLOAD (at 1 kHz)

	> 10 volts
--	------------

INPUT IMPEDANCE

	24 kΩ ohms
--	------------

OUTPUT IMPEDANCE

	1,640 ohms
--	------------

MAXIMUM OUTPUT (from DIN 0 dB)

	0.57 volt
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T E S T R E P O R T S

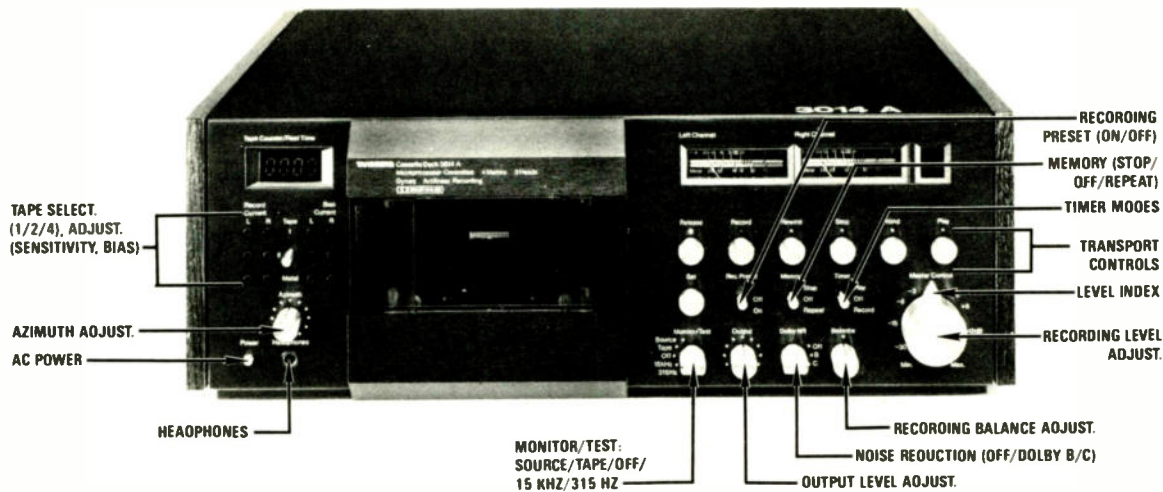
Tandberg TCD-3014A Cassette Deck

Tandberg has worked very hard in recent years to shed its image as strictly a tape deck manufacturer, and if the acceptance of its line of high-performance electronics is any guide, it has succeeded handsomely. But this should not be permitted to obscure the fact that the company does make superb and remarkably individualistic

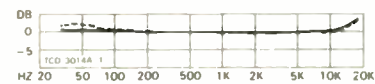
tape recorders. An obvious example is its only cassette deck, the TCD-3014A, which works not only very well, but also rather differently from any other model on the market.

One gleans an inkling of Tandberg's iconoclasm simply from looking at the machine, whose appearance is far removed from the Japanese style

DIMENSIONS: 17 1/4 BY 6 1/2, INCHES (FRONT), 13 3/4, INCHES DEEP PLUS CLEARANCE FOR CONTROLS AND CONNECTIONS. **PRICE:** \$1,450. **WARRANTY:** "LIMITED," 90 DAYS PARTS AND LABOR, AUTOMATICALLY EXTENDED TO THREE YEARS ON RETURN OF WARRANTY REGISTRATION CARD. **MANUFACTURER:** TANDBERG A/S, NORWAY; **U.S. DISTRIBUTOR:** TANDBERG OF AMERICA, INC., P.O. BOX 58, ARMONK, N.Y. 10504.

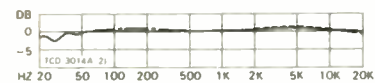


PLAYBACK RESPONSE (BASF test tape; -20 dB OIN)



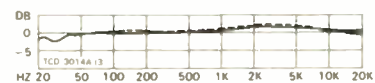
Left channel + 3 1/2, - 1/2 dB, 315 Hz to 18 kHz
 Right channel + 3, - 3/4 dB, 315 Hz to 18 kHz

RECORD/PLAY RESPONSE, TYPE 2 TAPE (-20 dB)



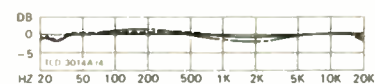
Left channel (no NR) + 1 1/2, -3 dB, 20 Hz to 20 kHz
 Right channel:
 no NR + 1 - 3 dB, 20 Hz to 20 kHz
 Dolby B + 1 1/2, -3 dB, 20 Hz to 20 kHz
 Dolby C + 1 1/2, -3 dB, 20 Hz to 20 kHz

RECORD/PLAY RESPONSE, TYPE 4 TAPE (-20 dB)



Left channel (no NR) + 1 1/2 -2 1/2 dB, 20 Hz to 20 kHz
 Right channel:
 no NR + 1 1/2 -3 dB, 20 Hz to 20 kHz
 Dolby B + 2 1/4 -3 dB, 20 Hz to 20 kHz
 Dolby C + 2 1/4, -3 dB, 20 Hz to 20 kHz

RECORD/PLAY RESPONSE, TYPE 1 TAPE (-20 dB)



Left channel (no NR) + 1/2 -2 dB, 20 Hz to 20 kHz
 Right channel:
 no NR + 3/4, -2 1/2 dB, 20 Hz to 20 kHz
 Dolby B + 3/4, -2 dB, 20 Hz to 20 kHz
 Dolby C + 1 1/2 -2 dB, 20 Hz to 20 kHz

MULTIPLEX FILTER (defeatable)

-41 dB at 19 kHz

now taken as the norm. The level indicators are analog meters, rather than LED strings, and the cassette well juts forward from the front panel, protected from dust by a removable plastic cover. Everything about the TCD-3014A is unusually solid, from the chassis itself to the cast and machined closed-loop dual-capstan tape-transport mechanism. Indeed, that one critical part weighs more than some complete cassette decks.


To the eye, the TCD-3014A is identical to its predecessor, the TCD-3014, which we reviewed in our August 1984 issue. Internally, however, there are a number of refinements, including more sophisticated recording and output circuits and better parts (such as polystyrene capacitors and close-tolerance resistors) in key sections of the signal path. And Tandberg has made the wireless remote control standard instead of optional, at a savings of about \$100 to the buyer.

On the surface, operation of the TCD-3014A is fairly straightforward; the basic recording and playback functions will be, for the most part, familiar to anyone who has used any kind of high fidelity cassette deck. The one conspicuous oddity is the "recording preset" switch, which must be on before you can start recording. Then all you have to do is press RECORD. You can even do flying starts (going directly from playback to recording or from recording to playback). Recording levels are set by means of a master fader and a balance control—our favorite scheme. The fader has an adjustable detent, whose position is set by means of a plastic tab protruding from behind

the knob. Thus, you can set your recording level and then fade in and out from it easily and reliably without losing the ability to push beyond your initial setting when circumstances warrant. This very flexible and intuitive system is one of the deck's nicest touches.

The TCD-3014A includes Dolby B and C noise reduction. (There is a multiplex-filter switch, by the way, on the back panel.) It also provides manual adjustments for recording azimuth, sensitivity, and bias, abetted by 315-Hz and 15-kHz test-tone oscillators and the recording-level meters. These enable you to set the deck up for low distortion and flat response with just about any good tape. Recording and playback equalization are selected automatically, according to the cassette-shell keyways, although you can force the playback EQ to 70 microseconds (for old chrome or metal tapes that lack the appropriate shell notches) with a back-panel switch. And like other recent Tandberg tape decks, the TCD-3014A incorporates the company's proprietary Dyneq dynamic equalization circuit, which cuts back the recording pre-emphasis at high levels to forestall tape saturation and its attendant distortion and treble losses.

Below this surface layer of operation lurks a second, more complex and sophisticated level mediated by an eight-bit microprocessor. Many of its most interesting features require you to press two of the transport buttons at once, and since these functions are not marked in any way on the front panel, the potential for confusion and mistakes is relatively high. Fortunately, the manual is much improved over the



NEC's recording experience here...

The TV studio: where only the very best equipment is good enough. That's why TV stations throughout the world turn to broadcast products from NEC—with technology so advanced it's won two Emmy Awards.

Even if you're not about to broadcast your tapes coast to coast, it's comforting to know that NEC builds much of our pro technology into videocassette recorders for the home.

Consider the new N-961U VHS Hi-Fi VCR. NEC's studio heritage is evident in the glitch-free images during still picture and slow motion. The seamless scene-to-scene transitions of Assembly Editing. The amazing sound of stereo TV reception. And the studio-grade stereo recording of VHS Hi-Fi. The wireless remote control even operates an NEC TV Receiver/Monitor.

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

NEC

We bring high technology home.

brings you a better recording experience here.



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

	Type 2 tape	Type 4 tape	Type 1 tape
no NR	55 1/2 dB	54 dB	52 dB
Dolby B	64 1/4 dB	62 1/4 dB	61 1/4 dB
Dolby C	69 dB	68 dB	65 1/2 dB

INDICATOR READINGS FOR DIN 0 dB (315 Hz)

Type 2 tape	+1 1/2 dB (with 1.03% THD)
Type 4 tape	+1 1/2 dB (with 1.66% THD)
Type 1 tape	+1 dB (with 0.60% THD)

INDICATOR READINGS FOR 3% DISTORTION (315 Hz)

Type 2 tape	+4 3/4 dB (for +3 dB DIN)
Type 4 tape	+4 dB (for +2 dB DIN)
Type 1 tape	+5 1/2 dB (for +4 1/2 dB DIN)

DISTORTION (THD at -10 dB DIN; 50 Hz to 5 kHz)

Type 2 tape	≤ 1.81%
Type 4 tape	≤ 0.87%
Type 1 tape	≤ 0.71%

ERASURE (at 100 Hz)

Type 2 tape	72 dB
Type 4 tape	50 dB

CHANNEL SEPARATION (at 315 Hz)

	43 dB
--	-------

INDICATOR "BALLISTICS"

Response time	≈ 4 msec
Decay time	≈ 1,600 msec
Overshoot	0 dB
SPEED ACCURACY (105 to 127 VAC)	0.3% fast
FLUTTER (ANSI weighted peak; R/P)	± 0.072%

SENSITIVITY (re DIN 0 dB; 315 Hz)

line input (low)	115 mV
line input (high)	11.2 mV

INPUT OVERLOAD (clipping at 1 kHz)

line input (low)	5.5 volts
line input (high)	0.63 volt

INPUT IMPEDANCE

	160k ohms
--	-----------

OUTPUT IMPEDANCE

fixed	290 ohms
variable	47 ohms

MAXIMUM OUTPUT (from DIN 0 dB)

fixed	0.77 volt
variable	3.8 volts

A QUICK GUIDE TO TAPE TYPES

Our tape classifications, Types 1 through 4, are based on the International Electrotechnical Commission measurement standards.

TYPE 1 (IEC Type I) tapes are ferrics requiring "normal" bias and 120-microsecond playback equalization.

TYPE 2 (IEC Type II) tapes are intended for use with 70-microsecond playback EQ and higher recording bias. The first formulations of this sort used chromium dioxide; today they also include chrome-compatible coatings such as the ferricobalts and a few metals.

TYPE 3 (IEC Type III) tapes are dual-layered ferrichromes, implying the 70-microsecond ("chrome") playback EQ. Approaches to their biasing and recording EQ vary somewhat from one deck manufacturer to another, when they are accommodated at all. Formulations of this type are no longer being made.

TYPE 4 (IEC Type IV) tapes are the metal-particle, or "alloy," tapes, requiring the highest bias of all and retaining the 70-microsecond EQ of Type 2.

one initially supplied with the TCD-3014, making the deck easier to learn.

In addition to the usual timer and repeat functions, the TCD-3014A enables you to set up a repeat between any two points on a tape and to choose any particular program on a tape for playback simply by punching in the number of selections that should be skipped. The latter feature is aided by the tape counter, which indicates how many selections you have entered to be skipped. The counter has two other modes: as a standard turns counter and as a real-time counter. The elapsed-time display is one of the best we've encountered. When activated, it automatically calibrates itself to the tape length in use, so that the times shown are always accurate. And the counter keeps up with fast-winds in this mode, too—something that can't be said for many other such devices.

Another interesting touch is that fast-winds are done at a constant speed, which is good for the tape (because it spools more evenly) and helpful when you want to wind a specific distance into the tape (because you can time it). Moreover, you have a choice of two speeds plus an audible cue mode and a rocking mode (Tandberg calls it step-search) for homing in on an exact point on a tape. The degree of control is extraordinary—more what you'd expect from a professional recorder than from a home deck.

Control is also the name of the game for the meters, which, because they are analog and therefore continuous, permit very fine adjustments of the tape-matching controls. When recording, however, they can be a little difficult to read, especially at a distance, and their side-by-side arrangement makes judging channel balance more of a challenge than it is with decks having conventional over-and-under LED indicators. The meter ballistics are exemplary, by the way, exhibiting absolutely no overshoot—quite a feat for a swinging-needle design. And they are equalized to complement the overload curves of typical tapes. Tandberg has championed this approach for many years, and they are absolutely right, particularly with cassettes, which can get into trouble very quickly at high frequencies. In fact, the meters have a separate scale for metal tape,

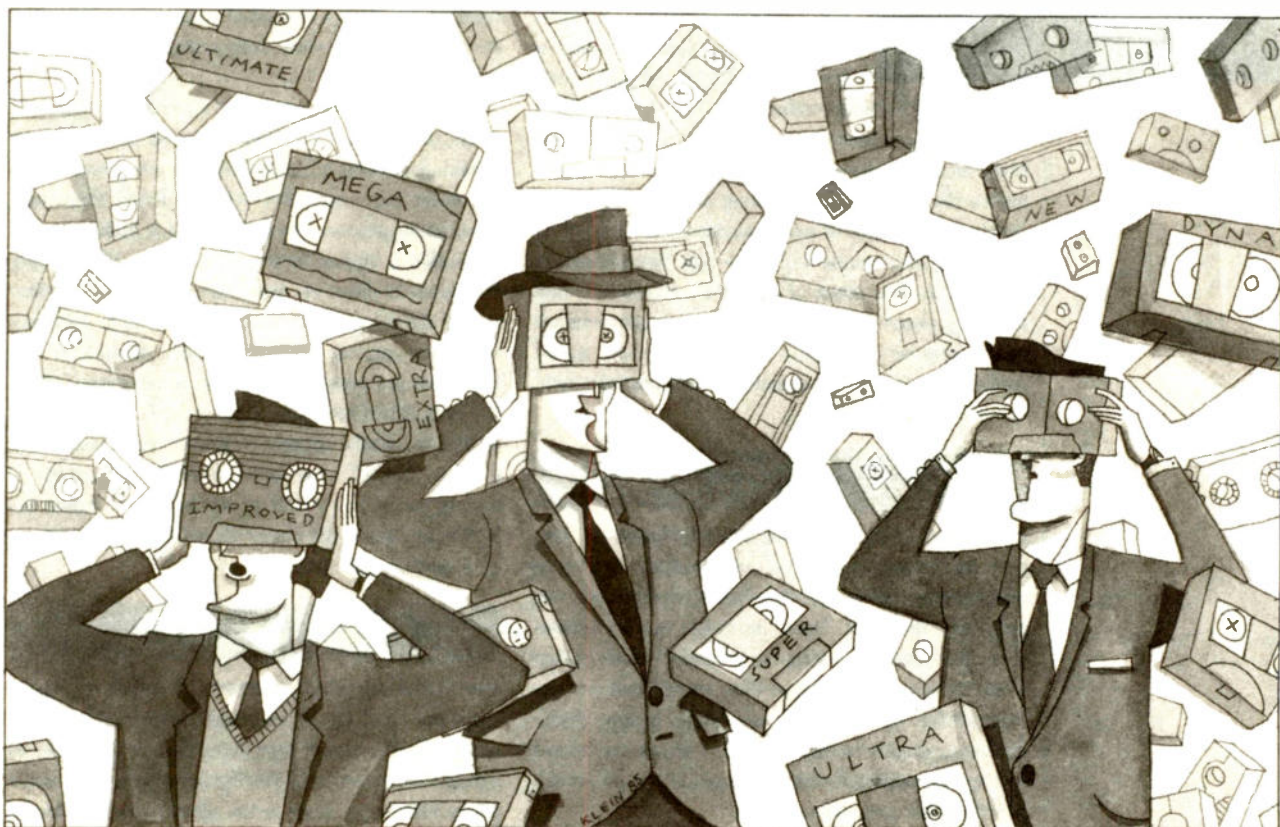
with the zero point approximately 4 dB higher than for other formulations, in recognition of the superior high-frequency headroom of Type 4 tapes.

Playback response is unusually extended and shows excellent azimuth agreement with the BASF standard test tape. The rise at the very top of the range is characteristic of modern decks that compensate in their playback equalization for head-gap losses and is not indicative of any flaw in the design. Diversified Science Laboratories used tapes recommended by Tandberg for its record/play tests, all Maxell formulations: XL-IIS as the Type 2 ferricobalt, MX as the Type 4 metal, and XL-IS as the Type 1 ferric. Following its usual practice, the lab adjusted the deck for each tape before making any measurements. As you can see from the curves, the resulting response in all three cases extends across the entire audible band. But more important is the smoothness of the curves, which ranges from very good for the Type 1 and 4 tapes to excellent for the Type 2. Dolby tracking (indicated by the match between the curves with and without noise reduction) is quite good as well—within a dB or so across the entire range.

Erase with metal tape is not as good as we would like to see, and the flutter, though low relative to what we see from most other models, is a shade higher than we would have expected from a deck in this one's price and technology range. Neither is much cause for concern, however, and the remainder of the data is more than reassuring. In particular, we are impressed with the machine's performance at high recording levels. At -10 dB (re DIN 0 dB), treble response is as extended as it is for many other cassette recorders at -20 dB. Perhaps we can thank Dyneq for this.

The TCD-3014A is not a deck we would recommend to a casual recordist, who could satisfy his needs and tastes at a much lower price. Instead, it should appeal to the buyer who is serious about the art of recording but still wants a machine that can be used effectively by others less knowledgeable than himself. For him, this latest from Tandberg is a dilly of a deck, offering construction, performance, and features seldom seen in consumer tape equipment. ●

*High-grade videocassettes have proliferated at a dizzying pace.
But are they really worth the price?*



MICHAEL KLEIN

The Premium Videotapes

BY ROBERT ANGUS

ONCE UPON A TIME, VIDEOTAPE WAS VIDEOTAPE. IT ALL came out of only two or three factories in Japan and a couple in the U.S. And all the tapes met the minimum technical and dimensional specifications set down by the licensors of the Beta and VHS formats. Although there were some small differences between brands, videocassettes of yore mostly did whatever recordists asked of them, and did it well enough to make the business very large indeed.

