U.K. £ 1.00 JULY 1982 $1.50
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High Fidelity™

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LINEAR TRACKI
THE TURNTAB

The linear tracking tonearm is without question the ideal way to recover information from a disc. It can virtually reduce horizontal tracking error to zero, eliminate crossmodulation and significantly minimize stylus and record wear.

But until now there hasn't been a linear tracking turntable whose overall performance truly measured up to the technology of linear tracking itself.

Pioneer's new PL-L800 has changed all of that.

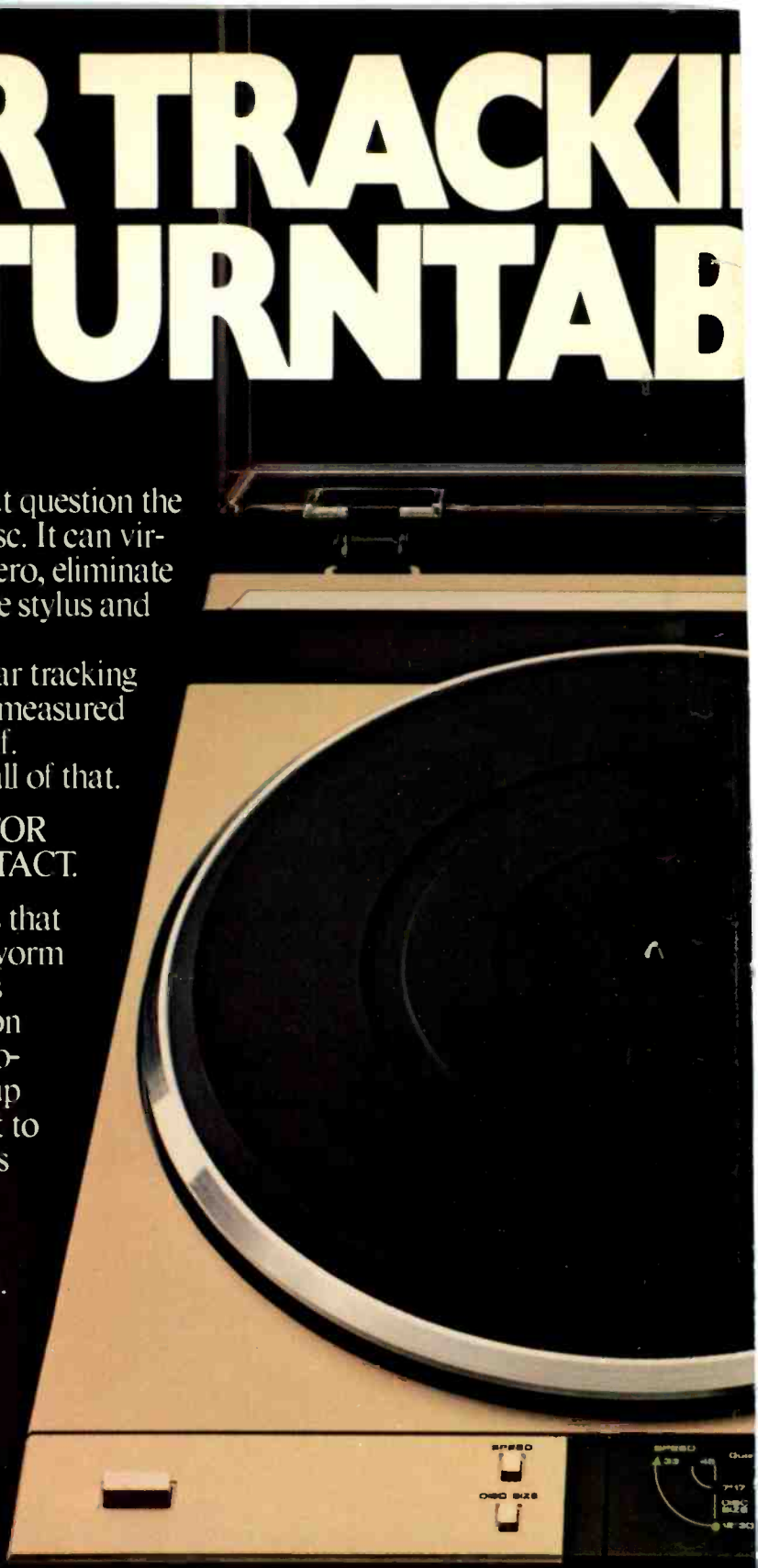
THE LINEAR INDUCTION MOTOR ELIMINATES MECHANICAL CONTACT.

Unlike other linear tracking tonearms that are driven by vibration-producing rollers, worm screws or pulleys, the PL-L800's tonearm is driven by Pioneer's exclusive linear induction motor. Through a process known as electromagnetic repulsion, a magnetic field is set up that gently propels the tonearm, allowing it to track perfectly with no mechanical linkages to degrade performance.

THE POLYMER GRAPHITE™ TONEARM DAMPENS VIBRATIONS.

To minimize any tonearm resonance caused by acoustic vibrations, the PL-L800's tonearm has been constructed with an exclusive dampening material called Polymer Graphite.™ The only thing we want you to hear through our tonearm is music.

Our Coaxial Suspension System, on the other hand, will absorb vibrations that occur when someone walks or dances too hard in a room, or accidentally drops the dustcover. Because inside the cabinet is a free-floating suspension system which isolates the tonearm, platter



THE PIONE
LINEAR TRACK

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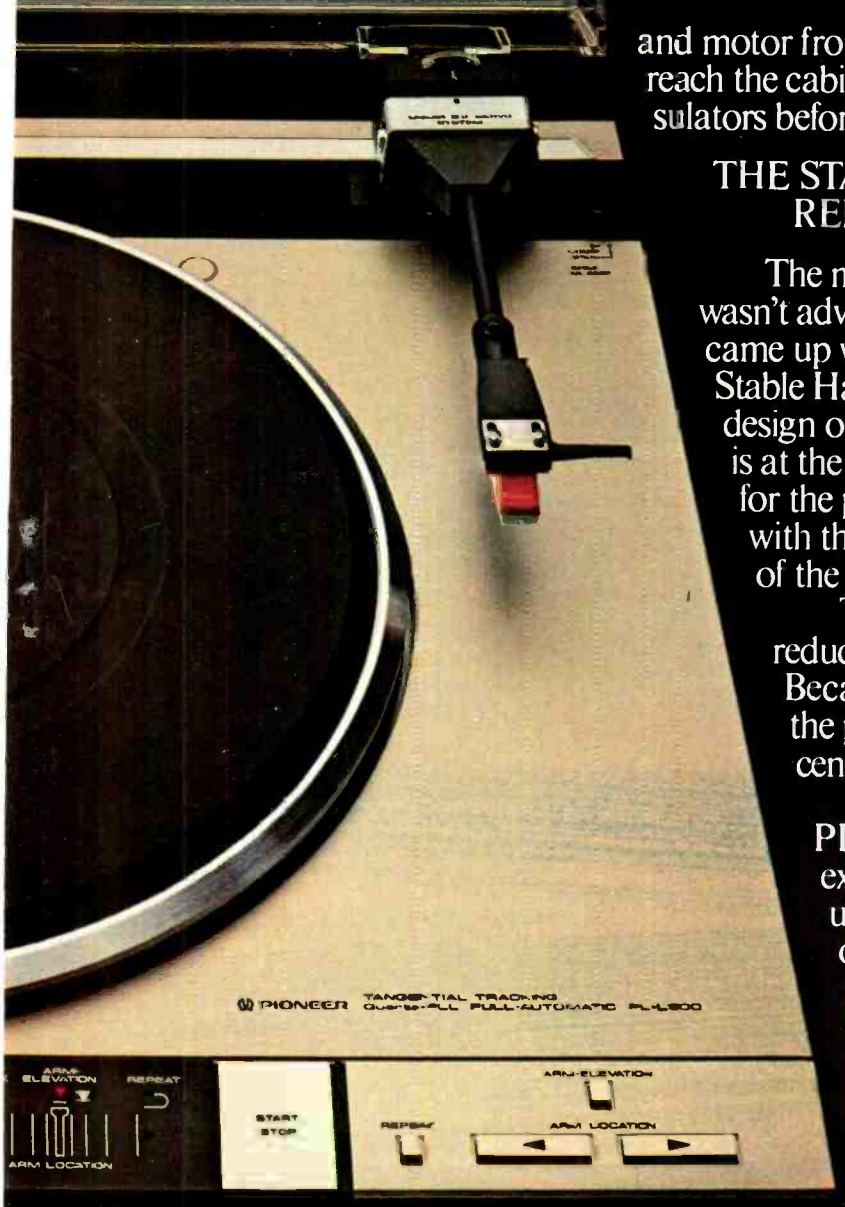

and motor from the rest of the turntable; vibrations that reach the cabinet are absorbed by the spring-coupled insulators before they can harm the reproduction process.

THE STABLE HANGING ROTOR DESIGN REDUCES WOW AND FLUTTER.

The most advanced turntable platter motor wasn't advanced enough for the PL-L800. So we came up with a new direct drive system called the Stable Hanging Rotor. The problem with the design of conventional motors is that the fulcrum is at the base of the motor, making it impossible for the platter motor's center of gravity to coincide with the fulcrum. And that results in a wobbling of the platter, known as wow and flutter.

The Stable Hanging Rotor system reduces the cause of this wow and flutter. Because the fulcrum lies immediately below the platter, it coincides with the platter's center of gravity.

And as if all this weren't enough, the PL-L800 also is equipped with Pioneer's exclusive moving-coil cartridge. It has such unusually high output that even a receiver or amp not equipped to handle most moving-coil cartridges can be used with the PL-L800.

If you find it hard to believe that a turntable could be as remarkable as the PL-L800, we suggest you visit your nearest Pioneer dealer and see and hear the PL-L800, along with our entire line of new turntables, for yourself.

No other linear tracking turntable deserves your attention more.

ER PL-L800 NG TURNTABLE.

PIONEER®
We bring it back alive.

Circle 1 on Reader-Service Card

WE'RE BREAKING INTO CARS.

After breaking ground in so many other areas, we thought it was about time.

So we put the challenge to our engineers: Create car audio that performs up to the standards of JVC home audio. And create they did.

You'll appreciate their skills the moment you switch on FM. The music comes through remarkably clean and undistorted.

Tapes, too, take on the brilliant, virtually noiseless sound of a home system. Compliments of metal tape compatibility and Dolby* noise reduction.

You want power? There's enough wattage to turn your car's interior into a concert hall. Along with speakers built to handle it with ease.

To help keep your eyes on the road, we offer features like Automatic Station Scan and Seek tuning. Auto-reverse. Even Music Scan which finds your taped selections automatically.

But to fully grasp how extraordinary JVC car audio really is, you've got to hear it. And you can do just that at selected JVC dealers and car audio specialists.

JVC®

JVC COMPANY OF AMERICA
Home Entertainment Division
41 Slater Drive, Elmwood Park, NJ 07407
JVC CANADA INC., Scarborough, Ont.

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High Fidelity

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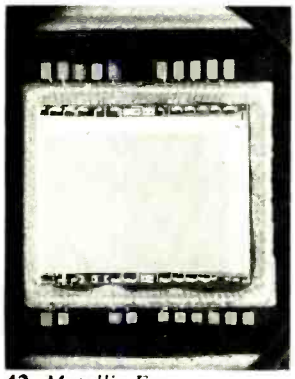
32 *Portable Potpourri*



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*Cover Story

AUDIO

VIDEO TODAY & TOMORROW

CLASSICAL MUSIC

BACKBEAT/Popular Music

DEPARTMENTS

Letters

Squeeze Play

Glad to see you're keeping track of Squeeze, truly a swell bunch as pop groups go and a personal pick to click for the here and now (and for years to come, if there's a jukebox in Heaven).

Next time, though, don't waste their latest on a space case like your critic, Mr. Sutherland, who must have been delirious when he previewed their new LP [BACKBEAT, June]. Apart from getting the *title* wrong (it's "Sweets from a Stranger," the latter singular, not plural), he seems to have the fevered suspicions of a Calvinist run amok when he interprets *His House Her Home*.

Adultery, my eye. The singer makes it pretty clear his girlfriend's hubby has Gone Beyond, making her a widow and thus fair game for a relatively aboveboard liaison. Just because Americans like to fiddle doesn't mean there aren't any standards of decency left in Blighty.

Don't let it happen again.

Sam Sutherland
Los Angeles, Calif.

Celebrated Centenarian

I am deeply impressed by and entirely grateful for Curtis Davis' "Stokowski at 100" [April]. Mr. Davis has dealt with both the Stokowski accomplishment and the Stokowski legend. He has avoided the almost irresistible inclination of many of the maestro's biographers to highlight the eccentric, the sensational, the "golden genius" aura that was a Stokowski hallmark.

I was young enough to gain an initial acquaintance with Bach through Stokowski's "dreadful" transcriptions. If they were dreadful—and they were never considered so before the period of baroque purism in the 1950s—they were also educating, often ennobled by Stokowski's perception of Bach's magnificence when translated into the fullest orchestral terms. Stokowski never claimed that his transcriptions were authentic; they were interpretations, not mere readings.

Harold E. Carter
Huntington Station, N.Y.

Credit Due

I would like to correct a mistaken impression created in Robert Long's article ["The Way We Might Have Been," December 1981]. The Bell Telephone Labs and Western Electric had nothing to do directly with the production of the stereophonic film recordings for Walt Disney's *Fantasia* in 1939–40. The system used was developed by RCA, a fact that was *very* strongly impressed on me by Bell Labs pioneer stereo developer Arthur C. Keller during a phone call a couple of years ago. Keller did not want Bell Labs to be blamed for what he felt were recordings that did not approach the quality that Western Electric Wide Range Recordings had achieved by 1939. Bell's sound-on-film system claimed a response of 20 Hz to 14 kHz and could not be matched by RCA's "Fanta-sound." Perhaps if Stokowski and Disney had not switched from Bell to RCA, the Disney studio would not have felt it necessary to give a backhanded salute to Stokowski's 100th anniversary this year by rerecording the *Fantasia* soundtrack with Irwin Kostal conducting.

Michael Biel, Ph.D.
Assistant Professor, Radio-TV
Morehead State University
Morehead, Ky.

Dr. Biel's description of the facts surrounding the recording of Fantasia *is, indeed, correct.—Ed.*

Klughing Us In

After reading Crispin Cioe's critique of Earl Klugh's "Crazy for You" [BACKBEAT, March], I was a little angry. I realize that the review was generally favorable, but I really take issue with Mr. Cioe's assertion that the album is in "the realm of doctor's waiting-room music."

I only hope that Earl doesn't take these negative comments to heart. He has more creativity and artistry in his big toe than Cioe will ever find in his entire being.

Jim Parry
Carson City, Nev.

Mr. Cioe replies: *I have heard Klugh's music in doctors' waiting rooms and on several all-instrumental self-proclaimed "beautiful music" stations. My comment, then, was less opinion than fact. For my money, Klugh plays some of the hippest easy-listening music around.*

Saving Grace

I want to thank and congratulate HF and Davin Seay for the accurate and concise overview of contemporary Christian music [BACKBEAT, February]. To find such an article in a national magazine of your prominence is something I've anticipated for a long time. It is to your credit that it was done so well.

I have operated a Christian record (not book) store for the past two years and have found the contemporary and rock segments of Christian music growing faster—in quality as well as quantity—than anyone ever dreamed possible. Only five years ago most "contemporary" Christian music was embarrassingly bad by any standard. Today, although production budgets are far smaller than those for most non-Christian albums, the quality compares very favorably.

George Lazzell III
Anchorage, Alaska

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.

Beyond quartz, the world's most precise tuning system, lies the extraordinary ability to expand sound.

Imagine you're in a room with Technics SA-828 receiver. What you hear is beautiful stereo. Then you activate Technics variable Dimension Control. Incredibly, the sound begins to move. The stereo image widens to the point where the music begins to surround you. You're intrigued by its richness and depth. You're enveloped by a new experience in sound. That's the wonder of the patented technology in Technics Dimension Control.

Just as wondrous is quartz synthesis, the world's most precise tuning system. That's how the SA-828 quartz synthesizer eliminates FM drift as well as the hassle of tuning. You can even preset and instantly retrieve 7 FM and 7 AM stations, all perfectly in tune.

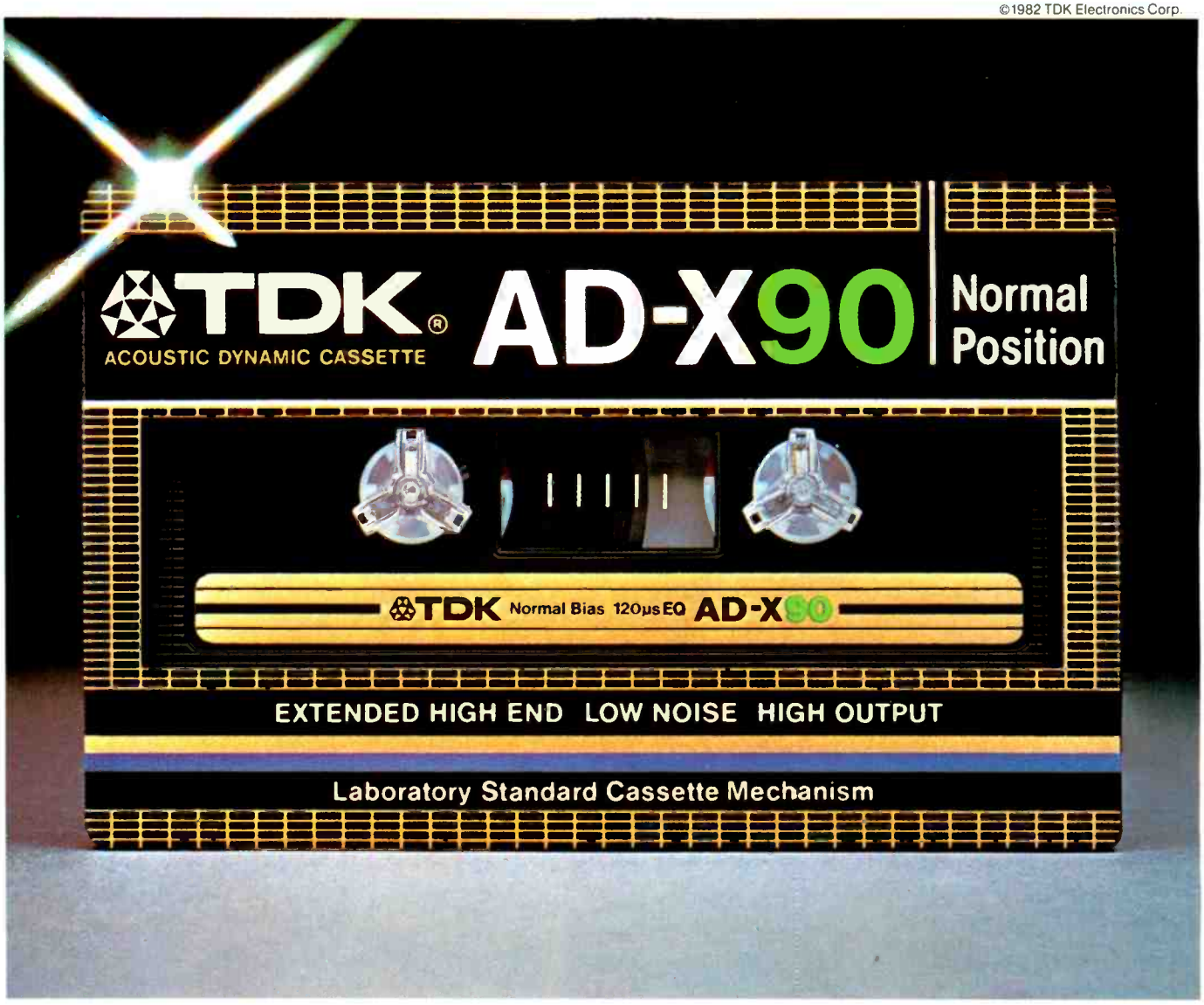
Another perfect example of Technics technology is our synchro-bias circuitry. What it does is constantly send minute amounts of power to the amplifier transistors. And since they can't switch on or off, switching distortion is eliminated.

And when it comes to power, the SA-828 has plenty: 100 watts per channel minimum RMS into 8 ohms from 20Hz to 20kHz with no more than 0.005% total harmonic distortion.

The SA-828 goes on to show its sophistication with a super-quiet phono equalizer, soft touch program selectors, fully electronic volume control, and a Dimension Control display that doubles as a power level meter.

Technics SA-828 is part of a full line of quartz synthesized receivers. Hear it for yourself. Beyond its quartz synthesizer lies a new dimension in sound.

Technics
The science of sound



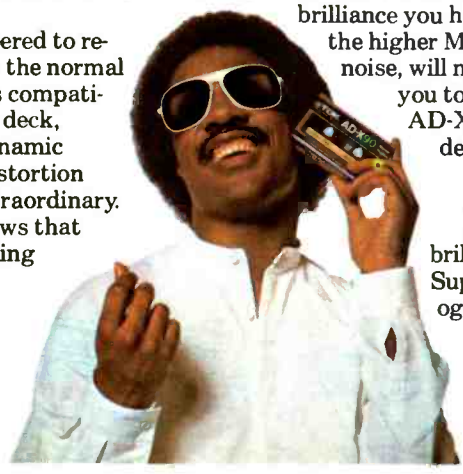
Someone who's a Wonder thinks AD-X is extraordinary.

As far as Stevie Wonder is concerned, the only thing that's normal about TDK AD-X is its bias. Otherwise AD-X is extraordinary.

AD-X is engineered to record and play back in the normal bias/EQ position. It's compatible with any cassette deck, delivering a wider dynamic range with far less distortion than ever before. Extraordinary.

Stevie also knows that even at higher recording levels, the increased headroom in AD-X handles strong signals easily without over-saturation. Extraordinary.

But, it's when you (or Stevie) press the playback button that the superior quality of TDK AD-X becomes demonstrably clear. The brilliance you hear, resulting from the higher MOL and lower bias noise, will make it difficult for you to believe how much AD-X "improves" your deck. Extraordinary.



Of course, there's a solid reason why AD-X performs so brilliantly. It's TDK's Super Avilyn technology at work. You see, AD-X is the first normal bias audio cassette to use TDK's Avilyn magnetic particle—based on the same formulation that's made TDK the leader in audio and video tape technology.

Another advantage about AD-X is the housing it comes in. It's TDK's Laboratory Standard Mechanism, and it's protected by TDK's lifetime warranty. Extraordinary.

When you add it all up, what TDK AD-X gives you is the ideal audio cassette for all-round personal entertainment suitable for *any* cassette player. That's why Stevie Wonder chose TDK before we chose him. This, too, is extraordinary.

TDK®
THE MACHINE FOR YOUR MACHINE

Circle 10 on Reader-Service Card

New equipment and developments by the Editors

Remote Possibilities

Luxman's fully automatic tangential-tracking turntable, the $400 Model PX-101, has an Auto Disc Pause circuit that can shift a connected Luxman KX-101 or KX-102 cassette deck from RECORDING to PAUSE when a disc finishes playing, making unattended recording easier. There's also a connector that links the turntable to Luxman's RX-103 remote-control receiver. The direct drive unit is said to have less than 0.045% wow and flutter (WRMS) and a signal-to-noise ratio of better than 70 dB.

Circle 94 on Reader-Service Card

Avid Listeners

Four new speakers with polypropylene woofers and fluid-cooled soft-dome tweeters are now available from Avid. Ranging from the Model 60ab minispeaker, with a 6½-inch woofer, to the Model 232ab three-way bass-reflex system, the Avid Audio speakers are priced from $105 to $275 each.

Circle 92 on Reader-Service Card

Lean, Mean, and Hapi 2

The latest from Stewart Hegeman is the Hapi 2 preamplifier. Adhering to the low-frill school of preamp design, Hegeman has elected to leave tone controls and most other non-essential features out of the Hapi 2, concentrating instead on the basics. Controls include a power switch, an input selector with positions for phono and three high-level sources, a tape-monitor switch, a low-filter switch, a mode selector (with positions for left, right, mono, and stereo), a loudness-compensation switch, and volume and balance controls. RIAA correction is completely passive, with the equalization network sandwiched between a flat, high-gain phono amplifier and the output stage; each phono circuit is individually trimmed at the factory for best frequency response and gain. Marketed by Adcom, the Hapi 2 is available as a kit for $479 or factory-finished for $650.

Circle 86 on Reader-Service Card

Less Is More

The only controls on Quad's $625 FM-4 FM tuner are seven station-preset buttons, a power switch, and a tuning knob. A built-in microprocessor governs all other functions, including recalling selected station frequencies from memory, tuning them accurately, and establishing the proper muting and AFC settings. The station-preset memory is nonvolatile; Quad claims that the FM-4 will remember frequencies for as long as five years without power. The tuner's wideband design is said to yield a very clean, low-distortion signal.

Circle 89 on Reader-Service Card

Ne Plus Ultra

Kenwood has introduced a complete car stereo system that it labels The Very Best. The heart of the system is a KRC-1022 digital frequency-synthesis tuner and cassette deck with twelve station presets, an Automatic Broadcast Sensor System that locates the nearest available listenable station, and Dolby B noise reduction. Also included is a KGC-447 five-band graphic equalizer, a pair of amplifiers (the KAC 901, at 100 watts per channel, and the KAC-801, at 50 watts per side), and four speakers (KSC-701B air suspension surface mounts and KFC-160 three-way door mounts). The system sells for $1,760.

Revox Revised

A Mark II version of the Revox B-77 open-reel tape recorder incorporates several enhancements, including a variable speed control that can adjust pitch as much as two half-tones above or below normal. In addition, the transport-control logic now uses four starting pulses for smoother tape acceleration, and the front record-head shield remains open when EDIT is engaged, making editing easier. The B-77 Mk. II's price is $1,800.

Circle 87 on Reader-Service Card

An Opening to the Rear

An unusual rear-vented midrange driver is used by Clarke Systems in its latest speaker system, the $330 Precedent II. The 4½-inch poly-hopolymer cone is loaded into a rear-firing subenclosure to isolate the midrange acoustically and to eliminate standing waves. The three-way system also employs a 1-inch ferrofluid-cooled dome tweeter and a 12-inch plasticized-fiber woofer. Clarke claims that exceptionally low distortion and high linearity result from the use of Mylar-film capacitors and low-saturation

(Continued on page 8)

(Continued from page 7)
ferrite- and air-core inductors in the Precedent II's crossover network.
Circle 90 on Reader-Service Card

Car Tunes

Kraco is offering three new auto-reverse car stereo units in its Designer Series. The KGE-803 ($240) has a built-in graphic equalizer; the KHP-1087 ($280) incorporates Dolby B noise reduction, an amp rated at 12 watts per channel, and pushbutton tuning; the upscale ETR-1089 ($350) includes electronic tuning, digital frequency display, and a ten-station (five AM, five FM) memory.
Circle 91 on Reader-Service Card

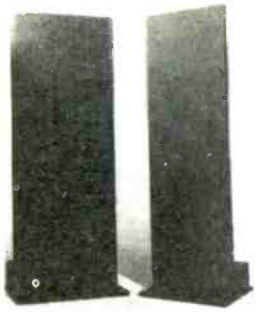
Front-Loading Disc Spinner

A microprocessor controls the three motors in Sony's front-loading PS-FL5 turntable. A direct-drive BSL motor turns the platter,

a second motor controls the tonearm, and a third slides the "works in a drawer" in and out. According to Sony, you can even stack other components directly on top of the $400 turntable without impairing its operation. Wow and flutter are rated at 0.025% WRMS, signal-to-noise ratio at 78 dB.

Sounds Olefine

A new speaker diaphragm material called olefine is being introduced in JVC's line of car speakers. The water-resistant polymer is said to provide fast response and to handle high power levels. Olefine is used in JVC's CS-41, CS-61, CS-691, and CS-692 speakers, which range in price from $44 to $140 per pair.
Circle 88 on Reader-Service Card



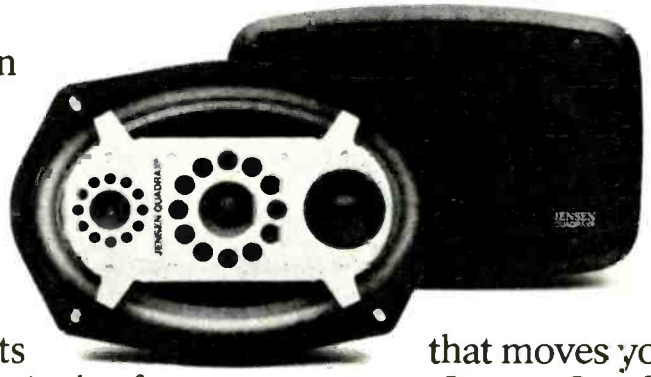
Standing Tall

Acoustat raises the injunction "think big" to a high art with its Professional Series speakers, which stand nearly eight feet tall. The $1,875 Model Six and $2,375 Model Eight are based on the same full-range electrostatic elements used in the company's Slimline speakers and are covered by a lifetime warranty. Compared to their shorter siblings, they are said to offer improved vertical dispersion, extended low-bass response, and a wider dynamic range.
Circle 93 on Reader-Service Card

"You go ahead. I prefer the Jensen performance."

When it comes to the performance of sound, Jensen® Car Audio *is* stiff competition.

Take the Jensen Quadrax® four-way speaker system for example. Naturally it delivers rich, full bass and crisp clear highs.



But, to add to its superb performance, it also features two separate drivers to define the upper and lower midrange signals, where most vocals are reproduced. The result is a clearer, more realistic sound across the entire midrange spectrum.

And the Quadrax handles power superbly, to push that sound even further—55 watts per speaker.

So if it's the sound that moves you, consider installing a Jensen Quadrax speaker system. That way, you can go far... just staying in your car.

® "Quadrax" is the registered trademark identifying Jensen Sound Laboratories as the producer of the patented 4-way speaker system.

JENSEN
CAR AUDIO

When it's the sound that moves you.

CrossTalk

Practical answers to your audio questions by Robert Long

Whose Fault?

I have a problem with pitch stability when I make recordings on my Teac A-420 cassette deck. It's noticeable as a quaver in sustained piano notes. If this machine is meeting its wow and flutter spec of 0.08% (NAB weighted), will speed instability be audible?

My repair service says that the BASF Professional II cassettes I use are "not good enough." But I have had similar problems with Sony EHF and TDK SA C-90s, and with SA C-60s. You don't address this in your reviews of cassettes. Can intermittent drag or friction cause this problem, and if so, shouldn't it be measured and reported? (I realize that constant *drag shouldn't show up as a quaver.*

I clean the drive belts, capstan, and pinch roller periodically, which helps for a time. But what is the long-term solution?—Ben Widmann, Severna Park, Md.

First—to start at the end—the fact that the cleaning helps the problem strongly suggests that the fault lies primarily with the machine, rather than with the cassettes. And of the parts you mention, the belt is the most likely source of flutter. A new belt—or even relatively frequent belt replacements—might be the answer (though in that case it's hard to see why the repair service would have ducked the question).

But such problems are never confined solely either to the deck or to the brand of cassette it's driving. Some combinations do seem less synergistic than others. Differences in the tape tensioning applied by the deck, for example, stress cassette bearings differently and thus alter the *cassette's* friction behavior from deck to deck. Conversely, differences in static (as opposed to intermittent) friction from one brand of cassette to another alter the deck's mechanical behavior. A measure of one without the other doesn't necessarily provide results that have any meaning.

We have used only the DIN/IEEE/ANSI peak flutter measurement for years, so I'm not intimately familiar with other weighting schemes. I assume that the 0.08% you quote is an average measurement. Until recently, at least, tape recorder and turntable manufacturers tended to prefer such WRMS (weighted root mean square) measurements, because the DIN peak technique measures short-term speed-aberration "spikes" that are glossed over by WRMS measurements.

A wow-and-flutter measurement of 0.08% WRMS might occur on a deck that measures anywhere from, say, 0.1 to 1.0% by our method—which is fast becoming standard worldwide. If your deck measured 1.0% peak, I would expect audible wow or flutter on piano tones; at 0.1%, audibility might depend as much on the listener as on the sound.