Those were simpler times. The recent proliferation of premium-priced tapes has left the average shopper bewildered and even the experts confused. If a "premium" tape is one that is touted as superior to the least expensive or "standard grade" tape in a manufacturer's line, some companies offer no fewer than five of them. For example, in ascending order of price,

the premium videocassettes from Scotch are EG+, EXG, EXG Hi-Fi, EXG Camera, and EXG Pro. Nor is Scotch alone in this tape-breeding enterprise. TDK, JVC, Memorex, and other leading brands have beefed up their premium offerings, even though this segment accounts for only about 15 percent of the total videotape sales in the U.S.

Selecting a high-quality tape is made even more difficult by the lack of industry-wide standards for videocassette testing and rating, not to mention by nomenclature. You can't even fully trust a videotape data sheet, though finding one in the first place should be considered a positive sign. Marketplace confusion is not reduced by a manufacturer's freedom to call what is actually a standard-grade tape by a premium-sounding name. A handful of brands have been known

Robert Angus writes extensively on video equipment and technology.

Copies of the best source material should look better with a higher grade of videotape.

to simply label the *same* tape separately as "standard" and "high grade." And one company, which didn't actually make its own tape, was in the embarrassing position a few years back of buying a very

good standard-grade product from one supplier and a very poor premium tape from another. Considering all these factors, many experts feel that tape test reports, unless they are conducted using an unusually large number of samples of each videocassette, are not as reliable as they should be. So the questions persist: Is there *really* that much of a difference between standard and premium grades? If so, what performance characteristics are improved with premium tapes? And are they worth the sometimes substantially higher cost?

Fancy Colors

IN THEORY, AT LEAST, THERE ARE DIFFERENCES, AND they can be important. The two principal respects in which high-grade tapes offer visible improvement are noise and dropouts. Noise, in video, can be broken down into two related types: luminance noise (often called "video noise" on tape data sheets) and chroma (color) noise. Both show up as a rough, grainy, detail-obscuring quality in the picture and are characterized by a measurement of signal-to-noise (S/N) ratio, much as with noise on audio cassettes.

Don't be misled into thinking that the small disparity in S/N ratio between standard and premium tapes (2 or 3 dB, as found in a test report or on a spec sheet) are insignificant. This magnitude of difference is visible, especially in a side-by-side comparison. Manufacturers will tell you—with some truth—that colors, particularly brilliant reds and yellows, tend to come out better when recorded on premium tape. Large expanses of color are (or should be) brighter, more vivid, and freer from mottling, and detail should appear more clearly, because of improved chroma and luminance S/N ratios, respectively. Certainly any tape-to-tape duplicate will look better if the videocassette used has a higher S/N ratio, because video noise builds up very rapidly with each generation of dubbing. Copies of the best source material (videodiscs and live TV broadcasts) also should look better with a higher grade of tape.

Videocassettes with excellent noise performance are obtained by several different methods, sometimes used in combination. Manufacturers may cull the standard-production output for tape batches having unusually low chroma and luminance noise; extra milling procedures can be used to refine the magnetic parti-

cles in the tape coating; new and exotic materials, such as barium ferrite, can be included in the coating. The latter two processes produce smaller and more perfectly shaped (more elongated) magnetic particles better able to record video frequencies without adding noise.

Beware of any claims that a particular tape, premium or standard, provides improved detail. Strictly speaking, detail is a function of frequency response—the wider the better. But because of the frequency-modulation process used to record a videocassette, resolution is limited by the VCR. And a VCR's high-frequency abilities are restricted by the standardization of the recording format (Beta or VHS). All videotapes are capable of holding more detail than the recorders are providing. It takes a move away from the established recording standards, as in Super Beta VCRs, to obtain notably improved resolution. Any greater "detail" seen with premium-grade tapes is mainly the visual result of an improved luminance S/N ratio, hence the stress placed by manufacturers on reducing tape noise.

Dropouts Drop Out

THE OTHER PRINCIPAL BENEFIT OF PREMIUM VIDEOCassettes—and one of the most significant improvements in all grades of tape in the past year or two—is a dramatic reduction in the number of dropouts, those pesky little white blips in the picture due to momentary losses of contact between the video heads and the tape surface. Dropouts are caused by a variety of ills, including airborne impurities embedded in the tape during the coating process, dust and debris attracted and held to the tape's surface by static electricity, and poor handling practices during the loading of the tape into shells. You can test for dropouts by making a recording of your VCR's composite-video input with no signal being fed (to obtain an all-black screen) and by then looking for white flashes and dots on playback. And you can get a feel for how sensitive tape is to impurities by looking at the figure on page 48.

A low dropout count is visible (by being invisible), desirable, and thus attractively salable. Therefore, videocassette manufacturers have set about creating low-dropout premium tapes in several ways. One company, for example, inspects its regular run of tape, setting aside batches that exhibit unusually low dropout counts. Another has invested in additional clean-room equipment, while continuing to make its standard-grade tape nearby in a virtually identical facility lacking only the additional air scrubbers and sanitary procedures for the employees (special smocks, hair nets, and so forth). Several million dollars have been spent by 3M on research into the causes of and cures for static electricity, and much of the knowledge gained has been applied to videotapes. At least one

Beware of any claims that a particular videotape provides improved detail.

Japanese manufacturer has discovered that a switch from manual assembly to fully automated production leads to a sharp decline in dropouts—none of those humans to dirty things up. Nowadays, many makers combine several of these steps to achieve premium tapes that are nearly dropout-free, even at the problematic beginnings and ends of cassettes.

Unfortunately, a higher price and a fancier designation on the box do not guarantee that a tape has fewer dropouts than the same manufacturer's standard grade(s). In general, it's true that the costlier tape is better all around, but there are variations in dropout count from batch to batch, whether regular or premium. It's not unheard of for a very good standard-grade batch to meet or beat the dropout figures for an unusually poor run of premium tape from the same plant, although quality-control procedures are supposed to catch and reject the latter. Perhaps the best strategy is to buy tapes by the case, so that all the cassettes are from the same batch. If one tape is dropout-ridden, you can take the whole case back at once.

Cling-Free

THERE'S MORE TO A PREMIUM-PRICED VIDEOCASSETTE than on-screen performance. As mentioned above, static charges are a menace because they attract dust, which can stick to the tape or get caught on the video heads. "Besides acting as a magnet for dust and dirt," says Memorex Vice-President Joseph Petite, "[static electricity] also inhibits the free running of the tape inside the shell. That's not so important when you're recording on an AC-powered VCR, but it puts an extra strain on the battery to keep a portable model operating at the proper speed. That in turn means shorter battery life for each charge—unless you remove the static electricity *inside* the cassette."

A number of manufacturers are actively combating the various forms of "static cling" by switching from flimsy cardboard or plastic cassette sleeves to durable plastic boxes that protect all six sides of the tape from dirt and by the introduction of antistatic techniques in the construction of the box, cassette shell, and internal cassette mechanism. For example, JVC's Kenji Awakura argues that two of the greatest generators of static electricity are the removal of the cellophane wrapping from the package and the very act of slipping a cassette out of its plastic sleeve. (How about that for a Catch-22!) The result in either instance is a static charge on the surface of the shell that can reach 50,000 volts. JVC's premium-tape response: a box with a lining in which are embedded particles of iron and carbon, both known for their ability to discharge static. A foil strip along the bottom edge of the spine is connected directly to the lining. When a user touches the strip, any static buildup inside the box flows through the foil and the body harmlessly to

ground.

At two companies, 3M and Memorex, the approach has been slightly different. The two firms are using a new additive in the shells of their most expensive tapes that is designed to prevent static charges from accumulating in the first place. According to John Hakanson, 3M's resident authority on static electricity, in addition to producing antistatic shells, the company treats the internal parts of its cassette mechanisms to reduce static. This includes the tape itself, which is back-coated with a dull-finish antistatic compound. Memorex's latest premium cassettes contain tiny wire triggers inside the shell to drain off the charges that build up on the rollers as the tape passes.

More than static is being battled with the latest premium cassette shells. Joseph Petite takes the case (literally) of Memorex's Camera premium tape. "You'd expect a cassette used for recording in the field to be low in dropouts, to

produce excellent colors, and to have good detail in the pictures," he told me. "But then, you'd expect that of any videotape you pay extra for.

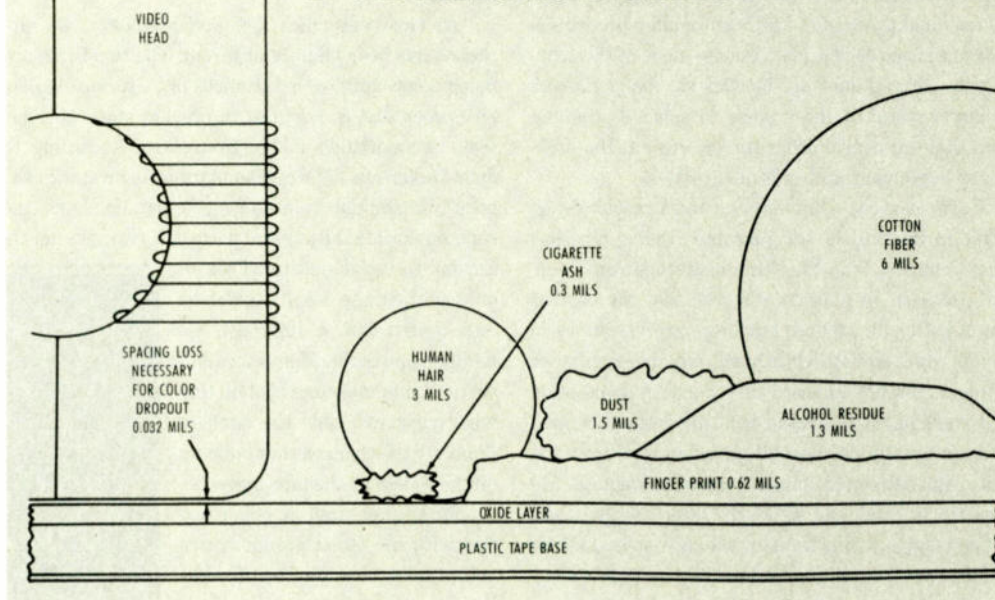
"Videocassettes used in the field take quite a beating," he continued. "For that reason, we have used a plastic [ABS] for our Camera cassette shells that is more durable and rugged than the high-impact styrene normally used in less expensive cassettes. And we've made the [shell] walls thicker to stand up to dropping and getting kicked around." There's also a Scotch videotape (EXG Camera) with components made of "high-impact plastic," as the packaging says.

Special Needs

ONE APPLICATION FOR WHICH HIGHER-THAN-STANDARD-grade videotape is necessary is digital-audio recording on a VCR via a PCM adapter. Although you don't need a superior video S/N ratio for the recording to come out, you do need a tape with as few dropouts as possible. A dropout, which can look like a rather innocuous white dot or streak when superimposed on a video signal, can ruin a digital-audio recording by being decoded as a loud click or by causing a complete loss of the audio signal. Now, this criterion doesn't always imply a premium-priced tape—some standard-grade brands actually have fewer dropouts than the high-grade products of other manufacturers. However, when you do find a producer whose standard tape is very free of dropouts, chances are that one of its premium ones will be better still. It may not even be the most expensive premium tape that company offers. In general, videocassettes labeled "Hi-Fi" tend to

A higher price and a fancier designation do not guarantee that a tape has fewer dropouts than the same manufacturer's standard-grade(s).

Deleterious Debris



VARIOUS POPULAR AIR- AND FINGERBORNE CONTAMINANTS ARE COMPARED TO THE TAPE-TO-HEAD SPACING SUFFICIENT TO CAUSE A VIDEO DROPOUT. A MIL IS $\frac{1}{1,000}$ OF AN INCH.

offer the best combination of performance and price not only for PCM recording, but for Hi-Fi VCR and edge-track taping as well, since all are adversely affected by dropouts. Makers of PCM adapters all recommend a tape of "high grade" (one notch above standard) quality or better for digital recordings.

Although edge-track audio recording is now passé, having been thoroughly outclassed by the Hi-Fi processes, the analog-audio properties of a videocassette should not be ignored, particularly if you don't have a Hi-Fi VCR yet or if you make tapes for someone who doesn't. The characteristics that make a videocassette desirable for audio are the same as those that are important for an audio cassette: an even coating free of dropouts, wide frequency response, low noise and distortion, and good headroom. An additional stereo consideration is that the left and right

channels should provide equivalent performance. Since the right channel is recorded near the edge of the tape (up to the edge in the VHS system), any slitting variations or deformations in that area, no matter how slight, can affect the right-channel signal level and other sound characteristics. Problems of this type are not a matter of tape price, but instead vary

from one manufacturer to another. Since the same equipment is used to slit a company's premium and standard videocassettes, it's likely that any aberrations in one grade will show up in the other.

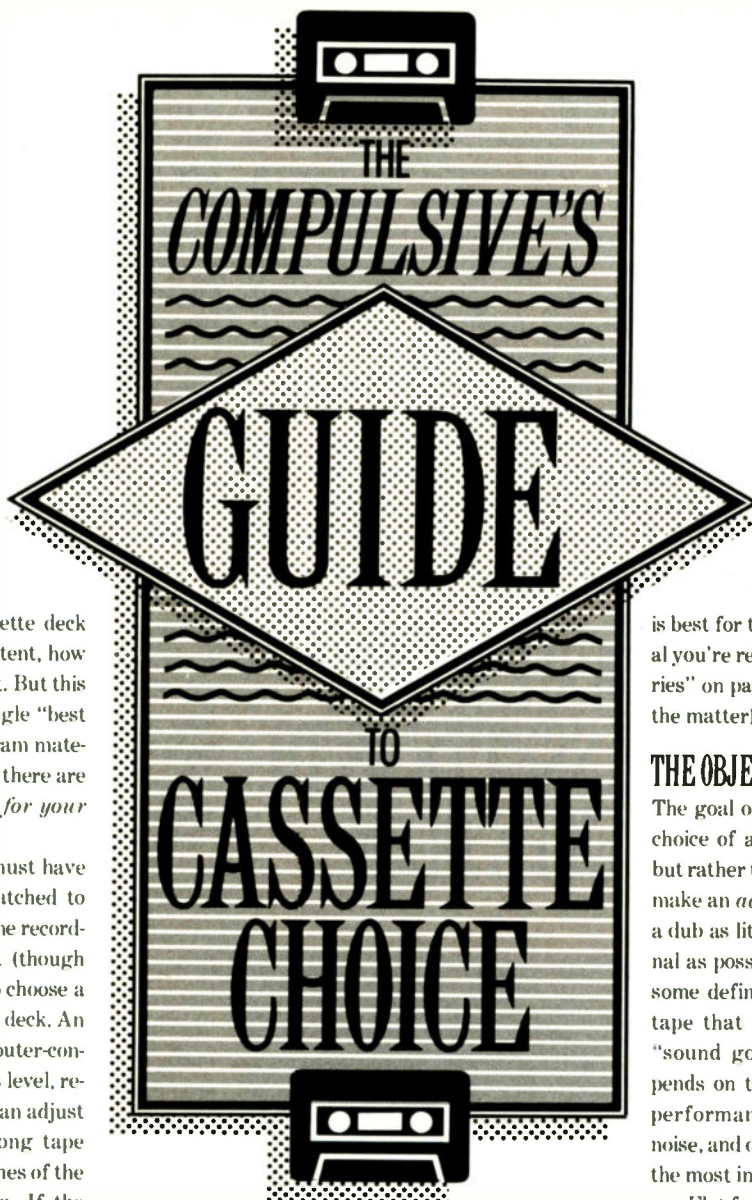
Unfortunately, the engineering trade-offs involved in making a tape capable of simultaneously handling audio and video frequencies result in a com-

promise in the performance of both. Edge-track recording has never met high fidelity standards and probably never will, although prerecorded tapes can have fairly good analog sound with Dolby B encoding. And it's not clear that all premium videocassettes provide superior edge-track recordings, but their freedom from dropouts and probably better quality control should give more reliable performance.

The bottom line would seem to be what it has always been: caveat emptor. There are differences between standard and premium grades of tape, and they can be significant, depending on what you are shooting. Try the most durably packaged and dropout-free tape you can find for those once-in-a-lifetime live recordings (weddings, graduations, and the like). Another, slightly lower grade would be suitable for long-term archival storage and general tape and disc dubbing. Standard-grade tape is best used for ordinary time-shifting in which picture quality is not critical and for recording low-quality source material like old black-and-white movies and TV shows.

Some degree of brand loyalty is not inappropriate here, because of the way videotape is made. Ofttimes the same production line is used for all of a manufacturer's tapes, the main variations in grade being due to differences in magnetic coating and quality control. A company that's sloppy in producing its best tape is likely to be no better at it with its lesser grades. However, there may be cases in which a standard-grade will do the job better than the same manufacturer's premium products. The truth is that there is no single "best" tape for all uses: You're going to have to experiment with several grades and brand names for any specific application before you settle on the videocassette that consistently achieves results you like. ●

For digital-audio recording on a VCR via a PCM adapter, you need a tape with as few dropouts as possible.



THE
COMPULSIVE'S
GUIDE
TO
CASSETTE
CHOICE

BY DAVID RANADA

The tape you use in a cassette deck will determine, to a great extent, how good a recording you will get. But this does not mean there is a single "best tape" for recording all program material on all machines. Instead, there are probably several best tapes for your particular deck.

For top results, a tape must have magnetic characteristics matched to the bias and equalization of the recorder. Accordingly, the easiest (though not the most obvious) way to choose a cassette is to select a specific deck. An advanced model with a computer-controlled system of setting bias level, recording EQ, and sensitivity can adjust itself to the variations among tape brands and even among batches of the same brand and formulation. If the deck's designers have done their homework, the resulting match will be the optimum. In this way, a self-adjusting deck can free you to pick just about any cassette from any major brand without concern for compatibility. Models with manual trim controls for bias and sensitivity provide the same advantage, although they require more effort on your part. Either way, you are left to concentrate on other aspects of tape choice, such as price, performance, or whether the basic formulation is suitable for the music being recorded.