Big Bass

I hope to increase the power handling capacity and low-bass clarity of my Cerwin-Vega R-12 speaker. These now handle twice their original rated power, by virtue of the addition of a complementary DB-10 Bass Turbocharger I've installed. Because the R-12 is a two-way system that crosses over at 2 kHz, there is doubling in the woofer, which mars the midrange during loud low-bass passages. This may be caused by my DBX-110 Subharmonic Synthesizer and to the maximum 10-dB narrowband boost at 30 Hz of the DB-10.

A subwoofer seems to be the solution. The only model suitable for my listening environment appears to be the Cerwin-Vega SW-18 Low Frequency Studio Monitor, rated at 600 watts. If I isolate the bass with the recommended CX-2 100-Hz passive crossover (12 dB per octave), by what factor will my R-12's power-handling capacity be increased? Will this solve the woofer-doubling problem? Is this audibly feasible in terms of sound quality, excessive power-handling capacity aside?—Wyming Loo, Denton, Tex.

It should help reduce woofer doubling, though not by increasing your present system's power-handling capacity. The capacity of the R-12 will remain the same, but you will be asking it to handle less power, because some of its former input will be reassigned to the subwoofer. That should reduce doubling in any woofer; if it also means less reliance on the DB-10 and the DBX-110—each of which will surely add some second-harmonic distortion (which is what doubling is)—that should help still more. And you needn't worry about "excessive" power capacity: That's not a shortcoming.

There are two misconceptions I want to clear up. One is that the DB-10 is increasing the power-handling capacity of your R-12s, which is actually determined entirely by the physical design of the speakers. What the DB-10 does is to improve the speakers' deep bass response and (by virtue of its infrasonic filter) reduce their susceptibility to distortion induced by extremely low-frequency record-warp "information." The other is that the doubling you hear is somehow the result of the R-12s' 2-kHz crossover frequency, which in fact has nothing to do with it. Doubling audible at 2 kHz would be the result of a 1-kHz signal—a very unlikely circumstance. I doubt that you would get significant doubling from input signals above 100 Hz, which would put all the doubling components below 200 Hz. (Even the third-harmonic tripling components would be below 300 Hz.)

All Wet?

A few years ago, while living in Germany, I tried a record-cleaning product called Lenco Kleen, which produced amazing results with the record played wet. It is used widely in Europe; my Thorens turntable even has an antiskating calibration for it. It is by far the most effective product I've found for removing noise caused by surface dirt, but I can't find it here in the U.S. A representative of a major cartridge manufacturer recently informed me that I have probably ruined my record collection by using it. Should I keep looking, or should I use something else?—Tyrone Collins, Clarkesville, Ga.

Our tests of a few years ago seemed to confirm others that purported to show that playing records wet results in much greater groove wear than playing them dry does. By damping stylus motion, the moisture seems to prevent you from hearing the havoc that's being created, so the bad news is postponed until you revert to dry playing. As long as you're already committed, you may want to keep playing your old records with the wet system. (I'm told that distilled water can be used instead of the Lenco solution.) But the photomicrographs I've seen have convinced me that I'd rather not get started with wet playing. Conventional cleaning methods may not sound as super-quiet right out of the gate, but I'll bet on them in the stretch every time.

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

MAXELL IS PLEASED TO PRESENT AN EVEN HIGHER PERFORMANCE TAPE.

If you're familiar with Maxell UD-XL tapes you probably find it hard to believe that any tape could give you higher performance.

But hearing is believing. And while we can't play our newest tape for you right here on this page, we can replay the comments of Audio Video Magazine.

"Those who thought it was impossible to improve on Maxell's UD-XL II were mistaken. The 1981 tape of the year award goes to Maxell XL II-S."

How does high bias XL II-S and our normal bias equivalent XL I-S give you such high performance? By engineering smaller and more uniformly shaped epitaxial oxide particles we were able to pack more into a given area of tape. Resulting in a higher maximum output level, improved signal-to-noise ratio and better frequency response.

To keep the particles from rubbing off on your recording heads Maxell XL-S also has an improved binder system. And to eliminate tape deformation, XL-S comes with our unique Quin-Lok Clamp/Hub Assembly to hold the leader firmly in place.

Of course, Maxell XL II-S and XL I-S carry a little higher price tag than lesser cassettes.

We think you'll find it a small price to pay for higher performance.

IT'S WORTH IT.

Maxell Corporation of America, 60 Oxford Drive, Moonachie, N.J. 07074

Circle 12 on Reader-Service Card

Basically Speaking

Audio concepts and terms explained by Michael Riggs

And the Music Goes Round and Round

NOTHING ELSE IN THE REALM of music reproduction has come down to us so nearly unchanged from its beginnings as the turntable. Drive springs have given way to motors, and many other refinements have followed, but the primary task remains the same as it was in the days of Edison and Pathé: to spin records at a constant, exact speed.

There are three common methods of achieving that goal: rim drive, belt drive, and direct drive. Rim-drive mechanisms use a high-speed motor (about 1,800 rpm, usually) coupled to a small rubber wheel that contacts the inner rim of the platter. Some good turntables have been made this way, but it's not easy. The main problem is audible low-frequency motor noise, known as rumble. The drive wheels provide only limited attenuation of the motor vibration, which itself tends to be at frequencies well into the audible band. These days, rim drive turns up mostly in applications that require high torque for quick startups and in low-end home models.

Belt drive is another old-timer. For many years, all of the best manual turntables used this system, and a good many still do. A fairly low-speed motor is coupled to the platter by means of an elastic belt, which does an excellent job of isolating the platter from motor vibration. And because the motor turns more slowly than those used in rim-drive turntables, what rumble there is is lower in frequency and more likely to be below the audible range. Belt drive has displaced rim drive as the most common motor system for high-quality automatic turntables and changers.

The most recent arrival is direct drive: The platter attaches directly to the spindle of a motor that turns at the same speed as the platter. For this technique to work, motor vibration must be kept to a minimum to prevent objectionable rumble. Fortunately, what rumble does appear tends to be at very low, mostly infrasonic, frequencies. Although this system is used primarily in top-line turntables, its only real advantage over belt drive is faster startup (which has won it a niche in the professional market beside the rim drives).

Although each drive system tends to have some generic strengths and weaknesses, both excellent and mediocre turntables can be built using any of them. Judgments should be based not so much on design as on results. The things to look for are speed accuracy, low wow and flutter, and low rumble.

The first is the most easily achieved. So long as a turntable runs within about ½% of the desired speed, you are unlikely to hear anything amiss. The only models you might expect ever to exhibit significant speed errors are the few rim- and belt-drive units with induction motors, whose speed depends on the AC line voltage. Line voltage fluctuates too much in most areas to ensure correct speed with such motors, which are superseded today. Synchronous and electronically controlled motors, such as are used in all good turntables, do not suffer from this flaw and can usually be relied upon without question.

Wow and flutter are very short-term speed variations caused by inevitable imperfections in turntable bearings and motors. The fluctuations do not affect a turntable's long-term speed accuracy, but they can nonetheless be quite audible. Wow, which comprises slow variations, is heard as pitch instability—a sourness in sustained tones. It is especially noticeable on held piano tones. (Most audible wow results not from inadequate turntable mechanisms, but from records with severe warps or off-center spindle holes.) Flutter consists of higher-frequency variations and is usually heard as a coarsening of the sound.

Out of the many measurement standards for flutter and rumble, we have chosen for our test reports the ones we feel best represent the audible performance of turntables in the home. Because all the reports adhere to a single set of standards, it's easy to make comparisons between reviewed components. Unfortunately, the situation with regard to manufacturers' specifications is rather chaotic. The various standards in use are significantly different from one another, and the numbers derived by means of one are not usually directly comparable to those obtained by other methods. Unless the specifications for two components indicate the same measurement techniques (and many don't say), you cannot safely make a direct comparison. Matters are made even worse by the fact that most manufacturers use weighted root mean square (WRMS) flutter measurements that tend to mask short-term flutter peaks. Caveats now all properly in place, I will venture to say that you should expect to see average (and WRMS) wow and flutter figures of 0.1% or less for acceptability and of 0.05% or less for premium equipment. Rumble should be less than -60 dB.

One very important aspect of turntable performance has nothing to do with the drive system and is not covered by conventional specifications: acoustic and mechanical isolation. When a turntable is inadequately isolated from vibrations in its environment, it is susceptible to feedback. Acoustic feedback occurs when sound waves from the loudspeakers are picked up by the turntable base and transmitted through the cartridge stylus back into the system and out the speakers again, and so on in a vicious circle. Mechanical feedback is similar, but is transmitted through solid objects, such as the floor and walls of the listening room. At its worst, feedback can actually cause a system to howl. One approach to turntable isolation attaches the tonearm, platter, and drive motor rigidly to the base, which rests on resilient, shock-absorbing feet. In addition, some manufacturers make their turntable bases of special nonresonant materials to help reject airborne vibrations. A better (and unfortunately far less common) solution is to mount the tonearm and platter on a single rigid subchassis, which floats on springs attached to the base. Properly executed, this technique can do an excellent job of feedback rejection. **HF**

Kyocera...

another technological breakthrough.

The DA-01 Digital Audio Disc Player... The Sound Of The Future Today.

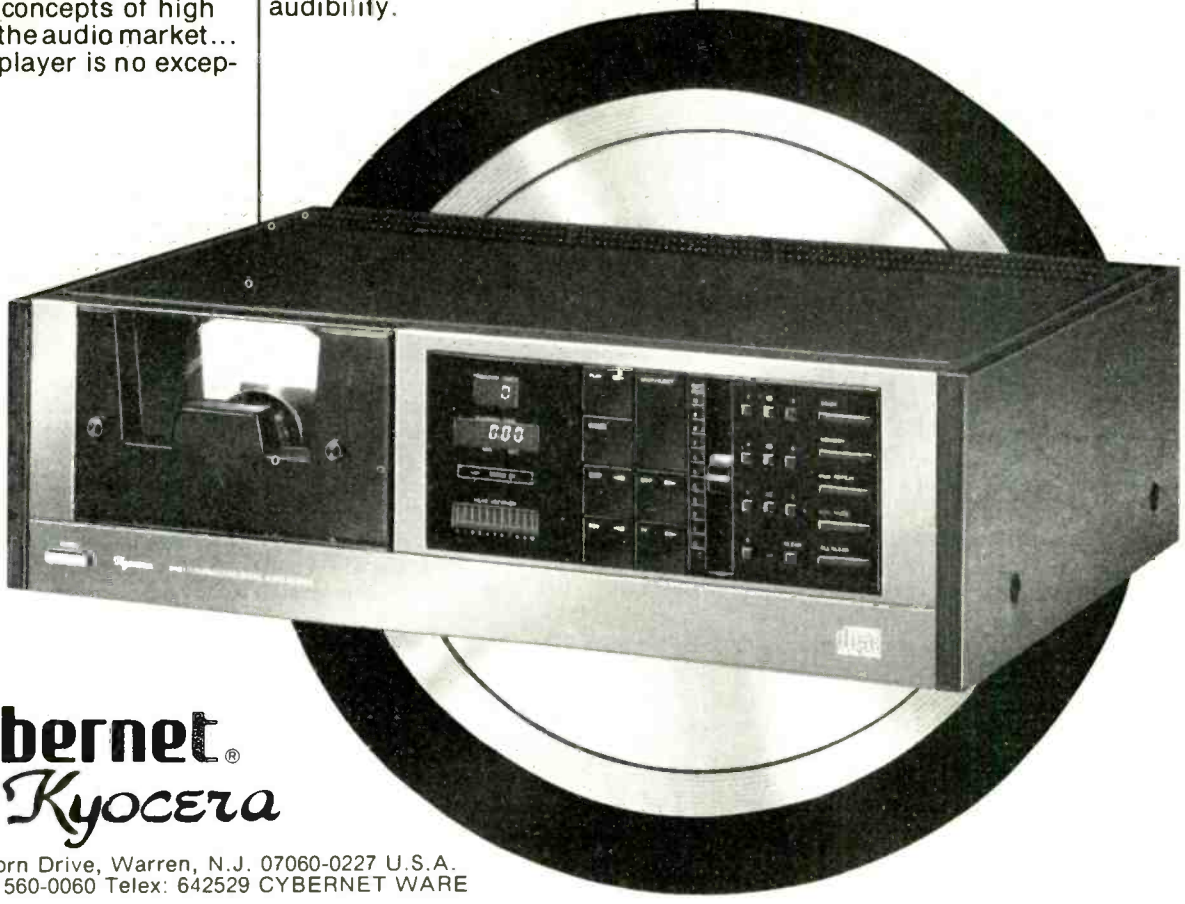
Recently there has been a lot of stimulating conversation about the newest breakthrough in audio technology...the Digital Audio Disc player (DAD). An innovative concept which utilizes a miniature 4¾" diameter encapsulated metallized disc capable of being programmed with over sixty minutes of stereo recordings.

Until now, the talk has been more speculative than factual and production has been limited to laboratory prototypes and demonstrator models. Yet speculations and promises are not the areas that have enabled Kyocera to become a leader in bringing new concepts of high technology to the audio market... and the DAD player is no exception.

Our new Model DA-01 Digital Audio Disc Player utilizes the proven principles of laser/optical scanning found in quality video disc systems, in which there is no contact between the disc and the playback head. By eliminating needle or head drag, wear and the inherent distortion are virtually eliminated. The DA-01 player provides all the superb quality for which digital audio is becoming known, with a full 90dB dynamic range; frequency response of 20-20,000Hz; 90dB S/N ratio and an impressive 90dB channel separation. Harmonic distortion at less than 0.05% is beyond the limits of audibility.

The convenience features are remarkable. Encoded programming information combined with feather touch electronic controls enables program repeat; scanning; pause; skip; rewind and programmable electronic memory index. A functional LED digital panel displays program, running time and head location.

In all, the DA-01 player fulfills what DAD promises, with a quantum leap in digital audio technology. Look for it soon.



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Sound Views

Opinion and comment on the changing audio scene by Edward J. Foster

HF Adopts New Tape Recorder Standard

STRANGE THOUGH IT MIGHT SEEM, there has never been a comprehensive tape recorder measurement and specification standard in general use in this country. There have been fragmentary standards—for equalization, wow and flutter measurement, and the like—but never a complete standard that dealt with a tape recorder as a whole or its interfaces with other audio equipment. Recently, however, the Electronic Industry Association (EIA) completed work on just such a standard. Once approved by the EIA membership, the new standard will strongly influence the way consumer tape recorders are specified and evaluated.

Starting with this issue, Diversified Science Laboratories and HF are adopting the new EIA methodology for all reviews of tape recording equipment. Fortunately, the variance between our past practice and the new standard isn't all that great, so the transition should be relatively smooth. However, you will need to understand the differences that do exist to compare our current and future test reports with past ones. Since this issue contains a review of the Teac X-1000R, I'll try to outline the differences that apply to open-reel decks first, but many procedures are common to all tape recorders, so there is bound to be some overlap with cassette deck specifications. Next month, I will complete my discussion of the new testing procedures. Along the way, I'll try to earmark those specifications that will change in future spec sheets (although it will probably take several years for manufacturers to adopt the new standard fully).

One of the most significant aspects of the EIA standard is its adoption of specific tape signal levels to which virtually all specifications are referred. Although tape reference levels have existed in the past, new oxide formulations have made some of them obsolete—particularly for open-reel equipment. In any case, there were so many reference levels that confusion frequently resulted. Although the standard cannot eliminate the old reference levels, it does insist that if a recorder is to be specified in accordance with EIA standards, the EIA reference levels must be used and that fact must be stated.

A significant advantage of the EIA reference levels is that they make cassette and open-reel specifications more directly comparable than they have been heretofore. Because the thicker tape coatings and wider recording tracks characteristic of the open-reel format theoretically give it an edge, the committee felt that open-reel decks should be tested at higher recording levels to subject them to stress comparable to that placed on cassette decks and to demonstrate more clearly whatever increased dynamic range open-reel might provide.

Signal-to-noise (S/N) ratio will be specified as how many decibels (dB) below the standard reference level the residual noise lies. Maximum recorded level (MRL) will be defined as how far above the standard reference level you can record with "acceptable" (no more than 3%) distortion. The algebraic sum of the S/N ratio and the MRL is the recorder's dynamic range. Thus, if the S/N ratio is 53 dB and the MRL is +3 dB, the dynamic range is 56 dB.

> Open-reel and cassette specs will be more directly comparable.

Sensitivity will be specified in terms of the input signal required to record a tape at the reference level (rather than at some arbitrary point, such as meter zero). Output will be specified as the voltage delivered when reproducing a tape recorded at reference level.

HF has followed a similar philosophy for many years, which is one reason why our test results have often differed from manufacturers' published specs. For open-reel equipment, we originally adopted the so-called Ampex reference level—185 nanowebers per meter (nWb/m)—but switched to a 200-nWb/m reference several years ago. However, this is still less than the standard cassette reference level of 250 nWb/m, even though open-reel decks should theoretically have the greater potential. As a result, open-reel equipment often appeared to have a poorer S/N ratio than cassette decks, but a greater MRL. The new EIA open-reel reference level is 400 nWb/m, or 6 dB greater than the level we used before, so you can expect to see S/N ratios improve by about 6 dB in our new open-reel reviews, while the MRLs drop by about 6 dB. This change will make open-reel MRLs referred to the new standard similar to those for cassette equipment measured to its reference (which will remain 250 nWb/m). For both types of recorders, MRLs of 0 to +4 dB will probably be the norm.

Noise measurements on audio equipment are usually weighted to reflect the variation of the ear's sensitivity with frequency. Heretofore, we have used A-weighting for all equipment other than tuners. (The IHF tuner standard does not provide for weighting.) Although A-weighting is internationally recognized and is allowed by the new tape-recorder standard, the EIA specification calls for a primary measurement according to the CCIR/ARM technique. Long championed by Dolby Laboratories, this method of noise measurement places greater emphasis on noise components in the region between 2.5 kHz and 12.5 kHz than does A-weighting. And while the A-weighting technique uses a detector that responds to true noise power, the CCIR/ARM method uses a meter that responds to average voltage—which, with a random-noise signal, may not be the same as a power measurement. Although we are not yet certain just what the difference between the two techniques' results will be, this much is apparent: When a frequency-sensitive noise reduction system such as Dolby B is used, the improvement in S/N figures with noise reduction switched in will probably be greater with the CCIR/ARM method.

Instead of specifying S/N measurements with shorted inputs and atypical control settings, the new standard requires that all tests be made under typical operating conditions. It specifies reference levels (0.5 volt for line inputs and 2.5 millivolts for microphone inputs) and requires that the recording-level controls be set so that these inputs produce a reference-level recording. The settings of all other controls are specified just as precisely. Typical input and output termination impedances are also required for all tests. Finally, the actual tape used for testing must be stated in the specifications, a requirement that will be of great help to the consumer. If specifications are based on only one tape, the EIA recommends that it be a C-90 Type 2 (chrome or ferricobalt) cassette or a 1-mil open-reel formulation. The preferred tape speeds are

(Continued on page 15)

1⅞ ips for cassette and 7½ ips (if available) for open reel, although separate specifications for each tape speed for which the deck is designed are strongly suggested. None of these requirements will change our procedures in the least, because DSL has followed this same policy since it began testing for HF.

Tape recorder frequency response is measured at a recording level well below the reference level to avoid tape saturation at the frequency extremes. For open-reel equipment, our standard practice in the past was to use a recording level 10 dB below our 200-nWb/m reference. The new standard specifies a recording level that varies according to tape speed. At 7½ ips, response will be measured at 15 dB below the new 400 nWb/m reference level. In point of fact, this is almost precisely the same level we have always used (−15 dB re 400 nWb/m is equivalent to −9 dB re 200 nWb/m). The recording level will change 5 dB each time the tape speed is doubled or halved. Thus, 15-ips machines will be tested at −10 dB re 400 nWb/m, 3¾-ips machines at −20 dB, and so on.

Cassette recorders will also be tested at 25 dB, but with respect to their own reference level of 250 nWb/m. In the past, we have tested cassette decks at a higher level (−20 dB re 250 nWb/m), so you might find treble response a bit more extended in future tests, especially on inexpensive decks.

Manufacturers following the EIA standard will be required to specify frequency response as the maximum variation (plus or minus so many dB) with respect to the output at a specific reference frequency. This should end the practice of specifying response without a tolerance, or with a tolerance of, say, ±3 dB when, more properly, it should be +1, −5 dB. The preferred reference frequencies are 315 Hz for cassette, 500 Hz for open-reel at less than 7½ ips, and 1 kHz for open-reel at 7½ ips or faster. With the exception of cassette decks, for which we used the DIN-standard frequency of 333 Hz (also allowed by the EIA standard), our previous practice anticipated the new standard exactly, so there should be no change.

Up to now, relatively few manufacturers have bitten the bullet and specified frequency response with noise reduction on, despite the fact that almost every audiophile uses whatever noise reduction system is built into his deck. We hope that the omission of such response figures will end with the adoption of the EIA standard, which makes response both with and without noise reduction a "primary" specification. Response with noise reduction is likely to be less broad and less smooth than response without it, but we heartily concur that you should know how your deck will perform when operated the way you are most likely to use it. **HF**

The Autophile

Going on the road with stereo by Gary Stock

Mobile Music Faces Up to Murphy's Law

CAR AUDIO OFFERS the clearest illustration I can imagine of Murphy's notorious law—"Anything that can go wrong, will"—as it applies to engineering. Every obstacle you could envision impedes the flow of high-quality radio signals from the transmitter to your car stereo. In fact, only the intense, sinful pleasure of racing along some coast highway with the radio playing and the wind in your hair (or the smug joy of encapsulating yourself in a sonic womb while stuck in an urban gridlock) could justify the Herculean efforts that have been directed toward designing high fidelity stereo component systems for road machines.

Let's examine the hurdles one by one and then see what's being done to surmount them. First, there's the vehicle itself. No matter how sophisticated its ignition system, every car is a static generator on wheels with bandwidth so wide that no filter can block all of its noise. Indeed, the level of static is so intense that it can affect radio reception in homes hundreds of feet away. Compounding this basic problem is the fact that the ignition is connected directly to your radio through the power-supply wiring that serves as the main electrical conduit of your car. Also wired to the power supply are the various motors that run the engine and heater fans, the window lifts, the electric mirrors, and other amenities. All of them inject pollutants—heard as static, whine, and buzz—into the flow of electrical power from your battery to your car stereo system.

A second major impediment to decent sound is that a car stereo system rarely stays in the same place for very long—unless you choose to listen to your radio while parked in your driveway. Normally, mountains, valleys, tall buildings, and other elements of terrain heavily influence which signals (and their relative strengths) arrive at your car's antenna from moment to moment. On the AM band—with its typically narrow frequency response, long signal wavelengths and high broadcast power—slight variations in signal strength are almost unnoticeable. The music's volume may waver a bit, but topographical surfaces rarely reflect or absorb the whole signal.

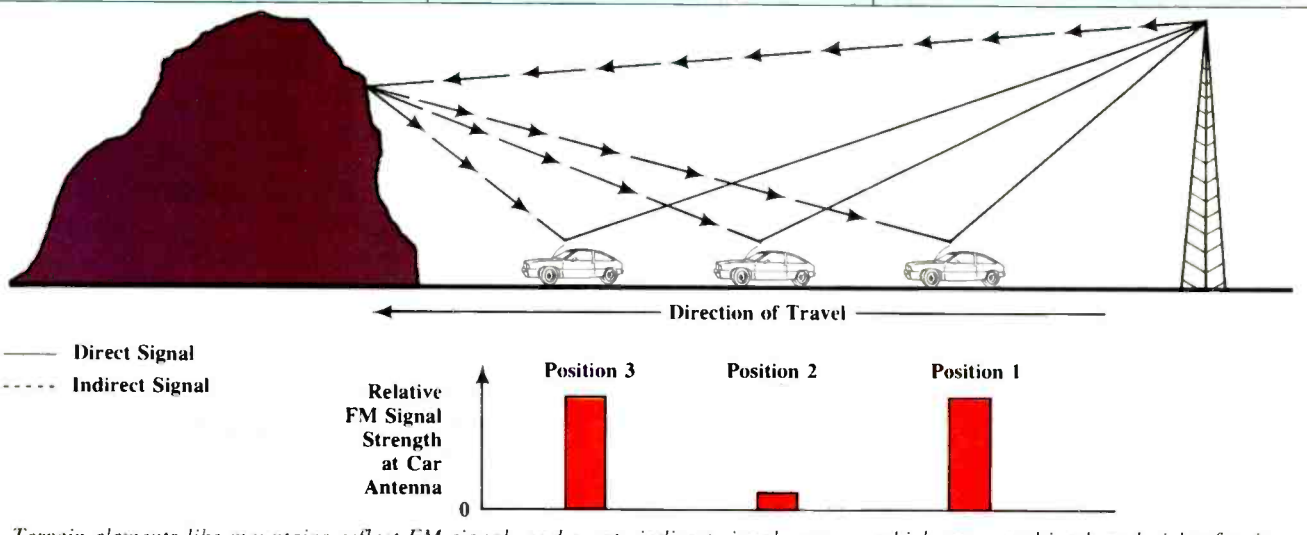
On the FM band, however, with its wider frequency response, lower noise, and generally higher sonic quality, the effects of moving your car's antenna across the terrain are constantly apparent. The big villain is multipath—a phenomenon that occurs when some of an FM signal's relatively short wavelengths bounce off buildings or other objects and arrive at the antenna out of phase with the main signal. These out-of-phase signals partially or completely cancel the primary one, leaving your radio with a signal too weak for stable reception. The audible result may be "picket fencing"—an annoying shoo-wop sound caused by the radio's noise level rapidly rising and falling as the passing landscape alternately interrupts the signal with multipath and then lets it through unscathed. In severe cases, the level will shift abruptly as the tuner alternately captures and then loses the signal altogether. If your car has a built-in windshield antenna or one that fastens to a sharply angled windshield pillar, reception problems may be compounded. These antennas work better in some directions than others, and when you round a curve you may end up with the antenna's blind side turned toward the transmitter and lose the signal.

Mobile music reception encounters many other minor problems, but for the moment I'll skip them and simply sum up by saying that building a *good* music receiver for a car is one tough job. But take heart—our side is winning. After forty years of study, clever engineers in the design labs have come up with answers for most of the major problems of carborne reception.

Static hasn't been licked—a car's ignition simply radiates too much stray energy—but it is being tamed. There are dozens of bypassing devices on the market that can be attached to the various static generators to route the noise gremlins away from your tuner. Double-shielded spark plug cables, bypass resistor/capacitor networks that clip right into auxiliary motors, and shielded internal wiring are typical examples.

Most manufacturers of serious automotive tuners have addressed the noise question, too, with built-in filtering networks and heavier steel radio chassis for better shielding. An Alpine receiver I recently installed arrived with two small "black boxes" attached to its leads: passive

(Continued on page 18)



Terrain elements like mountains reflect FM signals and create indirect signal sources, which cause multipath and picket fencing.

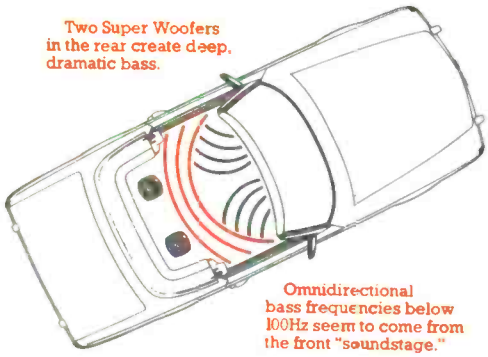
Because Sony redesigned the car stereo, the auto makers don't have to redesign the car.

The interior of an automobile is designed with a lot of purposes in mind. Unfortunately, great stereo sound reproduction isn't one of them.

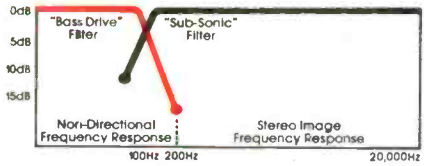
Fortunately, Sony did more than just tackle this problem. They actually solved it. By designing a stereo system that meets the acoustical challenges inherent in a car.

INTRODUCING THE SONY SOUNDFIELD™ SYSTEM.

As the very name of our system indicates, we started with the acoustical sound field itself by treating the entire front of the car as a stage. The very directional high-end and midrange frequencies emanate from this stage in an accurate stereo image.



So the highs come across clear and soaring. The midrange, natural and accurate.



The bass frequencies below 100Hz actually are directed from the rear of the car, where the Super Woofers are placed. However, since these frequencies are omnidirectional, they seem to be coming from the proper "stage" location.

The result is richer, fuller, and more dramatic bass.

CONVERT WITH COMPONENTS.

The optimum SoundField System consists of a powerful amplifier (XM-120) driving a pair of 8" Super Woofers (XS-L20), along with a medium-powered amplifier driving the front speakers. This means full-range speakers can be used without risk of modulation distortion.

But you can begin to enjoy the SoundField System simply by adding one of our lower powered amplifiers and the Super Woofers to the car stereo you already have. Then you can slowly build up your system, adding a higher powered amplifier, more speakers, and an equalizer.

A SOUND THAT TAKES A BACKSEAT TO NONE.

Although the technology of the Sony SoundField System is complex, the reason for it is simple.

It will give you high dB levels with very low distortion, extremely precise stereo imaging, and an amazingly broad frequency response. In addition, you'll be pleasantly surprised at just how easily a SoundField System can be installed in your car.

So come into your local Sony dealer and ask to hear the next generation in autosound systems.

One listen and you'll know why the auto makers don't have to redesign the car.

SONY
THE ONE AND ONLY

Models shown: XS-L20 Super Woofers, XS-301 Front Speakers, XR-55 In-dash Cassette/Receiver, XM-E7 Graphic Equalizer/Amplifier and XM-120 Amplifier.

(Continued from page 16)

antinoise networks matched specifically to its internal design. Unfortunately, such antinoise gear is rarely supplied as standard equipment, so you usually have to pay extra for it.

Multipath is also yielding to improved tuner design. The superior capture ratios and AM rejection of the latest electronically tuned radios (ETRs) afford better resistance to signal reflections and picket fencing. And because ETRs use computer-style control circuits (and sometimes even full-fledged microprocessors), they can easily be "taught to think." So some manufacturers have taught them to monitor the quality of the tuned signal and to adjust the unit's receiving characteristics accordingly. By varying a tuner's stereo separation or its IF bandwidth, they can iron out the worst effects of rapidly varying signal strength and multipath reflections (though sometimes there are minor sonic side effects). Some receivers, such as Kenwood's models with Cassette Standby, will even decide when the radio reception is too poor for your ears to endure and automatically switch to the cassette player.

ETRs are also solving mechanical and human engineering problems. For example, they contain fewer coils, variable condensers, and trimpots that might be knocked out of whack by road jolts. Many models can scan for stations, fine-tune them, skip on to other stations, and so forth. Some, like Sony's new XR series, will sample the stations along the entire band, stopping a few seconds at each before advancing to the next. At any time you can command the unit to halt and fine-tune a particular station. This eliminates the often tricky and sometimes dangerous task of twisting knobs and checking the dial while you're driving.

At the moment, it's unclear what further improvements lie ahead. One of the best autosound-related ideas of the last decade—high-quality AM stereo—seems to have been consigned to the technological junk heap by a recent FCC decision. The commission declined to choose among the five competing AM-stereo proposals, leaving the situation too unclear for radio manufacturers to risk committing themselves to any one particular approach. The decision is especially disturbing in light of AM stereo's technical merits: In many regards, it's a better medium for mobile music reception than FM, for the reasons I've already noted. However, broadcasters and manufacturers are trying to find a solution. Meanwhile, most manufacturers seem to be concentrating on refinements rather than venturing off in new directions, so we may have to wait a bit for the next big breakthrough in car stereo. Fortunately, what is currently available is already excellent—no matter what Murphy says. **HF**

New Equipment Reports

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

SPECIAL DOUBLE REPORT

An Utterly Unconventional Preamp-Plus From McIntosh

McIntosh C-33 preamplifier, with built-in five-band equalizer, compander, and power amp. Dimensions: 16 by 5½ inches (front panel), 12½ inches deep plus clearance for controls and connections. AC convenience outlets: four switched (1,200 watts max. total), two unswitched/auto-switching (see text) (100 watts max. total). Price: $2,300. Warranty: "limited," three years parts and labor. Manufacturer: McIntosh Laboratory, Inc., 2 Chambers St., Binghamton, N.Y. 13903-9990.

OUTPUT AT CLIPPING	10.5 volts
HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)	<0.01%
FREQUENCY RESPONSE	+<¼, −¼ dB, 17 Hz to 24.6 kHz; +<¼, −3 dB, 11 Hz to 99 kHz
RIAA EQUALIZATION	+¼, −½ dB, 20 Hz to 20 kHz; −19¾ dB at 5 Hz

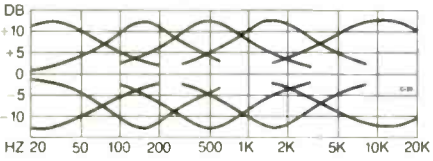
INPUT CHARACTERISTICS (IHF loading; A-weighting)

	sensitivity	S/N ratio
aux	50 mV	89 dB
phono	0.38 mV	77 dB

PHONO OVERLOAD (1-kHz clipping)	90 mV
PHONO IMPEDANCE	47.8k ohms; 60 pF
HIGH FILTER	−3 dB at 8 kHz; 12 dB/octave
LOW FILTER	−3 dB at 43 Hz; 12 dB/octave

Equalizer section

FREQUENCY RESPONSE (individual controls at maximum and minimum positions)



OUR MINDS WERE BOGGLED when we first heard about the McIntosh C-33: a preamplifier that, in addition to an unusually complete complement of features—separate recording selectors, connections for three tape decks (one of which can be plugged into the front panel), and so on—offers a built-in five-band equalizer that can be used both in the listening and in the recording circuit, a compressor/expander that also can be switched for listening or recording, and (of all things!) a power amp rated at 20 watts per channel. What do you call such a product, and for whom is it designed? How should we test it—as a preamp, or as an integrated? And what about the compander and the equalizer—aren't they really separate products?

Well, let's work backward through those questions. After using the C-33 for some time, we find that—as highly unusual as this particular combination of elements appears at first glance—there is a lot of sense in this synthesis. The power amplifier section in particular, for instance, is essentially a separate product within a product, enhancing and (at risk of a pun) amplifying the capabilities of the design as a whole. So we decided to test the C-33 essentially as the preamplifier it is, but with additional measurements and comments to cover the "built-in outboards." Given the number of features and measurements that must be covered, this report (like the product) is sort of two in one. (It's for that reason we are printing only four other reports, rather than the usual five, in this issue.) And when we're done, we think you'll agree that the C-33 seems custom-tailored to an astonishingly diverse list of prospective users and applications.

The Basic Preamp

First let's cover the preamp as such, ignoring the extras for the time being. It has back-panel connections for three tape decks, two turntables, and two high-level inputs. The front panel has a tape input that overrides Tape 3 on the back panel; the front-panel tape output is in parallel with those on the back panel, making it effectively Tape 4. There are also rear-panel connections for an external processor, but no front-panel process/bypass switch: The interruption is automatic when plugs are inserted into the processor jacks, so the processor must be turned on if signals are to pass through the entire system.

There are two complete phono preamps in the C-33—though no head amp for low-output moving-coil pickups—so that you can listen to a record on one turntable while you make a tape copy of another that's playing on a second turntable. In terms of the complete independence between the recording and listening functions, in fact, we might almost say that the C-33 incorporates separate control preamps for each purpose. This enables dubbing from any deck to any other deck (or decks) while either (or any, or none) of the tape units is being auditioned. All the input and monitor switching is electronic, for minimum cross-

SPECIAL DOUBLE REPORT

Compander section

S/N RATIO (A-weighted; re 0.5 V)

	expansion	compression
minimum ratio (1.0)	88 dB	88 dB
maximum ratio (2.0)	89 dB	62 dB

DISTORTION (THD; at 2-volt output)
"normal" or slow ≤0.17%, 100 Hz to 20 kHz
fast setting ≤0.47% at 100 Hz

Power amplifier section

RATED POWER 13 dBW (20 watts)/channel

OUTPUT AT CLIPPING (both channels driven)
8-ohm load 14¾ dBW (30 watts)/channel
4-ohm load 13¾ dBW (23¾ watts)/channel
16-ohm load 12½ dBW (17¾ watts)/channel

DYNAMIC HEADROOM (re rated power, 8-ohm load)
+2¼ dBW

HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)
<0.01%

FREQUENCY RESPONSE (at 0 dBW)
+0, −¼ dB, <10 Hz to 44.6 kHz;
−3 dB at 153 kHz

S/N RATIO (A-weighted; re 0 dBW) 94¼ dB

SENSITIVITY (re 0 dBW) 170 mV

DAMPING FACTOR (at 50 Hz) 120

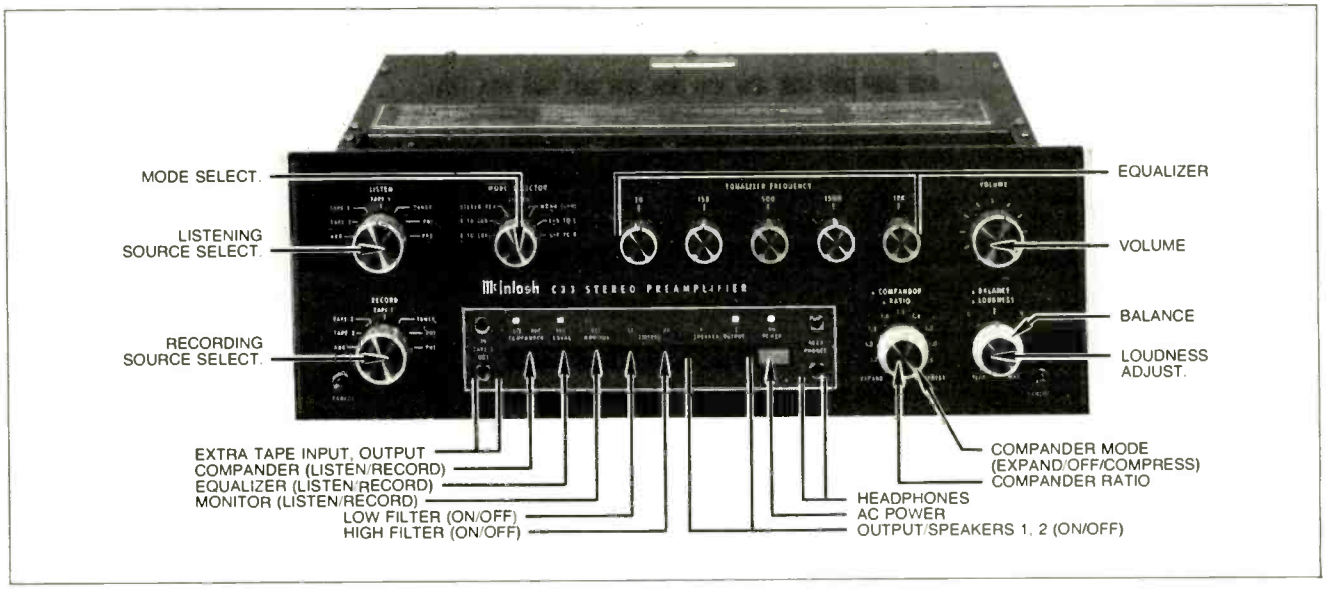
talk and noise, as it is in a growing proportion of top-quality units these days.

As the Diversified Science Laboratories measurements show, there are really three filters built into the C-33. Two are switchable: the high filter, which hinges at 8 kHz and is quite effective with high hiss, and the low/rumble filter, hinged at 43 Hz. Both have slopes of 12 dB per octave (which we prefer to the more common, but relatively ineffective, 6-dB slopes) and both affect the listening, but not the recording, channel. If you want to tape a record plagued with audible rumble, you must do the filtering in playback (or use the equalizer as a filter). An infrasonic filter—which often *must* be used in taping to filter out signals from record warps that might otherwise overload the input circuitry of a wideband recorder—is built into all functions. It, too, slopes at 12 dB per octave. Though its hinge frequency is relatively low (just below 11 Hz), there doubtless will be devotees of broadband electronics who will regret its nondefeatability. We don't. We can neither hear nor measure anything amiss as a result of its presence. We have, on the other hand, experienced—whether taping or simply listening—the untoward results that can result from unwanted infrasonics.

The LOUDNESS is a true *compensation* control—which is both very unusual and, as it turns out, very welcome. Instead of adding progressively more frequency shaping as you turn it down (counterclockwise), it adds compensation as you turn it up. This means you don't have to "calibrate" it to normal maximum listening levels; instead, it encourages you to use the most appropriate possible calibration instrument: your ears. And it really does add bass. You don't have to juggle the VOLUME and the LOUDNESS against each other to get the effect you want. Best of all, to the ears of some of us (though a consensus on loudness behavior is hard to arrive at at HF), the compensation is concentrated in the deep bass, centered on 30 Hz. With the control turned up all the way, response at that frequency is 18 dB above that in the midrange, while only about 3 dB is added at the top end, from about 4 kHz up. This means that the circuit adds considerable "kick," plus just a shade more sparkle to the sound—exactly what some of us think a loudness adjustment should do.

The VOLUME is a true stepped design using electronically trimmed resistor elements for a rated interchannel accuracy of better than 1 dB. As a byproduct, the VOLUME taper is smoother than those of typical detented-potentiometer controls, and there are no gaps in the progression. Over the top 45 dB of the adjustment range, all steps are increments of less than 3 dB. As you turn the volume still further down, the step size does gradually increase; if you use a very sensitive power amp or highly efficient speakers, you may find the low-level volume gradations a trifle coarse (in which case, you'd do better to get a less sensitive amp than to pass up the C-33).

The output system is another unusual feature. There are three line-level outputs on the back panel: MAIN, 1, and 2. The first of these delivers the signal you have selected for the listening channel, no matter what. (This can, of course, include the signal from the recording channel.) The other two are controlled by front-panel on/off switches, so you can use them to feed two independently-amplified speaker pairs in two different rooms. If the two amplifiers in question are connected to the back-panel accessory outlets, the switches for the two numbered outputs behave very much like the speaker-selector switch on a typical integrated amp or receiver. If you want to run all the speakers from a single amp—or if you want to keep the two amps switched, but find that they exceed the rated power capacity of the convenience outlets—you can use McIntosh's optional SCR Speaker



Sansui.
The story of high fidelity.

High fidelity was born just a generation ago. So was Sansui. In 1947, when the transistor was invented, we began as a manufacturer of high-quality audio transformers. Since then, Sansui's dedication to the sound of music and our extensive R & D have led to countless technological breakthroughs and products that have continually advanced the art and science of high fidelity. Some highlights:

1958: The year of the first stereo recordings also brings the release of our first stereo amplifier.

1965: As hi-fi widens its appeal, we introduce our first stereo receiver, the TR 707A.

1966: Sansui's U.S. subsidiary, destined to be outgrown in little more than a decade by our new headquarters in Lyndhurst, N.J., begins operation.

1970: QS, Sansui's patented 4-channel system, gains worldwide recognition.

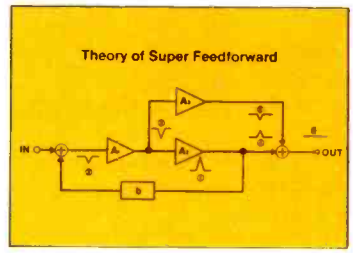
1976: No less a leader in broadcast than in consumer audio technology, Sansui introduces two stereo AM systems at the Audio Engineering Society convention.

1978: Psychoacoustic research into the subtle but very real deficiencies in bass and in transient response in music reproduction results in Sansui's introduction of DC amplifiers, the renowned G-series receivers, and our patented DD/DC circuitry. These advanced technologies reduce distortions whose very existence had been questioned until we developed a straightforward measurement technique to verify on a meter what listeners' ears had long told them.

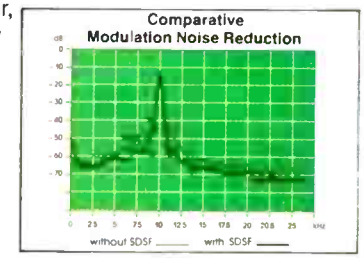
7900Z RECEIVER

1979: Sansui's patent-pending D-O-B (Dynaoptimum Balanced) method of optimally locating the pivot point results in significantly lower tonearm susceptibility to unwanted vibrations. The same year Sansui introduces the first member of our trend-setting system approach to hi-fi componentry, the Super Compo series.

1980: Developing a theory first suggested in 1928, Sansui presents the first Super Feedforward amplifiers, the realization of a design that eliminates even the last vestiges of distortion that not even negative feedback could combat. This development inaugurates a new era in the reduction of amplifier distortion and firmly establishes Sansui as a world leader in this important work. Eager to maintain its technological leadership, now also in video, in the same year Sansui develops an ultra-compact gas laser-optical pickup, some 40 times smaller than conventional detector systems, that promises to play a vital role in future compact digital audio disc players.



1981: Modulation noise, long a problem in cassette recorders, is reduced to virtual inaudibility by Sansui's patent-pending Dyna-Scrape Filter. Equalization that's simple enough for practical home use is realized with Sansui's computerized SE-9 equalizer, which not only achieves professional results in record or playback, but also permits storing up to four instantly-selectable equalization curves.



At the 1981 NY AES, we presented four major papers outlining breakthroughs in both audio and video engineering, each of which will lead to products to enrich all our lives.

Sansui's story and the story of high fidelity. They are really one ongoing story, and the future is bright for both.

1982
NEW TECHNOLOGIES TO COME.

1981
DYNA-SCRAPE FILTER.
DIGITAL EQUALIZER.

1980
SUPER FEEDFORWARD.
LASERDISC PICK-UP.

1979
D-O-B TONEARMS.
SUPER COMPO.

1978
G-RECEIVERS.
DD/DC AMPLIFIERS.

1976
AM STEREO.

1970
QS 4-CHANNEL.

1966
U.S. OPERATION BEGINS.

1965
STEREO RECEIVER.

1958
STEREO AMPLIFIER.

TU-S9 TUNER

AU-D11 AMPLIFIER

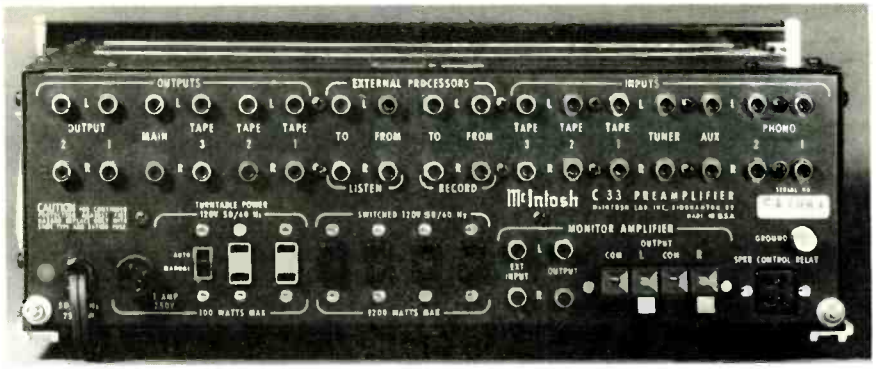
1947
SANSUI FOUNDED

Sansui

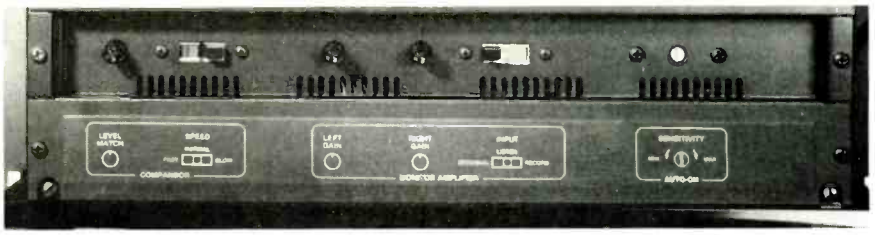
SANSUI ELECTRONICS CORPORATION
Lyndhurst, New Jersey 07071, Gardena, CA 90248
Sansui Electric Co., Ltd., Tokyo, Japan

Circle 14 on Reader-Service Card

SPECIAL DOUBLE REPORT



The C-33's rear panel includes a jack for connection of an optional speaker-control relay, speaker connectors for the monitor amp, and a switch for the AUTO-ON.



Its top cover holds the controls for the sensitivity of the AUTO-ON, for gain and input on the monitor amp, and for the speed and output level of the compander.

Control Relay, which connects to a special jack on the back panel. It, too, uses the two front-panel switches (which are labeled so that they can be considered either as Outputs 1 and 2 or as Speakers 1 and 2), routing the output of a single power amp to either or both of the speaker pairs and turning the amplifier off when the C-33 is switched off. (Since the amp can be fed from a wall outlet, it can draw as much power as that circuit will sustain.)

And there is one more wrinkle to the AC section of the preamp. Instead of the usual unswitched power outlets on the back panel, those on the McIntosh can be switched to AUTO to turn the C-33 on and off whenever any equipment powered from them is turned on or off. (Turned to MANUAL, the outlets behave in the normal unswitched manner.) A sensitivity adjustment on the top control panel adjusts the AUTO function for turntables (or tape decks, though McIntosh's excellent manual doesn't suggest this use) that draw some current even when they're turned off (and therefore exhibit a relatively little difference in current drain between ON and OFF).

If this were all there were to the C-33, it would be an excellent preamp. Distortion is generally unmeasurably low, and even where it is measureable, it is universally below our 0.01% reporting threshold. Impedances, sensitivities, and so on are all well chosen. Response in the audio range—and well above it—is very flat. And, of course, the switching is superb. But there's much more to come.

The Equalizer

McIntosh has chosen five bands that are spaced nearly equally (on an octave basis) across the audio range: They are centered on approximately 30, 150, 500, 1,500, and 10,000 Hz in the curves from DSL. All have a maximum adjustment range of ±12½ dB (give or take ½ dB) and are unusually symmetrical and well-behaved.

In terms of listening quality, the five bands might equally well be identified as, respectively, deep bass, midbass, midrange, presence range, and high treble. This correspondence to fairly well-defined sonic regions makes the array of knobs relatively easy to manipulate to create a desired effect—or to ameliorate an undesired one. Best of all, a front-panel switch enables you to shift the equalization from the regular listening channel to the taping channel, to influence whatever you're recording. This switch can also be used to assess your adjustments by flicking them in and out of the listening channel for A/B comparisons.

McIntosh evidently does not think of this control section as a boiled-down loudspeaker equalizer (a task that requires some fairly fancy footwork with only five bands), but rather as a superflexible set of tone controls. If that's their thinking, we concur. And from that point of view, we consider the design very successful.

The Compander

Three parameters controlling the operation of the compander circuit are adjustable: the compression/expansion ratio, the speed with which the circuit responds to changes in program level, and the sensitivity of the compander relative to the unprocessed signal. The latter two are adjusted at the top panel. In most components, this would imply that these controls are conceived for set-and-forget use. That's not true with McIntosh's proprietary Paneloc mounting design (which we'll explain later on), though the positioning certainly suggests a subsidiary status to such controls.

Circuit-response speed is governed by a three-position switch. It's use makes a great deal of difference to the subjective effect, particularly in the expander mode, and its setting ideally should be re-evaluated for each piece of program material you play through the compander. If the circuit action is too quick in following the program envelope, it can lend a jittery, highly artificial quality to the sound; if it is too slow, the most obvious result can be the audible pumping (arbitrary changing of level) of any noise tails at the beginnings of pauses. Both the inherent nature (and quality) of the program material and the nature of any processing it has already undergone work to determine the best setting of the switch. The setting of the sensitivity control—which McIntosh designates as a level-matching adjustment—(though obviously the level of the processed signal cannot be matched to that of the unprocessed signal at all times, because the compander is continuously altering program dynamics)—is also influenced to some extent by the nature of the program.

The main compander control on the front panel consists of two concentric rings. The outer one is a three-position switch: COMPRESS/OFF/EXPAND. The inner ring controls the compander ratio and is calibrated in 0.1 steps over a range from 1.0 (no action) to 2.0 (a doubling or halving of dynamic range). DSL's measurements show the calibration to be reasonably accurate, though compression and expansion ratios diverge most (that is, are least nearly reciprocal) toward the center of the scale (1.5), which is also the least accurately calibrated part of the range.

Swept frequencies indicate that the maximum sensitivity of the compander's control circuitry is at about 4 kHz. If a compander responds too readily to sonic events toward the frequency extremes, the result can be very obvious and arbitrary changes in program level in response to extraneous sounds caused by record warps, radio-frequency interference (RFI) from auto ignitions, and the like. Presumably, the 4-kHz

Here's how we kiss the hiss goodbye.

BASF Chrome. The world's quietest tape.

With BASF Chrome, you hear only what you want to hear—because we "kissed the hiss goodbye."

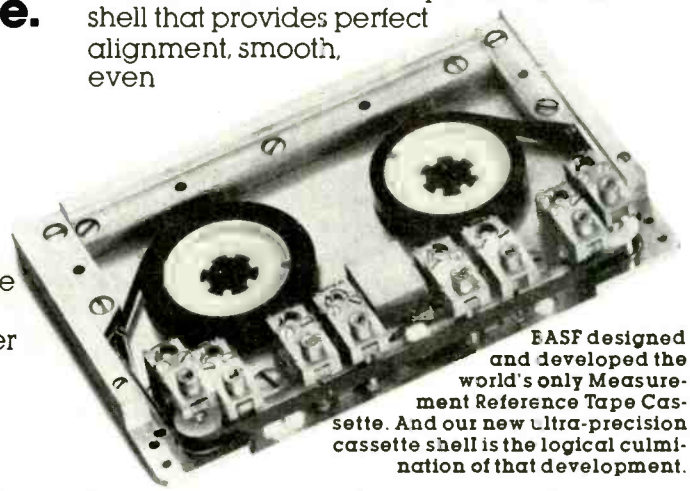
In fact, among all high bias tapes on the market today, only PRO II combines the world's lowest background noise with outstanding sensitivity in the critical high frequency range for superior dynamic range (signal-to-noise ratio).

PRO II is unlike any other tape because it's made like no other tape. While ordinary high bias tapes are made from modified particles of ferric oxide, only PRO II is made of pure chromium dioxide. These perfectly shaped and uniformly sized particles provide a magnetic medium that's truly superior—so superior that PRO II was chosen by Mobile Fidelity Sound Lab for their Original Master Recording™ High Fidelity Cassettes—the finest prerecorded cassettes in the world.

Magnified 15,000 X

Perfectly shaped and uniformly sized particles of pure chromium dioxide provide a magnetic medium like no other tape in the world.

And like all BASF tapes, PRO II comes encased in our new ultra-precision cassette shell that provides perfect alignment, smooth, even tape movement, and consistent high fidelity reproduction.



BASF designed and developed the world's only Measurement Reference Tape Cassette. And our new ultra-precision cassette shell is the logical culmination of that development.

So when you want to hear all of the music and none of the tape, turn on to BASF Chrome. It's the one tape that kissed the hiss goodbye.

PRO II—a tape so superior, a cassette so reliable, that it was the one chosen by Mobile Fidelity Sound Lab for their Original Master Recording™ High Fidelity Cassettes.

For the best recordings you'll ever make.

BASF

Audio/Video Tapes

Circle 16 on Reader-Service Card

SPECIAL DOUBLE REPORT

band was chosen as the range in which human hearing acuity makes the masking of hiss by signal elements the most critical. Be that as it may, the compander is remarkably free of the egregious effects to which mediocre consumer companders are heir. This is not to say, however, that the design fully justifies the manual's claim that "compressed recordings and broadcasts can be expanded on playback to restore their dynamic range." No expander we know of can do that with full success simply because the kind(s) of compression to which the program material has been subjected usually can't be ascertained. Even if it could, it couldn't be accurately undone unless by some fluke it were to match precisely the built-in behavior of the expander.

Were the shoe on the other foot—that is, if we were trying to correct expanison rather than compression—the problem would be far less severe. Compression is relatively hard to perceive, and inaccuracies in its correction are therefore of little importance, but even small inequities in expansion call attention to themselves, sometimes with disquieting results. A singer's attack, for example, can easily be made to sound so impulsive as to suggest a karate chop to the region of the diaphragm—an alarming aural image. So, as with all expanders we have ever tested, we must caution you that this one must be used sparingly if the effect is to be tasteful. In any event, the compander does add distortion, raising THD (including some significant quantities of odd harmonics) into the 0.1% range at most frequencies with the 2.0-ratio setting and even higher (depending on the speed setting) in the very deep bass.

The manual suggests that the compander can be used as a before-and-after noise reducer (à la DBX or Dolby). Systems engineered specifically and exclusively for that purpose should prove more satisfactory in general use, but there are applications for which the McIntosh design could prove superior. Let's say, for instance, that you want to make cassettes for playback both at home and in your car. Particularly if classical music is involved, that raises the question of how much dynamic range you can manage without losing quiet passages to engine and wind noises. A solution would be to compress the signal going onto the tape by a ratio of about 1.5:1 or a little more (remember that you can switch the compander into either the listening or the recording channel) and to play it back unexpanded in the car. (You'd probably want to experiment with the ratio and shade it to the dynamic range of the music you are copying for optimum results.) When you played the cassette at home, via the C-33, you could turn on the expander. The setting is probably best arrived at by ear, though a note of the compressor setting will help you find the right ballpark on playback. Because the same device is used for both processes, mismatches are limited to nonreciprocal ratio and speed settings, which are remediable.

Obviously, the variations and applications of the compander are endless, and we could only try so many of them during the weeks we worked with the C-33. We consider it to be well designed of its type, handy to have in solving oddball problems (rather than as a staple of true high fidelity listening), and particularly useful (as a compressor) for late-night or background-music listening. In conjunction with the LOUDNESS in this last application, it restores continuity to what otherwise tend to be disjointed wisps of melody.

The Power Amplifier

This is the element of the design that raised the most eyebrows (or, perhaps, raised them farthest) among our staff. We repeatedly stumbled on the question: If it has a power amp, doesn't that make the whole design an integrated amp—and if so, why did McIntosh couple so skimpy an amp to so formidable a preamplifier section? There are so many answers to that question that we hardly know where to start.

The manual says, for instance, that McIntosh wanted adequate signal at the headphone jacks and thus needed some sort of amplification anyway. It's true that many preamps with headphone jacks leave them so undernourished that they're almost useless. McIntosh generously provides two headphone outputs on the front panel, which further increases the power requirements. And in some systems, the amplifier probably will be used strictly to power those jacks.

The amplifier switching provides some further suggestions. At the top panel you can choose from three inputs: the preamp's listening channel, its recording channel, and an external source via the back-panel input. These can, of course, be fed from any of the preamp's three back-panel outputs, giving you a choice of channel at the front-panel monitor switch. Indeed, McIntosh calls the power section a "monitor" amp. You might use it for a sort of "preview" monitoring on auxiliary speakers if your system is not in the room with your main listening speakers and you don't like making extra trips for readjustment. In quasidisco use, it could be used for cueing up the next record or tape while the current one is playing on the speakers connected to the main amp.

Still more suggestions come from the C-33's back panel and from the manual's illustrations of its use. The manual specifically suggests inserting a reverb (ambience-simulation) device between one preamp output and the built-in amp, thus using the latter to power the back speakers, which carry the delayed signal. A similar setup is a natural for quadriphiles. Simply substitute an SQ or other such decoder for the ambience unit and insert its input and front-channel output into the signal-processor loop. Or you might just want to use the amp to power a secondary pair of speakers. The applications are limited only by your imagination.

The amp has its own level controls (one per channel) and includes McIntosh's Power Guard circuit. With the level controls at maximum, DSL measured 1¾ dB above the rated 8-ohm output of 13 dBW (20 watts) per channel on a steady-state basis and 2¼ dB above it in the dynamic-headroom test—suggesting a maximum output equivalent to more than 33 watts per channel with music signals. As in the preamp, distortion products are unmeasurably low except near the frequency extremes and never exceed our reporting threshold of 0.01%. Unlike the preamp, the power amp is not band-limited; because infrasonics, for example, have already been taken care of in the preamplifier, there's no need for further filtering here.

In Sum . . .

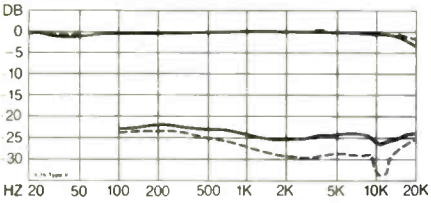
The editorial mind is not entirely unboggled, even after weeks of familiarity, by the capabilities of the C-33. It is unique, fascinating, and sonically rewarding. And it is practical: There's not a single feature on it that hasn't been thought through in terms of real utility. (Would that we could say that about more products these days.) And that brings us back to Paneloc. The manual gives you instructions for mounting the C-33 in a flush panel (the way all components used to be mounted), using brackets supplied with the preamp. When the job is done, the C-33 slips into the brackets and locks in place; if you want to slide it out to adjust the top-panel controls (or to remove it altogether for access to the back panel), you simply press the latch buttons at the lower corners of the faceplate. If you leave the C-33 standing out on a table or shelf, as most owners do these days, there's no problem in getting at the top panel, which is toward the front of the unit. (McIntosh includes the usual caution that you provide adequate ventilation, which would argue against stacking another component on top of it.) But we'd be very tempted to avail ourselves of the Paneloc feature—perhaps the ultimate touch of class in one of the classiest products we've reviewed in years.

Circle 97 on Reader-Service Card

Shure's Surefooted V-15 Type V

Shure V-15 Type V fixed-coil phono pickup with user-replaceable multiradial diamond stylus. Price: $250 (including Shure's TTR-117 test record). Warranty: "limited," one year parts and labor. Manufacturer: Shure Brothers, Inc., 222 Hartrey Ave., Evanston, Ill. 60204.

FREQUENCY RESPONSE & CHANNEL SEPARATION
(test record: JVC TRS-1007 Mk. II)



Frequency response	
—— L Ch	+0, −3½ dB, 20 Hz to 20 kHz
- - - - - R Ch	+0, −2 dB, 20 Hz to 20 kHz
Channel separation	≥ 25 dB, 1.1 kHz to 3 kHz; ≥ 20 dB, 20 Hz to 20 kHz

SENSITIVITY (1 kHz)	0.94 mV/cm/sec
CHANNEL BALANCE (1 kHz)	±¼ dB
VERTICAL TRACKING ANGLE	18°

LOW-FREQUENCY RESONANCE (in SME 3009)

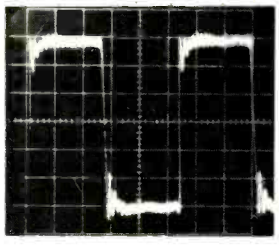
vertical	7.5 Hz; 3-dB rise
lateral	10.0 Hz; 6-dB rise

MAX. TRACKING LEVEL (re RIAA 0 VU; 1 gram)

lateral	>+18 dB
vertical	>+12 dB

WEIGHT	6.7 grams

SQUARE-WAVE RESPONSE



OUR REACTION ON FIRST HEARING the announcement of the latest in Shure's V-15 series of phono cartridges, the Type V, was: "What more can they have done?" The four years that have passed since the introduction of the now well-established V-15 Type IV (test report, June 1978) have not diminished our enthusiasm for its groundbreaking design. Its frequency response is virtually ruler flat; it will track anything on record that isn't ridiculously overcut; and because it incorporates Shure's Dynamic Stabilizer (which originated with the Type IV), it can be mated with almost any tonearm and still track even extremely warped discs without difficulty. In 1978 it was, as previous V-15s had been before it, something of a landmark in the evolution of phonograph technology.

The Type V seems destined for similar status. Like its predecessor, the Type V has what Shure calls a Hyperelliptical stylus, for lower tracing distortion than can be achieved with conventional elliptical styli. The size of the stylus has been reduced somewhat, however, for lower mass, and has the ultrafine Măsar polish heretofore applied only to the styli of Shure's professional SC-39 pickups. It also retains the Type IV's most striking innovation, the Dynamic Stabilizer, which removes dust and static from the record being played and damps the infrasonic arm/cartridge resonance. The Type V also incorporates the Side-Guard stylus-protection system first developed for the SC-39 and M-97 cartridge series. And like all other Shure pickups, it is a moving-magnet design.

What mainly sets the Type V apart from its brethren is that its stylus cantilever is formed of a material other than aluminum. In the face of competition from a multitude of exotic materials, Shure has stood fast behind this lowly metal on the ground that a properly constructed thin-wall aluminum tube will actually be more rigid than a rod or a thick-wall tube of the same length and mass, even if the material itself has a significantly higher stiffness-to-mass ratio than aluminum. Until now, the company contends, the relatively poor workability of stronger substances (such as beryllium, boron, and diamond) has tended drain them of their potential advantage.