Finding the best matches for your deck, regardless of its controls and features, requires time, energy, and money. The time and the energy are used in a few home listening tests that will enable you to narrow your choices down to a few tapes in each major category. You'll therefore need at least one sample of each tape under consideration (that's where the money comes in). The tests assume that you have no control over your deck's recording characteristics (bias, EQ, sensitivity) and that you already know which type of tape

is best for the kind of program material you're recording (see "Tape Categories" on page 50 for some opinions on the matter).

THE OBJECTIVE:

The goal of this enterprise is *not* the choice of a tape that "sounds good," but rather the selection of one that will make an *accurate* copy of the input—a dub as little changed from the original as possible. (Besides, according to some definitions of "high fidelity," a tape that is an accurate copy does "sound good.") Sonic accuracy depends on three main aspects of tape performance: frequency response, noise, and distortion. The first is by far the most important.

Flat frequency response should be the result of all deck/tape pairings,

but it is rare. Any deviation from flat response is undesirable, just as a basic principle of high fidelity, but it is particularly troublesome when recording on a cassette deck, where it can cause the noise reduction circuits to misbehave. The resulting "mistracking" can lead to noise pumping (the noise level behind the music rising and falling along with the signal) and breathing (the dynamics of the music changing unnaturally).

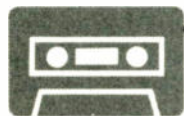
In fact, the audibility of these effects depends more on the flatness of the record/play response than on the basic noise "floor" of the tape (though that is important, too). The performance of all closed-loop noise reduction systems (such as Dolby B, Dolby C, and DBX) deteriorates in proportion to the recorder/tape combination's deviation from flat frequency response. If the response is flat, the noise reduction circuits can do their job well enough for recording levels to be kept low, minimizing distortion while still maintaining an adequate signal-to-noise (S/N) ratio.

AT-HOME TESTS HELP YOU PICK THE BEST AUDIO TAPES FOR YOUR DECK.

GETTING STARTED

An appropriate first step in choosing a cassette is simple, but often overlooked: Read the deck's instruction booklet. Many manuals contain the manufacturer's recommendations for which tapes to consider, possibly even specifying those used for factory alignment of the deck. If nothing else, these recommendations can help narrow your shopping list to a manageable two or three brands in each category.

For each sample, use the proper bias and EQ settings. This usually involves adjusting one or two of the deck's front-panel switches, though many recent machines make these settings automatically. Switch *off* the deck's noise reduction systems—you'll be testing the tape, not the effectiveness of the noise reduction, at least to start. The next step, after making sure the



THE EASIEST WAY TO CHOOSE A CASSETTE IS TO CHOOSE A CASSETTE DECK.

TAPE CATEGORIES

There are three main types of cassette tape, as defined by international (IEC) standard and characterized by the formulations of their magnetic coating: Type 1 (standard, normal, ferric), Type 2 (chrome, ferricobalt, or, sometimes, metal), and Type 4 (metal). The missing Type 3 is the ferrichrome formulation, now fallen into disuse. In theory, the best all-around tape is the Type 4, which has pure iron particles as its magnetic material. These tapes usually have the widest dynamic range and the greatest high-frequency recording capacity, in addition to being the most expensive. In practice, however, the top grades of Type 1 or Type 2 can come very close to equaling the performance of Type 4, especially if the deck incorporates the Dolby HX-Pro headroom-extension system.

For live recording, metal tape is perhaps the best choice because it affords the greatest leeway before overloading and will therefore give you the most protection from unanticipated peaks. General LP and tape dubbing will usually not require a Type 4. A few Compact Discs with very wide dynamic range may benefit from metal, but only if you are using neither Dolby HX-Pro nor Dolby C or DBX. A high-performance ferric may be the best choice if you want just one type of tape, since the performance of a good Type 1 is very close to that of an equally priced Type 2, as HIGH FIDELITY's tape tests have shown (see the August 1985 issue). And because ferrics are recorded with 120-microsecond equalization, they are the most universally playable in portable, car, and old home cassette decks. *D.R.*

deck is properly cleaned, is to gather the "test equipment." The minimum gear for most of the tests is a tuner or a receiver (as a source of FM interstation hiss) and a pair of headphones (so that you can hear small, low-level differences). More revealing evaluations are possible with a Compact Disc player and a CD test disc containing various test tones (pink noise, sine waves, etc.). And don't forget to use your eyes.

Yes, you can tell something about a tape's audible performance just by looking at it. The surface of the tape should be mirror-smooth, with no creases or bumps running from edge to edge or along its length; either is an indication of poor slitting and loading practices at the factory. If you have a brand-new cassette, fast-forward it to the end of Side A and look for creases put in the tape by its wrapping around the hub latch. Too tight a winding at the factory can cause permanent dropouts in the last minute or so of Side A, which is, more important, also the first minute or so of Side B. You don't have to reject a tape because of this fault—most have it—but you should not use the very beginning or end of a cassette for any tests or as the portion recorded on during a self-adjusting deck's alignment procedure.

Is the surface of the tape dished (concave) or bulging (convex)? Although no deformation would be ideal, a slightly concave surface is preferable to a convex one, which would indicate a tendency for the edges of the tape to pull away from the heads. The curvature is less important if the cassette's pressure pad supports the tape firmly over the entire surface (implying a fairly large and properly aligned pad). While you're looking at the pad (this is "The Compulsive's Guide," after all), check to see that none of its fibers (if any) are fuzzing out over the surface of the tape, there to be caught between the tape and the heads.

FLATTEST RESPONSE

Testing by ear for frequency-response flatness involves recording a steady noise signal: interstation hiss from FM or pink noise from a Compact Disc. If you have an analog tuner, dial it to a spot between stations; a digital tuner should be set to an unused FM channel. Switch off the muting to obtain the rushing hiss; the sound should be uncontaminated by distant stations, clicks, buzzes, and the like. If you have a CD player and a test disc, use a track containing wideband pink noise and program your player to repeat it indefinitely. (Interstation hiss sounds brighter than pink noise because it contains less low-frequency power. Either signal will serve for this evaluation.) Record a few minutes of noise on each tape at a level no higher than -15 dB on the meters. Do not change recording levels when changing tapes.

On playback through headphones, take advantage of the tape-monitor switch on your amplifier or receiver to compare the recorded hiss with the ongoing "live" hiss. If you have a three-head deck, use its source/tape-monitor switch to make the comparison while recording. Take care that the overall levels of

live and recorded hiss are as closely matched as possible (though this may not be feasible with many decks and may require some fancy volume-knob twisting as you switch between source and tape). Beware of any tape that sounds, or reads on the deck's meters, noticeably louder or softer than the original, as it may cause Dolby-type noise reduction systems to mistrack.

The tape that sounds most like the source has the flattest response on your deck. Pay particular attention to the very highest frequencies, which may be slightly reduced on playback. On the other hand, many of the premium-price Type 1 and Type 2 tapes have a designed-in treble *boost* that is applied when they are recorded and played with standard equalization curves on high-quality decks. Most recorders, built as they are to provide the standard curves, will reveal this boost. Unless your model has provisions to compensate for it (by slight overbiasing or by changes in the recording equalization), you might consider avoiding these tapes altogether, as they, too, can cause mistracking of the noise reduction systems. Some decks, however, may sound flatter with these tapes, in which case they should head to the top of your list.

LOWEST NOISE

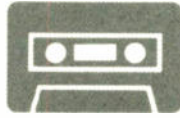
One might think that a tape has its lowest noise right out of the case, before it is recorded on. That's true, but that doesn't represent actual performance. The lowest noise a tape will have in use is when a recording of silence is made on it. The resulting "bias noise" is *higher* than the cassette's brand-new or bulk-erased hiss level. To test for it, leave your deck connected to your audio system, switch the amplifier to the phono input (to prevent tuner signals from coursing around the system), turn down the deck's record-level controls all the way, and make a recording of several minutes of silence on each tape under evaluation. Then rewind the cassettes and listen to them through headphones with the volume control turned up fairly high.

Without noise reduction, the noise levels of all your samples will be high. Equal-grade (similarly list-priced) tapes from name-brand manufacturers will have just about equal levels. Many will be so close that a fair comparison—done by leaving the headphone volume the same while rapidly switching cassettes—will not reveal any significant differences. In that case, there are none. A lemon will stand out, however, as being much noisier. If you have trouble telling which tape has more hiss, you might switch in the Dolby B noise reduction system on playback. The noise won't totally disappear, but what remains on each cassette may be more easily differentiated because of the response shaping by the Dolby circuits.

LOWEST DISTORTION

Distortion is difficult to evaluate without test instruments, or at least without a generator or a CD test disc to supply mid-frequency sine waves. One way to measure overall headroom is to keep recording at higher

and higher levels the hiss used in your frequency-response tests. At some level, the tape will go into gross overload (saturation), drastically curtailing its high-frequency response and possibly causing its overall output level to drop. The higher the level can be turned before this occurs, the better.



THE LOWEST NOISE A TAPE WILL HAVE IS WHEN SILENCE IS RECORDED ON IT.

If you have access to sine waves, try taping a frequency between 300 and 500 Hz at a fairly hefty level (0 VU or above). Use the tape-monitor or source/tape switch to compare pure input with distorted output. The tape sounding most like the input has the least distortion. You can also hear modulation noise in this test as a kind of grittiness added to the original sine wave. This "asperity" noise is probably the major problem with all analog audio recording, and it is difficult to remove with noise reduction circuits. Tapes vary in their modulation-noise levels, but without test instruments it is usually hard to tell which one has the least.

FINAL CHOICES

Some attention should be paid to the relative importance of each test. For example, if you plan to use Dolby C or DBX, the noise and distortion results are less important than those for frequency response. And if your deck has Dolby HX-Pro, the distortion test is the least important. Once you eliminate the truly bad tapes, you probably should go through the frequency-response test again with the noise reduction system of choice switched on.

After all this, you might find that there are no significant audible differences among the tapes tested. This is quite possible, especially if you're auditioning name-brand, high-quality cassettes. The choice of a specific tape is then very simple: Any will do. Just buy a case or two and enjoy. Then again, if you are truly obsessed, you might want to test the cassettes for other aspects of performance: dropouts (listen for any sudden changes in level during playback of hiss or, better yet, a 3-kHz sine wave), wow and flutter (the steadiness of pitch of a 3-kHz tone heard over speakers), channel-to-channel balance (there should be no change or drift in stereo image during the hiss playback over headphones), or tape winding (ideally, the tape "pack" should be smooth after fast-forward or rewind). Or you might want to check for one of my own pet peeves: whether the on-cassette labels are large enough. But if you get this far, maybe you should first see a psychiatrist. ●

Edited by Georgia Christgau
and Ted Libbey



Thriller Video

This month's BACKBEAT review section leads with the hottest thing on the market: a videocassette of D.A. Pennebaker's legendary 1967 documentary, *Monterey Pop*. Re-releases of classic material on video and Compact Disc function as libraries of pop culture history (even if you can't borrow for free). You might think we critics are just a bunch of old-timers intent on reliving the past, but while I'm aware that one of our jobs is to be on top of the next trend, I'd rather turn you on to a blues giant like the late Big Joe Turner (who was pictured with the April 1985 review of the video *Rock and Roll—The Early Days*) than cover the Jesus and Mary Chain (who I hear were pretty good last time

they were in town). And hey, Sam Cooke's *Live at the Harlem Square Club, 1963* was discovered by our youngest critic, who's barely out of his teens.

So anyway, where were you that Friday night in May 1983 when Michael Jackson stunned television audiences everywhere with his riveting performance of "Billie Jean" on *The Motown 25 Special*? I was camping in a state park—I remember because I was sorry to have missed it. Available to date only as an excerpt on *Making Michael Jackson's "Thriller"* (Vestron), the whole thing can now be seen—in context—on the videotape *Motown 25: Yesterday Today Forever* (MGM/US Home Entertainment). I've watched Mi-

chael's high-water high-stepping a dozen times, and it's still amazing.

Promoters must have foreseen the 1984 *Victory* tour as the six Jackson brothers chimed in harmoniously on "I'll Be There." But Michael himself would have to wait a few months before sales of *Thriller* started climbing into the multimillions, and on this night you could tell he was getting impatient. As his brothers leave the stage, he remarks, "The old songs are great," his upper lip tensing into a sneer, "but I like the new songs." Then, whammo! The intensity, aggression, and fluid inventions of his remarkable dance are just unforgettable. (Too bad, though, that *Motown 25* homogenized the

label's history to the exclusion of rebel Rick James.)

Personal to Atlantic Records: All is forgiven. Well, almost all. . . . The label's recently released Best Of's (Wilson Pickett, Joe Tex, Otis Redding, Booker T. and the MGs, Aretha Franklin, Sam & Dave) are typical of the disappointing mixture of overexposed and atypical hits found in such packages that so infuriated writer Wayne King in his July 1985 reissue feature, "Not Fade Away." But the seven-volume (14-record) *Atlantic Rhythm and Blues 1947-1974* should acquaint the curious with gems like "Little Egypt" by the Contours (a new one for me) and dozens of obscure worthies.

Georgia Christgau

Weissenberg Moves to DG

In one respect at least, the greatest artists are little different from the ordinary run of men: For both, a change of pace is sometimes necessary, if life and career are to retain their creative zest. So it is with Alexis Weissenberg, that magnificent if ever controversial (for the best of reasons) pianist. After having made more than 40 discs for EMI's French branch, Pathé Marconi, he recently signed an exclusive contract with Deutsche Grammophon.

What he is scheduled to record should keep him busy for some time to come. The first two LPs are already on point of release: an album of Scarlatti sonatas and a Debussy recital (close in content, he

says, to his older RCA Debussy disc, but with the addition of *Estampes*). Other firm plans call for a Brahms B flat Concerto, with the Berlin Philharmonic and Herbert von Karajan; a complete Rachmaninoff concerto cycle (including the *Rhapsody on a Theme of Paganini*), again with Berlin and a conductor yet to be named; all three Chopin sonatas and the four Ballades; the complete works of Chopin for piano and orchestra, with Seiji Ozawa conducting; and both Rachmaninoff sonatas. (To judge from Weissenberg's 1981 Salzburg performance of Rachmaninoff's First Sonata, this coupling will surely fill a gap). Finally, there just may be an encore disc.

For those interested in miscellaneous recitals, Weissenberg already has two in print on Pathé Marconi: Volume I (C069-16326) and Volume II (2904161), which is his final, "divorce" disc for that company. Both will be available from International Book and Record Distributors, 40-11 24th St., Long Island City, N.Y. 11101. It is certain that Weissenberg's many fans will want these albums; they also have a great deal to look forward to in his new association with Deutsche Grammophon. He is one of the most searching and provocative pianists of the last four decades, and at age fifty-six, he still has many surprises to offer!

Thomas L. Dixon

Editor's note: The Rachmaninoff First Sonata was on Mr. Weissenberg's program when he appeared recently at the 92nd Street Y in New York. The most common criticism of the piece—that it is dense and overwritten—may still apply, but this performance made an exceptionally strong case for the music. Following the Rachmaninoff, the pianist offered three encores: Debussy's La plus que lent, Schumann's Arabesque, and the E minor Prelude of Chopin. If even a fraction of Mr. Weissenberg's feeling for this music is captured in the upcoming recordings, lovers of the piano will indeed have "a great deal to look forward to."

MONTREAL'S MAGNIFICENT MAESTRO



COURTESY ICM ARTISTS

Charles Dutoit enlists the resources of the planet to build his orchestra.

B Y D A V I D P A T R I C K S T E A R N S

Charles Dutoit still isn't willing to let lunchtime consist of mere eating if he can do some politicking on the side. Little matter that his Montreal Symphony Orchestra (Orchestre Symphonique de Montréal, as it is known by Francophones) is internationally acclaimed for its best-selling records and ongoing 50th-anniversary world tour. After years of galvanizing support for the MSO over lunch and dinner with government officials and others, the maestro seems to have overlooked one special-interest group in his campaign to enlist the resources of the entire planet for the greater glory of his orchestra.

On this particular summer day, Dutoit, from his sunlit window seat at Milos Restaurant, is courting Montreal's Greek population. "Are you *always* Greek?" Dutoit asks the waiter in his typical rapid-fire fashion.

"Oh, yes," he replies, bewildered.

"If I played a concert for all of you

Greeks, would you come?"

Awestruck, the waiter nods spasmodically.

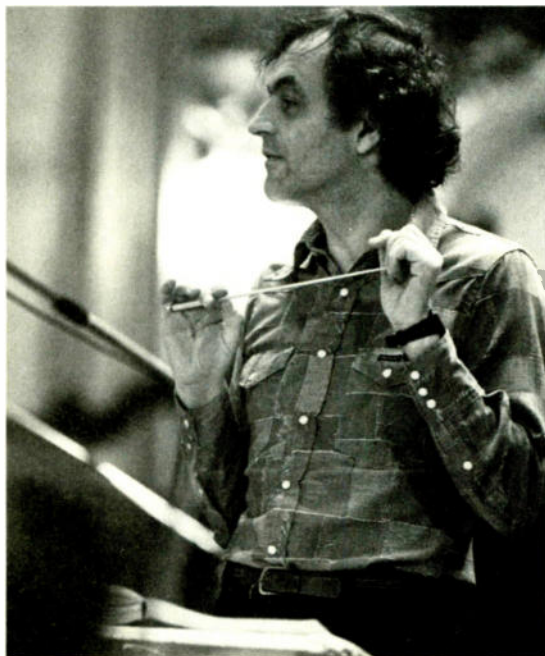
"So, we'll do it! And afterwards, we'll have an enormous Greek salad together! How many of you are there in the city? About 90,000? Then we'll play in the Forum. There are 18,000 seats, and I want *all* of you. We'll do it on the Greek national holiday! What? You have *two*? My, my! It is good to have two national holidays."

So persuasive is Dutoit that he could convince you that icebergs in the Atlantic are hot real estate. Framed by a careless mop of curly black hair, a square jaw, and generous laugh lines is his piano-keyboard smile, which he uses liberally to get what he wants. He confirms appointments with a "thumbs up" sign with both hands and that killer smile. Saying goodbye to a casual acquaintance, he blows three kisses and shouts, "Ciao!" One doesn't have to be a close friend to call him "Charlie."

MAGNIFICENT MAESTRO

Most charming, though, is the transparency of Dutoit's charm. One needs only a few serious minutes with him to realize what a passionate sense of purpose lies beneath his suave veneer and how much his self-confidence is born of years of hard work. He is refreshingly devoid of arrogance and pretense, if for no other reason than that he is too busy pushing both himself and his orchestra beyond the reaches of average imaginations.