The V-15 Type V's Microwall/Be stylus cantilever is a very thin-wall tube formed out of beryllium foil by a newly developed process. According to Shure, the result is a cantilever that is simultaneously more rigid and much lighter than that of the V-15 Type IV, even though it is slightly longer. The reduction afforded by the smaller stylus and lighter cantilever is enough to make the effective moving mass of the Type V's stylus assembly 40% lower than that of the Type IV's.

The benefits of this reduction in effective mass are two. First, and probably more important, is a marked improvement in high-frequency tracking ability—by nearly a factor of two, according to Shure. The company specifies a staggering 80 centimeters per second at 5 kHz and 60 centimeters per second at 10 kHz. It seems unlikely that any presently available commercial disc would cause this cartridge to mistrack. Second is much flatter high-frequency response in the cartridge's mechanical system, with the stylus tip resonance moved from approximately 21 kHz in the Type IV to 33 kHz (well outside the audible range) in the Type V, substantially reducing the need for response compensation in the pickup's electrical circuit. As a result, the Type V has a lower output impedance than the Type IV (or most other fixed-coil cartridges, for that matter) and is therefore less sensitive to resistive and capacitive loading. (The lower impedance will also have less effect on the RIAA responses of the many phono preamps whose equalizer circuits are inadequately isolated from the connected cartridge.)

Finally, there's the matter of geometry, which (by way of history) is what sparked the development of the original V-15. "V" stands for "vertical," as in "vertical tracking angle" (see "Basically Speaking," June), while "15" represents the 15-degree vertical tracking angle (VTA) that was the industry standard for many years. When it became evident that mistracking causes more audible distortion than incorrect VTA, manufacturers began shortening their pickups' stylus cantilevers to reduce moving mass and thereby improve high-frequency tracking. In the process, they increased their cartridges' VTAs, sometimes to 30 degrees or more. The V-15 Type V, with its longer cantilever, reverses this trend, though as we have already noted, without any significant penalty in mass. It is designed to have a VTA of slightly more than 20 degrees, to match the vertical modulation angles of the majority of records now on the market.

The Type V is also designed to have a stylus rake angle (SRA) very close to that of most cutter styli, again to keep distortion to a minimum, and comes with a clever, easy-to-use mounting jig, called the Duo-Point Alignment Gauge, that makes it a snap to adjust the Type V for optimum overhang and offset angle in just about any tonearm. Other setup aids include a Leveling-Alignment Stylus that fits into the cartridge body in place of the regular stylus to enable you to twist your tonearm's headshell or to shim the cartridge so that its body is parallel to the record surface, thus ensuring maximum channel separation. The mounting hardware includes a pair of nylon nuts that slip over the cartridge's aluminum mounting ears—an arrangement that greatly reduces the amount of fumbling around necessary to install it—and the terminal pins are gold-flashed to prevent corrosion. In addition, each V-15 Type V is packed with an individual computer printout showing its sensitivity, channel balance, separation at two

frequencies, and frequency response above 1 kHz as measured with a calibrated test record.

The results of Diversified Science Laboratories' tests are uniformly excellent. (All measurements were made at Shure's recommended optimum net tracking force of 1.0 gram and with the Dynamic Stabilizer engaged.) Although Shure specifies the Type V's sensitivity as considerably lower than that of the Type IV, it measures almost exactly the same—about average for a good fixed-coil cartridge and high enough to guarantee a healthy signal-to-noise ratio with typical phono preamps. Channel balance is extremely good. As we expected, the Type V's tracking ability is better than DSL can measure. Distortion is low by cartridge standards.

Vertical tracking angle, as measured by the twin-tone IM method, is the lowest we can remember seeing recently. We also note with interest that the measurements made with the low- and high-frequency tones match unusually closely—to within one degree—suggesting that the rake angle is very close to correct, as well (see "A New Angle in Record Playing," March 1981).

Loaded according to the manufacturer's instructions with 47 kilohms of resistance in parallel with 250 picofarads of capacitance, the V-15 Type V has a very smooth frequency response. The only anomaly is a very gentle droop at the extreme high end, starting between 5 and 10 kHz and reaching a maximum of 2 to 3 dB at 20 kHz. The two channels have nearly identical responses, and separation is well maintained across the audio band, all the way out to 20 kHz, where many pickups start to give up. This felicitous behavior—undoubtedly a byproduct of the stylus' very high tip resonance frequency—bodes well for the precision and stability of the Type V's stereo imaging.

Square waves are well reproduced. (The ringing is primarily an artifact of the test record.) The low-frequency arm/cartridge resonance is so well damped by the Dynamic Stabilizer that its placement is almost immaterial—although, insofar as one can tell through all that damping, it does, in fact, lie in the vicinity of the frequency range we consider ideal.

Our listening-room experience with this pickup has been every bit as pleasing as the lab data. Despite an exasperatingly sketchy owner's manual, it is among the easiest to install and align of the standard-mount cartridges we have used—no groping with thick fingers after tiny nuts or tedious eyeballing of gridded alignment protractors. And like the other fine cartridges of our acquaintance, it sounds beautiful, most of the time as though it weren't there at all.

In fact, it has defeated all of our attempts to make it give itself away. Tonal balance is superbly neutral, with no emphasis of any particular part of the audible spectrum; imaging is clear and steady with a good sense of depth; and we can't find anything to make it mistrack or even begin to sound like it might, even on warped records. That said, and full of the knowledge that it's all too easy to be swayed by a pretty set of statistics, we'll go out on a limb and say that we sometimes think we hear a slightly cleaner attack and greater overall transparency on instruments such as cymbals—a result, perhaps, of the Type V's remarkable high-frequency tracking ability.

In sum, this is definitely the finest pickup Shure has ever made, which makes it one of the finest ever made, period.

Circle 96 on Reader-Service Card

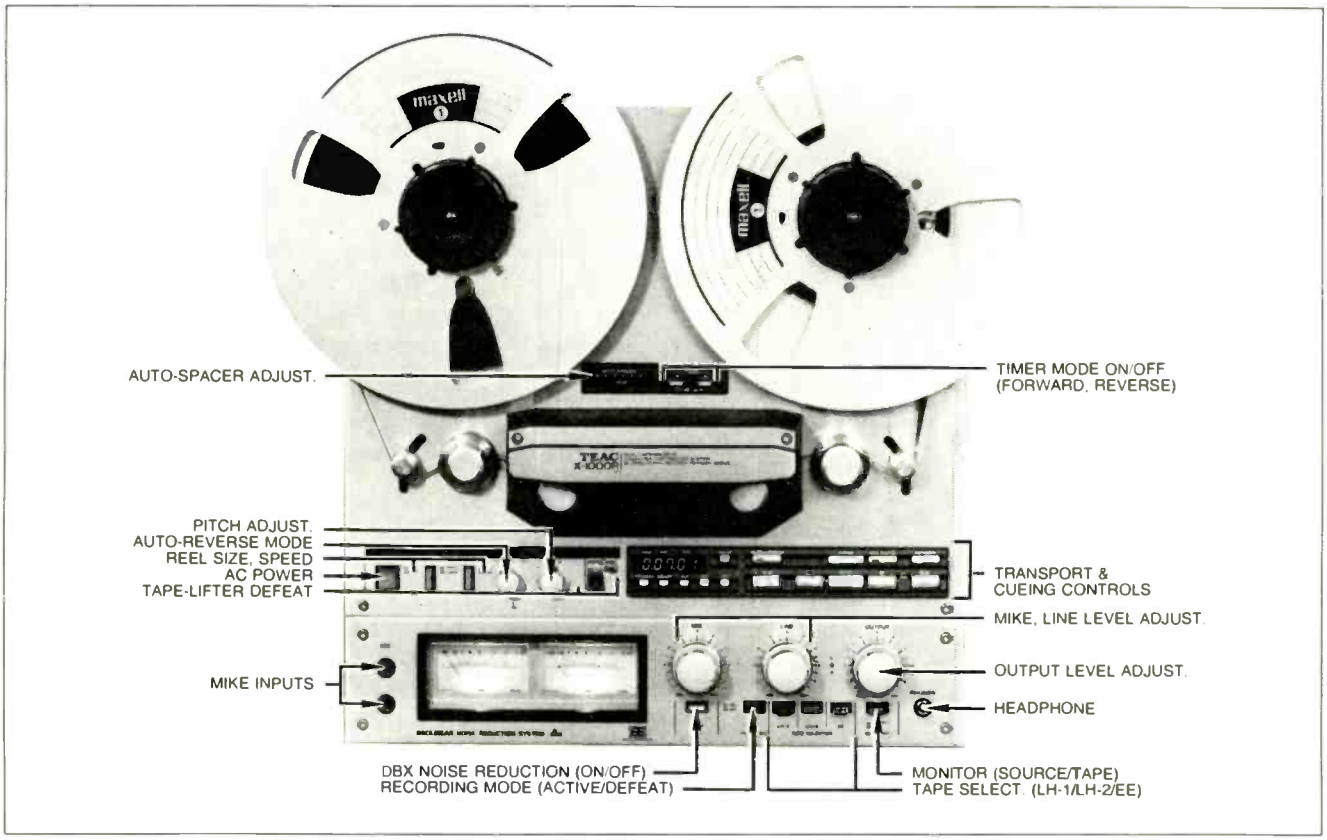
Have It Both Ways with Teac's X-1000R

Teac X-1000R bidirectional two-speed (7½ and 3¾ ips) quarter-track open-reel tape deck, accepting 7- or 10½-inch reels. Dimensions: 17 by 17¼ inches (face plate), 8¾ inches deep plus clearance for controls; additional clearance of 2¼ inches minimum required at each side and at top for NAB reels; may be used vertically or horizontally. Price: $1,400; optional RM-10 rack-mounting kit, $35; optional RC-100 remote control, $75; optional WR-100 Dupli-Sync interconnect cord (see text), $45. Warranty: "limited," one year parts and labor. Manufacturer: Teac Corp., Japan; U.S. distributor: Teac Corp. of America, 7733 Telegraph Rd., Montebello, Calif. 90640.

THE TRADITIONAL CHOICE in buying an open-reel deck has been between the so-called semipro models and those loaded with convenience features for the home market. We've documented many attempts to unite the two—to create a machine that would deliver semipro performance and features together with consumer-oriented convenience—but the one set of objectives usually interferes with the other so that the resulting deck satisfies neither goal. Perhaps we shall never see a totally satisfying amalgam of the two, but in most respects the Teac X-1000R represents the most successful attempt we've yet encountered.

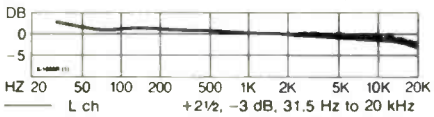
Since the consumer aspect of the design has the upper hand, let's address that first. The Teac has an autoreverse transport that enables it to record as well as play in both directions; it also has the usual once-around or continuous-repeat options. The reverse is triggered by stick-on conductive foil; it is applied to the backing side of the tape and is sensed at the left-hand idler. In addition, the Teac has a cue system that enables you to place an electronic marker, so to speak, at any point on the real-time tape counter. It can be used to set up repeat operations over any portion of the reel, though we found it particularly useful for indexing passages we thought we might want to re-record, because it involves no tampering with the time indication. There are separate STC (search to cue) and STZ (search to zero) buttons, so indexing is unusually versatile and practical.

Also very practical in our estimation are the transport controls themselves. Because of the deck's bidirectionality and extra features, there are many controls (two play buttons, for example), yet they aren't difficult to master—thanks, in part, to a system of colored LEDs that flash or glow or extinguish, depending on what the deck is prepared to do and what it actually is doing. When you press the RECORDING-MODE button in, for example, an LED in the RECORDING-INTERLOCK button flashes red to indicate that the deck is ready to record; when you actually begin recording (by



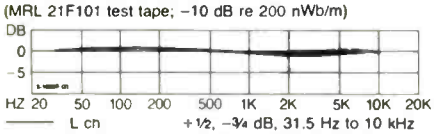
The following tests were performed according to the new EIA standard for tape recorder specification and measurement. (See "Sound Views," page 14.)

PLAYBACK RESPONSE AT 7½ IPS
(MRL 21T104 test tape; −10 dB re 200 nWb/m)



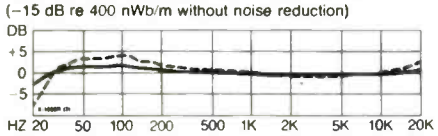
——— L ch +2½, −3 dB, 31.5 Hz to 20 kHz
- - - - - R ch +2½, −2 ¾ dB, 31.5 Hz to 20 kHz

PLAYBACK RESPONSE AT 3¾ IPS
(MRL 21F101 test tape; −10 dB re 200 nWb/m)



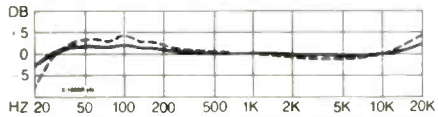
——— L ch +½, −¾ dB, 31.5 Hz to 10 kHz
- - - - - R ch ±½ dB, 31.5 Hz to 10 kHz

RECORD/PLAY RESPONSE AT 7½ IPS, LN TAPE
(−15 dB re 400 nWb/m without noise reduction)



——— L ch +2, −⅓ dB, 20 Hz to 27.2 kHz
——— R ch +1½, −¼ dB, 20 Hz to 27.6 kHz
with DBX noise reduction
- - - - - R ch +4, −3 dB, 25 Hz to 26.5 kHz

RECORD/PLAY RESPONSE AT 7½ IPS, EE TAPE
(−15 dB re 400 nWb/m without noise reduction)



——— L ch +2¾, −3 dB, 20 Hz to 32.8 kHz
——— R ch ±3 dB, 20 Hz to 32.9 kHz
with DBX noise reduction
- - - - - R ch +7, −3 dB, 25 Hz to 31.9 kHz

simultaneously pressing the interlock and one of the play buttons), the flash becomes a steady light; when you release the mode button, for playback-only operation, the LED goes out.

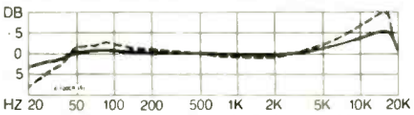
Particularly nice is the PAUSE and its related functions. It retracts the pinch rollers slightly without defeating the tape lifters or otherwise disturbing the mode for which the deck is set. As a result, stops and starts are as quick, clean, and wow-free as those of most cassette decks (which, with far less moving mass to control, have a vastly easier task in this respect) and even better than those of some. It leaves a slight gap when used for start-and-stop recording, but is noiseless. There is also a button for mute recording. If you press it once while a recording is in progress, the deck will record a blank whose duration can be preadjusted with a slider just above the head cover. When the deck finishes recording the blank, it automatically goes into the recording/pause mode, ready to tape the next selection. If you have a change of heart about the blank's predetermined length before it has been fully recorded, you can either press PAUSE, to end the blank manually, or MUTE a second time, in which case the deck will continue recording silence until you touch another transport control. Or you can hold the MUTE down as long as you want the first time you press it; the timer doesn't take over until you release the button, permitting manual extension of its preset period. If you record a blank at the end of each selection, the counter will keep track of the selection number and display it during the blanking process.

If all this sounds rather complicated—and there are a number of control functions we haven't space to discuss here—don't worry: The manual is exceptionally clear, even for Teac, whose practice is far above average in this regard. It patiently explains all sorts of things that are glossed over or omitted altogether in many manuals. It covers basics without condescension and technical matters without *sounding* technical. You might be able to figure out on your own a lot of what the deck can do, given enough time and previous recording experience, but you shouldn't—and don't—have to.

Among the "professional" features, we particularly enjoyed the X-1000R's provision for editing. Because the PAUSE neither activates the tape lifters nor mutes the playback head, it enables you to "rock" the tape and listen to its output to locate edit points—a function that many competing decks can't manage, even though editability is one of the legitimate reasons for preferring open reels to cassettes. The X-1000R also has a manually operated tape-lifter defeat that enables you to ease the tape toward the playback head in the fast-wind modes to hear some output, as an aid in locating the passage you want.

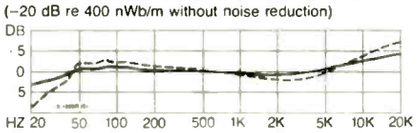
Less obvious is the head design. Instead of using some sort of rotating head assembly to achieve bidirectionality with a single set of heads, Teac has chosen to fit two full sets of fixed heads—erase, recording, and playback—for each direction. It has always seemed to us that such a fixed head array should hold its adjustment much

RECORD/PLAY RESPONSE AT 3¾ IPS, LN TAPE
(−20 dB re 400 nWb/m without noise reduction)



L ch +6¼, −3 dB, 20 Hz to 20.4 kHz
R ch +5¼, −3 dB, 20 Hz to 20.6 kHz
with DBX noise reduction
R ch +9½, −3 dB, 35 Hz to 20 kHz

RECORD/PLAY RESPONSE AT 3¾ IPS, EE TAPE
(−20 dB re 400 nWb/m without noise reduction)



L ch +4¼, −3 dB, 20 Hz to 23.6 kHz
R ch +4¼, −3 dB, 20 Hz to 23.7 kHz
with DBX noise reduction
R ch +7, −3 dB, 36 Hz to 21.8 kHz

S/N RATIO (record/play; re 400 nWb/m; CCIR/ARM weighting*)

	7½ Ips	3¾ ips
with standard LN tape		
no noise reduction	59¾ dB	56¼ dB
DBX noise reduction	75½ dB	69¼ dB
with EE tape		
no noise reduction	62¼ dB	60½ dB
DBX noise reduction	78¼ dB	74¼ dB

INDICATOR READING FOR 400 NWB/M (400 Hz)

	7½ Ips	3¾ ips
standard LN tape	+3¾ dB	+3½ dB
EE tape	≈+6 dB	≈+5 dB

MAXIMUM RECORDED LEVEL (3% distortion at reference frequency: 1 kHz at 7½ ips, 500 Hz at 3¾ ips)

	re 400 nWb/m	re meter 0 dB
LN tape, 7½ ips	+2 dB	≈+5¾ dB
EE tape, 7½ ips	−1 dB	+5 dB
LN tape, 3¾ ips	+½ dB	+4 dB
EE tape, 3¾ ips	−½ dB	≈+5¼ dB

DISTORTION AT 400 NWB/M (400 Hz)

	7½ Ips	3¾ ips
standard LN tape	1.7%	2.8%
EE tape	3.7%	3.4%

DISTORTION AT −10 DB (re 400 nWb/m)
LN ≤0.30%, 50 Hz to 10 kHz, at 7½ ips;
≤0.86%, 50 Hz to 5 kHz, at 3¾ ips
EE ≤0.89%, 50 Hz to 10 kHz, at 7½ ips;
≤0.92%, 50 Hz to 5 kHz, at 3¾ ips

ERASURE (100 Hz; re 400 nWb/m) ≤79¼ dB

CHANNEL SEPARATION (400 Hz) 61¾ dB

CROSSTALK (100 Hz) −44½ dB

SPEED ACCURACY (105 to 127 VAC)

	7½ ips	3¾ ips
forward direction	0.25% slow	0.52% slow
reverse direction	0.21% fast	0.18% fast

SPEED CONTROL RANGE
±8.6 to −8.9% at either speed

WOW & FLUTTER (ANSI/IEEE weighted peak; r/p)

	7½ ips	3¾ ips
forward direction	±0.070%	±0.13%
reverse direction	±0.043%	±0.078%

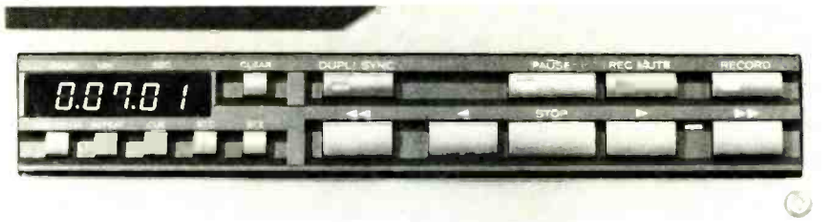
SENSITIVITY (re 400 nWb/m; 1 kHz, EE tape)
line input 150 mV
mike input 0.56 mV

MIKE INPUT OVERLOAD (1 kHz) 20 mV

MAX. LINE OUTPUT (from 400 nWb/m) 1.8 V

Unless otherwise specified, all measurements made in forward direction of tape travel.

*With A weighting, S/N ratios appear 1–2 dB better than with CCIR weighting.



The X-1000R's convenience features include bidirectional record and playback, plus a real-time tape counter with an electronic cue system for search and repeat functions.

better than a movable one, but it does double the length of the tape path past the heads. To help control the tape over this distance, Teac has conceived an unusual closed-loop dual-capstan transport (that is, one in which both capstans are driven in both directions of tape travel). Because the "upstream" capstan must rotate slightly more slowly than the one on the takeup side, drive speeds (as well as the direction of rotation) must change when the transport reverses.

Then there's the built-in DBX noise reduction system, with separate encoding and decoding sections for simultaneous monitoring while you're recording. DBX is appearing in more home equipment all the time, but it has been well established in pro and semipro gear for years. Also a cut above average for home gear is the inclusion of a three-position tape-matching system. Two positions are for conventional ferric-oxide formulations ("normal" and "hot," so to speak); the third is for the recently introduced EE tapes, which use ferricobalt or chrome pigments and for which a radically different playback EQ curve has been devised to optimize their performance. And finally, there's the pitch control—fairly rare in both professional and domestic decks—that can be adjusted more than a halftone (about 8½%) up or down in both recording and playback. Some variable-speed decks minimize the chance of serious mistakes by defeating the ability to vary pitch during recording; Teac does so by providing a pull-to-activate speed control that proclaims its status by its position and can only be defeated accidentally, not activated.

Diversified Science Laboratories used Maxell tapes suggested by Teac for its measurements: UD (with the LH-II selector setting) as the standard tape, and XL-II (with the EE setting) for those measurements in which we've specified that EE tape was used. (Incidentally, although the manual lists only 1-mil/35-micrometer long-play tapes such as UD 35 and Scotch 207, Teac says that the corresponding 1½-mil/50-micrometer standard-play tapes—such as UD 50 and Scotch 206—are equally acceptable.) In looking at the response curves, don't overreact to their tendency to peak more at high frequencies when the DBX noise reduction is in use. All companders (including DBX) exaggerate such effects to some extent, but DSL's swept sine-wave measurement technique (which presents the system with a single frequency at any given instant, rather than with a multitude of frequencies, as in music) makes the response appear worse than it really is under normal recording conditions. When we tried the deck with Scotch 206 (at the LH-I setting), an informal response check seemed to show a flatter top end than the lab obtained with UD. If we were buying an open-reel recorder in this class, we'd want to pick a tape and then ask the dealer's service department to adjust our deck for flattest response and minimum distortion with that particular brand and formulation.

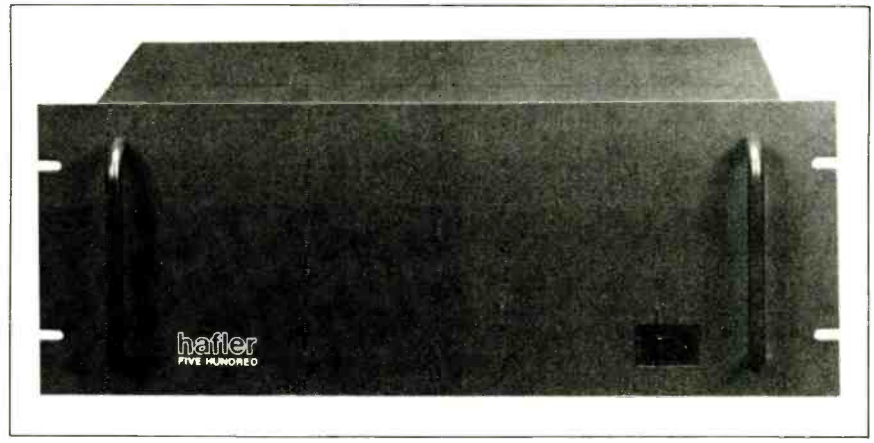
The primary claim for EE tapes is, of course, that they will provide at 3¾ ips the performance of conventional tapes at 7½ ips. Because they don't cost twice as much as conventional tapes, they're supposed to save you money by enabling half-speed use. So far, our tests haven't entirely supported this premise. For example, although EE tape does yield a better S/N ratio, it does so at the expense of slightly higher distortion. We therefore remain unconvinced that EE tapes fully justify their hefty prices at this state of the art. But the point is admittedly arguable.

Unless the reverse direction is specified, all data are for the forward direction of tape travel. DSL measured most parameters in both directions, but the omitted information does not depart significantly from that shown in the data column. On average, perhaps, the reverse direction measures a hair better; in particular, the wow and flutter figures are scarcely half the values for the forward direction.

A machine that will make or play a six-hour recording (on a 10½-inch NAB reel of 1-mil tape at 3¾ ips) unattended and virtually uninterrupted—and (using DBX) with no audible noise whatever from the tape itself—is something of a prodigy. So is one that can incorporate so many features without their getting in each other's way. In addition to those cataloged in this report (all of which behaved flawlessly in our trials), there's an optional remote control and what Teac calls Dupli-Sync: With the aid of an accessory interconnect cable, you can control from the X-1000R any Teac cassette deck accepting an RC-90 remote control. And, besides being unusually well thought out, the deck's design offers Teac's traditionally solid construction.

Circle 99 on Reader-Service Card

Hafler's Big Black Box



Hafler DH-500 power amplifier, in metal case. Dimensions: 19 by 7 inches (front), 10¾ inches deep, plus clearance for handles and connections. Price: $750 ($600 in kit form); DH-502 bridging adapter (not tested), $25. Warranty: "limited," one year parts and labor; kit, one year parts. Manufacturer: The David Hafler Company, 5910 Crescent Boulevard, Pennsauken, N.J. 08109

RATED POWER	24 dBW (255 watts)/channel
OUTPUT AT CLIPPING (both channels driven)	
8-ohm load	25¼ dBW (335 watts)/channel
4-ohm load	27 dBW (490 watts)/channel
16-ohm load	23 dBW (200 watts)/channel
DYNAMIC HEADROOM (re rated power, 8-ohm load)	+2¼ dB
HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)	
at 24 dBW (255 watts)	≤0.016%
at 0 dBW (1 watt)	<0.01%
FREQUENCY RESPONSE (at 0 dBW)	+0, −¼ dB, <10 Hz to 32.6 kHz; +0, −3 dB, <10 Hz to 124 kHz
INPUT CHARACTERISTICS (re 0 dBW; A-weighted)	
sensitivity	145 mV
S/N ratio	89¾ dB
DAMPING FACTOR (at 50 Hz)	215

WE PRAISED HAFLER'S first power amplifier, the DH-200 (test report, March 1980), for its combination of value and high performance. Few amps in its power class work so well or sell for so little. So when the beefed-up DH-500 became available, offering more than twice the power of the DH-200 for less than double the price, we were eager to put it through its paces.

According to Hafler, the new model's basic amplifying circuitry is very similar to that found in the DH-200. Both are symmetrical, fully complementary designs with power MOS-FET output devices. (MOS FET is an acronym for "metal oxide semiconductor field effect transistor.") In important respects, MOS FETs operate very differently from conventional bipolar transistors. These relatively expensive devices typically switch faster than comparable bipolars, for example, which tends to make them inherently more linear at extremely high frequencies.

Their primary advantage as power output devices, however, is their innate resistance to self-destruction—a characteristic bipolars do not share. All transistors heat up when they deliver a lot of current, as they must to drive low-impedance loads at high power levels. When a bipolar transistor becomes very hot, it tends to conduct even more current than when it is cooler, which makes it heat up still more, which makes it conduct still more current, and so on until it simply burns up. This extreme condition is known as thermal runaway. A MOS FET behaves in exactly the opposite way. As it heats up, it tends to conduct less current than it would if it were cooler; thermal runaway cannot occur.

The most significant practical consequence of this difference is that MOS-FET power amps do not require the complicated current-limiting protection circuits commonly found in amplifiers having bipolar output transistors. Besides adding to the cost of the amp, such protection circuits often cause premature clipping or other audible side effects when the amp is connected to a low-impedance load. The economy of design made possible by the use of MOS FET outputs is readily apparent in the DH-500, which is more than adequately protected by output and power-supply fuses and by a thermal breaker that shuts the amplifier down if it overheats: It has no current-limiting circuits.

Nor does it have any frilly features. Except for screw holes for rack mounting, a pair of sturdy rack handles, and an illuminated power switch, the DH-500's front panel is bare. Its back panel sports a pair of RCA input jacks, output binding posts, output fuse holders, and a large exhaust port for the amplifier's three-speed ventilation fan. The fan itself is part of the amp's main internal subassembly, on either side of which are mounted the amplifier boards for the two channels, complete with power transistors. Heat-sink fins for the output devices jut out from the two boards into the space between them. The fan is attached behind the heat sinks so that it blows air over the fins and out the rear of the amp, thereby cooling the amp's twelve power MOS FETs.

Like most other Hafler products, the DH-500 is available either factory-built or, at a substantial saving, as a kit. The kit version is delivered with the amplifier module (the two circuit boards, the heat sinks, and the fan) preassembled and tested. All that remains for the builder is to assemble a small power-supply board, mount it, the amplifier module, a hefty power transformer, a pair of big electrolytic power-supply capacitors, and the input and output connectors on a large, open chassis, and wire everything together.

Because Hafler has already done most of the critical work, a properly assembled DH-500 kit should perform just like the fac-

About the dBW . . .

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

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

tory-built units. The assembly manual is clear and thorough (it even teaches you how to solder), and our admittedly fairly experienced kit-builder was able to complete the whole project in one long evening. He encountered no difficulties more serious than a couple of tight corners and no reason to discourage novices from tackling the job.

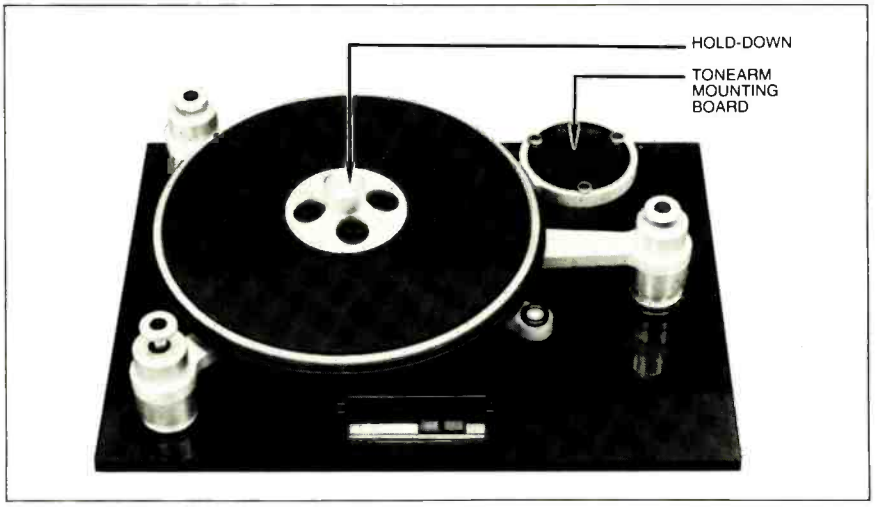
The results are certainly worth the effort, for this is a splendid amplifier. Power output handily exceeds Hafler's specifications, reaching 25¼ dBW, or 335 watts, continuously into 8 ohms and 26¼ dBW, or 420 watts, short-term. Into 4 ohms, the continuous power output is close to 27 dBW—almost 500 watts. Given these figures, we see no reason to doubt Hafler's claim that the addition of the optional DH-502 bridging board will convert the DH-500 into a monophonic amplifier capable of more than 29 dBW (800 watts) into 8 ohms. Diversified Science Laboratories also found the damping factor to be quite high, ensuring that the amplifier's frequency response will not be adversely affected by loudspeaker impedance variations, and distortion and noise to be very low—well below the level of audibility.

In the listening room, the DH-500 does little to call attention to itself, which is exactly what one wants from an amplifier. An output relay mutes the amp for three seconds after it is switched on, to prevent any turn-on transients from reaching the speakers. The relay also kicks in any time there is excessive DC at the output, also to protect the speakers. Although the cooling fan is clearly audible when running at high speed in a quiet room, we expect this would be a very rare occurrence. The DH-500 has to get fairly hot before the fan will switch up from its virtually silent low speed, and for the amp to get hot, the music has to be loud or the ventilation poor.