IN AN OUT-OF-THE-WAY CHURCH WITH EXCEPTIONAL ACOUSTICS, WHERE THE ONLY INTERRUPTION MAY BE THE DRONE OF A SEAPLANE, CHARLES DUTOIT AND THE MONTREAL SYMPHONY ORCHESTRA HAVE ESTABLISHED THEMSELVES AS ONE OF THE HOTTEST TEAMS ON THE RECORDING SCENE.



GERARD LOUDET/COURTESY RCA ERATO

Fueled by a basket of fried zucchini and a mug of beer, Dutoit whiles away the afternoon talking about future projects so ambitious that many music directors wouldn't dare dream about them, much less discuss them publicly. Having already recorded most of the orchestral works of Ravel, he is beginning a Berlioz cycle for London Records, the first undertaken by a Gallic conductor. (Charles Munch went as far as doing most of the orchestral and choral works.) But with *Roméo et Juliette* already completed and *Harold en Italie*, featuring Pinchas Zukerman, scheduled for May 1987, Dutoit is already talking about *Les Troyens*. He would love to perform the five-hour opera in concert form over two evenings and subsequently record it. And if the Paris Opéra goes through with tentative plans to produce the work in 1989 with him in the pit, he could conceivably transfer the already rehearsed Paris cast to Montreal. The importance of the Berlioz cycle is that the Lausanne-born Dutoit promises to give the composer a Frenchness that has rarely

been achieved on disc.

"One thing about Berlioz that one should never misunderstand: There is no sex, or at least not the way there is in Wagner and Strauss and Ravel. It's passion and dreams and love, but it's very pure love. Musicians have gotten into the habit of overdoing these things. It's a 19th-century habit, but an understandable one, since the French never did Berlioz. Poor guy, he loved France so dearly, but never

had any successes there. . . .

"When I first performed *La Damnation de Faust* here, there was a cut at the end of the trio. One stupid guy decided one day to cut 16 or 20 bars—for whatever reason. We had this tenor from Paris, and he said, 'Oh, of course we take the cut.' I said, 'I don't know of any cut.' Naturally, I knew, but I didn't want to say anything. But he insisted, 'This is French tradition!' And he tried to insult me and all of these Quebecois as if we were provincial people who knew nothing. He said, 'Nobody has ever performed these 20 bars!' And I told him, 'Listen to me! You have one day to learn them!' He took it very badly. That story went back to France. He was saying so many terrible things about me!"

In 1977, when Dutoit arrived in Montreal, nobody imagined he would make the city the home of the world's finest French orchestra, and certainly not in such a short time. The Montreal Symphony Orchestra was known as Zubin Mehta's stepping stone to Los Angeles; Dutoit was known

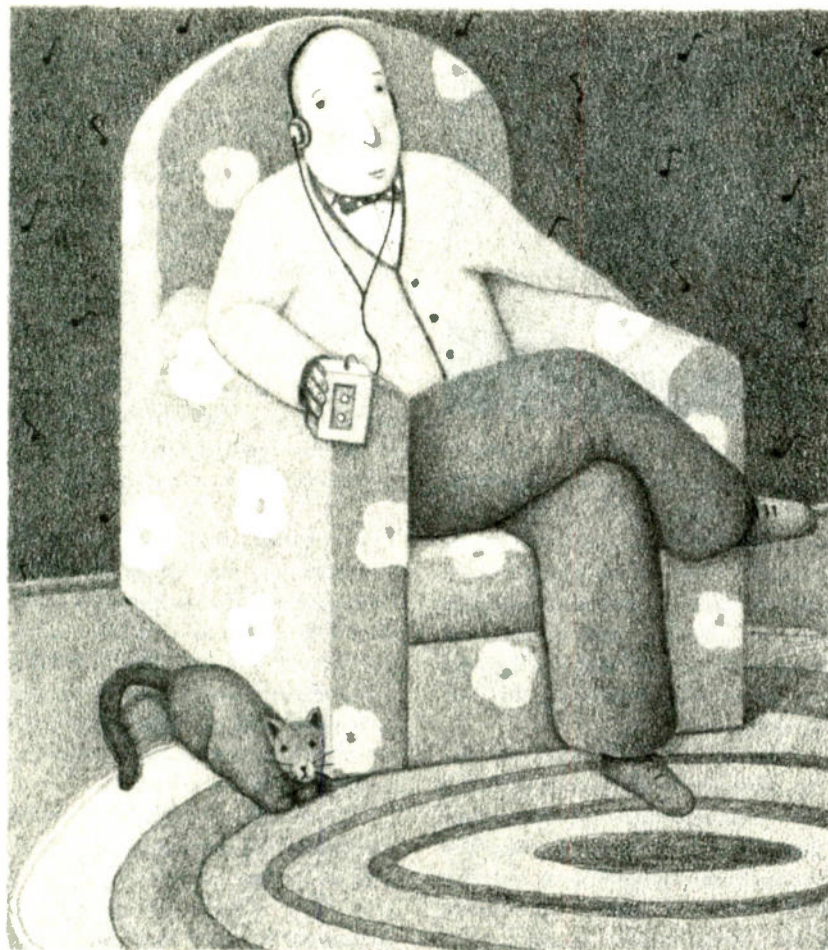
here as Martha Argerich's talented ex-husband. Even though he had ten years as music director of the Bern Symphony to his credit, it was dangerously extravagant of him to tell Montreal he would put the city back on the musical map. Never mind that the orchestra was demoralized over the abrupt departure of Rafael Frübeck de Burgos, that the Quebec separatist movement was sending the city's corporate headquarters fleeing to Toronto, and that a recession was setting in. Dutoit resorted to guerilla tactics for getting the public behind the symphony, such as loading his principal players in the back of a horse-drawn wagon for performances of *L'histoire du soldat* throughout Montreal.

More significantly, he brought London Records' Ray Minshull to Montreal and convinced him to record the orchestra. Having spent years as a student usher at concerts of L'Orchestre de la Suisse Romande, Dutoit proposed that London use Ernest Ansermet's repertoire and discography as a model for the MSO's image, one that would give it a specific identity with record buyers. By settling on 19th-century and early 20th-century French and French-influenced works, the orchestra not only has far less competition than it would if it were recording the standard repertoire, but it is also able to demonstrate digital reproduction quality at its best. (The symphony's calling card is still its 1980 recording of Ravel's *Daphnis et Chloé*, which swept the international record awards.)

Annual visits to Carnegie Hall began in 1982. And to celebrate the orchestra's 50th anniversary last season, Dutoit launched a world tour, including the Far East and Europe—where even French audiences gave the group an uncondescendingly warm welcome. The final leg of the journey is this year's sweep through the Eastern U.S., which will mark the MSO's debuts in Boston and Washington.

Of course, there's much more to Dutoit than shrewd salesmanship. Whether because of his inborn French-Swiss sense of color, or because he experiences physical pain when orchestras overplay, Dutoit has molded an ensemble that is distinctive for its civilized, unforced sound and that renders chords like fine brush strokes of a masterpiece painting. Violinists talk about how playing under conductors with expansive arm motions inspires them to do the same with their bows, producing a round-

(Continued on page 79)



ILLUSTRATIONS BY PAUL YALOWITZ

Personal Listening Enters a Golden Age

Delights for armchair and on-the-go audiences

BY R. D. DARRELL

The Sony-pioneered Walkman cassette player with lightweight headphones is now coming to be recognized as the most personal medium of recorded musical experience. Unlike concert-hall listening, where one is part of a crowd at a considerable distance from the sound source, or record-playing at home, where there often are room companions and always at least a few feet separating the listener from the loudspeakers, a "personal" tape player speaks to oneself alone, seemingly bringing the music not so much into the ears as directly into the mind.

Starting out as an upscale answer to the boom box phenomenon among kids, Walkman-type listening soon proved to be addictive for a larger public. With mushrooming player sales, tape manufacturers not only stepped up new-release production, but began combing their back catalogs for likely reissues—many of them in unique couplings or double-play combinations especially devised to exert maximum personal-listening appeal.

Remembering earlier Golden Age periods of comparable growth, producers have tended to return to tried-and-true best-seller offerings. One current example

attempts to revive the very special thrills once provided by Leopold Stokowski's Bach transcriptions, which have represented the first introduction of innumerable listeners to Bach's organ and other masterpieces and the enticing initial encounter of some with the grandeurs of symphonic scoring. I unwittingly spoke for my whole generation when I exulted in January 1928 (reviewing the first Philadelphia Orchestra recording of the Bach-Stokowski Toccata and Fugue in D minor): "Does the popular mind still attach the adjectives 'dry' and 'cold' to Bach? A single playing of this record will pulverize the popular mind."

In the present effort to capture the hearts and minds of a new generation with Hyphenated-Stokowski mesmeric spells, RCA has passed over the original Philadelphia mono 78s of the late 1920s and 1930s in favor of some of the early LP and 45-rpm monos of 1947 and 1950, in which Stokowski leads "His Orchestra"—the often-ridiculed name of what actually was a superb ensemble of New York's finest players, many of them noted soloists. The choice makes good sense, because these versions have not been reissued before, as best I can tell.

The present Gold Seal reissue (one of 80 current "Legendary Performers" series titles) includes some of the Big Bang hits (the Toccata and Fugue in D minor, the Chaconne in D minor, the so-called *Giant* Fugue from B.W.V. 680, and the Choral from the *Easter Cantata*) that so completely astonished earlier generations. Also the sprightly *Little G* minor Fugue and the far-less-well-remembered Bourrée from the Second *English Suite*. Digital remastering wonderfully clarifies the original sonics, which, in any case, testify eloquently to the high state of the audio arts at the end of the 1940s.

Another contender for Golden Age status is the Spanish operetta genre known as the zarzuela. I doubt that any single-program anthology could be more representative or more idiomatically sung and played than the Moss Music Group's release of the Discos Columbia *Golden Voices of Zarzuela*, starring some of the outstanding Spanish singers and specialist conductors and orchestras in well-varied excerpts from the best-loved zarzuelas.

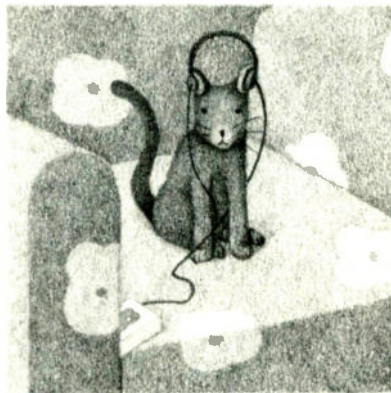
To listeners of non-Iberian backgrounds, such specialized revivals may lack the heartwarming associations (non-

musical as well as musical) of early memories. One indelible childhood experience of many Americans—probably their first-ever encounter with ballet, possibly their first with any kind of musical theater—is likely to be the Christmastime treat of attending a performance of Tchaikovsky's *The Nutcracker*. Certainly, no one who has first heard and seen this work with childish delight can ever hear the music again apart from a glowing aura of remembrances.

The latest complete recording is only the second digital one. It is by rising star Leonard Slatkin with the St. Louis Symphony and the same producer/engineer team responsible for the success of the group's Prokofiev Symphony No. 5 of 1984. Unlike the *Nutcrackers* of John Lanchbery with the Philharmonia Orchestra for Angel and of Antal Doráti with the Concertgebouw for Philips, Slatkin's is an opulent concert performance rather than one shaped by years of experience in the pit. But can any ballet orchestra make as much of the music in the theater as is done so resplendently here?

Some of the most memory-haunting moments of the score—the journey through the mysterious snowbound Pine Forest and especially the dreamlike “Waltz of the Snowflakes” with its wordless siren song—exploit that bitter and sweet longing for something lost long ago that we call nostalgia.

Whenever such works stimulate listeners' emotions by piercing the consciousness to reanimate long-buried memories (if not the basic collective unconscious itself), the most persuasive instrumental voices often are those of the winds, above all the oboe (and its tenor sib-



ling, the English horn) and the French horn. Perhaps their matchless gifts for eliciting extramusical associations stem from their links with a supposedly idyllic pastoral life—shepherds piping to calm their flocks while simultaneously soothing their own loneliness, hunters summoning scouts and dogs while bolstering their own courage by boldly proclaiming that they are on the chase.

The supreme Pied Piper of our own day, Heinz Holliger, reminds us—often with almost unbearable poignancy—of the oboe's distinctive powers, most recently in his latest, and most zestful yet, recording of Mozart's Oboe Quartet. With members of the Orlando Quartet, he adds a darkly haunting Adagio (K.580a) and the Divertimento No. 11 that was Mozart's 1776 birthday present to his sister Nannerl—bracing open-air music with oboe and paired horns.

One of the players, master hornist Hermann Baumann, may be heard again as soloist (with the Leipzig Gewandhaus Orchestra under Kurt Masur) in more sophisticated exploitations of his instrument's capacities. Weber's concertino probably was one of the first attempts to explore the full potential for bravura and expressivity of the horn. But more grip-

ping are the two Richard Strauss concertos. The first was written when Strauss was a student and was intended to please his horn-playing father; the second, which emerged more than a half-century later as a paternal memorial, is one of the remarkable autumnal masterpieces that crown the composer's long career. Dennis Brain, in his near definitive 1957 Angel versions, remains unmatched as an interpreter of these works, but never before have the orchestral scorings—or the golden sonorities of the horn itself—been more transcendently realized than by Philips's engineers in the Baumann recording.

It is such music, richly rewarding on its own terms, but incalculably enriched by nostalgia, that strikes deepest—especially when fully experienced via cassette tapings heard on a portable player. And this personalized medium need not necessarily be confined to its customary alfresco on-the-go usefulness; it can speak just as persuasively to sedentary listeners.

It is the ideal way of sharing the ecstasies that Samuel Pepys described so movingly in his diary entry for February 27, 1668, after attending a London performance of Massinger and Dekker's tragedy, *The Virgin-Martyr*:

But that which did please me beyond any thing in the whole world was the windmusick when the angel comes down, which is so sweet that it ravished me, and indeed, in a word, did wrap up my soul so that it made me really sick, just as I have formerly been when in love with my wife; that neither then, nor all the evening going home, and at home, I was able to think of any thing, but remained all night transported, so as I could not believe that any musick hath the real command over the soul of a man as this did upon me. ●

P O R T A B L E F A R E

BACH (arr. Stokowski): Instrumental and Choral Works.

Stokowski and His Orchestra. John F. Pfeiffer, reissue prod. RCA Red Seal AGK 1-5280 (A).

Toccata and Fugue for Organ, in D minor, B.W.V. 565; "Jesu, Joy of Man's Desiring," B.W.V. 157; "Wir gläuben all an einen Gott," B.W.V. 680; "Sheep May Safely Graze," B.W.V. 208; Fugue for Organ, in G minor, B.W.V. 578; Bourrée, from English Suite No. 2, in A minor, B.W.V. 807; Chaconne, from Partita for Violin, No. 2, in D minor, B.W.V. 1004; Prelude in B minor, B.W.V. 869, from "The Well-Tem-

pered Clavier," Bk. 1; Chorale, from Cantata, B.W.V. 4 ("Christ lag in Todes Banden").

MOZART:

Quartet for Oboe and Strings, in F, K. 370; Divertimento for Oboe, Horns, and Strings, in D, K. 25 1st; Adagio for English Horn and Strings, in C, K. 580a^{**}.

Holliger*, Baumann†, Gasciarino^{**}; Orlando Quartet. Philips 412 618-4 (D).

STRAUSS, R.:

Concertos for Horn and Orchestra: No. 1, in E flat, Op. 11; No. 2, in E flat.

WEBER:

Concertino for Horn and Orchestra, in E minor, Op. 45. Baumann; Leipzig Gewandhaus Orchestra, Mazur. Philips 412 237-4 (D).

TCHAIKOVSKY:

The Nutcracker, Op. 71.

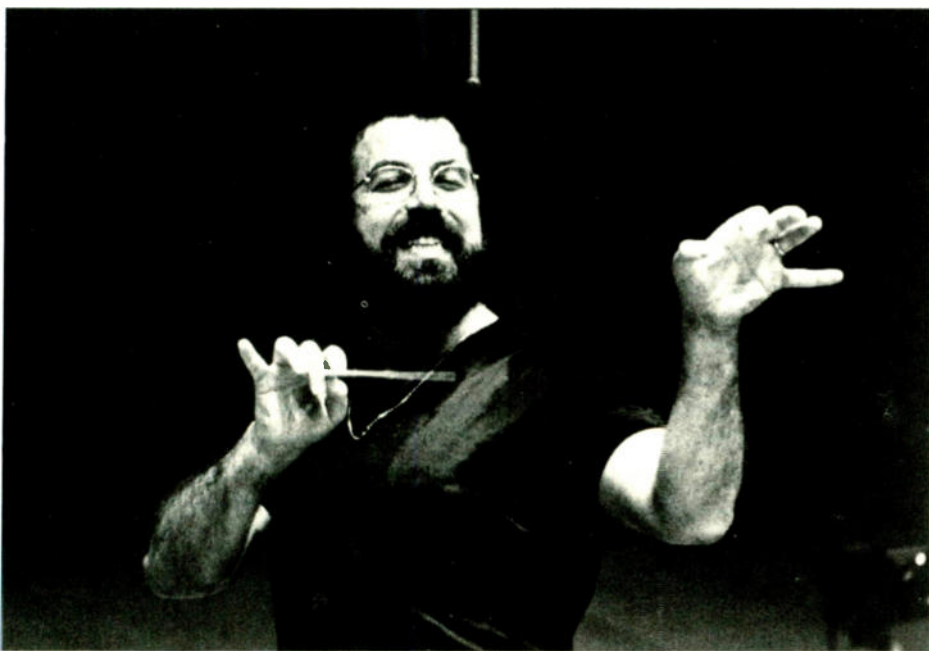
St. Louis Symphony Orchestra and Women of the St. Louis Symphony Orchestra Chorus, Slatkin. Jay David Saks, prod. RCA Red Seal ARE 2-7005 (D, 2).

GOLDEN VOICES OF ZARZUELA.

Caballé, Kraus, Berganza, Domingo, Lorengar, Aragall; various orchestras and conductors. Various prods. Moss Music Group CMG 1149 (A).

Excerpts from works by Chapí, Giménez, J. Guerrero, Luna, Serrano, Torrobo, and Vives.

SINOPOLI SCORES WITH "RIGOLETTO"



SILVIA TELLI MASOTTI

VERDI:

Rigoletto.

● Gruberova, Fassbaender, Shicoff, Bruson, Lloyd, Rydl; Accademia di Santa Cecilia Orchestra and Chorus, Sinopoli, Erik Smith, prod. Philips 412 592-2 (D, 2), Ⓞ (3), ☐ (3).

Unless you're a hard-core fan of Renato Bruson, Neil Shicoff, or Edita Gruberova, the main points of interest of this 34th (by my count) complete recording of *Rigoletto* are likely to be the use—unadvertised by Philips—of a textually accurate score, including some elements of the critical edition, and the conducting of Giuseppe Sinopoli. Since the critical edition can't by itself bring the opera to life, I'll postpone comment on it to the end. For all except scholars, the attraction here will be Sinopoli.

He's an uncommon conductor: a medical doctor, composer, and quasi-Viennese intellectual who became famous as a specialist in early Verdi. He subjects everything he conducts to an aesthetic and historical analysis

that would stagger music-lovers not familiar with contemporary European philosophizing. The musical results—depending on whom you ask or which performance you hear—can be either unnatural or unnaturally potent. *Rigoletto* is Sinopoli's fourth Verdi recording. The first, *Nabucco* (Deutsche Grammophon 274 102-1), showed both his strengths and his quirks. Among the strengths was tremendous energy, derived in part from a radical view of timbre that encourages him to emphasize aspects of Verdi's orchestration—shrill piccolos, crashing percussion, searing brass—that other conductors might find crude. Among the quirks was overpowering emotion, manifested in oompah accompaniments that surged to

dreamlike climaxes unrelated to anything done by the singers.

Macbeth (Philips 412 133-1) was even more extreme and sometimes so slow that the drama disappeared, though only in the admittedly crucial scenes for Macbeth or his Lady. The apparitions were uncommonly telling, and the witches cackled with unembarrassed glee. Sinopoli's third Verdi recording, a disc of overtures (Philips 411 469-1), was more consistent and, within the limitations imposed by a collection, equally individual. Recordings of German music show the same range, from an unforgettable coupling of the Schubert *Unfinished* and Mendelssohn *Italian* symphonies (Deutsche Grammophon 410 862-1)—the one heartrendingly

gentle, the other at once joyous and solid—to a Brahms *Ein Deutsches Requiem* so painstaking and yet so delicate that to many listeners it's likely to sound paper-thin (Deutsche Grammophon 410 697-1). A Mahler Fifth Symphony is just out (Deutsche Grammophon 415 476-1); I'd expect it to be provocative, at the very least.

Rigoletto is more consistent than *Nabucco* or *Macbeth*. Sinopoli's power and sincerity are both evident at the start, in a *preludio* that promises both full-blown tragedy and—since this is Verdi, not Thomas Mann—something less ponderous and equally welcome: a heart overflowing with pathos and compassion. The ensemble just before Monterone's entrance in the first scene bounces with a heavy but genuinely Italian swagger, the result in part of Sinopoli's way of building texture upward from the rhythm of the bass. His control of touch is evident in the precisely calculated weight of the somber chords at the start of the second scene, which show us not just the street at night suggested by the stage directions, but a *particular* street, with individual trees, walls, and shadows.

Gilda's entrance is an explosion of tender energy, which is maintained as long as the opening motif of her duet with her father continues. Sinopoli gives this and other repeating orchestral patterns such shape, color, and intensity—in a word, such meaning—that they emerge as true counterpoints to the vocal line, making Verdi's music seem more complex than is commonly thought. Listen, for instance, to the rhythmic tension between the contrasting stresses of voice and accompaniment in the second part of "*Cortigiani*," when Rigoletto pleads with Marullo. Or, for a purely orchestral example, try the music (easy to dismiss as mere filler) that accompanies Rigoletto's search for Gilda and his repeated, helpless attempts to cry out. In Sinopoli's hands, each new harmony evokes a new rush of heartbroken desperation.

And then there are the passages that don't work. "*Pari siamo*" is too slow: It's marked *adagio*, at least at the start, but at Sinopoli's tempo it loses any sense of flow or, more crucially, any sense of normal speech. "*La donna è mobile*" is too studied. The brief, drained dialogue ("In a single day, everything changed") between Rigoletto and Gilda before Monterone's second entrance is stretched out of proportion, with too many pauses, like the oddest moments of *Macbeth*. "*Si, vendetta*" is also a bit too studied; I wish it would blaze forth like parts of *Nabucco* or

like Tchaikovsky's Fifth Symphony did when Sinopoli conducted it this past fall with the New York Philharmonic.

The balance of expressivity between singers and orchestra in *Rigoletto* is much better than it was in *Nabucco* or *Macbeth*. The singers seem to have learned some of Sinopoli's flexibility—but still there are gaps, moments throughout the score when the conductor pauses or holds back and the singers simply pause with him, as if he'd flashed a red light at a line of traffic. Ideally, he'd be providing an accompaniment to even more striking nuances the singers would create on their own, but for now he seems content with a compromise in which the initiative all too clearly comes from him. The climax occurs with "*Piangi*," Rigoletto and Gilda's great duet in Act II, which Sinopoli conducts with extreme sensitivity and with a flexibility of tempo unmatched even in recordings made generations ago (when it was expected as a matter of course). The singers follow dutifully, but don't convey half of what the conductor gets from the orchestra.

What's especially frustrating is that there is one moment when, working with Bruson (whom he once told me he particularly respects), Sinopoli gets exactly what he seems to want. In Rigoletto's solo at the beginning of the Act I duet with Gilda, the jester's voice seems to break as he speaks of his wife, the only creature apart from his daughter who has ever loved him. "She died!" he cries, and then ("weeping," says the score)

adds, "The heartless earth covered her beloved head." Here his voice sinks, almost as if he were sobbing those words half to himself. Up to that point, Sinopoli and Bruson don't even seem to agree on how fast the music should go (Sinopoli goes faster). But at the words I've cited, both of them, with a striking *ritard* and *diminuendo*, create a momentary hush of utter heartbreak—which, beyond its immediate impact, shows how unparalleled this performance would have been if singers and conductor had been equally inspired throughout.

The singers, of course, are top international stars; taken on their own terms, they're hardly bad. Shicoff is especially welcome, simply because he doesn't provide the by-now-too-familiar sound of Plácido Domingo, José Carreras, or Luciano Pavarotti and because he brings a sullen machismo to his role that may sound wholly American, but isn't at all inappropriate as one element of the Duke's lecherous appeal. I have to add, though, that after repeated listening, I found it hard to ignore a labored quality and a tendency to sing just a little bit flat.

Gruberova (as collectors who've heard the aria disc and complete *Lucia* she recorded for Angel already know) is the real thing in this music, above all because her voice carries the rare Italianate ring that's as much a matter of passion as of phrasing and tone. Unfortunately, she sounds abstract here, as if she'd somehow come to earth as the Platonic ideal of an Italian lyric soprano. Some phrases (her first line in the quartet, for instance) sound almost mechanical. In her confession to Rigoletto in Act II, though, she comes to life and for a moment shows us not just Gruberova, but—nakedly—Gilda herself.

Bruson does that with his character, too, in the passage I've already described. Otherwise, he's touching and immensely dignified, but (like nearly everyone who sings the role) can't come near to what George Bernard Shaw definitively described as Rigoletto's "raging self-contempt," "superstitious terror," "impotent fury," "savage vindictiveness," and "heartbroken grovelling." He snarls effectively when he's doing his dirty work for the Duke, but when he's alone with Gilda, he loses all trace even of the capacity for malice. I don't sense (as I did with Tito Gobbi's performance) that underneath his gentleness he's still capable of doing harm.

Kurt Rydl is *most* impressive as Monterone; Robert Lloyd and Brigitte Fassbaender do well enough as Sparafucile and Maddalena, though Lloyd might fill out his

FORMAT KEY

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

RECORDING INFORMATION

- (A) analog original
- (D) digital original

Large symbol beneath title indicates reviewed format. Small symbols following catalog number of reviewed format indicate other available formats (if any).

Catalog numbers of all formats of a particular recording usually are identical except for differing prefixes or suffixes. Catalog numbers of formats other than the reviewed format are printed only if their basic numbers differ substantially from that of the reviewed format.

Arabic numeral in parentheses indicates number of items in multi-item set. Unless otherwise indicated, all multi LP sets are in manual sequence.

impressive sonority with a little more character. The Marullo, Borsa, and Ceprano are strikingly weak. This is, in sum, Sinopoli's performance. I can't help wondering how it would have sounded if he'd had Gobbi, say, as Rigoletto, Maria Callas as Gilda, and, as the Duke, either the irrepressible Jan Peerce or Toscanini's NBC Symphony broadcast of the last act or the disreputably stylish Dino Borgioli of the famous La Scala recording of 1930.

About textual matters: I believe this is the first recording to strictly follow Verdi's score. No added cadenzas or high notes are allowed, which makes Rigoletto's music more implacable and the Duke's a little dull; I can't believe that the flourishes that usually decorate "Questa o quella" don't suit both the Duke's character and the performance practice of Verdi's time better than the literal reading we get here.

This is also the first recording to incorporate two important emendations from the critical edition published in 1983. First, the end of "Caro nome" differs from what we usually hear. Second, when the Duke enters in Act III, he (following Verdi's manuscript) brazenly asks Sparafucile for "Your sister and some wine"—a striking change from the familiar "A room and some wine," which the composer may have substituted after objections from the ubiquitous Italian censorship. Neither of these alterations is mentioned in the libretto booklet supplied with the discs. Since Sinopoli doesn't follow the critical edition in every detail, Philips couldn't label the recording as such. But *something* should

have been said. People who know the opera well—singers, especially—will hear those two changed passages and wonder what in the world is going on. *Gregory Sandow*

BEETHOVEN:

Quartet for Strings, No. 13, in B flat, Op. 130; Grosse Fuge in B flat, Op. 133.

① *Fitzwilliam Quartet. Peter Wadland, prod. London 411 943-2 (D).* ⊕ ⊞



FRED SPENCER

In any discussion of Opus 130, the inevitable question arises: Should the work conclude with the *Grosse Fuge*, as originally conceived, or with the replacement finale that Beethoven wrote at the suggestion of his publisher Matthias Artaria? The Fitzwilliam Quartet sides with the composer (the *Grosse Fuge* is sequenced before the finale) for reasons violist Alan George elucidates in his program notes. History has willed otherwise, but with this Compact Disc, listeners can conveniently weigh both options by utilizing their machines' programming capabilities.

George's remarks and the group's read-

ing make a strong case. The *Grosse Fuge*, despite its furious dissonances, gloriously summarizes the preceding five movements' disjunctive tempos, rhythms, and key relationships. In length alone it balances the sprawling first movement, in which the Fitzwilliam players observe all repeats.

Their attentiveness to the score seems to unleash a nervous energy that in turn gives this account an excitable quality. You won't find the aristocratic grandeur and even-keeled warmth of the Guarneri; tempos tend to be brisk, and dramatic contrasts are boldly etched. In fact, the fourth-movement *Alla danza tedesca* swells and contracts in an exaggerated fashion that's somewhat distasteful. Yet in the ensuing *Cavatina*, which contains what is perhaps Beethoven's most touching melody ever (he admitted as much), the Fitzwilliam players linger over each phrase, wringing out every ounce of emotion with their fine ensemble work.

If it's thrilling Beethoven you seek, this CD should be just the ticket. The vibrant sound complements a performance that seldom pauses for quiet reflection.

Charles McCardell

FAURÉ:

Quartets for Piano: No. 1, in C minor, Op. 15; No. 2, in G minor, Op. 45.

① *Domus. Andrew Keener, prod. Hyperion A 66166. (Distributed by Harmonia Mundi, U.S.A., 3364 S. Robertson Blvd., Los Angeles, Calif. 90034.)*

Domus is a young, healthy British group with a young, healthy, bracing sound. Whether that sound is appropriate to Fauré

C R I T I C S ' C H O I C E

The most noteworthy releases reviewed recently

BACH:

Partitas Nos. 1-6, B.W.V. 825-30.

Schiff. ⊕ London 411 732-1, Jan.

BLOCH:

Piano Quintet No. 2.

LERDAHL: String Quartet No. 2. Karp; Pro Arte Quartet. ⊕ Laurel LR 128, Dec.

BRITTEN:

Choral Music.

Chance, Coxwell, Hayes, Salmon, Seers, Unwin; Westminster Cathedral Chorists, Corydon Singers. Best. ⊞ Hyperion KA 66126, Jan.

DONIZETTI:

L'Elisir d'amore.

Popp, Dvorsky, Nesterenko, Weiki, Hobarth; Bavarian Radio Chorus, Munich Radio Orchestra, Wallberg. ⊕ RCA ARC 3-5411, Dec.

ELGAR:

Cello Concerto in E minor.

WALTON:

Cello Concerto.

Ma; London Symphony Orchestra, Previn. ⊞ CBS Masterworks IMT 39541, Dec.

HANDEL:

Aminta e Fillide.

Fisher, Kwella; London Handel Orchestra, Darlow. ⊕ Hyperion A 66118, Nov.

KHACHATURIAN:

Piano Concerto*.

PROKOFIEV:

Piano Concerto No. 3, in C, Op. 26.**

Kapell; Boston Symphony Orchestra, Koussevitzky; Dallas Symphony Orchestra, Dorati.* ⊕ RCA Gold Seal AGM 1-5266, Jan.

MONTEVERDI:

Vespro della Beata Vergine.

Kirkby, Rogers; Taverner Consort, Players, and Choir, Parrott. ⊞ Angel EMI 4D2S 3963, Dec.

SCHÜTZ:

"St. Matthew Passion," S.W.V. 479.

Hilliard Vocal Ensemble, Hillier. ⊕ Angel EMI DS 38167, Jan.

SIBELIUS:

String Quartets: in A minor; in B flat, Op. 4.

Sibelius Academy Quartet. ⊕ Finlandia FAD 345, Dec.

VERDI:

Don Carlos.

Raimondi, Domingo, Nucci, Ghiaurov, Ricciarelli, Valentini Terrani; Chorus and Orchestra of the Teatro alla Scala, Milan, Abbado. ⊕ Deutsche Grammophon 415 316-1, Jan.

RECITALS AND MISCELLANY

GLENN GOULD:

The Glenn Gould Legacy, Vol. 2: Haydn, Beethoven, Mozart.

Gould; Columbia Symphony Orchestra, Golschmann; Leningrad Philharmonic Academic Symphony Orchestra, Slovak. ⊞ CBS Masterworks M3T 39036, Jan.

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is another matter. While appreciating the musicians' artistry and energy, I think they have missed here the essential feel of French music in general and of Fauré in particular.

Proust loved the First Quartet, but the performance Domus gives it might have made him feel threatened. The group's approach is more supportable in the Second Quartet, a later and more virile work, yet even here the players' hyperactivity calls attention to itself. *Bert Wechsler*

PISTON:

Quartets for Strings: Nos. 1 and 2.

Portland String Quartet. L. E. Joiner and Jerry L. Bowder, prods. Northeastern NR 216.

This completes the Portland String Quartet's Walter Piston cycle, certainly one of the most distinguished in the recorded annals of American chamber music. (The remaining quartets can be found on Northeastern NR 208 and NR 214.) Economy, expressiveness, and energy were Piston's three E's, and the cycle as a whole never flags in interest or value. The PSQ members worked with the composer, and they are fully comfortable with his laconic style, Yankee lyricism, and driving rhythmic demands.

My only complaint with this disc concerns the recording acoustic, which I find a bit on the distant side. This is the premiere stereo recording of the lively First Quartet. A 1945 Budapest String Quartet performance of the more impassioned Second is available on New World NW 302; the 40-year-old sound tends to shrillness in places, but it does deliver the goods with more bite than the present Northeastern effort.

Annotation is thorough, and the series of album covers using paintings by Piston's wife, artist Kathryn Nason, is a wonderful touch. A must for anyone with an interest in chamber music or American music.

Noah André Trudeau

WAGNER:

Tannhäuser.

Melchior, Flagstad, Thorborg, Janssen, List, Harrell; Metropolitan Opera Orchestra, Leinsdorf. John F. Pfeiffer, prod. MET 12. (Available from Metropolitan Opera Fund, P.O. Box 930, New York, N.Y. 10023.)

This is the January 4, 1941, Metropolitan Opera broadcast: The singers include three Scandinavians (one of whom would soon be lost to us for nine years) and three emigrés from Hitler. It is the Paris version with four cuts, fewer than expected from the Met at that time. I don't miss the hunk torn from the second-act ensemble, but I do deplore being kept from any note of Kirsten Thor-

borg's magnificent Venus. Not only is her musicianship impeccable and her range even from bottom to top, but her sound on this recording is of a beautiful richness unknown today.

Because of his superhuman strength and his ability to handle the compass from E to G, Lauritz Melchior rightfully owned the role of Tannhäuser. He sang it at his Helden-tenor re-debut in Copenhagen in 1918, he first recorded the "Rome Narration" in 1923 (now in Vol. 2 of Danacord's continuing complete Melchior recordings), and he made his Met debut as the errant pilgrim in 1926. Melchior eventually sang 144 performances—but did he ever get the quick passages right? In this broadcast he rides roughshod over much of the music, but with such energy, passion, and glory that one forgives.

Kirsten Flagstad is nothing short of supreme. There is a shining sincerity to her singing, plus that Mother Earth voice that beggars description or comparison.

Herbert Janssen has many fine moments in his compassionate portrayal of Wolfram, but he misses endowing the character with virility and is not particularly interesting. Emanuel List is a woolly Landgraf. Mack Harrell sings the few solo lines of Biterolf in a manner that makes you wish he had been the Wolfram.

Aside from a few moments of overliter-ality, the young Erich Leinsdorf conducts a full-blooded, flowing performance. I resent the "truism" that James Levine has raised the level of today's four-service-a-week Metropolitan Opera Orchestra: That band always responded superbly to real conducting. It does so here.

The packaging of this album matches that of the others in the Met series. Even with the problematical lower voices, this *Tannhäuser* is well worth the contribution to the Fund to obtain. Bert Wechsler

RECITALS AND MISCELLANY

ACADEMY OF ST. MARTIN-IN-THE-FIELDS:

French Orchestral Works.

① Ellis: *Academy of St. Martin-in-the-Fields*, Marriner. Anthony Sargent, prod. Vanguard CD 25019 (D). □ □

DEBUSSY: *Danse sacrée et danse profane*. FAURÉ (orch. Rabaud): *Dolly Suite, Op. 56*. IBERT: *Divertissement*, from "Un chapeau de paille d'Italie." RAVEL: *Le Tombeau de Couperin*.