Physically, the DH-500 is heavy and awkward to carry, though less so than it would have been without fan-assisted heat sinking. And initially, we were a little concerned that the placement of the power-supply fuses inside the amp might prove to be a nuisance. However, since no supply fuse blew under the extraordinarily stressful conditions imposed by DSLs tests, we're inclined to think that if one ever did, it would be a sign either of a malfunction or of abuse—neither of which should be a common occurrence.

Like other fine amplifiers of our acquaintance, the big Hafler has no identifiable sound of its own, so long as it is not overdriven: What goes in comes out the same, only louder. For the audiophile who wants the quality and value of Hafler's well-established DH-200, but with more power, the DH-500 seems like an excellent choice—and at a very reasonable price.

Circle 98 on Reader-Service Card



Making Records Speak Sooth

Oracle manual belt-drive turntable. Dimensions: 19 by 14½ inches (base plate), 6½ inches high with lid closed; additional 10¾ inches vertically and 2¾ inches at back needed to open lid fully. Price: $1,095, without arm. Warranty: "limited," three years parts and labor. Manufacturer: Trans-Audio Corporation, Ltd., 505 Bouchervilie St., Industrial Park, Sherbrooke, Quebec, Canada J1L 1X7; U.S. distributor: Trans-Audio Marketing, P.O. Box 5909, 2217 Neilson Way, Santa Monica, Calif. 90405.

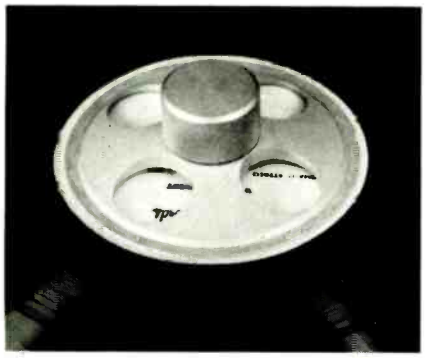
IT COULD BE ARGUED that the belt-drive turntable has been in a rut. While direct-drive designs have evolved through a succession of increasingly sophisticated motor and speed-control systems, belt drives have remained substantially unchanged. All contemporary belt-drive turntables use synchronous or DC motors for speed accuracy (and stability, within the bounds of reason and audibility). Japanese models mostly resemble the direct drives in all ways except how they make the platter spin; European and (especially) British models most often trace their design lineage back to the old AR turntable, which had an excellent three-point spring suspension.

The Oracle is a belt-drive turntable in the predominantly western tradition and therefore shares certain characteristics with others of its ilk—a Hall-effect DC motor and a three-point spring suspension, to name just a couple. In other respects, however, it abandons convention in favor of approaches that promise more nearly ideal performance.

The most obvious difference is in

SPEED ACCURACY	no measurable error, 105-127 VAC, at either speed
SPEED CONTROL RANGE	
at 33 rpm	+3.3 to −8.5%
at 45 rpm	+3.4 to −8.6%
WOW & FLUTTER (ANSI/IEEE weighted peak)	±0.05% average; ±0.07% max.
TOTAL AUDIBLE RUMBLE (ARLL)	−69 dB*

*see text



A screw-on clamp holds records flat against a resonance-damping platter mat.

appearance: There is no base in the usual sense (to reduce the surface area susceptible to excitation by sound vibrations and to eliminate the resonances that might occur in an enclosed, box-like base). The irregularly shaped subchassis (a seven-layer laminate formed under high pressure so as to combine inertness with high rigidity) is supported at three points by spring-loaded suspension towers. These towers are mounted on an acrylic base plate, which in turn rests on a set of three adjustable feet. By adjusting the relative heights of the feet, you can level the entire turntable.

The subchassis (and thus the platter and tonearm, which are rigidly supported by it) can be made level relative to the base. This involves changing the relative heights of the suspension towers (and therefore the tilt of the chassis) by turning the adjustment stems that protrude from their tops. This process is further aided by a spirit level attached to the subchassis. The procedure does not alter the compression of the springs or their resonance frequencies. Fine tuning of the suspension resonance is achieved by adjusting weights on a carrier rod attached to the bearing cylinder beneath the subchassis. By varying the amount of weight on the carrier, the position of the weight on the carrier, and the direction of the carrier itself, it is possible to tune the suspension to the correct 3.5-Hz resonance frequency and to ensure that all three springs respond evenly and identically to any excitation, thereby helping maintain the stability of the subchassis. Oracle has further enhanced stability by attaching the springs in the plane of the subchassis' center of gravity, instead of below it, as in most other turntables of this type. This arrangement is said to prevent the subchassis from swaying in response to vibration.

The point of all this attention to the suspension is to prevent acoustic or mechanical feedback by maximizing the turntable's isolation from outside forces. But the designers of the Oracle did not stop there: They also worked to eliminate any coloration that might be induced by resonances in the LP disc itself. To that end, the turntable is supplied with a flat, compliant platter mat, a tapered spacer that raises the record slightly at the label, and a clamp that screws onto the record spindle. The clamp is designed so that when it is screwed down tight, it forces the record firmly against the mat. This flattens out most warps and places the record surface in intimate contact with a material that tends to damp out any vinyl resonances excited by airborne vibrations or the passage of the pickup stylus along the record groove. The mat also helps damp out any resonances in the platter, which is itself already designed to be unusually inert.

The Oracle's manufacturer, Trans-Audio Corporation, feels that once a certain level of basic performance has been attained, there will be no further significant audible improvement except through elimination of such problems as disc resonances and acoustic feedback. For that reason, the company does not specify the turntable's speed accuracy, rumble, or wow and flutter. Although we agree that beyond a certain point improvement of these specifications is of no real benefit, we also feel that Trans-Audio's decision to avoid them altogether is something of an affectation, especially in light of the considerable attention paid to these factors in the Oracle's design. Its main bearing is an extremely hard, highly polished tungsten carbide ball riding on a thrust plate of a similar, but still harder material. The bearing shaft is held in position by close-tolerance self-lubricating bearings that are said to contribute almost no friction.

The results are the very good rumble and flutter figures obtained by Diversified Science Laboratories. At its best (−69 dB), the Oracle's rumble is about as low as we've seen—probably limited more by the rumble in the test record than by the turntable mechanism; at its worst (about −63 dB), it is still very good. Wow and flutter are also quite low, and on our test sample, both speeds (33 and 45 rpm) were right on the mark.

Speed is selected by means of a button just to the right of the power switch on the Oracle's diminutive control panel. Although both speeds are adjustable, the controls are on the back of the drive motor and accessible only by use of a small screwdriver. Clearly, they are not primarily intended as pitch controls, but as trimmers for setting the motor precisely on speed.

The Oracle requires considerably more assembly and initial adjustment than most other turntables: It is definitely a product aimed at serious enthusiasts. However, the owner's manual is clear and thorough with plenty of photographs to guide you. The only really tricky steps are mounting the tonearm, changing the spring in the support tower nearest the arm mount to match (if necessary) the weight of your tonearm, and the final tuning of the suspension. Naturally, the turntable is delivered with a blank tonearm mounting board, but Trans-Audio can supply precut boards for most popular arms, along with appropriate replacement springs, when required.

Once we got our Oracle assembled and running, we encountered no real difficulties in operation. Records do stick tightly to the mat and have to be peeled off, but this seems a modest price to pay for the advantage gained. As claimed, rejection of acoustic feedback and mechanical vibration are very good, and nothing else about the Oracle's performance calls attention to itself—all to the good, where turntables are concerned. Our capsule opinion, then, is that if you have the money and want a turntable in the top rank of performance, the Oracle is well worth your consideration.

Circle 95 on Reader-Service Card

You *Can* Take It With You!

The latest generation of portable audio (and video) components combines flexibility *and* performance.

by Peter Dobbin

THE LATEST DEVELOPMENT in portable audio and video gear is a hybrid that goes by the family name P. Compo, for portable components. It's a remarkable family, composed of some very talented little prodigies, all with a penchant for traveling.

Styled to resemble home minicomponents (from which they borrow their highly efficient power supplies and miniaturized tape transports, among other things), typical systems consist of an integrated amplifier, a tuner, a cassette deck, and two speakers. The most flexible ensembles allow each component to be separated from the traveling configuration—a neat vertical stack of electronics flanked by speakers on either side—and arrayed horizontally on a bookshelf, for instance. At the other extreme are several systems whose electronic components are permanently locked together, but even these usually have side-mounted speakers that can be separated for optimum placement. As the family name indicates, one attribute common to all of these is, of course, portability—though not necessarily battery-powered portability. Several of the newest packages will operate on batteries (anywhere from six to ten D cells) or via a rechargeable battery pack as well as on AC, but other, more power-hungry types use AC only. In any event, my experience with personal portables (the Walkman, et al.) shows that even the most highly efficient portable audio gear can have an amazing appetite for fresh batteries. Rechargeable cells, a rechargeable battery pack, or a DC converter should be high on your list of optional extras when shopping for portable components.

JVC is generally credited with having originated the portable component concept, and its PC-5 Quintet system, introduced less than a year ago in the U.S., is certainly the best known. Unlike the Walkman, which seemed to spring full-grown from the engineering genius of Sony with few histor-

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PHOTOS BY ROBERT CURTIS

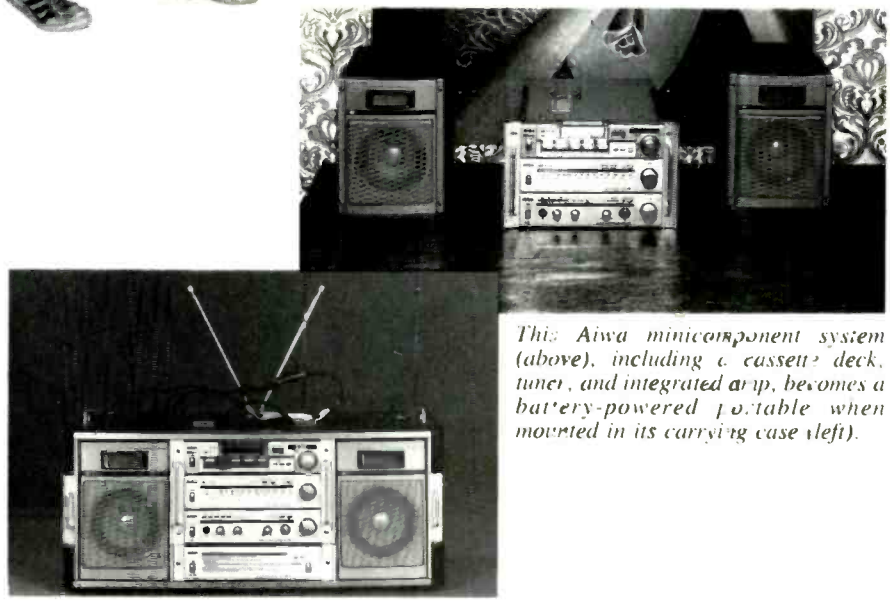
ical antecedents, semiportable stereo systems have been available for some time now. Manufacturers have been promoting home minicomponents, offering such options as waterproof cases—and, in the case of Rotel, a canvas back-pack—to transport them in. The systems vary widely in operating flexibility. If you plan to use one both at home and traveling, it should mate successfully with your stay-at-home turntable. That means that it should have a low-level phono input, not just the high-level aux input common on portables. (Unless otherwise noted, each of the systems discussed here contains such a phono input plus the necessary preamplifier and RIAA equalization circuitry to handle the output of a magnetic phono pickup.)

If you are an avid on-location recordist, look for a truly modular system—that is, one that allows the cassette deck to be used separately from the amplifier and speakers. Unlike most personal portables, the decks in these ensembles offer both recording and playback capability, often with noise reduction. Equipped with optional microphones and a pair of headphones, these decks are capable of recording quality far superior to that of the smaller, hand-held cassette recorders. Of course, to use such a deck as a remote stand-alone, you'll also need portable power—either an external battery pack that connects to a DC input on the deck or a battery compartment built into the recorder.

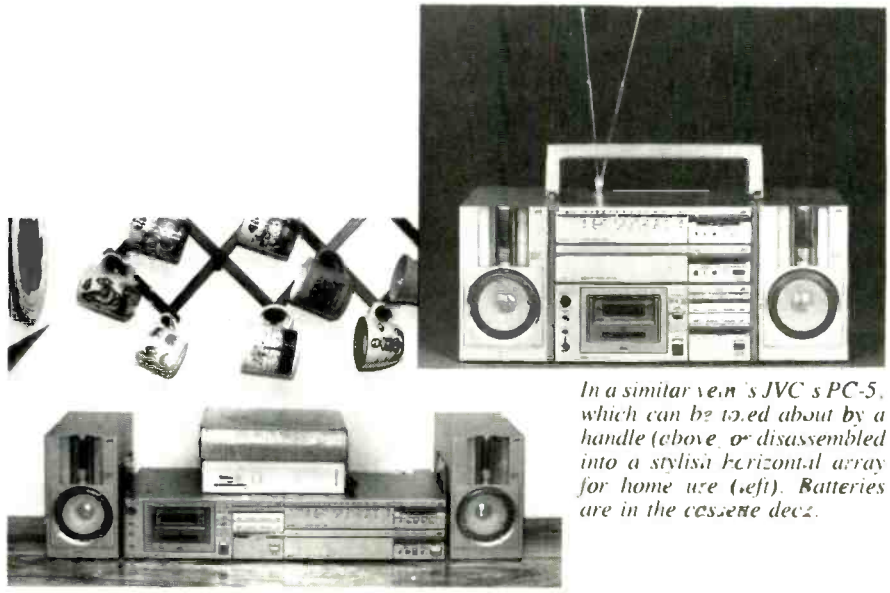
For the all-in-one portable stereo system market—home of the derogatorily (but onomatopoetically accurately) named "boom box," the arrival of JVC's PC-5 system was good news, indeed. Composed of five discrete elements—a 13-watt-per-channel integrated amplifier, a three-band tuner, a full-function cassette deck equipped with both ANRS and Super ANRS noise reduction, and two single-driver speakers—the PC-5 is still one of the most flexible packages around. Dressed for travel with its electronics and tape deck snapped together vertically and with the speakers attached at either side, it can be toted about with a clip-on handle, a shoulder strap, an open-sided carrying case, or even a fully enclosed carrying bag. Since the system's power is derived from eight D cells that load into a compartment in the cassette unit, the deck is a fully portable remote recorder.

It didn't take long for other manufacturers to follow JVC's lead. Kenwood's DC-20 is among the most intriguing of current designs. It, too, is built around modular components, with a combination tuner/preamp/cassette-deck and a separate 20-watt-per-channel power amp (with less than 0.1% THD claimed at rated output). The two-way speakers mount on either side of the electronics for traveling. Realizing that only a very hardy soul would consider the entire package truly portable (it weighs in at 27 pounds), Kenwood's engineers built

With AC power, a DC-20P power amp, and external speakers, the Kenwood DC-20X (above) is the heart of a small high fidelity system; without, it is a true portable (left).



This Aiwa minicomponent system (above), including a cassette deck, tuner, and integrated amp, becomes a battery-powered portable when mounted in its carrying case (left).



In a similar vein is JVC's PC-5, which can be toted about by a handle (above) or disassembled into a stylish horizontal array for home use (left). Batteries are in the cassette deck.

Portables are stealing tricks from home components: Sanyo's MW-25F (above) has dual cassette transports for tape dubbing, while Sony's XF-5000 (left) includes a phono input, along with a tuner, cassette deck, and amp.

small monitor speakers into the sides of the cassette/tuner/preamp core for low-level listening on the go. Power for the core is supplied by a rechargeable 12-volt battery pack; to run the power amp and the external speakers, the DC-20 uses house current or the output from an optional car-battery adapter.

The cross-fertilization between home components and boom boxes that spawned the P. Compo concept can be seen in the rapid spread of a feature that just two years ago was found exclusively in esoteric home-audio setups. Stereo image-enhancement circuitry, pioneered in the home market by Carver's Sonic Holography preamp, moved quickly to a system add-on, and then to a feature included in some receivers. Increasing the apparent width of the stereo sound stage is an especially attractive idea with portable components, where the speakers can be less than 12 inches apart, and now several companies offer enhancement circuitry in their systems. Kenwood calls its version an Accusonic control, while Panasonic's is appropriately named Ambience.

Though Sanyo has a number of very creditable portable component systems, I was especially taken with one of its non-component portables, the MW-25F. It, too, borrows a special function from the previously exclusive province of home audio: tape dubbing. It has been barely a year since Optonica surprised the industry with its tandem-transport home cassette deck [the RF-6605, test report, August 1981]. With the MW-25F, Sanyo goes one step further: tape dubbing at both normal and twice-normal speeds by means of two separate tape transports, one for recording and one for playback. Sanyo, unfortunately, has not included any noise reduction circuitry, but the unit does incorporate worldwide multivoltage capability and a pair of adequate little two-way speakers.

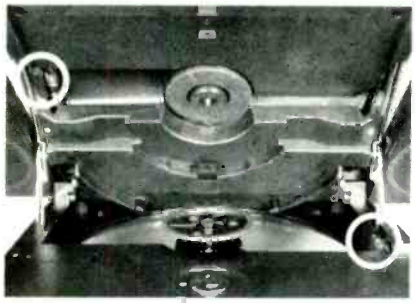
Panasonic's RD-D30 also has two-transport dubbing, but only at normal speed. Here, one cassette compartment is for playback only, while the other both records and plays back. This arrangement permits the simultaneous playback of two different cassettes through separate headphone outputs—good news for musically mismatched couples. All this is in addition to AM, stereo FM, and a tape-relay system that automatically switches from one cassette to the other when the first tape ends. Neither the Panasonic nor the Sanyo unit accepts the output from a phono pickup.

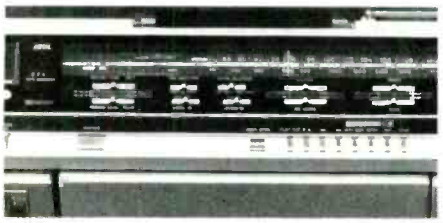
Among more "traditional" designs, Fisher's PH-492K earns its place in my survey for its inclusion of a five-band graphic equalizer in the preamplifier. Should you decide that the speakers that come with this nonseparable vertical array need a bit of tweaking here and there, the PH-492K stands ready to oblige.

Sansui's CP-7 is chock full of goodies. The four-piece system—cassette deck, receiver, and two single-driver speakers (each augmented by a passive radiator)—draws its power from a battery compartment built into the cassette deck, making portable taping possible. In addition, its frequency-synthesis receiver edges out most of the competition in features: AM, stereo FM, and two bands of shortwave reception, plus presets for twenty frequencies (five in each band). An LCD display supplies frequency readout and converts to a clock at the touch of a button. And with a clock available Sansui couldn't refrain from offering turn-on/turn-off programmability and unattended recording capability.

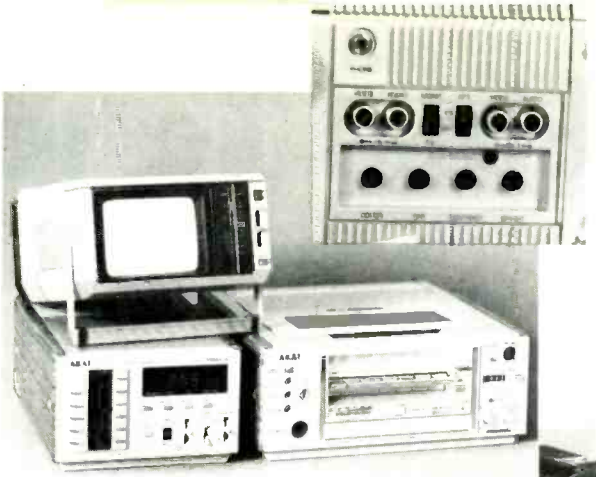
Although I have not attempted to rank any of the systems mentioned here on the basis of their audio performance, large differences do exist among them. Technics' SA-C07 stands out as one of the best-sounding portables I've heard. This nonseparable vertical ensemble specs out at the top of the list: Its 30-watt-per-side power amp has an FTC rating of no more than 0.4% total harmonic distortion (THD) at full power. Because the system is physically tied to such a large power amp, operation from internal batteries is ruled out. A car-battery adapter is available, however.

There are several all-in-one, nonseparable portables that measure up to P. Compo standards in functions and features. Except for their built-in speakers, Pioneer's SK-750 and Akai's AJ-525 fully qualify, and both have magnetic-phono inputs to





A built-in vertical turntable makes the Sharp VZ-2000 the most complete portable audio system available (opposite). Two cartridges (circled) mounted on linear-tracking tonearms enable the VZ-2000 to play both sides of a record without interruption. All controls are on the top panel (above).



Shown above, the Akai 7350 portable VCR with stereo sound and Dolby B, its companion VU-735OUS tuner/timer, and the Toshiba CA-045 portable color monitor with direct video and audio inputs (inset). At right are the Sony SL-2000 portable VCR and HVC-2200 color camera.

accommodate turntables.

There is one unusual all-in-one portable—the Sharp VZ-2000—that doesn't need a phono input: It has a turntable built right in! And the turntable offers a convenience found in only one home unit (also made by Sharp) I know of: It can play both sides of an LP without the record being turned over. It accomplishes this neat trick by means of two lateral-tracking tonearms, one positioned on either side of the vertically oriented disc. The VZ-2000 also has an AM/stereo FM tuner and a cassette deck. It operates on batteries and on AC, making it a complete portable entertainment center, save for one area—video.

While portable audio gear is a perfect adjunct to summer living, even the most ardent music lover will sooner or later long for a session with the tube to enliven those long, peaceful (boring?) summer evenings by the shore. Indeed, with the advent of lightweight portable video cameras and VCRs, a day's outing can become that evening's entertainment for the fully equipped vacationer.

Starting with basics—the TV set itself—Panasonic currently holds the record for the smallest, lightest color portable receiver. The CT-3311, with its 3-inch screen, is a remarkably sophisticated piece of equipment. To keep things compact, it replaces bulky tuning knobs and space-wasting channel-selector buttons with a station-scan circuit similar to the automatic tuning circuits used on some FM tuners. If you can get by with a smaller screen and black-and-white reception, consider Panasonic's TR-1000P, with a 1½-inch screen. This little guy comes complete with an AM/FM radio and weighs barely two pounds, including a rechargeable NiCad battery. A combination sun hood and magnifying lens takes some of the strain out of viewing.

Several manufacturers are also applying their considerable experience in miniaturization to video cassette recorders and cameras. In fact, compared to the new models, even last year's lightweights feel like boat anchors. In the Beta category, Sony's SL-2000 VCR weighs in at 11 pounds. Add a LCH-200 Action Pack shock- and weather-proof fiberglass housing (less than one pound) and an HVC-2200 low-light color camera (6½ pounds), and you have portable, instant-play home movies. When you get the SL-2000 back home, hook it up to a TT-2000 tuner/timer to create a programmable VCR with a full-function wireless remote control.

Panasonic upholds the VHS banner in portables with its PV-5110 VCR. It weighs just over 8 pounds, and that includes its pop-in rechargeable battery pack, which provides 100 minutes of recording time when used with a Panasonic low-wattage color camera, such as the PK-802. Said to function at lower light levels than any other Panasonic camera, the PK-802 weighs just over 5 pounds and comes with a power zoom lens and an electronic viewfinder. Also built into the camera are time and character generators; the former displays elapsed recording time in the viewfinder, and the latter actually lets you insert titles onto the video tape during recording.

If you'd like your VCR and tuner/timer all in one portable package, consider the Sharp XA-900. Resembling its multifunction audio cousin (the VZ-2000), this VHS recorder is as happy operating from its built-in battery pack as it is running on AC at home. A full-function VCR, the XA-900 offers high-speed visual search, full programmability for time-shift recording, and solenoid-operated controls. As a companion to the XA-900, try one of Sharp's own color cameras or the JVC Vidstar GX-44, one of the lightest color video cameras available today. It weighs just over 2½ pounds, consumes only 6 watts of power (for lower battery drain and longer recording time in the field), and is equipped with an electronic viewfinder, 4:1 power zoom, and a macro lens that can focus on objects as close as 1½ inches.

Finally comes the Technicolor 334T, a wunderkind of miniaturization that combines a color TV receiver with a 7½-inch screen, a tuner, and a VCR, all in one compact housing. Weighing in at 30½ pounds, it uses ¼-inch tape in special cassettes, so it is not compatible with Beta or VHS decks. But as a truly portable video system, it's hard to beat. **HF**

The Final Touches

Our new-equipment coverage for the first half of 1982 concludes with those add-ons and accessories that complete the audio banquet.

By Robert Long
Consulting Technical Editor

A LOT OF THE FUN of high fidelity—and not a little of the fidelity, if you choose carefully—is in the "extras" that put the finishing touches on a stereo system. Care products—for records, tapes, recorders, electrical contacts, and so on—can enhance the fun, though they're more practical than enjoyable in themselves. But signal-processing components can be endlessly engrossing, because you can literally hear what they do when you turn them on and adjust their controls.

Listeners who take the extra step beyond a relatively basic stereo system tend to be exuberant about their processor discoveries, and that tends to create an atmosphere of faddism around their special interests. In fact, for the casual observer, the aura of add-on signal-processing equipment may have been tarnished by disappointment stemming from past overstatements by believers. But if you approach a new stereo-enhancement device or ambience simulator or noise filter or dynamic range expander, or whatever, with an open mind—with neither the jaundice of the previously disappointed nor the bedazzled credulity of a convert—you can perceive the real engineering achievements and limitations inherent in the device you're considering.

It's hard not to be bedazzled, however, by a prototype that is by far the most impressive of the new signal-processing hardware. It comes from AR, and it's officially dubbed the Adaptive Digital Signal Processor (ADSP). Its basic intended use is for speaker/room response correction. Like the automatic equalizers already on the market, the ADSP supplies a test signal to the speakers, captures their output via a microphone pickup, and then analyzes the result and supplies a corrective reciprocal to any departure from a presumed ideal. There the similarity to past models ends. The ADSP converts the signals flowing through it to digital form for analysis and correction and then returns them to analog for reproduction; because all of the "filtering" is done digitally in the time domain, there are no RC (resistor-capacitor) circuits and the usual frequency-domain filtering concepts (center frequency, bandwidth, Q, and so on) simply don't apply. In theory, this should give the processor almost infinite flexibility in addressing the problems of speaker/room behavior, far outstripping even the most elaborate of parametric equalizers in this respect.

Equalizers of the conventional analog sort, meanwhile, remain the most popular (and probably the most useful) form of signal processor going. Among the new models, I was particularly grabbed by the one in the SAE 01 Series. Not only is it a parametric equalizer (a type that I find much more useful—though usually much more expensive—than the usual fixed-band variety), but the electronic controls (which the E-101 shares with other components in the series) make possible a memory bank with ten settings for each channel. You can, for example, program it for ten different listening positions. The controls are activated by means of pushbars, and the resulting EQ settings are displayed digitally.

Incidentally, SAE insists on calling it the 01 *System* (not *Series*) in recognition of the unified building-block approach that runs through the whole line. Its basic electronics include the P-101 preamp, T-101 tuner, and A-201 power amp. Along with the E-101, new accessory components include the R-101 real-time analyzer (a natural adjunct to the E-101) and the S-101 timer/switching unit, with a seven-day, ten-event memory, four signal-processor loops (including tape monitors), four high-level signal inputs, and switched accessory AC outlets.

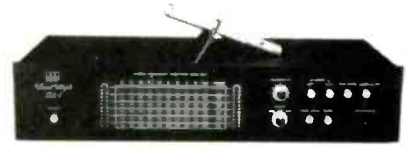
Soundcraftsmen has added two equalizers, each with ten octave-band controls per channel plus level matching. The $300 E-2214 includes tape-equalization switch-

Signal Processors

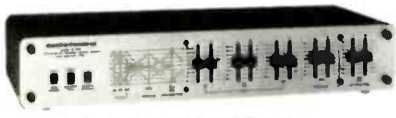
These devices are the most engrossing of stereo system "extras," perhaps because you literally hear what they do when you adjust the controls. Approaching them with an open mind will help you appreciate the engineering achievements and technical limitations inherent in each.

Soundcraftsmen AE-2000 Equalizer

Pioneer RG-9 Dynamic Processor



ADC SA-1 Sound Shaper Spectrum Analyzer



Audio Control D-520 Equalizer

DBX 228 Dynamic Range Expander

Kenwood GE-1000 Equalizer

ing, while the $650 AE-2000 incorporates Soundcraftsmen's real-time Auto-Scan-Alyzer. Both use the company's Differential-Comparator circuitry for calibration accuracy and optimum dynamic range.

Audio Control's D-520 equalizer incorporates two provocative novelties: The controls for both channels are paired in frequency-band groups for easy matching (or deliberate mismatching) of the two, and the bands are not distributed evenly across the whole audio spectrum. There are three overlapping control bands in the bass—centered at 36, 60, and 120 Hz—with a full ±16 dB of boost or attenuation in each, putting maximum control in the range where speaker deficiencies and room resonances most often demand frequency shaping. A treble control, centered on 15.5 kHz, also offers ±16 dB of shaping, while the midrange control, centered on 1 kHz, is limited to ±12 dB. The $130 D-520 also includes a switchable infrasonic filter with a slope of 18 dB per octave.

ADC, which recently redesigned its extensive and popular equalizer line around integrated circuits (with "IC" suffixes on the model numbers), has added a real-time spectrum analyzer, the $230 SA-1. Kenwood has taken a novel tack by adding an ambience-enhancement system to a graphic equalizer with twelve control bands per channel. The $440 GE-1000 has LEDs on the sliders for a visual display of the frequency shaping plus what Kenwood calls a "dazzling display" at the center of the panel to suggest the delay time for which the unit is set.

For some readers, the most important new equalizer of recent years may well be the $350 GEM-100 from Superex—the first model I've seen engineered specifically to address the often horrendous problems of TV audio (though it also includes controls for picture enhancement). More recently, Superex has added the VAP-3 Video/Audio Processor, with a four-band equalizer, a compander, and a nod toward stereo simulation—all for under $450—and the $406 AVE-200, with a similar equalizer but no compander.

Among dynamic-range expanders, the DBX 3BX is certainly one of the most successful. Now a Series Two model brings the price down to $550—more than $200 lower than the current price of the original 3BX. And new to the company's line of noise reduction units is the $500 DBX 228, which acts as a variable program expander as well. Pioneer has reintroduced its RG-2 dynamic processor in updated form as the $195 RG-9; you can buy a matching reverb amplifier in the $195 SR-9, which is the current incarnation of the SR-303.

If you hanker after a state-of-the-art SQ decoder, Tetrasound, Inc., is selling one based on the Tate IC for $700, including a remote-control unit. Frankly, I hope they will be steadfast (and successful) despite the jeers that any mention of quad-

Signal Processors at a Glance

Stereo image enhancers The first (and still among the best) of these fascinating products to arrive on the consumer market was the Carver Sonic Hologram Generator, which attempts to make ordinary stereo reproduction more closely approximate the theoretical ideal. What theory says is that the left ear should hear only the left speaker and the right ear only the right speaker. In practice, however, each ear hears both, the nearer speaker slightly before the one farther away.

The Carver system works to cancel this "acoustical crosstalk" by inverting the signals from each channel, delaying them slightly, and crossfeeding them at reduced level into the opposite channel. Precise cancellation can occur at only one listening position and only if the speakers are correctly placed, so that the inverted, delayed and crossfed left-channel signal emitted by the right speaker and the unprocessed signal radiated by the left speaker reach the right ear at the same instant, and vice versa. When this happens, the result is uncannily realistic stereo imaging at the ideal listening spot and often a considerably enhanced stereo effect over a fairly wide area. Among the intended effects are a broader stereo spread, more unequivocal localization of voices and instruments on the sonic stage, and a greater sense of depth.

Ambience simulators Sometimes (incorrectly) called ambience-recovery devices, these units use signal filtering and delay to simulate the reflections from the walls and ceiling that create the kind of reverberant field one experiences in a club or concert hall. The first home models of this sort were the Sound Concepts SD-50 (based on "bucket-brigade" analog circuits) and the Audio Pulse Model One (based on digital shift registers). Most later units have used analog delay circuits, though both techniques are well represented. Extra amplifiers and speakers (either or both of which are sometimes included) are required to reproduce the delayed signals at the sides or back of the listening area.