One has to be pretty hard-boiled not to find some enjoyment in this Compact Disc; indeed, it might almost have been conceived as a colorful Gallic litmus test for curmud-

geons. Neville Marriner emphasizes transparency of texture here, and his interpretations are executed gracefully and smartly by the Academy of St. Martin-in-the-Fields. Their playing is light without making light of the music—no small accomplishment in a program of works that have a certain precious quality about them.

The uncredited stars are the woodwinds, who play with ingratiating, at times hypnotic, effect, especially in the orchestrated piano works of Ravel and Fauré. The Academy so completely locks into all the scores that the music practically plays itself. Only once, and briefly, do things get out of hand: The surg-

ing strings near the conclusion of Debussy's *Danses* momentarily upstage harpist Osian Ellis.

Marriner and company have a rollicking good time with the Ibert *Divertissement*. In the course of six movements, this Satiesque pastiche quotes Mendelssohn's *Wedding March* and sends up the "Waltz King" Strauss, with an anything-goes attitude reminiscent of the music hall.

Vanguard's digital recording, first issued some time back on an Academy Sound and Vision LP imported from Great Britain, is clean and convincingly spacious.

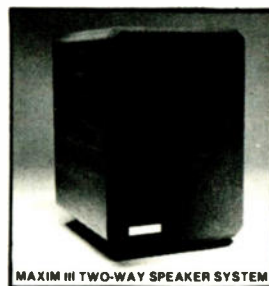
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THE CD

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SCADS OF SIBELIUS

The Bis label is continuing its traversal of the complete orchestral works of Jean Sibelius with generally excellent results, particularly as to sound. Sibelius benefits unusually well from Compact Disc treatment: The titanic silences that permeate so much of his output, heightened in this format, enable the big outbursts preceding and following them to make their points all the better.

The Gothenburg Symphony Orchestra is again featured on four new CDs, three of which were made with music director Neeme Järvi. The Fourth Symphony, in A minor, Op. 63—always the toughest Sibelian nut to crack—receives a broad treatment that works superbly. (By the way, Järvi opts for using discreet bells as well as glockenspiel in the final movement—maybe not the purist's solution, but I like it.) The disc is filled out by the brief, rather inconsequential *Canzonetta* and a definitively pictorial traversal of *The Oceanides*. Playing time: 52:47. (Bis CD 263. Distributed by Qualiton Imports, 39-28 Crescent St., Long Island City, N.Y. 11101.)

Järvi's version of the Third Symphony, in C, Op. 52, is likewise an unqualified success, particularly in the last movement, though his treatment of the extensive filler—the *King Christian II Suite*—is oddly ponderous. Playing time: 54:50. (Bis CD 228. Distributed by Qualiton Imports.) The third Järvi disc is mainly devoted to Sibelius's one and only opera, *Jungfrun i Tornet* (*The Maiden in the Tower*). A marginal work, to be sure, but full of attractive (if mainly stillborn) music that has a built-in fascination. The per-

formance—featuring fine singing by Mari-Ann Häg-gander, Jorma Hynninen, and Erland Hagegård—seems meet and right. Unfortunately, the accompanying *Karelia Suite*, like the *King Christian II*, is under tempo and frankly rather lugubrious (especially in the *Alla Marcia*, which lacks the necessary swagger). Playing time: 52:19. (Bis CD 250. Distributed by Qualiton Imports.)

Jorma Panula conducts the fourth disc, which contains all the songs that Sibelius personally orchestrated. Hence, some familiar items such as "*Flickan kom ifrån sin älsklings möte*" ("The Maiden's Tryst") aren't included. Hynninen performs on the first half of the disc, which is the more impressive. His selections include the striking *Koskenlaskijan morsiamet* (*The Rapids-shooter's Brides*) and "*På verandan vid havet*" ("On a Balcony by the Sea"), two of Sibelius's finest creations for voice. Häggander's contributions on the second half are well handled, though in her most demanding one, *Luonnotar*, her lyric soprano is obviously strained. (Unfortunately, the engineers try to make up for this by overmixing her, which only succeeds in covering up some important orchestral details.) Nevertheless, a valuable collection of Sibeliana, and—with the above exception noted—quite well recorded. Playing time: 49:04. (Bis CD 270. Distributed by Qualiton Imports.) *B.Z.*

STYLISH DVORÁK

The stylistic aptitude of cellist Yuli Turovsky is handsomely demonstrated in this disc devoted to the infrequently heard Third Piano Trio, in F minor, Op. 65, of Dvořák, in

which Turovsky is joined by the other members of the émigré Borodin Trio: pianist Luba Edlina and violinist Rostislav Dubinsky. This work is distinctly different from some of the composer's others, in that its musical content is not "folkloric." Nevertheless, it is wholly expressive of his abiding personality and is well served in this appealing performance. Playing time: 43:08. (Chandos CD 8320. Distributed by Harmonia Mundi, U.S.A.) *I.K.*

MENUHIN AND GRAPPELLI

The composer of the opening item on this disc is Max Harris, whose "Winter Set" may never win an Oscar. Yet, he merits the prominence he gets here for providing violinists Yehudi Menuhin and Stephane Grappelli the wonderful arrangements of numerous items that are indeed suitable for the title of the CD. Included are Ray Henderson's "Button up Your Overcoat," Irving Berlin's "I've Got My Love to Keep Me Warm" and "Heat Wave," Vernon Duke's "April in Paris" and "Autumn in New York," Frank Loesser's "Spring Will Be a Little Late This Year," and half a dozen others of similar quality. The good chamber-music backgrounds are furnished by a varied group of instrumentalists that adds lustre to the best of all duet outings to date by Menuhin and Grappelli—who not only think but sound as one. Playing time: 55:05. (EMI CDC 47144.) *I.K.*

BLOCKBUSTER "BELLS"

Some people may dismiss this account of Rachmaninoff's *The Bells* out of hand because the text is sung in English instead of Russian. True, because Poe's original English was first translated into Russian, and then back into rather lumpy English for this recording, the performance loses a bit in literacy. Nevertheless, Leonard Slatkin's electrifying conducting more than makes up for it. The St. Louis Symphony has never sounded better (particularly in this superbly accomplished CD transfer from an originally analog source), and there is excellent work from soloists Walter Plante, Marianna Christos, and Arnold Voketaitis. Translation aside, *The Bells* rings here as in no other recorded version. The same goes for the equally fine-sounding performance of the filler, *The Isle of the Dead*, which supersedes the previous standard-setting accounts by Serge Koussevitzky and Fritz Reiner. Playing time: 54:25. (Moss Music Group MCD 10020.) *B.Z.*

ELGAR FOR KIDS AND OTHERS

Here is another winner from Chandos: a generous coupling of some of Elgar's music pertaining to the world of children. *The Wand of Youth Suites* Nos. 1 and 2 were written in 1907 and are orchestrations of sketches dating back to Elgar's teenage years, when he wrote music for a play set in a perfect, untainted world where ill-tempered

SPREAD

served up for review

adults are barred, a dreamland filled with fantasy creatures. The movements include "Fairy Pipers," "Moths and Butterflies," "Fairies and Giants," "The Little Bells," and "Wild Bears," with several dances interspersed.

Nursery Suite, written two decades later, consists of seven similarly child-related movements: "Aubade," "The Serious Doll," "Busy-ness," "The Sad Doll," "The Wagon (Passes)," "The Merry Doll," and "Dreaming Envoy." All of this is enchanting music, beautifully played by the Ulster Orchestra led by Bryden Thomson and recorded with the richness and dynamic range that seems typical of this label. Playing time: 63:29. (Chandos CD 8318. Distributed by Harmonia Mundi, U.S.A.)

R.E.B.

HOMAGE TO TCHAIKOVSKY

The 45-minute ballet, *The Fairy's Kiss*, is Stravinsky's homage to Tchaikovsky, utilizing many of that composer's shorter works and songs as well as some of Stravinsky's own music. Based on Hans Christian Andersen's *The Ice Maiden*, it is a delectable, subtle score. Appropriately, Stravinsky's orchestration of the brief "Bluebird" pas de deux from *The Sleeping Beauty* is included as filler. The performances by Neeme Järvi and the Scottish National Orchestra are superb, with vivid, resonant reproduction. Playing time: 50:51. (Chandos CD 8360. Distributed by Harmonia Mundi, U.S.A.)

R.E.B.

SMETANA: STRING QUARTETS

For those to whom "the" Smetana quartet is the one in E minor (entitled "From My Life"), the plural "quartets" may seem a misprint. This disc featuring the Smetana Quartet, however, offers a satisfying version of the later Quartet No. 2, in D minor, that extends the considerable high regard I feel for Smetana as a master of many varied forms. Credit the leadership of Jan Novak for two distinguished performances (recorded in 1976). Playing time: 46:06. (Denon 7339.)

I.K.

"DAPHNIS" DIGITIZED

Perhaps the most amazing CD yet to enter the catalog is a recording of Ravel's complete *Daphnis et Chloé* ballet by the Orchestre du Théâtre National de l'Opéra de Paris under Manuel Rosenthal—"amazing" because the recording was originally made in 1959. This performance, by the way, is *not* the one featuring the same forces that was available for a time on a Westminster album in the early 1960s: The remastered 1959 account is far better played, and Rosenthal's peerless conducting is even more in evidence (particularly regarding his unique way with rubato).

These advantages, coupled with truly miraculous digitization, now make this *Daphnis* the preferred version. Rosenthal unlocks the poetic and balletic secrets of this gorgeous score like no other conductor; now that we can really

hear what he's doing, each playing of the disc becomes an unforgettable lesson in how it should be done. There's absolutely no background interference, and balance and clarity are nigh perfect. Only a slight breakup in the loudest climaxes betrays the fact that this performance occurred over a quarter century ago. Simply fabulous in every way. Playing time: 60:56. (Adès ACD 140 742. Distributed by International Book and Record, 40-11 24th St., Long Island City, N.Y. 11101.)

B.Z.

EARLY WAGNER

The year 1836 was not a good one for Wagner. Newly married, in debt, and unrecognized, he composed the *Polonia Overture*, a banal piece of little inventiveness, followed by the even more vapid *Rule Britannia Overture*, a tedious repeated statement of Arne's familiar tune. Each of these works lasts more than 12 minutes, and neither of them, for very good reason, adds to Wagner's fame. The two marches—*American Centennial* and *Imperial*—are more familiar, but they too are far removed from the composer's better efforts. The Hong Kong Philharmonic, conducted by Varujan Kojian, does not sound like a very large ensemble, and here it is recorded with an unappealing, shallow, dry quality. This CD is only for those who must own early works of Wagner, no matter how undistinguished. Liner notes are a copy of the LP notes, slightly reduced and twice-folded to fit into the CD box. (The two marches, incidentally, were far better served by Marek Janowski and the London Symphony Orchestra on a now-deleted LP: Angel S

36879.) Playing time: 46:07. (Hong Kong 8.220114. Distributed by Harmonia Mundi, U.S.A.)

R.E.B.

"PICTURES" IMPERFECT

As an example of what Ravel had in mind as an orchestral enlargement of the score Mussorgsky created for piano in tribute to the work of his friend the painter Victor Hartmann, this recording of *Pictures at an Exhibition* by Sir Charles Mackerras and the New Philharmonia Orchestra is unworthy. It tends to exaggerate everything Ravel added that needs to be restrained, such as swollen percussive sounds and excesses of trombone output. The treatment by the London Symphony Orchestra under Mackerras of the suite from Stravinsky's 1911 *Petrouchka* ballet is, for the most part, well considered. Playing time: 69:15. (Vanguard 25023.)

I.K.

SHOSTAKOVICH'S SOUL

Mstislav Rostropovich conducted the National Symphony Orchestra in a cataclysmically definitive presentation of Shostakovich's Symphony No. 5, in D minor, Op. 47, for Deutsche Grammophon four years ago. That account can now be heard to even greater effect in the CD format. The slightly bleary tone that afflicted the sound on analog disc—and, to a lesser extent, on cassette—is nowhere to be heard. The clarity of orchestral texture, particularly in contrapuntal string passages, is fabulous, as is the realistic duplication of the Kennedy Center Concert Hall acoustics. A benchmark interpretation has finally received its sonic due. Playing time: 45:34. (Deutsche Grammophon 410 509-2.)

B.Z.

SWING SHIFT



DEBORAH FEINGOLD

Saxophonist Scott Hamilton and cornetist Warren Vaché are throwbacks—and that's a compliment.

B Y F R A N C I S D A V I S

Scott Hamilton's tenor saxophone—a reconditioned Selmer, manufactured in 1949—is five years older than he is. "I walked off with it for \$500 when horns of that vintage weren't in much demand," explains Hamilton, whose style aims for a middle ground between Coleman Hawkins's forthright stomp and Lester Young's more standoffish relationship to the beat. "The problem with newer instruments is that they tend to go sharp when you blow hard in the upper register, and they don't have that subtone growl I like. They're great for people who want to play like John Coltrane, but they don't do anything for me."

Hamilton talks about a *growl*. His frequent sidekick, Warren Vaché, Jr., talks about a *buzz*, his name for the glorious legato rip that has all but vanished from jazz brass. "I actually played cornet first, before the trumpet," Vaché says, "and a few years ago I picked it up again, just for fun. I haven't touched a trumpet since. I don't like the sharp, nasal edge. I prefer a

mellower sound, but I still want to cut through—I still want that buzz that guys like Louis [Armstrong] and Roy [Eldridge] and Bobby Hackett had."

Satirist Mort Sahl used to complain that since World War II the presidency had passed from Roosevelt to Ford, the movies from John Garfield to Burt Reynolds, the mood of the nation from purpose to indifference. Sahl's punch line: Darwin was wrong. I know some critics who would add that small-group swing has passed from Hawkins and Eldridge to Hamilton and Vaché: Darwin was wrong, and so was Hugues Panassié. I wish I could juice up what follows by presenting these two musicians as subjects of heated controversy, these baby boomers who have rejected hard bop, free form, and fusion.

But controversy, which presupposes that enough people give a damn one way or the other, is conspicuously lacking in jazz these days. Like all minority groups, the fans feel compelled to put up a unified

Francis Davis is writing a book of profiles of contemporary jazz musicians, to be published by Oxford University Press.

SWING SHIFT

front whenever the public at large happens to be glancing. Meanwhile, the critics with categorical aversions are no longer thought derelict in their duty now that jazz has become so rich and varied (so diffuse, some would say). The *derrière* guard—who haven't had much else to cheer about lately—hail Hamilton and Vaché as trend-setters. This is a neat bit of wishful thinking that assumes that bop, free form, and fusion were just momentary aberrations. And the *dernier cri* crowd maintains a code of silence on the duo, as though they are unworthy even of derision. Is it possible to take a middle line on Hamilton and Vaché? I'm going to try. But first, let them speak on their own behalf:

Hamilton: "What people sometimes forget about Warren and me is that we're not repertory players. We're not involved in trying to *re-create* anything, like a specific arrangement. We incorporate the musical principles of another era, but we're improvisers—we're making it up as we go along."

Vaché: "When a sound is new, there's an urgency to it that reflects the tempo of the age. But that washes away with the passage of time, until all that remains is the music, pure and simple. Hawkins's version of 'Body and Soul' is as alive right now as when he first played it into the microphone in 1939. There are always going to be people hearing it for the first time, and it's always going to sound magnificent to them. Music transcends its original social and political associations. That's how it survives."

One Saturday last October, Vaché was sitting in on a job that Hamilton had lined up for his quintet: a wedding reception in a swank hotel across from Central Park. "Isn't that always the way?" Vaché asked no one in particular after he and Hamilton were sent back to the wings in favor of John Bunch, their pianist, who was re-

quested to play something sweet and quiet until the bride and groom arrived. "They say they want a hot jazz band for their affair, then they expect you to do the Meyer Ferguson bit anyway." But Hamilton, whose quarterly estimated-tax return was due the following week, was happy for the gig. "All I had to do was rent a tuxedo and play music for an afternoon."

He even looks like a character out of the 1930s—so say cliché-ridden journalists too wet behind the ears to remember much about the 1950s, never mind the 1930s, in describing Hamilton, with his slicked-back hair, pencil moustache, and baggy trousers. The implication is clear: He prefers Johnny Hodges to Charlie Parker, Hawkins to Coltrane, symptoms of a more general yearning for the speakeasy days before jazz began taking itself too seriously. More likely, Hamilton is just a careless dresser who has never given much thought to matters tonsorial. "Maybe when I was younger, I used to fantasize about what it would have been like to come up in the old days," he said. "But that's just an ego trip."

"Don't ask *me* if I was drawn into jazz by the life-style," laughed Vaché, a chunky, well-groomed fellow who still lives in Rahway, New Jersey, where he was born in 1951. "When I was growing up, I had no idea there was such a thing. My father sold electrical appliances five days a week, ate dinner every night at six o'clock just like everybody else's dad, and played Dixieland in country clubs on the weekends—something he continues to do to this day. He used to take me along to carry his bass, and as I got older, he would let me play my cornet with the band toward the end of the evening. I listened to the radio quite a bit as a kid, but compared to the records I heard at home, that stuff sounded pretty inconsequential. I was out of step with my schoolmates, but liking jazz gave me an identity."

Vaché's taste was broader than the rest of his family's (his brother is a banjo player in Jim Collum's Happy Time Jazz Band, a San Antonio-based trad outfit). Hamilton, too, made discoveries on his own after inheriting a love for the music from his father. "Unlike Warren's dad, my father didn't play," explained Hamilton, who grew up in Providence, Rhode Island. "But he was an avid collector, with a lot of sides from the '20s and early '30s. I loved that stuff, but I also began listening to things that were 'modern' only in so far as someone like my father was concerned: Ellington, Basie, Goodman, even some Charlie Parker and Lester Young."

Hamilton forgot all about jazz when he took up harmonica and joined a rock and blues band. "I went along with the crowd for a while. But listening to Paul Butterfield, B.B. King, Muddy Waters, Little Walter, and Sonny Boy Williamson naturally led me back." Hamilton's re-awakened interest was also spurred by his friendship with Duke Robillard, a former member of Roomful of Blues and current leader of the Pleasure Kings. "Duke was the ace blues guitarist in New England around that time, and we all followed his lead when he began including Ellington and Basie tunes in his sets. I wasn't the only one inspired by him."

Hamilton switched to tenor when he switched his allegiance from the blues. "The first player to make a big impression on me was Young, followed by Hawkins and Webster. But the biggest influence of all was Illinois Jacquet, because I got to hear him live, and he was doing everything I dreamed of doing: pretty ballads, jump tunes, everything."

Eddie Condon's was Vaché's old stomping ground. "When I first came to New York in the early '70s, I played there six nights a week, not 25 feet from Roy Eldridge at Jimmy Ryan's. Roy took me

(Continued on page 76)

S E L E C T E D D I S C O G R A P H Y

SCOTT HAMILTON

Back to Back.

Concord Jazz CJ 85; 1979.

The Second Set.

Concord Jazz CJ 254; 1984.

A First.

Concord Jazz CJ 274; 1985.

With BENNY CARTER

A Gentleman and His Music.

Concord Jazz CJ 285; 1985.

With MAXINE SULLIVAN

Uptown.

Concord Jazz CJ 288; 1985.

WARREN VACHÉ

Iridesence.

Concord Jazz CJ 153; 1981.

Midtown Jazz.

Concord Jazz CJ 203; 1983.

HAMILTON AND VACHÉ

With Scott's Band in New York.

Concord Jazz CJ 70; 1978.

Skyscrapers.

Concord Jazz CJ 111; 1980.

With JOHN BUNCH

John's Other Bunch.

Famous Door HL 114; 1977.

With ROSEMARY CLOONEY

Rosemary Clooney Sings the Music of Harold Arlen.

Concord Jazz CJ 210; 1983.

Rosemary Clooney Sings Ballads.

Concord Jazz CJ 282; 1985.

REVIEWS



MICHAEL DOONS ARCHIVES

JANIS JOPLIN WITH BIG BROTHER AND THE HOLDING COMPANY: MONTEREY WOULD MAKE THEM SUPERSTARS.

WEAR SOME FLOWERS IN YOUR HAIR

MONTEREY POP.

Ⓜ D. A. Pennebaker, dir.; John Phillips and Lou Adler, prods. Sony Video Software 91W00043 (Beta), 91W00044 (VHS); \$59.95.

WOODSTOCK I; WOODSTOCK II**.

Ⓜ Michael Wadleigh, dir.; Bob Maurice, prod. Warner Home Video 1015 (Beta and VHS)*; 1016 (Beta and VHS)**; \$29.98 each.

GIMME SHELTER.

Ⓜ David Maysles, Albert Maysles, and Charlotte Zwerin, dirs. RCA/Columbia Pictures Home Video 60196 (Beta), 20195 (VHS); \$29.95.

Like most of you, I never went to a rock festival. Fortunately for us, the great ones—the Monterey International Pop Festival, the Woodstock Music and Arts Fair, and the free concert at Altamont Speedway, weekends that changed the face of the music and its audience—were preserved in feature documentaries. Long the reference point for a remarkable decade, a standard against which incompatible events such as the Live Aid fund raiser are measured, Woodstock was a

Utopian dream turned disaster area that hyped and transcended itself into Utopian reality by the force of its peaceable masses. Nearly half a million Woodstock Nation citizens lived through a temporary, naive self-exile from an America occupied with its war in Vietnam. You've seen Michael Wadleigh's three-hour large-screen trip, no doubt: bad performances (Joan Baez and Crosby, Stills, and Nash), appropriately overblown ones (Santana, Joe Cocker, Ten Years After), great ones (Sly and the Family Stone), and excellent docudramatic editing, bucolic cinematography, and comic relief.

Monterey Pop, the chronicle of the 1967 "Summer of Love" happening (just now available on videocassette), is D. A. Pennebaker's humble forerunner to both the Woodstock festival and film. Watching *Monterey Pop* today, we're not as inclined to feel that cynical reaction we had when the media defused the revolutionary Haight-Ashbury

scene by reducing it to a few advertising slogans. It's disarmingly evocative of the time when psychedelic rock was just being born out of the electric experiments of young white aficionados of folk and blues. In the context of the sunlit arrivals of flower children, the schlock Scott McKenzie anthem "San Francisco" (produced, as was the film, by promoters John Phillips and Lou Adler) is surprisingly touching. And although three numbers by Phillips's group, the Mamas and the Papas, are two too many, they seem to fit as part of a youth movement not yet ruined by its commercial appeal.

Though both festivals were supposed to make money, the musicians and the fans had something else in mind. Almost by design, the crowds far exceeded ticket sales. But in the spirit of a new hippie economy of free exchange, everyone got by through a miracle of communal collaboration. Two-and-a-half years after Monterey—and just three months after Woodstock—a good-bye-party concert climaxing the Rolling Stones' wildly successful U.S. tour was given at Altamont on the same imagine-there's-no-country assumptions that had accidentally evolved at earlier festivals. The terrible results—documented in *Gimme Shelter*, where the Flying Burrito Brothers and the Jefferson Airplane abort their sets to quell crowd violence, before a gun-wielding participant is finally knifed to death as the Stones watch from the stage—marked the end of the mega-love-in ethic.

In one of *Gimme Shelter's* numerous preconcert interviews, Mick Jagger articulates: "The concert's an excuse for everyone coming together, having a good time, balling each other, getting real stoned, [not just for seeing] the Grateful Airplane or the Rolling Dead." But although rock festivals were clearly conceived as countercultural tribal gatherings, Monterey also tried to and succeeded at bringing different kinds of music and their audiences together. What makes *Monterey Pop* so special is the degree to which they are captured in the process of discovering each other. Blues students like Canned Head, Country Joe and the Fish, and Big Brother and the Holding Company (featuring Janis Joplin) display the kind of intensely impassioned amateurism that only such rare moments could create. Joplin's raw, abandoned, stunning extensions of the vocabulary of the female blues singer (with an awed Mama Cass looking on) are so unexpected that even the camera seems numb. No less exhilarating is Otis Redding bobbing and weaving in and out of silhouette on a

screen whitened by a lensful of spotlight.

Revelation follows upon revelation. The Who destroy their equipment in a shocking finale to "My Generation." Jimi Hendrix performs every imaginable erotic act with his guitar before setting it on fire. These give-'em-all-you-got debuts prove just how burnt out these guys were at Woodstock—the Who absorbed in their own glamour, Hendrix in his instrument. In Ravi Shankar's Monterey set, the camera, after nearly eight minutes of posters, painted faces, flowers, dancing, bopping, and trancing out, settles on the master sitarist, who closes the festival by amazing everyone (including himself and his musicians) with another ten minutes of improvised virtuosity.

Equally powerful in opposite ways is *Gimme Shelter*. If *Monterey Pop* is full of surprise ecstasies, this is a tragedy of inevitabilities. Nothing seems to go right. Different from the other two films in that it focuses on the headliners, *Gimme Shelter* ominously alternates shots of the frantic Altamont preparations with footage from earlier stops on the tour. It's like a Rolling Stones concert film turned murder mystery. The San Francisco bands, outsiders at Monterey, organized Altamont and in part were responsible for its fatal flaw, the hiring of Hell's Angels for crowd control. The Grateful Dead arrive, triumphantly enthusiastically, to hear what we have already seen—that the Angels have punched out Marty Balin of the Airplane. The performance footage occasionally shrinks into a TV monitor that the Stones watch after the fact. Viewing the film as if it were a newsreel of some assassination, the projectionist locates the murder weapon after Jagger asks for a replay. Frozen in frame himself as he exits, Jagger seems to kiss off the entire era: "See y'all," he says.

John Piccarella

**JOE HIGGS:
Triumph!**

⊙ *Joe Higgs and Earl "Chinna" Smith, prods. Alligator AL 8313. ☐ (Box 60234, Chicago, Ill. 60660.)*

Because he has steadfastly avoided the limelight, Joe Higgs is one of the unsung heroes of reggae. He is better known for his compositions and for having taught the Wailers (then a vocal trio of Bob Marley, Peter Tosh, and Bunny Livingston) how to sing than for the Jamaican solo albums he released in 1974 and 1979. But both those records were gems, and from the fat, resounding riff that opens "Come a Little Closer" to the evenly buoyant horn line that closes "Young and Wild," so is

this, his first-ever American release.

Triumph is billed as the album that brings Higgs into the '80s, and I suppose it does, in small ways: a few synth lines, some outside (for reggae) guitar solos, and a fuller dance beat. But what's more important is how comfortably it remains smack-dab in the countryman tradition of his previous work. And how, despite a couple of conspicuous flubs (the background vocals on "It's Good-bye" and the keyboard work on "Creation" are kinda hokey), *Triumph* is a showcase for Higgs's grainy, evocative voice.

Higgs glides effortlessly from an almost talking style of phrasing on several cuts to the irresistibly melodic singing of "I'm Right There." On "So It Go," an atmospheric Rasta ballad with piano poking against whirling synth, he invests the hoariest clichés ("No man is an island and only the strong survive") with unflinching passion. "Hurt My Soul" conveys real majesty; "Come a Little Closer," deep yearning. "It's Goodbye" simmers with quiet intensity, and "Satisfy My Heart and Soul" and "Young and Wild" both combine sweet desire with gospel feeling.

Drummer Harry T. holds down the beat and embellishes Higgs's admonitions with exploding cymbals, while the guitarists (four are listed, but no word on who plays what) solo brilliantly on "Hurt My Soul" and "It's Goodbye." Higgs offers more love songs than usual, but his polemical work is as incisive as ever. Even when he's dissenting, he leaves 'em with hope, and that's one of the reasons why it doesn't matter whether this is a '70s or '80s reggae album. Another reason is that, like the best bluesmen, Joe Higgs is timeless.

John Morthland

**LL COOL J:
Radio.**

⊙ *Rick Rubin, prod. Def Jam BFC 40239. ☐ (Distributed by Columbia.)*

This is a test. Entrepreneurs Rick Rubin and Russell Simmons recently inked a distribution deal with Columbia, heralding potentially the biggest commercial boost to underground hip-hop yet. Thus, *Radio* is not something the formerly independent Def Jam tossed off carelessly. But don't talk about doubts to L.L. Cool J. On *Radio* he dismisses Bruce Springsteen, Madonna, Michael Jackson, Edgar Allan Poe, Shakespeare, Picasso, and the Japanese Army, 'cause none of them has the stuff he's got. And that's just one side.

L.L. doesn't hold truck with the pop slickness of Whodini, and doesn't sing (as do Kurtis Blow and other rappers), "'cause I

just don't do that." L.L. is about how spare speechcraft plus a skeletal set of synthbeats can illustrate a hard life, its values and its meanness. Not surprisingly, his most convincing lyrics are the ones that put someone down, whether it's a liar or a hopelessly bad dancer. His idea of a come-on is "Yo baby, wanna come to my crib, have some doughnuts and milk, and listen to a pop tune?" And yet this and one other love song triumph because of his lust, a lust for lots more than the Kangol designer clothes and the expensive radio that give him his status.

On Def Jam's previous singles, Rubin has shown two basic production modes: a heavy metal crunch that's no surprise, given he's a big fan of AC/DC, Motorhead, and Hüsker Dü, and a flip-side minimalism, a skin-tight percussion-only style that leaves out most of the boomy bottom that hard hip-hop usually showcases. Play the 12-inch of L.L.'s "I Need a Beat" (issued months ago and remixed for *Radio*) and you hear a pretty good record, but one whose sparseness could not carry a whole album. Rubin has since concentrated on making details resonate. The dripping-water sounds on "I Want

You" and the four-note piano figure on "I Can Give You More" are startling ostinatos that give the music color and organization.

L.L. raps that he lives in a tough neighborhood but still wears his gold out on the street. Sounds here like he's gonna get more. I sure hope the next Def Jam/Columbia essay goes beyond the familiar put-downs and chest-thumping that he delivers. Then again, I hope the next record has as much personality as this one.

RJ Smith

**DIVINYLS:
What a Life!**

Ⓞ Gary Langan, Mike Chapman, and Mark Opitz, prods. Chrysalis BFV 41511. ☐

Christina Amphlett's vocal on *What a Life!*'s hit single bid, "Pleasure & Pain," a Holly Knight-Mike Chapman tale of good lovin' (and love-makin') gone bad, is disconcertingly direct: bitter, accusatory, and as intimate as an argument that seeps through the bedroom walls. It was also customized, in concept at least, for America's airwaves by this undernoticed Australian band.

When Amphlett wasn't suggesting a more of-this-earth Lene Lovich on the Divi-

nyls' 1983 debut, *Desperate*, she recalled the wizened, disdainful timbre of latter-day Marianne Faithfull. But this woman is less bruised than scrappy. As she puts it now in the sardonic "In My Life," "I was born and brought up wrong/And I don't know where I come from/Mum had me when she was nineteen/A never-was that always has been."

Desperate teetered between adroitly arranged "new wave" and boisterous pub rock. Although the pop hooks still sneak up rather than announce themselves brashly, *What a Life!* is more deliberately polished and cohesive, aimed at the mainstream. Yet the album has a coolly offhand quality, as if the band (with guitars) were still thrashing out ideas in some backroom club; the melodies remain a little ragged around the edges. That suits the mood of material like the caustic "Don't You Go Walking," which turns lover-come-back clichés on their ear; the cautionary "Guillotine Day," a litany of troubles rendered with defiance, not despair; and the sly "Sleeping Beauty," a reverie about romance and sex—or, I should say, about the romance of sex.

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record's charms with a rehearsed rowdiness that's just this side of unpredictable. Amphlett isn't afraid to appear inelegant; her rudimentary dance steps are a cross between a schoolgirl's awkward jig and a very personal war dance. But her wild card is her personality: She's too smart to be one of the girls, too feisty and special to be one of the boys. And her best is probably yet to come.

Michael Hill

VARIOUS ARTISTS:

Krush Groove.

- Ⓢ *Russell Simmons, Kurtis Blow, and Doug McHenry, prods. Warner Bros. 25295-1. Ⓢ Ⓢ*

Because *Krush Groove* was anticipated as the hip-hop flick that would tell it like it is, Chaka Khan's wimpy-vamp theme (released weeks before the credits even rolled) injected into this critic's head some serious skepticism. It isn't so whack that it's barred from the boom boxes in my Brooklyn neighborhood, but "Can't Stop the Street" sways when it should rock. Run-D.M.C., the Fat Boys, Kurtis Blow, and Sheila E. whip up a rapper's delight on "Krush Groovin'," which is more deserving of title-songdom. Still, Khan's presence, like Sheila E.'s, affords whiter exposure to hard-core artists such as L.L. Cool J. Debbie Harry contributes what deserves to be her big comeback, the kinetic "Feel the Spin." But, Mr. Warner Bros. Big Cheese, why lay the unfunky "Love Triangle" on the Gap Band?

Cool J's sturdy, electro-fattened "I Can't Live Without My Radio" is the cut most likely to devastate. It will slow-burn its way up your feet into your brain-fuzz. And speaking of fat, the Fat Boys' retreat, "All You Can Eat," offers the usual human beat-box/food-processor imitations. Their producer, Kurtis Blow, breezes in with his best track in years—a well-arranged, melodically con-

toured rap (*America's* "If I Ruled the World"). The best vocal performance here is "Tender Love," from the Force M.D.'s, who in 1984 demonstrated that they could rap, break dance, and sing. If they were better looking, they might have gotten a chance to act, too! *Havelock Nelson*

SMOKEY ROBINSON AND THE MIRACLES:

Compact Command Performance: 18 Greatest Hits.

- Ⓢ *Smokey Robinson and various prods. Tamla TCD 06071TD.*

AL GREEN:

Compact Command Performance: 14 Greatest Hits.

- Ⓢ *Willie Mitchell and Al Green, prods. Motown MCD 06111MD.*

Tamla/Motown records were miserably pressed. We're not talking persnickety audiophilia here, just the reasonable desire of a man who loves the tune to hear it without the snap-crackle-pop that was the hallmark of the labels' quality control in their glory years. In a commendable—and thrilling—reversal, the CDs in this *Compact Command Performance* series are compiled meticulously, transferred directly from the original master tapes. For the first time, you can hear everything on "The Tracks of My Tears": Marv Tarplin's typically understated guitar intro, Smokey Robinson's last sob, and all details in between. This sonic sanitation is a joy throughout, from "Going to a Go-Go" to "I Second That Emotion" to "Cruisin'." And the lush doo-wop ballad "(You Can) Depend on Me" is a digital revelation. Because the song selection tries to be representative right into the '80s, the disc leaves out too much of the brilliant mid-1960s Miracles, including some personal faves ("A Fork in the Road," "The Love I Saw in You Was Just a Mirage," "My Girl Has Gone") and some *essentials*: the elegant "More Love" and the sublime "Ooo Baby Baby." Still, I'm thankful for what I've got.

Because Al Green never recorded for Motown, his CD doesn't have to redress the same old grievances as Smokey's. Green's hits, all made in the '70s, cut in the same Memphis studio with the same producer/engineer (Willie Mitchell) and many of the same players (the Hodges brothers, the late Al Jackson, Jr.), were better recorded and pressed to begin with. This collection is reasonably comprehensive, from Green's slowed-down Southern version of "I Can't Get Next to You" and his transcendent "Love and Happiness" to the churning original of "Take Me to the River," and it includes

seven of his nine gold records, beginning with "Tired of Being Alone." The sound is as good as it can be after the fact, with every sigh and slide in his voice palpably present in the room, and with the hiss of the original master tape audible only at high volume. And now I can listen to "Here I Am (Come and Take Me)" or "Let's Get Married" over and over just by pushing a couple of buttons. That's heaven to me. *Jeff Nesin*

THE LAST POETS:

This Is Madness.

- Ⓢ *Alan Douglas and Stefan Bright, prods. Celluloid 6105. Ⓢ*

THE LAST POETS:

Oh My People.

- Ⓢ *Bill Laswell, prod. Celluloid 6108. Ⓢ*

A product of the Sixties' black awareness movement, the Last Poets cut preacher/teacher-like recordings that placed them in the mainstream of Afro-American traditional music. But their no-nonsense delivery of Third World issues affecting the black community gained them little commercial success—although "O.D.," which Mick Jagger had already stolen for his film *Performance*, did make the pop, soul, and jazz Top 100 charts in 1971.

The Poets pitted the powerful ghetto "reality poetry" of Alafia Pudim and Omar Ben Hassen against the stark polyrhythms of percussionist Nilija, resulting in a sound they coined as "spoagraphics," or spoken pictures. *This Is Madness*, the original group's second album (now reissued), authenticates their ties with African culture. "Related to What," "Mean Machine," and "This Is Madness" are each divided into two distinct parts: A "chant" section shifts into the main verse and percussive track. There's a nuts-and-bolts call for human understanding in "Mean Machine," where the Poets combine echo and elementary electronic effects to create a true three-man rhythm machine, and although I don't necessarily agree with their Third World view that the contraceptive pill is a social evil, the song grooves.