Ambience-recovery devices The Dynaquad circuit devised by David Hafler (then at Dynaco) electrically derives a difference signal (left minus right)—which represents primarily ambient, rather than direct sound—to drive side or back speakers. (Some adapters for matrixed quadriphonics have a similar setting.) The most familiar embodiment of this principle works from a power amp's output and therefore requires no additional amplifiers.

Quadriphonics True quad involves four signals recorded specifically for reproduction over four loudspeakers, making possible the reproduction (not just the simulation or serendipitous "recovery") of hall ambience. Because a normal stereo record will hold only two channels of information, the other two must either be modulated onto a carrier (as in CD-4 Quadradiscs) requiring a demodulator for full quadriphonic reproduction, or matrix-encoded (SQ or QS, usually) into the first two channels and recovered (or substantially so) via a decoder. Demodulators and decoders both work with line-level signals and require extra amplifiers and speakers.

Ambiphonics Developed in England, this technique addresses all the points raised so far, at least to some extent. Using a multielement single-point microphone, it records three signals that contain all the information necessary to reconstruct an acoustic event faithfully in all three dimensions. (Quadriphonics ignores the vertical.) This information can be combined or matrixed in any number of ways, from mono to multiphonics. Often it is used as an exceptionally accurate stereo source, though matrixed-quad use is an obvious alternative. So far, it has received little attention here, and the mere mention of quasiquadriphonic Ambiphonic adapters brings protests from admirers who don't want the system tainted by past quad failures.

Equalizers The most familiar of all signal processors should need no introduction here. Most of the available models are graphic equalizers whose controls raise or lower the level in fixed frequency bands; parametric models alter the shape and placement of the frequency bands as well.

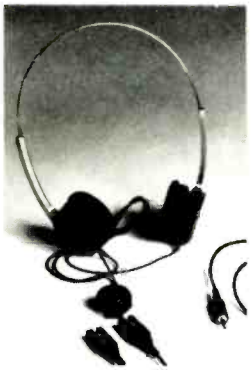
Noise reduction Most familiar are the so-called double-ended types that fully or partially encode (compress) signals to be recorded and reciprocally decode (expand) them on playback to minimize the noise added by the recording process. Among outboard units, DBX is the most familiar. Dolby B and C, Sanyo's Super-D, and Telefunken's High Com also are double-ended systems, though you're more likely to find them built into other equipment than in self-contained outboard units. For disc use, there are two systems: DBX and CX, each available in both outboard and inboard form. DBX discs require DBX decoding; CX discs are recorded with less compression than DBX records and with no equalization (DBX encoding does involve some equalization), so that they will sound reasonably natural even if you don't bother with a decoder.

Denoisers The so-called single-ended noise reducers usually alter bandwidth in response to signal properties, filtering out noise (almost invariably, hiss only) when there's no signal present to mask it but allowing the full signal (and the noise) through when it is present. Phase Linear's and Carver's Autocorrelator circuits are among the most complex in this group; DNR (Dynamic Noise Reduction), a simple dynamic filter built into a National Semiconductor IC, is based on a Burwen design from KLH.

Expanders These devices are intended to undo (more or less) the compression and limiting to which so much of the audio we hear has been subjected. Noise-reducing properties sometimes are claimed for them on the ground that low-level hiss is expanded downward along with low-level signals, reducing the audibility of such noise.

Headphones

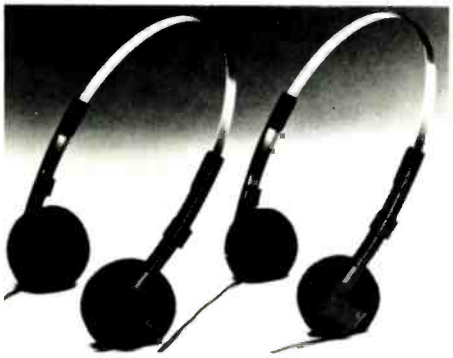
The personal portable craze has spawned a flock of very lightweight headphones, some with muting switches that let you instantly decrease the volume. Many more conventional designs are also available.



Pioneer SE-L15

Beyer DT-660

Sansui MS-7, MS-3



Yamaha YHL-005, YHL-007

Koss Sound Partner

Realistic Nova 25, Nova 30

riphonics is sure to bring these days. The avid proquad minority may seem like a lunatic fringe to the currently antiquad majority, but I do think quadriphonics as a medium has been too quickly dismissed because of the technical and economic problems that came to a head before its expressive potential could be adequately explored.

CM Labs has added a simple PA/disco mixer, the $200 CM-607a. Ace Audio's latest is a pair of fixed outboard filters: The 4000b (less than $100) cuts infrasonics by 18 dB per octave below 20 Hz, while the 4100-X24b steepens the slope to 24 dB per octave and adds an ultrasonic filter rated at 12 dB per octave above 20 kHz. Russound's boldest venture to date is a modular sound distribution system of the sort you would need to wire up several rooms from a single source system. Four different modules are available, at $30–$150; system prices obviously depend on how many and what kinds of modules are used. Also new are Russound's VS-2 remote speaker/headphone volume control ($80) and WD-1 speaker control ($70).

For switching line-level signals in complex systems—particularly those of recordists or quadriphiles who have a variety of outboard units and multiple interconnection requirements—I don't know of anything else as cleverly conceived as Audiovisual Systems' Patch Bay PB-289G ($850). Internal switches enable you to program the system's standard configuration; you insert patch cords only to alter the setup. It will handle sixteen pairs of stereo inputs and a like number of stereo outputs. There are also front-panel provisions for temporary lashups and such niceties as gold-plated contacts. If you're not into quite such heady territory, you may find the Realistic stereo tape control center (Radio Shack catalog no. 42-2105, $25) handy for connecting three tape decks with each other and with a receiver or preamp, using only one set of tape-monitor connections. Radio Shack also has added the Realistic APM-300 power meter (42-2104, $50).

While we're on the subject of recording, there are a number of new microphones. Beyer has added a $55 omnidirectional moving-coil model in the M-55OLMS (or, without an on/off switch, as the $50 M-55OLM) and two electret lavalier models. Sony has introduced several mikes, including the $60 FV-7ET, a dynamic cardioid with built-in circuitry to supply echo and vibrato effects. And Crown has a lavalier version of its PZM mike for $320, including a belt-mount power supply.

Frankly, I've stopped looking at speaker stands, there are so many of them. But Audiovisual Systems' Pyramount ceiling-suspension mount did catch my eye this time out. Another interesting variant on a "what, another?" product category is Diswasher's high-definition cable for, believe it or not, video systems. Monster Cable's latest entry is Interlink II ($30 per meter per pair), which differs from the original Interlink cable only in price and the slightly less bulletproof construction of its Phonolink II RCA phono plugs. The company also has a new gold-plated, solid-pin banana plug called X-Terminator ($25 per pair). Audio-Technica has added a heavy-duty audio insulator foot (AT-606, $30 per set) for equipment too bulky for the AT-605; of considerably more interest is a vacuum platter device—the $275 AT-666 Disc Stabilizer—that uses a hand pump to create a firm bond between disc and platter, even with warped records. And Discwasher has introduced the Dischandler—a device that reaches inside the jacket to withdraw the record safe from the oils on human hands.

Keith Monks has added a middle model, the $1,300 CR-501, to its line of record-cleaning machines. A company called Nitty Gritty has two record vacuums. The older, Nitty Gritty II, has been reduced to $300, while the newer Model III, which is said to operate more quietly, sells for $400. Among the recent record-care additions are Gruv-Glide, an antistatic, antifriction preparation from Trego Sales; Orbitrac, from Allsop, which includes a cleaning-pad device, cleaning solution, and an antistatic mat; and Audio-Technica's TechniClean (AT-6015, $25), a manual record-cleaning/antistatic device.

Also new from Audio-Technica are two plug-in phono headshells, one for straight and one for curved tonearms. And

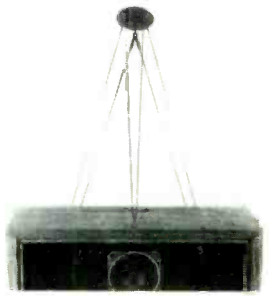
System Accessories

There's an almost endless variety of accessories available, with record and tape cleaners leading the way. Other popular items include furniture designed specifically for audio and video equipment, speaker supports, signal monitoring and switching devices, and record mats and clamps.

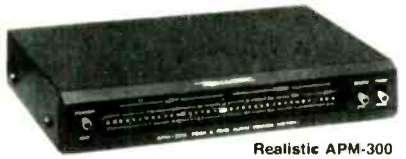
Allsop 3 Orbitrac Recording Cleaning System

Nitty Gritty III Record Cleaner

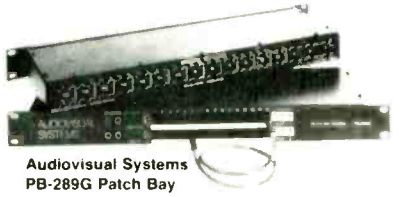
Discwasher Capstan & Pinch Roller Cleaner



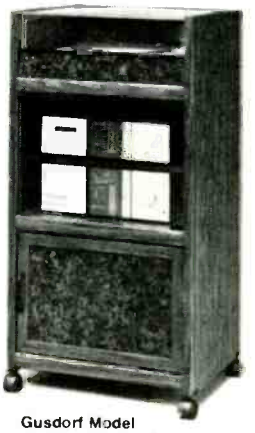
Audiovisual Systems Pyramount



Realistic APM-300
Audio Power Meter



Audiovisual Systems
PB-289G Patch Bay



Gusdorf Model
2950 Status Pro II

Keith Monks CR-501 Record Cleaner

Audio-Technica AT-660 Disc Stabilizer

Allsop 3 Audio Cassette Deck Cleaner

Audio-Technica, Allsop, and Discwasher all have new cleaners for tape equipment. Allsop's, called the Allsop 3 Ultraline Cassette Deck Cleaner, has been redesigned to clean more working surface within a cassette deck and has replaceable wool-felt cleaning pads. Meanwhile, Fuji has redesigned its Beta and VHS video-deck head cleaners.

In home-entertainment furniture, Custom Woodwork & Design—a company that impressed me with its solid oak and walnut models last June—has added some new ones. There are also some interesting designs from Timberline Products of Burbank. Both make "real" furniture at surprisingly modest prices. New designs are available from the larger companies, such as Soundesign and Gusdorf, too. The latter has an entirely new line called Status Pro II. Bush Industries offers relatively massive, credenza-style pieces finished in oak vinyl, as well as a variety of units in the smaller, more popular formats. A very simple equipment cabinet, almost to the point of starkness, is Sansui's GX-155.

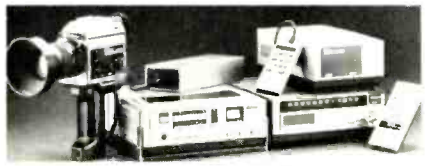
Among headphones, the Koss Sound Partner—a lightweight model that folds down to breast-pocket size—has been redesigned somewhat for better transducer/ear coupling and is available as the $35 KSP-S1. Pioneer's ultralight headsets have a muting button, enabling pedestrian wearers, for example, to kill the music when they're about to cross a street, just in case. Yamaha, Sansui, and Radio Shack are also among the many companies offering new lightweights appropriate for street wear.

There also are some heavyweights. Fostex has introduced four new models. (They are distributed with Fostex speakers, rather than with tape equipment, so shops carrying the latter won't necessarily stock the former.) Cybernet offers a wireless stereo model: The transmitter works off AC lines, while the headset uses two AA cells for power. Beyer—a company that was among the first to offer high-quality stereo headsets—has added the $95 bass-reflex DT-660. And Stax, among the Rolls-Royce companies in the electrostatic-headphone field, has two electret models: the $100 SR-34 and the $150 SR-84, also known as the Lambda Junior in honor of the boxy, outside, open-back Lambda "earspeakers" that caused a sensation when they were introduced and from which the SR-84 is descended.

Of course, there's more. It's just not humanly possible to ferret out all the audio accessories introduced in the tumult of the Consumer Electronics Show. But I have tried to include all of the most fascinating items—the ones that could really change the way your system sounds or the way you use it—plus a cross section of interesting variations on the theme of system and record care. Somewhere in this final course of the audio banquet, you're almost bound to find something appetizing. **HF**

VideoFronts

Latest video news and products by the Editors



Latest photo company to offer home video components is Nikon, whose new portable system comprises the SV-100 VHS VCR, the S-100 color camera, and ST-100 tuner. Remote control units and remote power sources are optional. The camera is Nikon's own design and features an f/1.2 Nikkor 6:1 power zoom lens with macro capability and a special focusing screen for improved sharpness and color balance at the extreme edges of the picture. A variety of LED operations indicators, including one for the lens opening, are visible in the viewfinder. The VCR's rapid search speed is ten times normal; the tuner can be programmed for as many as four events in a two-week period. Introduced recently in Japan, the Nikon System is scheduled for introduction in the U.S. by early 1983. Prices have not yet been determined.

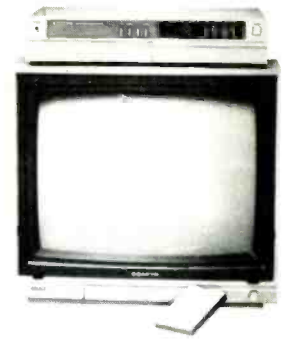
A nonabrasive video head cleaner that can be used either wet or dry is available from EVG, Inc. Priced at $30 (for either VHS or Beta), the Cleanmatic uses special cleaning ribbon and fluid in a process called Ribbon Planing, which cleans audio and video heads, the capstan, and the pinch roller.
Circle 86 on Reader-Service Card

A positive-to-negative circuit in GE's Model 1CVC-3035E video camera is designed to let you view 35mm color film negatives on your own TV screen in sharp, accurate color (with the help of an optional film holder). The $1,350 camera also includes a character generator that can create titles of as many as sixty letters or numbers. Other features are an automatic fade-in/fade-out circuit that is said to make studio-type dissolves; a Newvicon imaging tube that is more sensitive than a vidicon, but less susceptible to picture lag, or streaking; and a built-in electronic stopwatch that can display elapsed time on the scene you're taping. The camera's f/1.4 lens has a 6:1 zoom ratio and will focus as close as 2 inches. The entire package weighs just 5½ pounds.
Circle 74 on Reader-Service Card

Fisher has expanded its line of VHS video cassette decks with the $900 FVH-510. The deck has a one-day/one-event timer; two-, four-, and six-hour recording capability; twelve preset channels; an electronic tape counter; and a wired remote control with remote pause.

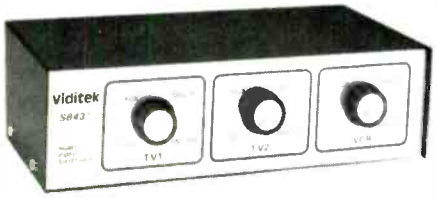
A video processing amplifier that gives you control over color saturation, hue, and picture contrast both in recording and playback is available from Vidicraft, a Portland, Oregon, company. The Proc Amp's luminance-level control enables you to create fades for smooth transitions and clean edits; it also boosts your camera's luminance output to improve shooting under low-light conditions. The $350 processor has a 12-volt battery input for field operation and a distribution amp that feeds four outlets.

Toshiba's lightweight (under 4½ pounds) high-resolution Model IK-1900 is the first video camera to use a Nikon lens. The f/1.6 Nikkor power zooms from 12.5mm to 100mm, an 8:1 ratio. Also featured is Toshiba's Tru Image optical viewfinder, said to provide an image that's accurate in color and size. The viewfinder image is blurred when the camera is out of register and clear when accurate focus is achieved, eliminating the need for split-screen focusing. Price is $995.
Circle 82 on Reader-Service Card



Component video competition gets a boost with the introduction of Sanyo's Pro-Ponent models, including the AVM-195 19-inch video monitor and the AVT-95 Video Control System. Boasting a horizontal-resolution specification of 360 lines, the monitor incorporates five electronic processing systems: a contrast limiter, a black-level compensator, a beam limiter, a white-temperature compensator, and a comb filter. The monitor is also equipped with a stereo amplifier rated at 5 watts per channel and a full complement of input and output jacks. The AVM-195 monitor will accept signals from a VCR or from Sanyo's AVT-95 Video Control System. The latter has a seventeen-button infrared remote control; a pseudostereo Sound Expander circuit; the

ability to tune 105 channels (including cable midband and superband); video inputs for signals from VCRs, video disc players, video games, and personal computers; and RF inputs for broadcast and cable television. The video monitor sells for $600, the control system for $400.
Circle 75 on Reader-Service Card

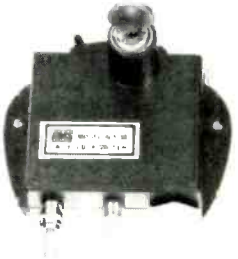


Viditek's "demand loss" video switcher is designed to deliver substantially higher signal levels than "constant loss" switchers. The device is now available as a 5-inch-deep shelf unit (the SB-43D) in addition to the original 12-inch-deep Models SB-43A and SB-43B. All configurations offer 50 dB of isolation, four inputs (pay TV, auxiliary, VCR, and antenna/cable), and three outputs (TV-1, TV-2, and VCR). The SB-43D in a wood case is priced at $80; the metal-cased SB-43A and B are $60.
Circle 80 on Reader-Service Card

A unique alternating wet/dry cleaning action is the idea behind the HCC-2002 (VHS) and HCC-2003 (Beta) video head cleaners from SSK Products. Both models offer full tape-path cleaning and use a geared, capstan-driven cleaning wheel. Covered by a lifetime warranty, the units sell for $30.
Circle 81 on Reader-Service Card

A compact, lightweight quartz lamp that can produce 30 percent more light than conventional units is available from Kapco. The 100-watt, 12-volt portable Model L-20 K-Beam sells for $100. For lower battery drain, a 50-watt bulb can be used. The LP-3 power converter permits connection to house current and is priced at $50.
Circle 78 on Reader-Service Card

Automatic focusing is provided by means of an infrared cell on the Magnavox Model 8249 color video camera. The $1,300 camera also has an f/1.4 macro lens, a 6:1 two-speed power zoom, and an electronic viewfinder. Weight is just over 6½ pounds.
Circle 78 on Reader-Service Card



A high-isolation locking switch from RMS Electronics can help maintain parental control over TV viewing whether you're at home or not. The $23 Model ACS-14 has two RF inputs, one of which can be locked with a key to prevent viewing, for instance, during homework hours. Supplied security shields help keep little fingers from tampering with the locking mechanism.

Dust and other airborne contaminants on your TV screen can dull the picture—a problem Bib's new VE-15A Antistatic TV Screen Treatment Kit is designed specifically to solve. The cleaning fluid comes in a pump spray container. Price is $8.
Circle 84 on Reader-Service Card

HANDS-ON REPORT

Hitachi's VK-C1000 Color Video Camera

Compact and lightweight, this tubeless camera gets high marks for human engineering.

by Edward J. Foster
Consulting Audio-Video Editor

COMPACT SIZE and remarkably light weight were the first things that struck me about Hitachi's VK-C1000 color video camera. For those who have struggled with the often unbalanced bulk of earlier, more conventional video cameras, the VK-C1000 is a welcome newcomer. Fully equipped with electronic viewfinder, pistol grip, and microphone, it weighs just under 3¾ pounds—that's 2¾ pounds less than the camera I usually use. A couple of pounds may not sound like much, but when you're taping something over a period of hours, such as a sports event, the lighter weight means that your wrist will be noticeably less tired and cramped.

A new metal-oxide semiconductor (MOS) image sensor, which replaces the conventional vidicon vacuum tube most cameras use to convert light to an electronic signal, accounts for most of the weight and size reduction. The sensor, which is about the size of a postage stamp and the thickness of a quarter, is at the focal plane of a very fast (f/1.4) Fujinon lens with a 6:1 (12.5 to 75 mm) zoom ratio. The zoom can be operated either manually, by manipulating the lever on its innermost collar, or electrically, via a power-zoom button on the pistol grip. Using the latter, full zoom takes about eight seconds.

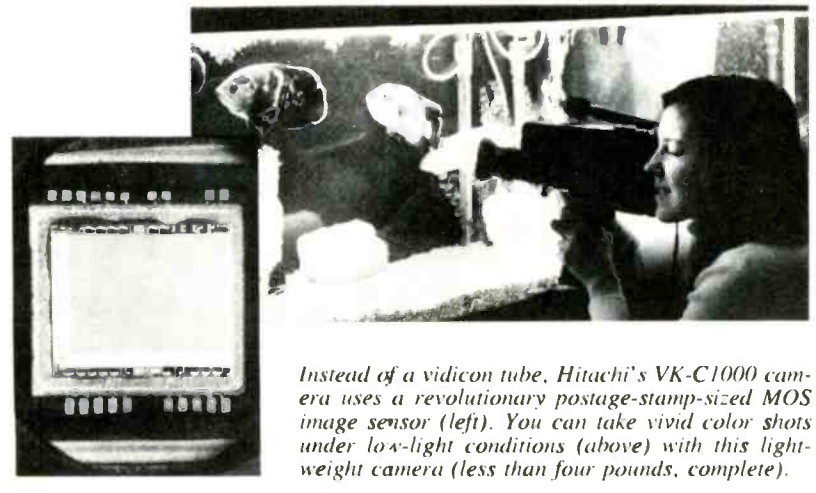
The lens focuses down to approximately three feet and also offers a macro position that lets you focus as close as a half an inch. Unlike the recommendation normally given with 35mm (film) camera zoom lenses—that you focus at the telephoto setting—Hitachi suggests focusing the Fujinon optic in the wide-angle position and then zooming out to the desired focal length.

In the macro position, you use the zoom control (not the normal focusing collar) to focus, and the depth of field is somewhat limited. Nonetheless, you can take interesting supercloseups if you're careful to provide even illumination. (This can be a bit tricky, because the camera lens itself may cast a shadow on the subject. I found that the lens shade can be removed by unscrewing it, giving you a little more room to adjust the lighting.)

Should the Fujinon optical system not meet your needs (although I can't imagine why), you can replace it with almost any compatible conventional C-mount lens. However, using another lens disables the auto iris, so you must be extra careful not to overload, or "burn," the image sensor by aiming the camera toward a strong light source. With the standard optics, the iris closes down completely whenever power is off, thus protecting the MOS device. (You still must be careful not to let strong light into the viewfinder eyecup lens, because it can burn key parts inside.)

In use, the iris automatically controls sensitivity from 100 lux to 100,000 lux, light levels that range from a reasonably well-illuminated room to bright sunlight on a clear day. A lens cap, connected by a short string to the sensor cable so you won't lose it, protects the lens when the camera is not in use.

The Hitachi VK-C1000 is completely modular and can be reconfigured as required. For hand-held operation, a pistol grip with a permanently attached wrist strap mounts to the base of the camera. Between



Instead of a vidicon tube, Hitachi's VK-C1000 camera uses a revolutionary postage-stamp-sized MOS image sensor (left). You can take vivid color shots under low-light conditions (above) with this lightweight camera (less than four pounds, complete).

Clockwise from left: Zoom control on pistol grip has telephoto and wide-angle positions; macro lens focuses to ½ inch; camera can be operated from remote viewfinder; controls are compactly clustered; LEDs in electronic viewfinder indicate recording, insufficient light (illuminated), and low battery.

the grip and camera fits a bracket for mounting the electronic viewfinder, which can be placed on either side of the camera to accommodate lefthanded or righthanded persons. A short multiconductor cable connects the viewfinder to the rear of the camera. A telescoping boom microphone clamps to the top of the camera with a knurled screw, and its cable plugs into the rear of the main housing.

Normally, the undirectional electret microphone is aimed forward, but two alternate positions, angled 30 degrees to the right and left, make room so you can mount an optional camera light (VK-CP70) on a clip toward the front of the camera. You'll also find a second input jack (the subminiature phone type) for an external high-impedance microphone; when used, it automatically disables the boom microphone circuit. A subminiature phone jack drives an 8-ohm headset, and a small earplug is provided with the camera. This is handy when you want to hear exactly what the mike is picking up—and what will be recorded on the video tape.

The entire assembly mounts on a tripod via a standard threaded fitting at the base of the pistol grip, but you might find it more convenient to mount only the camera head on the tripod and use the viewfinder remotely. This can be done quite readily, since the camera also has a screw socket on its base. The pistol grip then can be mounted to the base of the viewfinder (the combination will weigh just about one pound) and connected to the camera via an optional extension cable (VK-CK15V). With this lash-up, the pause and zoom controls on the pistol grip operate the camera and recorder remotely.

The electronic viewfinder houses a 1½-inch monochrome picture tube and three LED indicators, which are all readily visible through the flip-up eyecup—even to those who wear glasses. (On many cameras this is not true.) The rubber eyecup is oversized, quite comfortable, and contains a magnifying lens adjusted for best focus on the screen. The leftmost (green) LED is constantly illuminated whenever recording is taking place. When the VCR is not recording, this LED flashes. The center (red) LED activates when there is insufficient light for recording. The rightmost indicator (also red) flashes when the portable VCR's battery power is getting low.

You can operate the VK-C1000 directly from the Hitachi VT-6500A portable, to which it connects via a ten-pin plug with outer retaining ring. For use with a tabletop VCR, an optional (A-C70A) AC adapter is required. It powers the camera and provides the separate pause, video-input, video-output, audio-input, and audio-output cables used with many home VCRs. (When the AC adapter is used, the low-battery indicator in the camera viewfinder is deactivated.)

To prevent excessive power loss, Hitachi recommends against using extension cables between the VK-C1000 and the battery-operated portable deck. With the AC adapter, though, a single 33-foot extension cable (VK-CK61E) or two 16-foot cables (VK-CK65E) can be used. This might be restrictive in some situations, because the VK-C1000's own cable is only about six feet long.

At the rear of the camera are the white-balance control and two slide switches. One of these—POWER SAVER—cuts power to the camera and, with a portable VCR such as the Hitachi VT-6500A, turns off the head-drum motor to conserve battery power during extended pauses. (Power consumption drops to about 0.2 watts—about 4% of the normal 5.3 watts—under these conditions.) The switch must be returned to NORM about five seconds before resuming recording to allow the system to stabilize.

The second switch activates the white-balance adjustment system. In CHECK, a divided image appears in the viewfinder when you point the camera at a white object. You adjust the white-balance control to maximize the size of the bright area, turn the system off, and you're ready to shoot. If you have a color monitor connected, you can adjust white balance for best color on its screen. If you haven't time to go through a white-balance setup, you can get a fair approximation by turning the control to one of its four light-symbol settings. The white-balance control compensates for differences in ambient color temperature ranging from approximately 3000 degrees Kelvin (for halogen or tungsten bulbs) through 6500 degrees Kelvin (typical of the bluish overcast on a cloudy day). The symbols correspond roughly to the various light conditions.

While the VK-C1000 mates perfectly with the Hitachi VT-6500A with which I was supplied, I found it adapted quite well to my own Panasonic PV-3100 portable. The only accommodation required was resetting a slide switch at the base of the camera to make its recording indicator compatible with the Panasonic system.

I was pleased with this camera's performance, especially under low-light con-

(Continued on page 80)

TubeFood

New video programming: cassette, disc, pay and basic cable by Susan Elliott

(Check local cable listings for availability and schedules.)

July Arts Cable Programming

OPERA/STAGED WORKS

■ **Bravo:** *L'Enfant et les sortilèges* with Stanislas Beaujin and Gerda Daum (French Radio Orchestra, 1967). *Nabucco* with Renato Bruson, Ghena Dimitrova, and Dimiter Petkov, conducted by Maurizio Arena (Open Air Roman Arena, 1981, Verona, Italy).

■ **CBS Cable:** *Carmen* with Grace Bumbry, Jon Vickers, Justino Diaz, and Mirella Freni, conducted by Herbert von Karajan (Vienna Philharmonic, 1968, Salzburg Festival). *La Bohème* with Mirella Freni, conducted by Karajan (Berlin Opera).

SYMPHONIC GROUPS

■ **ABC Arts:** *The Great Orchestras of the World* (documentary/performance, two segments): *The Chicago Symphony*, conducted by Georg Solti; *The Philadelphia Orchestra*, conducted by Eugene Ormandy (includes an interview with Leopold Stokowski). *Mobile Showcase: The Vienna Philharmonic*, conducted by Lorin Maazel (1980, includes performances by the Vienna State Opera Ballet). *Boston Symphony Orchestra 100th-Year Celebration* with Itzhak Perlman, Leontyne Price, Mstislav Rostropovich, Isaac Stern, and Rudolf Serkin, conducted by Seiji Ozawa.

■ **Bravo:** *The Houston Symphony* with violinist Ruben Gonzalez, conducted by Sergiu Comissiona (1981). *The American Symphony Orchestra* with pianist Leon Fleisher, conducted by Comissiona (1981). *The Brandenburgs* (Nos. 2, 5, and 6) performed by The (92nd Street) Y Chamber Symphony, conducted by Gerard Schwarz. *Bravo on Campus: The Northwestern University Symphonic Wind Ensemble*, conducted by John Paynter (1980).

■ **CBS Cable:** *The Vienna Philharmonic* with pianist Rudolf Buchbinder, conducted by Karl Boehm. *The Emperor Concerto* with pianist Arthur Rubinstein, conducted by Paul Kletzki (Orchestre de Paris). *Rachmaninoff Piano Concerto No. 2* with Alexis Weissenberg, conducted by Karajan (Berlin Philharmonic).

SOLO PIANO

■ **ABC Arts:** *The Sixth Van Cliburn International Piano Competition* 5/81 (three segments: first round, semifinals, finals).

■ **CBS Cable:** *Emil Gilels, Pianist.*

DANCE

■ **ABC Arts:** *Adam and Eve* with Rudolf Nureyev and Daniela Malusardi (Birgit Cullberg, choreographer). *The Lark Ascending* (Alvin Ailey American Dance Theater). *The Creation of a Ballet: The Overgrown Path* (Netherlands Dance Theater).

Grace Bumbry as Carmen on CBS Cable

■ **Bravo:** *La Sylphide* with Ghislaine Thesmar (Paris Opera Ballet, 1972). *Romeo and Juliet* with Mikhail Lavrovsky and Natalja Bessmertnova (Bolshoi Ballet, Bolshoi Theater, Moscow).

■ **CBS Cable:** *Giselle* with Nureyev and Lynn Seymour (Ballet of the Bavarian State Opera House). *Petrushka* with Nureyev and Noella Pontois (Paris Opera Ballet).

CHOREOGRAPHER PROFILES

■ **ABC Arts:** *Sergei Pavlovitch Diaghilev: 1872-1929. Frederich Ashton: A Real Choreographer.*

■ **CBS Cable:** *Merce Cunningham* and Company. *May O'Donnell* and Company. *Twyla Tharp* and Company in works choreographed specifically for video.

COMPOSERS and CONDUCTORS

■ **ABC Arts:** *Leoš Janáček.*

■ **Bravo:** *Georg Solti* with the London Philharmonic (1981). (James) *Galway in Japan* (1981).

■ **CBS Cable:** *Stravinsky in Russia, Stravinsky in Paris, Stravinsky in America* (three one-hour interview/performance segments).

JAZZ and POPULAR SONG

■ **ABC Arts:** *L. A. Jazz* at the Lighthouse Cafe, hosted by Leonard Feather (three segments: Carmen McRae and violinist Subramaniam; Freddie Hubbard Quintet and the Milcho Leviev Trio; Jimmy Witherspoon, McRae, the Milcho Leviev Trio, the Ahmad Jamal Trio, Subramaniam, the Freddie Hubbard Quintet). *Making of a Song (My Funny Valentine)* with Bob Brookmeyer, and Mel Lewis and the Jazz Orchestra. *A Night at Asti's* with soprano Ashley Putnam.

■ **Bravo:** *The Bravo Jazz Festival: Dizzy Gillespie* at the Station (Wilkes-Barre, Pa., 1982).

■ **CBS Cable:** *Call Me Betty Carter* (interview/performance). *Piano Players Rarely Ever Play Together* with Isidore "Tuts" Washington, Henry "Professor Longhair" Byrd, Allen R. Toussaint (1981).

Pay Service Premieres, July

■ **Bravo:** *The Competition; Tracks; Alfredo, Alfredo* (subtitles); *The Simone Signore Film Festival* (all subtitles); *I Sent a Letter to My Love, Madame Rosa, The Confession, Diabolique.*

■ **Home Box Office:** *For Your Eyes Only; History of the World, Part 1; S.O.B.; Raggedy Man; Wolfen.*

■ **Showtime:** *For Your Eyes Only; History of the World, Part 1; S.O.B.; Wolfen; High Risk; Serial; The Hand; In God We Trust; The Gong Show Movie; Fall Line; Outlaw Blues, Lipstick; Strange Behavior; The Fun House; La Cage aux Folles II; Dr. Zhivago; Royal Wedding; Where the Boys Are; Where the Spies Are. Hot Ticket: The Folk Music Reunion* (Judy Collins, Kingston Trio, Limelighters, Glenn Yarbrough, Mary Travers, John Sebastian, The Brothers Four. Taped at Wolf & Rissmiller's Country Club, 2/24/82).

■ **The Movie Channel:** *For Your Eyes Only; S.O.B.; Wolfen; Raggedy Man; History of the World, Part 1; Amarcord; The Odd Angry Shot; McVicar; Don't Answer the Phone; Kill and Kill Again; Choices; Falling in Love Again; How I Won the War; Blood Beach; Mystery Island; Rude Boy; Mysterious Stranger; Survival Run; Prime Time; Heaven Can Wait; Foul Play; Paradise Alley; The Music Lovers.*

Video Cassettes

CONTEMPORARY FILMS

■ **Paramount Home Video:** *Last of the Red Hot Lovers; The Gambler.*

JAZZ/POPULAR MUSIC

■ **Video Images:** *Showtime at the Apollo/Harlem Variety Review* (1954, three shows: *Harlem Merry-Go-Round, All-Star Review, Showtime in Harlem*); *Stars of Jazz* (1958, two shows: *Shelly Manne and his West Coast jazz group, Paul Horn Quintet*).

CHILDREN'S PROGRAMMING

■ **Paramount:** *Dragonslayer.*

■ **Video Gems:** *Dunderklumpen* (also available in Spanish); *The Magic Pony; Pinocchio; The Little Mermaid; Mr. Too Little; Legend of the Northwest; Summerdog; Once Upon a Time.*

Q. & A.

Your most interesting video questions answered by Edward J. Foster

Q. *I live in a fringe reception area where I can receive several TV channels, but with varying degrees of quality. There's no prospect of getting cable television, and I don't have the money to spend for a satellite TV antenna and receiver. Are there any ways to improve the quality of the signals that I'm stuck with so that I can at least record some programs on my VCR?—Mark Pollack, Shaftsbury, Vt.*

A. If you are looking for some sort of magical black box to install between your tuner and VCR to clean up a noisy signal, the answer, I'm afraid, is no. Your best bet is to provide the VCR's tuner with a stronger signal, and that means installing a better antenna system.

There are three considerations: the antenna itself, its location, and the cable that carries the signal from the antenna to the tuner. Since you can receive only a few channels in your area, you may get best results by using a separate, individually tuned antenna for each channel. Such antennas, known as Yagis, require individual downleads, so you must have some means of switching from one antenna to another when you change channels.

Wideband antennas, which cover the entire VHF or UHF band, are compromise designs; they provide less gain than a Yagi that has been tuned specifically for one channel. Nevertheless, you may find that you can buy a wideband antenna with more gain than the one you're using now, and it should improve reception considerably. Stacking two wideband antennas (with the proper phasing bars) will increase gain by 3 dB, giving you a stronger signal.

A home antenna should normally be aimed directly at the transmitter tower to receive the strongest signal. With a wideband unit, a rotor is the simplest way to point the antenna for the best reception, especially if the various stations' transmitters are located in different directions. A single-channel Yagi should be aimed toward the station for which it is tuned; if you find that intervening obstacles (such as mountains) deflect the signal somewhat, aiming the antenna at a point slightly away from the transmitter's "true" direction often gives excellent results.

In addition, the antenna should be high enough to clear all local obstructions. This may require mounting it on a tower supported by guy wires, though often simply raising it an extra twenty feet or so will bring about a dramatic improvement. Once your antenna is in place, you'll need downlead to carry the signal to your set. Unfortunately, the more downlead you use, the more the signal strength is reduced. Attenuation increases with frequency, too, so more loss occurs on the high channels (VHF channels 7-13 and all of UHF) than on the low ones (VHF channels 2-6). Open lead (parallel wires separated by spacers) exhibits the lowest loss of all, but it is susceptible to noise pickup and must be installed at a distance from any electrically conductive surface. Regular flat 300-ohm twinlead exhibits low loss when dry, but attenuation increases significantly when the wire is wet or snow-covered. Tubular, foam-filled twinlead is less subject to such losses, but like any nonshielded lead, it is still vulnerable to noise pickup. Shielded twinlead has slightly greater attenuation, but the signal loss doesn't increase when the cable is wet. It also has greater noise immunity and can be run near conductive surfaces without affecting its characteristics. Coaxial cable is often used as downlead because it is easy to install, but its signal attenuation is greater than that of shielded twinlead.

Q. *In what way is a U-Matic VCR different from a Betamax?—Dwight Moore, Abqaiq, Saudi Arabia*

A. Sony's U-Matic system, which predates the development of the Betamax, is the standard video cassette format for commercial and industrial applications. Like Betamax, the U-Matic system is designed to use a cassette or cartridge rather than the open reels of tape used in most TV stations.

A U-Matic cartridge is substantially larger than a Beta cassette and contains ¾-inch rather than ½-inch tape. U-Matic operates at a faster tape speed, too—3.75 ips. That's more than four times the speed of Beta II and more than six times that of Beta III. U-Matic tape is thicker than the tape used for Beta cassettes—27 micrometers, as opposed to Beta's 13, 14, or 20 micrometers. The video track is also wider in the U-Matic format than in the Beta format.

These design differences reflect a difference in intended use: A Betamax deck is strictly a consumer product, whereas a U-Matic recorder is a professional machine offering substantially better performance at significantly greater tape and hardware cost. If you're thinking of getting a U-Matic, be advised that the maximum tape length listed in Sony's catalog provides only 60 minutes of recording time. And you should bear in mind that few prerecorded cassettes are available commercially in the U-Matic format.

Video Discs

CONTEMPORARY FILMS

■ **MCA Videodisc** (laser): *The Electric Horseman; The Four Seasons; House Calls; The Island; Jesus Christ Superstar; 1941; Play Misty for Me; Private Lessons; Prom Night; The Sting.*

■ **MGM/CBS** (CED): *Soylent Green; The Street Fighters; Tarzan the Ape Man.*

■ **Paramount** (laser): *Apocalypse Now; Atlantic City; Death Wish; The Fan; Goodbye Columbus; Heaven Can Wait; Mommie Dearest; Ordinary People; Paternity; Popeye; Saturday Night Fever; Serpico; Shogun; Starting Over; Three Days of the Condor; Urban Cowboy.*

■ **RCA SelectaVision** (CED): *Annie Hall; Dressed to Kill; Three Days of the Condor; The Great Muppet Caper; The Return of the Pink Panther; Diamonds Are Forever; Blow Out; The Fog; The Amityville Horror; Big Bad Mama; Watership Down; On Golden Pond.*

■ **Twentieth Century-Fox** (laser): *Annie Hall; Autumn Sonata; The Rose; The Sailor Who Fell from Grace with the Sea; *M*A*S*H; The Pink Panther; Raging Bull; Brubaker; La Cage aux Folles; History of the World, Part I.*

STAGE SHOWS/POPULAR MUSIC

■ **MCA:** *The Grateful Dead in Concert; Mel Torme and Della Reese in Concert; Peter Allen and the Rockettes at Radio City Music Hall; Sgt. Pepper's Lonely Hearts Club Band.*

■ **MGM/CBS:** *The Charlie Daniels Band: The Saratoga Concert* (stereo); *Piaf.*

■ **RCA:** *The Kids Are Alright* (The Who); *Bob Welch & Friends.*

CHILDREN'S PROGRAMMING

■ **Paramount:** *Race for Your Life, Charlie Brown.*

■ **Pioneer Video Imports:** *Rainbow Goblins Story.*

■ **RCA:** *Big Blue Marble; A Charlie Brown Festival, Vol. 2; Disney Cartoon Parade, Vol. 2.*

■ **Walt Disney Home Video** (laser): *The Black Hole; The Love Bug; Escape to Witch Mountain; The Many Adventures of Winnie the Pooh; Mickey Mouse and Donald Duck Cartoons, Collections One and Two* (two discs); *Pete's Dragon* (two discs); *Dumbo; Davy Crockett and the River Pirates; The One and Only, Genuine, Original Family Band.*

Karl Böhm: The Strauss Opera Legacy

The conductor's passing closed the book on the Dresden tradition.

by Bryan Gilliam

NEXT MONTH MARKS the first anniversary of the death of Karl Böhm, a conductor noted for his interpretations of Mozart, Wagner, and especially Richard Strauss. The last living musician to have conducted a Strauss opera premiere, Böhm was also perhaps the last link to the so-called Dresden Strauss tradition.

The composer often referred to Dresden as his "lucky city," and for good reason. He never held any official musical post there, as he had in Berlin, Vienna, and Munich, yet Dresden had been the site of nine Strauss opera premieres: *Feuersnot* (1901), *Salome* (1905), *Elektra* (1909), *Der Rosenkavalier* (1911), *Intermezzo* (1924), *Die ägyptische Helena* (1928), *Arabella* (1933), *Die schweigsame Frau* (1935), and *Daphne* (1938). Thus Böhm, who conducted first performances of *Schweigsame Frau* and *Daphne*, inherited a legacy harking back to the days of Ernst von Schuch at the turn of the century.

But why did the composer choose Dresden in the first place? Although Strauss served as principal conductor at the Berlin Court Opera from 1898–1918, the Kaiser's reactionary tastes forbade the premiere of *Feuersnot* in Berlin. The Dresden orchestra was a splendid ensemble by then—equal even to Strauss's demands. Furthermore, removed from the distractions of a restless capital, the city offered a more relaxed atmosphere, with an audience consisting mostly of friends and patrons. More importantly, as Strauss recalled, "the cities who came to Dresden were in a better frame of mind to appreciate the opera undisturbed."

Much of Dresden's prominence as an important opera center in the early twentieth century stemmed from the work of the Austrian-born Schuch. He began conducting at the Royal Saxon Opera in 1882, four years after it reopened following an 1869 fire, and it soon became a leading house in Germany. Impressed by Schuch's "inspired leadership," Strauss entrusted him with the premieres of *Feuersnot*, *Salome*, *Elektra*, and *Rosenkavalier*.

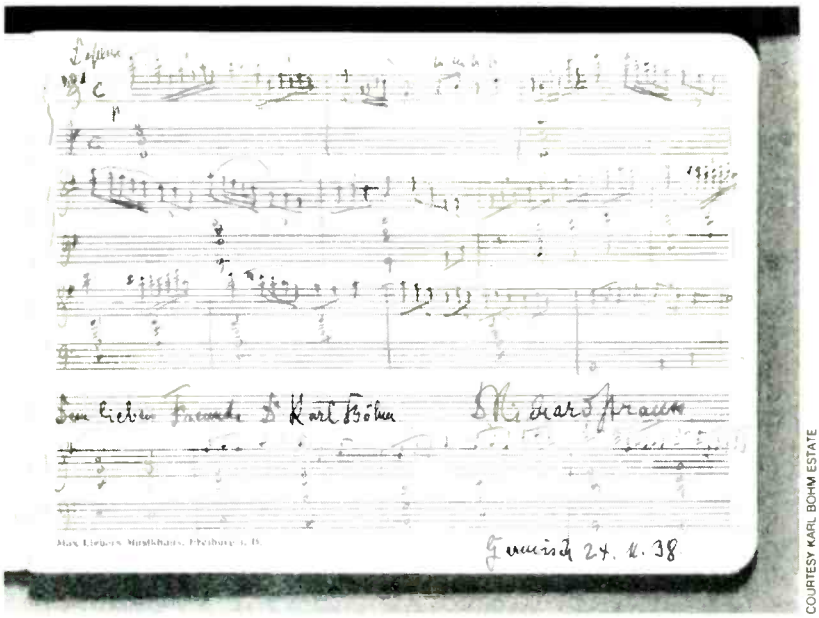
After Schuch's death in 1914, Fritz Reiner took over conducting responsibilities in Dresden, at a time when the war caused severe financial problems for the opera house. No Strauss premieres took place there during the war or even shortly thereafter. In 1921, Fritz Busch succeeded Reiner; he sought to broaden the Dresden repertoire and conducted the premieres of *Intermezzo* and *Ägyptische Helena*. According to Busch, "Strauss acknowledged my cooperation as a conductor of his operas . . . with extraordinary, almost extravagant, warmth." So pleased was Strauss that he dedicated *Arabella* to Busch and Dresden *Generalintendant* Alfred Reucker.

But Busch never conducted the *Arabella* premiere. After the Nazi takeover in 1933, lower-level bureaucrats in Dresden demanded that he either follow their new ideological guidelines or face dismissal, and he chose the latter. Göring, who liked Busch, demanded that he be reinstated, but Busch no longer wanted any part of the Dresden post. According to him, Strauss tried to move the premiere to another city, but *Arabella* was bound by contract to be performed first in Dresden. Busch left Germany just as rehearsals began, now under the baton of his temporary replacement, Clemens Krauss.

A year later, two decades after Schuch's death, another Austrian became music director at the Dresden Opera—Karl Böhm. At forty, he was no stranger to the works of Strauss. He knew all of the roles for *Rosenkavalier* and *Ariadne auf Naxos* from his days as a vocal coach in Graz, and in 1923, replacing an indisposed Hans Knappertsbusch in Munich, he conducted his first Strauss opera, *Ariadne*, without rehearsals. There followed a steady stream of new Strauss undertakings for Böhm: *Rosenkavalier* in Munich two years later, *Salome* in Darmstadt (1927), and *Elektra* in

Bryan Gilliam, a doctoral candidate at Harvard, is completing a dissertation on Richard Strauss's operatic compositional process, based on the sketchbooks.

DEUTSCHE GRAMMOPHON/NEUMEISTER



COURTESY KARL BOHM ESTATE

A sketchbook for Daphne *bearing Strauss's inscription, "To my dear friend Dr. Karl Böhm," November 24, 1938, Garmisch; the opera was dedicated to Bohm.*

Hamburg (1932). But it was Böhm's first *Arabella* in Hamburg (December 1933)—five months after the July Dresden premiere—that first caught the attention of Strauss. That year Böhm received news that he had been appointed to succeed Busch, beginning with the next season.

Böhm's first year in Dresden saw a significant milestone—the city's 200th performance of *Rosenkavalier*. Strauss himself had conducted the 100th and now gave Böhm the honor of the 200th, part of the composer's seventieth-birthday celebration. Böhm required seventeen rehearsals with orchestra, supervised by Strauss, and after the successful performance, the composer declared the final trio to be "just as beautiful as the world premiere."

The next year, Böhm conducted his first Strauss premiere, *Schweigsame Frau*, with the composer supervising the final rehearsals. But relations between them were not as relaxed as they had been during *Rosenkavalier* rehearsals. "It seemed that he would get up out of his seat at every wrong note or dynamic," Böhm recalled. "I would occasionally protest, and Strauss would answer: 'But Böhm, you know that one must be able to understand the singer.' " At one point during a rehearsal Böhm had had enough. Holding up the score to the composer and pointing to a rather densely orchestrated passage, he asked, "How are Miss Cebotari's words supposed to be understood?" After the rehearsal Strauss took the score back to his hotel and made numerous orchestrational changes in red pencil.

Indeed, Strauss's interest in the audibility of text increased as he got older. In his "Ten Golden Rules for the Album of a Young Conductor" (c. 1922), the older composer cautioned that it is not enough that the conductor alone understand the words; the audience—even in the back row—must understand them clearly, "or they will fall asleep." What a contrast to his early *Elektra* days, when, during a rehearsal for the premiere, he reportedly shouted to Schuch from the back of the auditorium: "Louder. I can still hear Frau Schumann-Heink!"

With the *Schweigsame Frau* premiere, Böhm found himself in the midst of a national political scandal. Because the libretto was written by Stefan Zweig, a Jew, Nazi regulations forbade its performance, but Strauss used his influence to secure permission to perform the opera and suffered the political consequences. The production "closed" after four performances, and the opera was not heard again in Germany until after World War II.

Two years later (December 17, 1937), while Strauss was finishing the score to *Daphne* at an Italian resort, he sent Böhm the following note: "The Sicilian summer weather here is excellent, and I'm working conscientiously on *Daphne*, which will be dedicated to you and will hopefully give you a small bit of Christmas pleasure." This dedication was not only a token of the composer's appreciation of Böhm's *Schweigsame Frau*, but a clear signal that Strauss wanted him for the *Daphne* premiere.

As Böhm remembered, the *Daphne* rehearsals were less strenuous than those for *Schweigsame Frau*; the felicitous balance between singers and orchestra was built right into the score, with few alterations necessary. On October 15, 1938, Böhm launched this one-act opera, the second part of a double-bill that opened with *Friedenstag*, first performed in Munich three months earlier. Böhm never cared much for the prosaic *Friedenstag*, which "made the entire evening [in Dresden] much too long." Still, the *Daphne* premiere was extremely successful, and to the surprise of the dress-rehearsal audience, the composer's wife got up out of her seat and planted a demonstrative kiss on top of the conductor's head. Böhm remained in Dresden for four more years.

He often described the 1944 eightieth-birthday celebration for Strauss in Vienna as one of his most memorable conducting experiences. Strauss had been in political disfavor in Germany since the *Schweigsame Frau* episode of 1935; any official celebration of his eightieth birthday had been forbidden in the Third Reich. Nonetheless, a semiprivate, unofficial celebration was arranged in Vienna. Aside from Strauss's own performances of tone poems for radio broadcast, the highlight of the celebration was a special performance of *Ariadne* at the State Opera with a hand-picked cast: Irmgard Seefried as the Composer, Paul Schoeffler as the Music Master, Maria Reining as Ariadne, Alda Noni as Zerbinetta, and Erich Kunz as Harlekin. Visibly moved by the performance, Strauss gave Böhm a sketchbook to the opera; he had also given him sketchbooks to *Schweigsame Frau* and *Daphne* after their premieres. A recording of the *Ariadne* performance, taken from the radio broadcast, was released by Deutsche Grammophon in 1964; since deleted, it recently reappeared on the German Acanta label (23 309).

What was it about Böhm's conducting that made him such a noted Strauss interpreter? He doubtless learned much about opera conducting from the composer himself during numerous rehearsals in Dresden, for they shared a number of conducting traits. Neither embodied the image of "showman conductor"—if anything, Strauss's gestures were even more restrained—and both maintained a constant concern for proper balance between singers and orchestra. Despite the younger Strauss's sarcastic call for more orchestra in *Elektra*, the older master demanded that the orchestra be more transparent, allowing for greater audibility of the singers, and Böhm consistently honored that directive.

Birgit Nilsson, who sang the roles of Salome, Elektra, and the Dyer's Wife under Böhm, recalls that "he had a heart for the singers, he knew every word that each singer sang. He understood our strengths and weaknesses and knew how to make the most out of them."

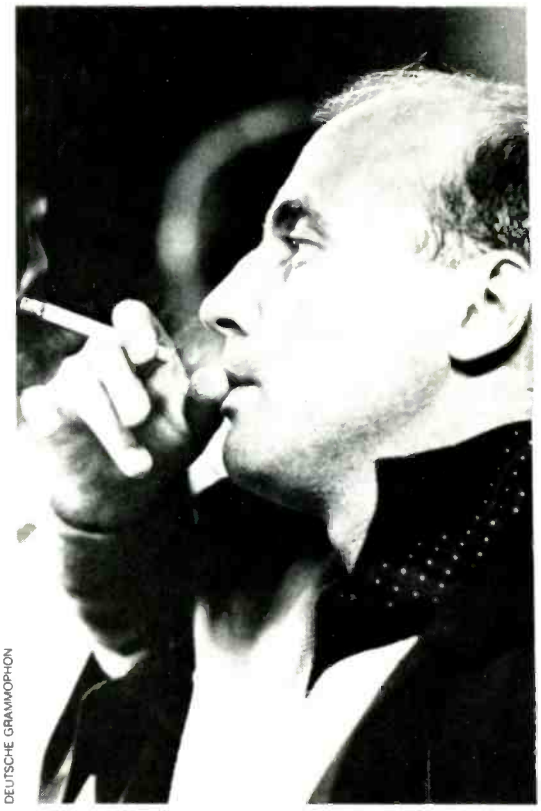
Yet he was equally adept with the orchestra. Like Strauss, he elicited a rather lean, transparent sound. Refusing to wallow in Straussian orchestral splendor, his

(Continued on page 79)

A Tale of Two *Tristans*

Wagner's great work and one of its progeny, by Hans Werner Henze, in two worthy new releases

Reviewed by David Hamilton



DEUTSCHE GRAMMOPHON

Hans Werner Henze: fine imagination

THOUGH RICHARD WAGNER'S *Tristan und Isolde* is hemmed in by potent biographical associations—the Mathilde Wesendonck affair, the composer's subsequent flight to Venice where he composed the second act, the long-delayed premiere in Munich under Hans von Bülow shortly after his wife had given birth to Wagner's daughter Isolde—there has never been any question that the opera stands on its own idealistic integrity of vision and realization. Today, we can hardly hear it without some sense of its position in Wagner's life—or equally, of the innumerable successor works (and those not only musical) that have confirmed its status as perhaps the most influential artwork of the later nineteenth century. Yet *Tristan und Isolde* was first presented to the world as an autonomous work; only after the premiere did Wagner begin dictating to Cosima the full-scale autobiography with which he would attempt to pre-empt posterity's image of his life.

These reflections are stimulated by the concurrent presence of a new and interesting recording of Wagner's opera—the first since Karajan's of 1972, and soon to be followed by two more—and the first recording of Hans Werner Henze's *Tristan*, subtitled "Preludes for Piano, Electronic Tapes, and Orchestra," a striking and imposing score that is (in the best sense of the word) derivative of Wagner's opera and its place in cultural history. Henze's *Tristan*, unlike Wagner's, comes to the world with a lengthy program note by the composer, encompassing autobiography, compositional information, and "program" in the traditional sense, revealing the "real-world" correspondences of the significant events of the piece. We might choose to ignore this, but the suggestion is clear that we are expected to apprehend Henze's *Tristan* not only with our ears, but in the triple framework of the composer's emotional and intellectual life, the technical and musical resources at his command, and a "story line" that is imparted to us before we hear the music. Note that while traditional program music supplied the last of these three elements, the other two were not traditionally part of the program and the listening experience—although they have now been made available in many cases through the researches of biographers and musical scholars.

The tendency of more recent composers (and Henze is hardly unique in this respect) to supply such information may in part represent an attempt, similar to Wagner's in *Mein Leben*, to anticipate later researchers and interpreters, to get the facts right (i.e., correct) or perhaps "right" (i.e., as the composer would prefer them to be known to posterity). But it surely also reflects the conditions of contemporary musical culture, its Babel of languages and aesthetics. Wagner's *Tristan*, though a radical extension of the musical speech of the 1850s and of its expressive potential, was offered in a context still relatively stable and clearly defined, to an audience that shared a common background of musical experience, and it could with some effort be comprehended in that context. Today, that stable context has been shattered, that coherent audience is fragmented. Even older music now requires explanatory program notes—almost as much as new works, in fact, for our retrospective repertory now embraces as many diverse kinds of music as does the output of our contemporaries.

Even without the composer's note, even without the title, Henze's *Tristan* is manifestly no exemplar of Hanslickian "absolute music." Its internal references to Wagner's opera are, however, mostly submerged and tenuously pervasive rather than thematically specific: The intervals of the opera's opening phrases—climbing melodic sixths and ambiguous harmonic fourths—and the distinctive disjunction of string and wind choirs are often present but do not coalesce into direct reminiscence. The most explicit quotation, in fact, is the opening of Brahms's First Symphony, which twice intrudes strikingly. Near the end comes another kind of quotation: On the electronic tape, to the background of a heartbeat, a child reads some lines from Gottfried von Strassburg's version of the Tristan legend, while the strings play, lentissimo, the opening bars of Wagner's third-act prelude. This explicitly nonmusical intrusion forms a brutal but effective punctuation after the main body of the piece, imposing a considerable aesthetic gulf before the ensuing musical coda.

The protagonist in much of the forty-three-minute work is the piano, sometimes alone, sometimes lightly supported by the orchestra, sometimes embedded in complex textures of orchestral and electronic sounds. The ebb and flow of the writing, incorporating passages more or less aleatoric alongside firmly phrased, quasi-symmetrical material, is always skillful and involving; several groups of style imitations (including a "*Burla*" that Henze labels "*alla turca*" but to me suggests Mahlerian parody) are both apt and distinctive. I am not as consistently convinced by the electronic sounds, which seem less finely imagined than the instrumental ones. Still, at its extremes of virtual stillness and of expressionistic tension, and in transit between them, *Tristan* is a vivid and powerful experience. No doubt the listener who comes to it with prior knowledge of Henze's music—not to mention Wagner's opera—will have a head start at orienting himself within its expressive universe, but that will be only a temporary advantage. The recorded performance, dating from 1975, is thoroughly convincing, though some of the most finely detailed writing emerges slightly smudged.

Given that two further recordings of Wagner's opera are soon due (led by Carlos Kleiber and Leonard Bernstein), there is a

CLIVE BARDA

Producer Andrew Cornall, conductor Reginald Goodall: first Tristan *in a decade*

Goodall is the best *Tristan* conductor on records since Furtwängler.

strong temptation to put London's Welsh National Opera set on "hold." Yet this recording, from a (literally) provincial ensemble, with a cast in which only the King Mark has any sort of international reputation, is a considerable achievement, worthy of recognition on more than local terms. The principal focus of interest—indeed, the recording's *raison d'être*—is undoubtedly the conducting of Reginald Goodall, the British conductor whose live-performance recording of the *Ring* cycle, sung in Andrew Porter's English translation, has won much acclaim. Unlike the *Ring*, *Tristan* was recorded in the studio and in German (although Goodall has since conducted it with the English National Opera in Porter's translation); evidently Decca/London has hopes of reaching a more international market.

Goodall does not disappoint. He is the best conductor of *Tristan* on records since Wilhelm Furtwängler, thirty years ago (Angel EL 3588 mono, five discs). Though on the slow side (his total timing for the opera is some fifteen minutes longer than Karajan's not particularly vertiginous reading), Goodall's tempos rarely seem so, for they maintain a steady and vigorous rhythmic impulse and a convincing flexibility. Wagner's articulations and transitions are thoughtfully observed; the rare exceptions, such as the slowing for Isolde's "*wie schmerzte tief die Wunde!*" in the second-act duet (marked *Sehr lebhaft* by Wagner) are obviously carefully considered resolutions of contradictory necessities. Dynamics are equally precise and meaningful; the alternation of loud and soft in the orchestra at "*O blinde Augen*" in Isolde's narrative strongly points up a characteristic musical aspect of her anger. Among the passages that Goodall's shaping makes more eloquent than usual is the transition from Kurvenal's vigorous "*im echten Land, im Heimatland*" passage in Act III to Tristan's skeptical "*Dünkt dich das? Ich weiss es anders*"—a sparse seven bars during which each individual line and chord makes a specific contribution to the change of emotional color; each of these contributions is here given full value.

The larger shapes are as compellingly realized, with particular success in the enormous span of the second act, its many climaxes perfectly prepared and graduated. We never feel that anything is being held back, yet there is no question that the reunion of the lovers is the loudest peak of all and the other points of structural stress are not allowed to overreach it dynamically, acquiring their weight by other means. The tonal balance of the orchestra yields the traditional firmly-weighted-in-the-bass-line Wagnerian sound, within which the carefully rationed interventions of the heavy low brass are always made to count for something.

Although it is clear that the recorded balance gives the voices a prominence greater than would be natural in the opera house, it certainly sounds as if Goodall's principals are adequately equipped for these notoriously difficult roles. The Scottish soprano Linda Esther Gray has a substantial, rather darkish voice that (unlike such converted mezzos as Martha Mödl) ranges above the staff with freedom, if not always perfect focus. Now and then, the weight of the voice apparently leads to a slight flatness, especially in the middle range (e.g., in the dialogue with Brangäne about the potions).

As well as sheer voice, Gray brings to the role enthusiasm, energy, and a good deal of force—but not yet much individuality. This may matter less in the second act, where for long stretches the two lovers are more like instrumental voices, strands in the grand passionate fabric of "Tristan-und-Isolde." The first act is principally Isolde's, of course, and here Gray is—well, "gray" would be unfair, but certainly less detailed and vivid than other Isoldes on record. She doesn't face down Kurvenal with a truly commanding attack at "*Herrn Tristan bringe meinen Gruss*," or imbue the references to King Mark with much scorn or sarcasm. There can be more than one kind of Isolde, of course; I have been intrigued, recently, to hear some 1950s Munich performances with Helena Braun—nobody's dream vocalist, to be sure, yet a suggestively feminine contrast to the larger-than-life, Valkyrie-like heroine that has, in the decades of Flagstad and Nilsson, by sheer vocal splendor dominated our image of Isolde. As yet, Gray isn't fully either a human or a demigoddess, though in time she may well become a considerable Isolde. One is nonetheless grateful for her very tangible virtues in this recording and regretful that in the "*Liebestod*" she sounds tired and does herself less than complete justice.

John Mitchinson, familiar from smaller roles in various recordings of British origin (e.g., Bernstein's Mahler Eighth), has in recent years worked himself toward the Wagnerian repertory. On the evidence of this recording, the move is vocally sound; his tone has the baritonal darkness that we associate with many notable Wagnerians, though not the brilliance on top that the greatest of them have achieved. He can certainly cut the part, and he has learned it well. As yet, his Tristan is more a serviceable than an eloquent performance; like Gray, he is most successful in the second act, while in his big scene in Act III we hear neither the massive wounded-animal yearning of a Melchior nor the more febrile agonies of a Vickers or a Treptow—just an earnest and capable tenor.

The Brangäne of Anne Wilkens is the single most impressive performance in the set; with a voice similar in timbre to Gray's, she appears to have more clout just above the staff and succeeds in filling out her (admittedly only one-dimensional) character more vividly. The Kurwenal, Phillip Joll, has trouble with the divisions in his mocking first-act song but is reasonably plausible thereafter. For all the beauty of tone that Gwynne Howell brings to Mark's music, his scene makes curiously little effect. Among the small roles, the boyish Shepherd of Arthur Davies stands out. The chorus is first-class.

Although the performance of the orchestral score is in one sense the most compelling aspect of this recording, I am bound to add that it is also problematic, at least from the standpoint of repeated hearings. No question that the Welsh National Opera has put an enormous amount of skill.

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Charles Valentin Alkan: The Mahler of the Piano

Two significant releases may signal a boom for a great forgotten master. Reviewed by Irving Lowens

IN HIS PREFACE to the great Breitkopf edition of the collected piano works of Franz Liszt, Ferrucio Busoni proclaimed that master the equal of "the greatest of the post-Beethoven composers for the piano: Chopin, Schumann, Alkan, Brahms." Busoni's enthusiasm for Liszt is understandable, but what was the name of Charles Valentin Alkan (1813–1888) doing on that list of immortals, penned in 1906?

Busoni meant what he said, and now, more than three-quarters of a century after he said it, the average music lover has an opportunity to test the validity of his claim, thanks to this prodigious recording by Ronald Smith of what is perhaps Alkan's most astounding composition, the Twelve Études in all the minor keys, Op. 39. This fantastic work, never before recorded complete, occupies 277 pages of score; Smith plays it in just over two hours—twice the time it takes Vladimir Ashkenazy to play all twenty-four Études, Opp. 10 and 25, by Alkan's good friend Chopin. Perhaps an even more accurate measure of the scope of Alkan's accomplishment is the fact that Ashkenazy plays the entire Chopin Op. 10 in less time than it takes Smith to play the single Alkan Étude, Op. 39, No. 8.