Despite the new lineup's disclaimer to rap on *Oh My People*, their latest release, the addition of modern synths makes "What We Gonna Do" and "This Is Your Life" sound like the kind of music you might hear at funky roller rinks. While the latter takes off from a "Mean Machine" theme, the overpowering bass beat makes it difficult to think of this as the poetry in motion the Poets once created. "What Will You Do," the only song that follows their original format, drags on dully. Long tracks interspersed

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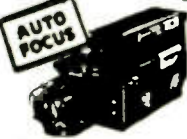
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with mini-interviews are a far cry from the captivating sound that was the stamp of their original, uncompromising artistry.

Mildred Camacho

AEROSMITH:

Done with Mirrors.

© Ted Templeman, prod. Geffen GHS 24091.

Ah, well, here you have it. *This* was a band. They might be some kind of bad joke for those who'd conveniently prefer to forget what they were doing in the mid-Seventies, but Aerosmith were hard as molybdenum and boasted a mangy leer that has traveled surprisingly well. They didn't think big—actually just a little lower than their belt buckles—but they sure got over.

The surprise of *Done with Mirrors* is (a) it exists and (b) it isn't half bad, perfect for those moments when you'd rather *not* take Excedrin and just ride out that bad attitude instead. The legions weren't holding their breath for another side-order of grease, not after axeman Joe Perry split seemingly for good in '79 and formed his own band. Not after Aerosmith had proved their rep a couple dozen times over as unreliable and world-class substance abusers. Yet here they are, on the treatment, doing anti-drunk-driving commercials and touring their butts off. *Done with Mirrors* isn't shooting merely for nasty; it wants to be lowdown, Humble Pie nasty.

Singer and songwriter Steve Tyler hasn't lost his crumb's-eye view of the universe: It's all still one big playpen for him to pout in and bray about his conquests and his dirty-dog image. Has the man lost the knack for pithy wordplay that made "Lord of Your Thighs" and other tunes such monuments? "Hey Betty Boop, you got me drool-in," he sings on "Shame on You." Know why Steverino thinks a "dog" is man's best friend ("The Reason a Dog")? 'Cause "he wags his tail instead of his tongue." I rest my case. Supply enough passive aggression and this stuff can seem almost literary.

Producer Ted Templeman—he of Van Halen fame—isn't Mr. Right for Aerosmith. His glossy, theatrical walls of sound flatten the punch of Perry's work on songs like "Your Face, My Fist" and "The Hop." Still, he doesn't torpedo the disc. Captain Lou and Rowdy Roddy and their wrestling ilk have cut an album, but never mind: There's a lot more cartoon violence and sweat on *Done with Mirrors*. I put it on, and I only have to wrestle with my conscience. RJ Smith

(Continued on page 74)

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At his best, Sonny Rollins follows the advice of mentor Thelonious Monk: Work your variations off the melody of a song, not just its chords. Rollins has put that tip to good use, judging from past triumphs. But on this live recording of a one-time-only solo recital, his melodic juices just weren't flowing.

Actually, there are plenty of songs lurking about, but few of them clock in at over five seconds. Instead, we get an unrelenting stream of fragmented runs, stop-start rhythmic phrases, scalar figures, and roving lines. The result is maddening. At this performance, recorded outdoors at the Museum of Modern Art in New York, Rollins couldn't hang on to any melody (or harmony, for that matter), original or otherwise.

There's a lot of nerve and technique on display, but there's a lot of anxiety, too. At points, the saxophone colossus has to fall back on banal ditties to focus himself—a real bad sign. When he touches on "There's No Place Like Home" a second time, the audience applauds, grateful that he has settled down at least for a few bars. Rollins's obvious discomfort and nervous flitting about ultimately grinds *The Solo Album* down to the level of a hip parlor game: Invite your friends over and see how many split-second song quotations they can identify.

Maybe the whole thing can be written off to self-consciousness. It's not like playing unaccompanied is anything new to Rollins: Lone-wolf cadenzas are part of his legend. But in the past, when inspiration was exhausted, he knew his band was there to help out. On this night, the pressure just got to him. I hope he thinks twice before attempting another solo flight. *Steve Futterman*

ERIC DOLPHY:

Out to Lunch.

Ⓞ *Michael Cuscuna, reissue prod. Blue Note BST 84163.* ☐

GRACHAN MONCUR III:

Evolution.

Ⓞ *Michael Cuscuna, reissue prod. Blue Note BST 84153.* ☐

It was typical of Blue Note that the sidemen on these two reissues, both examples of the label's mid-1960s involvement with the avant-garde, would have been as comfortable with a more conventional setting as they were with what was then called "The

New Thing." The label had developed a stable with enough Young Turks and open-minded postboppers to guarantee that almost all freedom expeditions would be well-staffed with enlightened moderates.

The results were predictably mixed, but often surprising. For example, trumpeter Freddie Hubbard, who acquitted himself so well on Ornette Coleman's *Free Jazz* and previous Eric Dolphy records, sounds less than comfortable on *Out to Lunch*. Faced with almost unlimited options, he often resorts to cleverly busy solos, darting over the surfaces of the music without really getting inside it. On the other hand, vibist Bobby Hutcherson, who has since become a relatively anonymous purveyor of modern bop, sounds every bit as possessed as the leader. He eagerly explores both textural and conceptual possibilities, so that a single solo might range from twinkling-bell prettiness to blunt, humorous phrases that resolve themselves with a rude, metallic "bong!" And Tony Williams, who a few years hence would become a devotee of fusion, that least rewarding of genres for drummers, here boldly leads the rhythm section through the spontaneous breakups and recombinations that turn each solo into a free-form suite. *Out to Lunch* is arguably Dolphy's finest record, not only because of his own impassioned playing, but because the rhythm section (which includes bassist Richard Davis, a past collaborator) has chutzpah: They follow him out on his special limb and then try to shake the whole tree once they get there.

Further evidence of Williams's and Hutcherson's glory days as revolutionaries can be found on Grachan Moncur III's *Evolution*, an album that has hardly received its due, partly because its achievements are not of the firebrand kind and partly because the trombonist's subsequent sparse recording career has discouraged critical reevaluation. Moncur was a tidy, rather ironic improviser who granted his players a conditional freedom that allowed them to soar as best they could against the melancholy pull of his compositions. This tension proved an effective spur to longtime boppers like alto saxophonist Jackie McLean and trumpeter Lee Morgan, who swing a little looser here without having to face the traumatic lack of structure that stymied Hubbard. Meanwhile, the drummer and the vibist, as on the Dolphy record, often play like there's no tomorrow, particularly on Side 1. The flip side is more conventional, with "The Coaster" a hard-driving standout kicked along by Williams's dazzling drumwork. Its high-spirited solos

resonate with the characteristic poignancy of Moncur's theme.

Moncur's personality—a mixture of wry intelligence and compelling sadness—dominates *Evolution* just as much as Dolphy's dominates *Lunch*. It would be eccentric to suggest that the trombonist was as important and influential a musician as the fierce iconoclast. But this reissue will, I hope, draw some fresh attention to a neglected and original artist. *Richard C. Walls*

ORNETTE COLEMAN AND PRIME TIME:

Opening the Caravan of Dreams.

Ⓞ *Kathelin Hoffman, prod. Caravan of Dreams Productions CDP 85001. (312 Houston St., Fort Worth, Texas 76102.)*

In September 1983, Ornette Coleman returned to his native Fort Worth to inaugurate the Caravan of Dreams, a nightclub for experimental music and theater. Performing at home for the first time in 25 years, he played with the local symphony, with a string quartet, and with his Prime Time harmonic juggernaut. This is the first of three live sets from that weekend to be released and for my money is the best Ornette album since he unveiled Prime Time on 1977's *Dancing in Your Head*.

Just compare this version of "Sex Spy"—Ornette over two basses, drums, and guitars—with the duet he cut with bassist Charlie Haden on 1979's *Soapsuds, Soapsuds*. That one is slow and languorous—also, unfortunately, studied and clinical (as much of Coleman's studio music has been over the last few years). With Prime Time, the tempo is supercharged, and Ornette comes at you in such a flurry that you hardly realize it's the same tune. The original "sex spy" must have been a daydreamer; this one is a heavy-breather.

Aggression alone does not make for better music, needless to say, but this stuff has an earthiness and a raw vitality I haven't heard from Ornette in some time. Can it be a coincidence that this is his bluesiest album in years? On "City Living," "Harmolodic Bebop," and "To Know What to Know," Ornette plays with abandon, repeating rhythmic phrases, building the tune the same way classic r&b sax honkers (his earliest influence) would have. Welcome home, indeed.

The Prime Time band members often begin tunes tentatively, as if they're waiting to see where Ornette's going, but then they tighten up and churn down their own path. When Ornette lays out, which he does very rarely, they don't alter their attack to cover for him at all. There's only one soloist here.

and the rest is ensemble playing that derives directly from jazz tradition; for the first time, it's clear how little (beyond use of electric guitar) Prime Time owes to rock. Steady as the band is, this remains Ornette's show all the way. Quite simply, he blows up a storm.

John Morthland

ZOOT SIMS:

In a Sentimental Mood.

© Rune Otterman, prod. Pablo 2310-914. ☎

The late Zoot Sims gained attention as one of the "Four Brothers," saxophone players in Woody Herman's big band, all of whom worshipped at the altar of Lester Young. I don't think Sims ever completely threw off that association, although he spent the next 40 years backing away from Young's seductive influence.

Sims developed a style that leaned toward bop without losing the tonal expressiveness of older saxophonists. The musical shake-ups of the '60s left him out of the picture, and he compensated by turning inward, broadening and deepening his sound; the swinger gave way to the romantic. His up-tempo excursions were still models of control, eliciting momentum and excitement from the most select notes. But at this point his ballads became the source of a new pleasure: Using the same economy of means, Sims indulged himself in a tone of near intoxicating sensuality.

Recorded in Sweden in 1984 with just bass and guitar, *In a Sentimental Mood* is an unpretentious assortment of familiar standards and a blues. Who would have thought that anyone could cut through the dust of such war-horses as "Autumn Leaves" and "Sweet Lorraine"? The intimacy of the trio setting and the comfortableness of the lived-with material bring out an unusual depth of feeling in both Sims and bassist Red Mitchell. Sims's tone has rarely sounded as warm and personal, and Mitchell's solos share his concern for space and melodic distillation. The bassist's plush walking lines and chorded double stops make him a one-man rhythm section; *In a Sentimental Mood* could easily have been a duet.

Inevitably, there will be a surge of interest in the later recordings of Zoot Sims, no matter how much they're taken for granted at the moment. His ballad-deering is just too memorable for him to be omitted from the ranks of the great saxophonists who originally inspired him. Regardless, this album already sounds like a classic.

Steve Futterman





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SWING SHIFT

(Continued from page 65)

under his wing. It used to amaze me how approachable my heroes were, how eager they were to pass along advice. All you had to do was show an interest." Vaché and Hamilton have shared bandstands with the Eldridges and Benny Goodmans and Buddy Tates and Benny Carters, the father figures that thoroughly modern millies like David Murray and Wynton Marsalis can only worship from afar. It was inevitable that these two throwbacks would eventually meet, and fitting that their first encounter was at Condon's. For decades, that club and Ryan's stood as a fortress against Greenwich Village jazz progressivism, until both fell to the wrecking ball in 1985: What bebop could not undo was no match for urban renewal.

Unlike Vaché, who holds a degree in music education from Montclair (New Jersey) State College, Hamilton is basically self-taught and cannot read music. "It doesn't handicap me as a bandleader. I know enough terminology to tell the guys what I want, and if that doesn't work, I can demonstrate on piano. Not reading has one advantage: I'm not tempted to accept studio work." What did handicap Hamilton was a malady common to jazzmen of his generation: "Not knowing any songs! I thought I knew plenty, but what I actually had learned were their chord changes, not their melodies. John Bunch set me straight on that pretty fast." Now Hamilton teaches himself an old song by listening to a vocal recording—and, as Young used to, he pays careful attention to the lyrics, "not for poetic or sentimental reasons but just for help in phrasing the melody properly."

Both Hamilton and Vaché record as leaders for Concord Jazz. And as members in good standing of the label's floating stock company, they are helping to revive a glorious old tradition with their work behind singer Rosemary Clooney. In the 1930s, top-notch improvisers regularly played supporting roles on records by all manner of vocalists. "That tradition has passed," Hamilton points out. "And it's a shame. Ironically, the only guys who know how to play something behind a singer now are rock musicians; they're the only ones who have had any practice."

As I understand it, the biggest gripe against Hamilton and Vaché is that their solos lack the historical primacy that Vaché hears in Hawkins's "Body and

Soul." Fair enough. But shouldn't the same charge be lodged against Wynton and Branford Marsalis in relationship to Miles Davis and Wayne Shorter? What about the multitude of callow tenor saxophonists recycling old Coltrane licks, so obsessed with scales and passing chords that they don't even realize they're acting out a second-hand obsession? It's difficult to avoid the conclusion that these two invite skepticism not because they're old-fashioned, but because they don't play hard bop.

Or that Hamilton and Vaché might be regarded very differently if they were black. They discovered their fathers' trad and swing collections around the same time that many of their black contemporaries were buying their first Coltrane and Davis albums, when innovation was synonymous with black protest; preservation was the white man's burden. Since then, the rhetoric has taken an unexpected turn: Young black musicians are now applauded for their fealty to the old masters. A small-group-swing revival would seem a logical development in such a climate, and a glance through the new-release bins confirms that we might be in the middle of one. Look at the covers of these albums, though: The only faces not pocked with age belong to white men. Remember when the burning question in rock used to be if young white men could sing the blues? (I bet Hamilton does.) The only pertinent answer to that question: Maybe not, but with notable exceptions, young black men sure aren't about to. They're not about to swing anymore either—at least not in the grand old manner of four beats to the measure.

The blues will never really die, of course, and neither will swing. Both continue to manifest themselves in many different guises. Still, who would want to say goodbye to the original article? Vaché is right when he says that the music of Coleman Hawkins (and, by implication, his contemporaries) will survive forever in this age of mechanical reproduction. But jazz fans know better than anyone that records are sepulchral even when brand-new; the moment of inspiration they document is an echo that grows ever distant. The few surviving heroes from the glory days of swing aren't going to live forever. The worst that one can accuse Scott Hamilton and Warren Vaché of is atavism, not mimicry, and it's good to have them around. They're living proof that the jazz tradition didn't begin with *Kind of Blue*. ●

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(Continued from page 54)

er sound. Perhaps it's no accident, then, that Dutoit achieves a voluptuous tone conducting with his arms so far extended that he appears to be strung up by the elbows. Of course, a much simpler and considerably less mysterious explanation also is available: He has been known to repeat a phrase of music 40–50 times in rehearsal.

Dutoit is not one to leave anything to chance. He prepares meticulously for concerts, and for recordings he sometimes works years in advance. When given the okay to record Holst's *The Planets* last year, he began teaching it to the orchestra slowly over the summer, programming isolated movements at first, refining the whole thing on periodic runouts, and then fine-tuning it at a subscription concert.

The night before a session, the players rehearse at the orchestra's recording venue, St. Eustache Church. Though inconveniently located 30 miles outside of Montreal, the church saved the MSO from its acoustically dry home, the Salle Wilfrid Pelletier, which would have been disastrous with such sensuous repertoire. In fact, St. Eustache was found to be the only building in the Montreal area that had good sound with relatively quiet surroundings. Acclaimed as one of the greatest recording sites since London's Kingsway Hall was lost to the industry, St. Eustache is often mistakenly called a cathedral by record critics who assume that such richness would have to come from an august building. In reality, the church is so nondescript, it wouldn't rate a blink from passing motorists were it not for a plaque in front commemorating the obscure 1837 Battle of St.-Eustache, which seems to have occurred during no war in particular. Yet, there is a generous reverberation, thanks to the unusually spacious interior, and an evenness is imparted to the sound by the dimpled ceiling. "There's no big buildup of the low end. Nothing ever clouds the registers. With this kind of repertoire, it has to be slightly washy, but clear," says London Records engineer James Lock, who discovered the church just as he was about to leave Montreal in despair.

The orchestra personnel and the church are incongruent bedfellows. Though the recording crew tries to adjust taping schedules so that a local Alcoholics Anonymous group can hold its regular noon meetings at the church, the sessions

leave the local townspeople more annoyed than impressed when automobile traffic is rerouted with roadblocks saying "Silence: On enregistre!" That precaution, however, is not enough to rid the area of noise from private seaplanes on the nearby river—which, by the way, is the sound one hears in the background of the MSO's account of Respighi's *Feste Romane*.

Such things sneak into the Montreal recordings simply because there isn't time for a retake. For example, the orchestra only had ten hours of studio time for Berlioz's *Roméo et Juliette* and *Grande Symphonie funèbre et triomphale*. Predictably, recording sessions drive Dutoit into an even greater frenzy of striving for perfection. "I get so frantic and crazy!" he admits. "I become very impatient if I see that we're losing minutes. It drives me crazy! Everything has to work. I squeeze the lemon of everybody! . . . But I don't think any artist can pretend that a record is anything more than just a moment of life. How good it is depends on the day, the weather, how you feel. . . ." Not surprisingly, by the time a disc comes out, he is often ready to rerecord it, so quickly do his ideas about a work change.

Beyond Berlioz, Dutoit is all over the map with dreams of recording several of the more obscure Serge Diaghilev ballets. And having just finished a disc of Suppé overtures, he'd love to devote a few sessions to Offenbach and other composers that some conductors dismiss as pops-concert fare. "You know people like that? They are snobs! It's great music and it deserves to be played well."

Yet the repertoire he calls his "Bible" dates back much further in his music education, to the time he was a child: Bach, Haydn, and Mozart. With great interest, he follows the unfolding performance-practice trend, and admits he has already been influenced by it in having adopted a more detached bowing style and less vibrato. "Harnoncourt, Hogwood, and Gardiner, they're doing a great job of trying to clean up certain things. There is a lot to learn from these people, and I'm sure our way of looking at these pieces will change. I'd love to do a major public study of *The Art of Fugue* (with both lectures and performances). . . .

"If I had one wish, though," Dutoit says quietly, "it would be to record all the Mozart piano concertos and operas. There is nothing better in the world of music. It is the top of creation."

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