But there is much more to Op. 39 than mere elephantiasis; much more than "marvelous sonorities and such difficulties as reach the utmost bounds of piano playing," to quote Isidore Philipp, who was in large part responsible for preserving the Alkan heritage by persuading the French publisher Costallat to reprint all of Alkan's music, long unavailable, at the turn of the century. Kaikhosru Sorabji, that eccentric composer of fantastically demanding piano music, wrote of Alkan's Op. 39 in 1932: "These amazing works place him among the great masters of piano music . . . the prodigious, teeming richness of invention, the vivid originality, the very individual harmony, the superb mastery of these works cannot be too highly admired." And if you question the judgment of Sorabji, an acknowledged oddball, here are the reactions of a few hardboiled professional critics to their first hearing of part of Alkan's Op. 39 in the 1960s: "Some of the writing is prophetic, some of it is inspired, all of it attests to a remarkable imagination" (Harold C. Schonberg, *New York Times*);

An elderly Alkan, from an oil by Rubach

"tough, severe, dramatic music, utterly unlike anyone else's" (Stanley Sadie, London *Times*); "as much of his best music is almost unplayably difficult, it is easy enough to see why he has never received his due as the most original composer for the piano of his century" (Roger Fiske, *Gramophone*).

It's true. Having heard the "Alkan Project" (as Arabesque dubs its American release of this 1978 HMV issue) and just about every other Alkan piano recording in or out of print, I must concur. Aided by a few prescient, technically equipped pianists such as Smith, Alkan's time has come. In the past, aficionados, following the lead of Hans von Bülow, often referred to Alkan as "the Berlioz of the piano," and with good reason. Yet in the light of his unique compositional technique and what should become a real Alkan boom, it might be more accurate today to call him "the Mahler of the piano."

This is not the place to detail Alkan's curious career as a virtuoso and the reasons for his reputation as one of the greatest pianists of the nineteenth century. Those interested can consult the first volume of Smith's biography, *Alkan: The Enigma* (New York: Crescendo Publishing, 1977); the long-promised second volume, discussing the music, has not yet appeared. Suffice it to say that Alkan rarely performed his own music; in the 1870s, when he returned to the recital hall after a long absence, his programs were replete with such oddities as Couperin, Scarlatti, Rameau, Handel, W. F. Bach, J. S. Bach, Clementi, Mozart, Beethoven, Field, Weber, Schubert, Schumann, Mendelssohn, Chopin, and Field—a strange mix during that period. And since virtually no one else played Alkan during his lifetime, he was banished to the archives after his death as an interesting but inconsequential composer.

His exhumation by Philipp and Busoni has already been touched upon, but little came of their advocacy. The cause was next taken up by Busoni's pupil Egon Petri, who was invited by the BBC to give three Alkan recitals in 1938–39 to celebrate the 125th anniversary of the composer's birth (and the fiftieth of his death). Petri's performance of the "Symphony" and the "Concerto" from Op. 39 sharply divided the London critics, and the coming of the Second World War in 1939 plus Petri's subsequent poor health put an end to the premature Alkan revival and to the possibility of any Alkan recordings. There is no record of any commercial 78-rpm disc of Alkan's music.

Smith was the first of the pianists active today to fall under Alkan's spell, though not the first to record him. In 1960, Smith was invited by a small British label, Triumph Superfi, to record Alkan (including the "Symphony" and the "Concerto"), but before he could do so, the firm went bankrupt. Shortly thereafter, Raymond Lewenthal appeared on the scene; he played a sensationally successful Alkan recital in Town Hall in 1964 and another the next year in Carnegie Hall. This inspired RCA to bring out a disc (LSC 2815,

deleted) that included, among other works, the thirty-minute "Symphony" in a fine performance. Smith's turn to record finally came in 1969, when EMI released, first, an anthology of short works (HQS 1247), exhibiting Alkan's genius as a miniaturist, and shortly thereafter, the "Concerto" (HQS 1204).

In 1971 came the flowering. A new Alkan convert was revealed with John Ogdon's recording of the "Concerto" (RCA LSC 3192, deleted). Meanwhile, late in 1969, the French music publisher Heugel had issued a collection of Alkan's music edited by Georges Beck, which was followed (also in 1971) by a Harmonia Mundi recording of selections from that album, beautifully played by Bernard Ringeissen (Musical Heritage MHS 1344). In the same year, Lewenthal recorded a selection of short Alkan pieces for Columbia (M 30234, deleted) and Michael Ponti tackled eight of the twelve Op. 39 Études for Candide (CE 31045).

Thereafter, it was all Smith. Around 1972, he recorded a number of selections, including Op. 39, No. 12, on two mid-nineteenth-century pianos, a Schneider and an Erard (Oryx 1803; released here by Musical Heritage as OR 174, deleted), and in 1974, he recorded the *Grande sonate*, Op. 33, another of Alkan's Himalayan peaks, for EMI (HQS 1326). Finally, in 1978, came the album under review.

Before discussing the recording itself, some description of the amazing nature and proportions of Op. 39 is essential for the reader to comprehend the magnitude of Smith's achievement in mastering and recording the entire set. In his regrettably truncated jacket note, he concedes that "this formidable cycle must . . . have grown—rather like Frankenstein's monster—far beyond the confines of its creator's original intention. Containing, as it does, a sizable 'Overture,' a monumental 'Symphony,' and a titanic 'Concerto,' the term 'study' must seem singularly inappropriate unless one considers these works as studies in the pianistic translation of orchestral sonorities. As such, they stand alone. . . ." Only Op. 39, No. 1, an incredibly difficult study in velocity and feathery lightness, can be considered an étude in the Chopin-esque sense, but can you imagine a Chopin étude that is twenty-one pages long? No. 2 "in Molossic rhythm" (6/4 meter, to the uninitiated) is full of heavy sonorities and piquant dissonances—an altogether fascinating piece in the form of a rondo, driven inexorably forward by an insistent metrical pattern. The *"Scherzo diabolico,"* No. 3, the shortest piece in the set, almost sounds like a sketch for Liszt's *Mephisto* Waltzes, or an eccentric Chopin scherzo.

The next four études comprise a full-scale symphony on Beethovenian lines—but for piano rather than orchestra—running almost exactly a half-hour. This is followed by an even more astounding conception—a three-movement concerto for piano without orchestra which may well be the longest work in the solo piano literature aside from Sorabji's *Opus clavicembalisticum*. The score is 121 pages long; the first movement alone, which takes thirty minutes to play, runs seventy-two pages (1,341 measures). Smith goes through the Concerto in fifty-two minutes.

Here Alkan attempts the nearly impossible—to portray the solo piano and orchestral roles found in a concerto on the piano alone—and succeeds beyond belief. "The solo piano part resembles that of a Chopin, Moscheles, Hummel, or Weber concerto with emphasis on delicate filigree patterns and brilliance of a light sort *('le jeu perlé')*—in other words, the solo piano is the 'ornamenting' factor," wrote Joseph Bloch of this work in 1941. "The orchestral part is represented by the massive chords of which Alkan is so fond, by the characteristic orchestral trills and tremolos, and by a variety of brass and timpani effects. Also, the orchestral part reveals a constant interweaving of separate lines, whereas the solo piano is almost entirely homophonic."

Ronald Smith: a prodigious recording

Number 11, a complex of studies in chords and double notes running to twenty-nine pages and "unified" by its title ("Overture"), is probably the weakest piece, musically, in the set. The final étude comprises a theme and twenty-five variations—an undoubted masterpiece that has been compared to Brahms's *Handel* Variations and Beethoven's *Diabelli* Variations. Here, Alkan-esque *grotesquerie* and imagination reach their height, and some scholars consider *"Le Festin d'Ésope"* his finest achievement.

Smith stands up to his colleagues magnificently and sweeps the field. Neither Ponti nor Lewenthal approaches the power of his interpretations. Sonically, Arabesque easily outclasses those RCA and Candide recordings, now more than a decade old. There is some slight challenge in Ogdon's performance of the "Concerto" and in Ringeissen's performance of the *"Scherzo diabolico"*—at least in terms of virtuosity, and in Ogdon's case, in terms of poetry. Unfortunately, Ogdon's engineering (in the American RCA pressing at any rate) is quite inferior. I would very much like to hear what Ringeissen can do with some of the other études; it is a pity that he has recorded only No. 3. Smith's earlier version of *"Le Festin d'Ésope,"* performed on a c. 1855 Erard piano (Op. 39 was published in 1857), is fascinating—in some ways even more convincing than his performance on a modern piano.

The added entries on the sixth side of the Arabesque album are considerably more than mere fillers. The *"Trois Petites fantaisies,"* Op. 41, published in the same year as the Études, Op. 39, are "petite" in somewhat the same sense as Rossini's *Petite Messe solennelle* is; the set runs about eighteen minutes and is hair-raisingly difficult, quirky, and quite bewitching. *"La Chanson de la folle au bord de la mer"* ("The Song of the Madwoman on the Seashore") does more than illustrate Alkan's penchant for peculiar titles—it is a mesmerizing etching in sound of a Hoffmannesquely wild scene. And the *"Allegro barbaro,"* the obvious inspiration for Bartók's piece by the same name, is a fierce study in octaves composed in the Lydian mode, one of the best numbers in Alkan's companion set of *Douze Études dans les tons majeurs*, Op. 35—a true étude.

My one cavil in regard to the "Alkan Project" has to do with its totally inadequate jacket notes. In introducing such an exotic and little-known composer as Alkan—and for many, this set will be a genuine revelation—it stacks the deck against composer and performer to skimp on words and pictures. That's being penny-wise and very pound-foolish. The attempt should be to get the potential listener to spin the disc and hear the music, and that takes a bit of doing. Arabesque should have tried harder.

Though Alkan was primarily a composer of music for the piano, that instrument did not monopolize his attention to the exclusion of all else. In 1857, the same year that saw the publication of Op. 39 and Op. 41 *(annus mirabilis!)*, the *Grande sonate* for cello and piano, Op. 47, also appeared. Although dedicated to one James Odier, it was first performed by the greatest French cellist of the day, Auguste-Joseph Franchomme, with the composer at the keyboard. The piece turns out to be one of Alkan's most personal and perfervid compositions. The cello part is beautifully

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Reviews

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Scott Cantrell — *Allan Kozinn*
Kenneth Cooper — *Paul Henry Lang*
R. D. Darrell — *Irving Lowens*
Peter G. Davis — *Karen Monson*
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CHARLES ABBOTT

Gidon Kremer plays Beethoven: a prim and proper performance—but for the graffiti

ALKAN: Piano Works; Sonate de concert, Op. 47—See page 50.

BEETHOVEN: Concerto for Violin and Orchestra, in D, Op. 61.

Gidon Kremer, violin; Academy of St. Martin-in-the-Fields, Neville Marriner, cond. PHILIPS 6514 075, $12.98 (digital recording). Tape: 7337 075, $12.98 (cassette).

The title page of this concerto's manuscript contains an enigmatic, multilingual pun—the inscription "Concerto par Clemenza pour Clement." Franz Clement, of course, was the virtuoso who gave the work its premiere. Beethoven had good reason to plead for clemency from a soloist who sight-read his part at the concert and entertained himself (his audience, too, regrettably) with an improvised fantasy between movements—played on one string with the violin held upside down.

At least Clement had the good manners to wait for the first movement to end before indulging himself. No mention is made of the cadenzas played on that occasion, but they could hardly have been more intrusive than the disastrous ones by Alfred Schnittke that Gidon Kremer (a kind of latter-day Clement) plays on this recording. The first-movement cadenza begins by picking its way incoherently through the expected materials, but suddenly we get a schnittke of Beethoven's Seventh Symphony, a schnittke of the Brahms violin concerto, two schnittkes of Shostakovich's Op. 99, and some indeterminate rumblings that are, I suppose, meant to suggest the Sibelius concerto—all, of course, played to a humDRUM accompaniment. (I may have missed a few more goodies while I was sulking.) Schnittke's second-movement intrusion is an ungainly transition that not only gives away the impending Rondo, but compounds the gaffe by trying to undo the damage. (Presumably, the earlier bit of P.D.Q. Bach-like musing in that movement is Kremer's own doing rather than Schnittke's.) The Rondo is similarly blighted with an upstart appendage that still seems obsessed with the first movement; it rants, raves, begins to throw things at the music (those damned timpani again!), and even fails to heed Beethoven's orders to cease and desist. It finally has to be handcuffed and taken away.

These graffiti are blithely superimposed on a prim and proper performance, played in dainty fashion by a finely adjusted chamber orchestra and a violinist who seems to think of Beethoven's lyricism coolly, as just so much bourgeois formalism. The approach I can accept; the cadenzas I cannot.

I am not heartbroken to miss an umpteenth rendition of Kreisler's adornments. But I decidedly prefer their kind of cleverness to the smart-aleck kid stuff ("I have heard more violin concertos than you have") encountered here. It's too bad when gifted musicians like Kremer and Schnittke become so bored by the great masterpieces that they begin to seek out perverse ways of making them "interesting." And it's even sadder when cynical critics and gullible audiences roar their collective approval of such antics, as happened at a recent New York performance of Vivaldi's *Seasons*, which Kremer distorted with garish dynamics, cat-and-mouse tempo changes, and for a final indignity, a second movement of *Winter* played twice too fast and trampled by stampeding fortissimo pizzicatos.

Not that it really matters, but Beethoven's first edition is followed at two points in the first movement: Kremer plays one phrase an octave higher in the G minor section of the development, and cellos and basses omit their customary answers to the bassoon in the coda. The digital recording is compact, clear as a bell, and beautifully balanced. **H.G.**

COPLAND: Appalachian Spring (orig. version); Music for Movies.

London Sinfonietta, Elgar Howarth, cond. [Chris Hazell, prod.] ARGO ZRG 935, $10.98.

COMPARISONS—*Appalachian Spring*:

Copland (complete)	CBS M 32736
Davies (suite)	Sound 80 DLR 101

The only direct competition to this *Appalachian Spring* is the composer's 1973 recording, from which we learned two things: (1) The piece in its original scoring—for flute, clarinet, bassoon, piano, and nine strings (increased to eleven in the recording, with the sensible addition of a third player on each violin part)—has an intimacy and instrumental glow even more haunting than the familiar full-orchestra version. (2) The eight-minute "insert" before the final tutti statement of the "Simple Gifts" tune as we know it from the suite is by turns chattery, grumpy, and spooky—wonderful stuff that adds yet another dimension to the piece.

Unlike the Copland recording, which split the 32:26 *Appalachian Spring* over two sides (adding a seven-inch rehearsal disc as a bonus), this new one fits it on one side. If you're tempted by the resulting con-

tinuity and/or by the coupled *Music for Movies*, buy with confidence. The performance is lovely, and the full, clear sound complements it nicely.

The composer's performance is better, though. Returning to it and then checking the timings, I was surprised to find that the British performance actually runs twenty-one seconds longer. It *sounded* quicker, which impression I attribute to the London Sinfonietta's tendency to glide over phrases. In contrast, the distinguished soloists who made up this incarnation of the "Columbia Chamber Ensemble," in particular the wind players, bring more personality, more imagination, more flair to their parts. The CBS recording also places more emphasis on individual instrumental strands, to excellent effect.

To confuse matters further, there is also Sound 80's splendid recording, by the St. Paul Chamber Orchestra under Dennis Russell Davies, of the *suite* in the original chamber scoring. The performance, while not as radiant as the CBS, is more so than the Argo. Point (1), then, is well taken care of, but not point (2), the "insert" of course not figuring in the suite. On the other hand (yes, yet another hand), the flip side of this disc offers Ives's chamber-orchestra reduction of *Three Pieces in New England*—an intriguing variant, if no substitute for the full-orchestra original.

You'll have to weigh all these coupling (or no-coupling) options for yourself. *Music for Movies* (1942), a five-movement, sixteen-and-one-half-minute suite drawn from the scores for *The City*, *Of Mice and Men*, and *Our Town*, is a minor but characterful work that seems perhaps undercharacterized in this performance—"Threshing Machines" sounds rather like noodling *chinoiserie*. Logically, if you care enough about Copland's film work to want *Music for Movies*, you would in any event want the composer's recording (M 33586, which I haven't heard), coupled with *The Red Pony* and several short film-related pieces.

The conclusion we seem to be heading logically toward is a straight Copland/CBS ticket. Which shows how little logic has to do with anything. I know I have no intention of giving up any of the chamber-scored *Appalachian Springs*. Still, the CBS is special, and I hope that current pressings are better than the noisy originals. The Argo disc not only sounds good, but is physically top-notch.

Need I add that none of the above should be taken to suggest that the full-orchestra-suite form of *Appalachian Spring* is other than basic-repertory material? If you're in the market, the Bernstein recording in any of its couplings or either Copland version will fill the bill. K.F.

GLASS: Glassworks.

Philip Glass Ensemble, Michael Riesman, cond. [Kurt Munkacsi and Philip Glass, prod.] CBS FM 37265. Tape: FMT 37265 (cassette). [Price at dealer's option.]

As a longtime supporter of the musical aesthetic that has come to be known as "minimalist," I wish I could muster greater enthusiasm for Philip Glass's initial CBS offering. While it is encouraging that CBS has shown the foresight to sign this important composer to an exclusive contract—hell, that *any* major label has made *any* investment in *any* living composer—the fact remains that *Glassworks* is the least interesting recording Glass has ever made.

A collection of six short pieces for winds, piano, and abbreviated orchestra, it has none of the fervor, intensity, and austere formal beauty that mark the composer's best work. Indeed, the album seems half-hearted and cynical—a calculated attempt at expanding Glass's already large audience. This bid for mass accessibility is both degrading and self-defeating; it is also unnecessary, for Glass may already be the most commercially successful composer in the world.

He is, of course, much more than that. Though one may marvel that any modern opera—let alone one with a libretto in Sanskrit, no love interest, and minimal stage

action—can sell out 11,000 seats within a week, as Glass's *Satyagraha* did in New York last fall, statistics do not tell the whole story. For *Satyagraha* is a masterpiece, a work possessed of an elevated serenity, penetrating grace, and gentle force most uncommon in this anxious, secular era. It richly deserved the ecstatic press it received and would have been a perfect vehicle with which to launch the new Glass/CBS partnership.

By any standard, *Glassworks* is a poor substitute. Mind you, there are attractive moments, particularly the melancholy "Façades," which features some soulful saxophone playing from Jack Kripl. There are also some vigorous exercises in Glass's standard tonal, repetitive style, one of which ("Floe") incorporates a quotation from Sibelius' Fifth Symphony. Glass's performers acquit themselves with distinction throughout, articulating the fiendishly strenuous arpeggiated passages with apparent ease.

But although *Glassworks* may well prove to be the popular success CBS is obviously banking on, I can't escape the feeling that Glass is talking down to his audience. Rock buffs will enjoy the rhythmic vitality and modular repetition; jazz aficionados will appreciate the virtuosic character of the solo writing; and one can even imagine a "beautiful music" radio station programming the rather saccharine "Closing." Yet too many listeners investigating Glass's music for the first time and finding only pristine safety will wonder why such a fuss has been made over him. There are solid reasons for said fuss.

Satyagraha, please. And quickly.

Tim Page

HENZE: Tristan—See page 48.

MOZART: Symphonies: Vol. 2, Salzburg, 1766–72*; Vol. 5, Salzburg, 1775–83†.

Academy of Ancient Music; Jaap Schröder, violin and dir.; Christopher Hogwood, harpsichord and dir. [Peter Wadland* and Morten Winding, prod.] OISEAU-LYRE D 168D3*, $32.94 (three discs, manual sequence), D 171D4†, $43.92 (four discs, manual sequence). Tape: K 168K33*, $32.94 (three cassettes), K 171K44†, $43.92 (four cassettes).

Symphonies: in C, K. 35*; in D, K. 38*; No. 9, in C, K. 73*; in F, K. 75*; in D, K. 100*; No. 12, in G, K. 110*; No. 14, in A, K. 114*; in D minor, K. 118*; No. 15, in G, K. 124*; No. 16, in C, K. 128*; No. 17, in G, K. 129*; in C, K. 208†; in D, K. 250†; No. 32, in G, K. 318†; No. 33, in B flat, K. 319†; in D, K. 320†; No. 34, in C, K. 338†; No. 35, in D, K. 385 *(Haffner)*†; No. 36, in C, K. 425 *(Linz)*†.

The Academy of Ancient Music's widely discussed Mozart symphony cycle is expanding outward from the center: After Vols. 3 (D 169D3, May 1980) and 4 (D 170D3, June 1981), we now have earlier works in Vol. 2 and later works in Vol 5. Both the start and—potentially more controversial—the finish of the series are yet to come.

Volume 2 confuses the chronology slightly, for these are only the Salzburg products of the years in question; the Italian symphonies written on journeys during the same period are not included. This distinction seems rather misleading, since Mozart's style shows a combination of Austrian and Italian influences at this time, and some Italianate three-movement pieces were actually written in Salzburg. But the Academy's decision to separate the two types probably concerns performing forces, which were different in Salzburg and Italy.

There is some entrancing music in this volume (including sinfonias from the early dramatic works), but the Academy's performances haven't acquired enough character and subtlety to reveal all the delights. As before, some symphonies go splendidly: The G major, K. 110, has a good, bouncy flow in the first movement and a deft treatment of the expressive flat intervals in the Andante. The relaxed two-part opening of the A major, K. 114, is nicely captured, with fine horns in the same movement. But then flutes are out of tune in the Andante, and the final movements have a number of rough moments. Rhythms are often lumpy, especially in the minuets (sometimes interminable with all their repeats), and the slow movements still sound unphrased. The opening of the Italianate C major, K. 128, is rather plodding, not at all maestoso, and there is some sloppy attack in bar 9; the angular violin sweeps in bars 39–41 could sound far more plangent on the period instruments. (Here, as often, one feels that an easy approach to getting through the music has prevented the taking of risks with unusual sounds and articulations.) Yet the Andante of this symphony and the whole of its companion in G major, K. 129, are real successes, especially in the sections allocated to soloists, for they play with poise and character.

Much the same comments could be made of Vol. 5, except that here we are dealing with some indubitably great music. In the earlier of these works, one can regret the slightly limp Andante in the G major, K. 318, or the rather wet account of the fine finale of the D major, K. 250. But most people will probably buy this box for the *Linz* and *Haffner* Symphonies. How do they fare? In brief, brilliantly in the large-scale movements, less happily in the slow ones. The *Linz* Andante is very loud and unsubtle, without much grace. The sharp-edged impact of the first tutti in the finale is marvelous, however, and that movement swings along infectiously with perky wind solos in the development (brought forward by the engineers?). Very noticeable both here and in the *Haffner* are the sharpness and clarity of the sforzando and *fp* markings, quite unparalleled in any modern-instrument account. The *Haffner* slow movement is a little plodding and uninteresting, and even the last movement lacks some tension. But the opening *Allegro con spirito* (preceded, for reasons I don't fathom, by a little march) is electrifying, quite the best thing in the series so far: Attack, tuning, blend, clarity, and lyricism are all perfectly matched, to thrilling result.

DOUGLAS GLASS

Wolfgang Sawallisch: vital Schumann

My dissatisfaction with the duller moments in these boxes grew when I heard the rough-hewn liveliness of L'Estro Armonico's original-instrument performances of Haydn symphonies (Saga Haydn 1, 2). Let's hope the Academy throws caution to the wind in its account of the great final trilogy.

N.K.

SCHUBERT: Octet for Strings and Winds, in F, D. 803.

Vienna Philharmonic Octet. [Werner Mayer, prod.] DEUTSCHE GRAMMOPHON 2531 278, $10.98. Tape: 3301 278, $10.98 (cassette).

Chamber Music Society of Lincoln Center. [Nathan Kroll, prod.] MUSICAL HERITAGE SOCIETY MHS 4467, $7.75 ($4.95 to members). Tape: MHC 6467, $7.75 ($4.95 to members). [From BOOK-OF-THE-MONTH RECORDS 30-5253, 1978.] (Add $1.60 for shipping; Musical Heritage Society, 14 Park Rd., Tinton Falls, N.J. 07724.)

COMPARISON:

St. Martin's Acad. Ens. Phi. 9600 400

Perhaps no single work is better suited to wean symphonic listeners away from the theatrical thrills of large-scale orchestral works to the quieter rewards of chamber music than Schubert's octet for strings and winds. It provides an appropriately scaled and colored way station on the road to still smaller mixed ensembles and eventually to string quintets, quartets, and trios. And of course, not only is it intermediate between the presentation of a wealth of orchestral timbres and sonorities and the purity of small string or wind "consorts," but it radi-

ates unique and irresistible Schubertian magnetism.

There have been many fine recorded performances in the past (this is music difficult *not* to play well), but the two present versions have only moderate appeal at best. One follows a long line of readings in the dominant "Viennese tradition"; the other represents current chamber-ensemble activity by leading New York performers. The former stresses, in both executant and recording characteristics, euphonious *Gemütlichkeit*; the latter is cooler in both overall approach and individual tonal and phrasing differentiations.

Between them, the choice is easy. Except to devout fans, the Lincoln Center version will seem routinely competent score-reading, largely devoid of any keen sense of personal involvement—at least until some genuine enthusiasm is mustered for the final Allegro. That's not to say that there aren't some things to enjoy—notably, Richard Stoltzman's always admirable clarinet playing, and Robert Routch's horn part, tonally brighter than the gruffer quality of his Viennese counterpart, Franz Söllner. And the American recording is admirably clean, open, and ungimmicked. On the other hand, the Viennese players are much more familiar both with the score itself and with each other, and they are more vividly and glowingly recorded. But above all, their idiomatic authenticity and their obvious relish for this long-known, much-loved music give their version a moderately high ranking in the long line of *echt-Wiener* approaches to the octet.

Most listeners with Viennese affinities will be completely satisfied. Others, lacking European backgrounds, may dislike the occasional overurgency and expressive surges—especially in contrast to the more nobly eloquent, more tautly controlled and integrated reading by the Academy of St. Martin-in-the-Fields Chamber Ensemble. That 1978 Philips recording—at least in its recent Barclay-Crocker open-reel edition—is also a miracle of sheer tonal magic. Its shortcoming (and that only for insatiable purists) is the omission of all the fourth-movement repeats, so dutifully observed in both the DG and MHS versions. **R.D.D.**

SCHUMANN: Orchestral Works.

Dresden State Orchestra, Wolfgang Sawallisch, cond. [David Mottley and Dieter-Gerhard Worm, prod.] ARABESQUE 8102-3, $23.94 (three discs, manual sequence). Tape: 9102-3, $23.94 (three cassettes).

Symphonies: No. 1, in B flat, Op. 38 *(Spring)*; No. 2, in C, Op. 61; No. 3, in E flat, Op. 97 *(Rhenish)*; No. 4, in D minor, Op. 120. Overture, Scherzo, and Finale, Op. 52. Manfred Overture, Op. 115.

Wolfgang Sawallisch gained international prominence in the 1950s with a much-admired recording of the Dvořák G major Symphony. Music director of Munich's Bavarian State Opera since 1969, he has enjoyed a steadily successful career, mostly in Europe and lately in Japan as well, with only very occasional American appearances. These EMI-derived Schumann recordings date from 1973; that they have taken nine years to reach these shores is our misfortune.

Admirers of the late Rudolf Kempe should respond equally to Sawallisch. Here are the same feeling for a work's basic pulse and architecture, the same unfailing integrity that presents the work in the best possible light, without fuss, muss, or surface glitter but with the greatest musicianship and vitality. In fact, here are the same orchestra and production team with which Kempe made his superb Strauss series, with the same magnificent results.

Worth the price of the entire set is the disc containing the *Rhenish* Symphony and *Manfred* Overture; some single records of extremely ordinary performances aren't all that much cheaper. The symphony's first movement, buoyant, energetic, and briskly paced, has irresistible verve and electricity from first note to last. There is nobility to Sawallisch's shaping of the Scherzo (not a true scherzo, after all), and his third movement shows tasteful flexibility. He sustains the solemn *Feierlich* section with great tension at a fairly deliberate tempo, and the jubilation he imparts to the finale, though attempted by many conductors, has been achieved by few. The overture is similarly blessed—a truly surging, exciting rendition. For once, the three imposing opening chords really sound syncopated, each played with a separate crescendo within the overall crescendo indicated.

As befits it, the *Spring* Symphony receives a lighter, more graceful performance than the *Rhenish*. In the lithe first-movement Allegro, Sawallisch does not expand the tempo for the coda beginning at measure 338. Even without such a marking, most conductors do slow down at that point, often with heart-warming results. But Sawallisch shows that the passage played in tempo can still be satisfying; he manages to be expressive and maintain the movement's rhythmic vitality at the same time. This is typical of the conductor's no-nonsense approach throughout the cycle; he eschews any temptation to Romanticize. He takes the trios of the Second's Scherzo strictly in tempo, for example, forcing Schumann's many expressive swells on single notes to make their effect very quickly, with no dwelling on them. To his credit, he succeeds without seeming rigid. In that same Scherzo, the offbeat phrasing of woodwind and string passages is excellently handled. The great slow movement, though a trifle cool and lacking in magic at times, such as in the presentation of the two chords preceding the violins' long crescendo, has a nice flow. In the symphony's closing measures, Sawallisch resists the temptation to slow the solo timpani strokes, driving straight through to an inevitably tri-

Critics' Choice

The most noteworthy releases reviewed recently

BACH: *Harpischord Concertos (6)*. Koopman. PHILIPS 6769 075 (2), April.
BLOCH, E.; HINDEMITH: *Viola-Piano Works*. Schotten, Collier. COMPOSERS RECORDINGS SD 450, April.
CAVALLI: *Ercole amante*. Palmer, Cold, Corboz. ERATO STU 71328 (3), May.
CHOPIN, MUSSORGSKY: *Piano Works*. Schenly. DIGITECH DIGI 108, April.
DELIUS: *The Fenby Legacy*. Royal Philharmonic, Fenby. UNICORN-KANCHANA DKP 9008/9 (2), Feb.
DEL TREDICI: *Final Alice*. Hendricks, Solti. LONDON LDR 71018, April.
FALLA: *The Three-Cornered Hat*. Bátiz. VARÈSE SARABANDE VCDM 1000.170, June.
HAYDN: *Keyboard Sonatas (5)*. Marlowe. GASPARO GS 218, June.
MARTINŮ: *The Greek Passion*. Mitchinson, Tomlinson, Mackerras. SUPRAPHON 1116 3611/2 (2), April.
MOSZKOWSKI: *Piano Concerto in E, Op. 59*. Bar-Illan, Antonini. AUDIOFON 2003, May.
PUCCINI: *Tosca*. Scotto, Domingo, Bruson, Levine. ANGEL DSBX 3919 (2), March.
PURCELL: *Dido and Aeneas*. Kirkby, Thomas, Parrott. CHANDOS ABRD 1034, May.
RAMEAU: *Hippolyte et Aricie: Suite*. Petite Bande, Kuijken. HARMONIA MUNDI GERMANY 1C 065-99837, June.
RODRIGO: *Concierto de Aranjuez; Fantasia para un gentilhombre*. Bonell, Dutoit. LONDON LDR 71027, May.
SCHUBERT: *Lazarus; Mass, D. 167*. Armstrong, Johnson, Guschlbauer. ERATO STU 71442 (2), May.
SCHUBERT: *Piano Works*. Goode. DESMAR SRB 6001/2 (2, tape only), May.
SCHUBERT: *Song Cycles and Songs*. Hüsch. ARABESQUE 8107-3L (3), March.
SCHUBERT: *Trout Quintet*. Sawallisch, Endres Qrt. EURODISC 25 567, April.
SHOSTAKOVICH: *Symphonies Nos. 1, 9*. London Philharmonic, Haitink. LONDON LDR 71017, May.
STENHAMMAR: *Symphony No. 2, Op. 34*. Stockholm Philharmonic, Westerberg. CAPRICE CAP 1151, June.
TANEYEV: *Piano Quartet*. Cantilena Chamber Players. PRO ARTE PAD 107, April.
TCHAIKOVSKY: *Orchestral Works*. London Symphony, Simon. CHANDOS DBRD 2003 (2), June.
TIPPETT: *King Priam*. Harper, Tear, Bailey, Atherton. LONDON LDR 73006 (3), March.
WEILL: *Songs*. Stratas, Woitach. NONESUCH D 79019, Feb.
CENTENARY EDITION OF BARTÓK'S RECORDINGS, VOL. 1. HUNGAROTON LPX 12326/33 (8), June.
GERMAN CHAMBER MUSIC BEFORE BACH. Cologne Musica Antiqua, Goebel. ARCHIV 2723 078 (3), Jan.
THE LEGENDARY HOLLYWOOD STRING QUARTET. EMI RLS 765 (3), June.

umphant conclusion.

The Fourth shares the characteristics of the others—propulsiveness, buoyancy, straightforwardness. In the *Romanze*, the dotted eighth- and sixteenth-notes are made to agree with the triplets (correctly, I feel). The interesting Overture, Scherzo, and Finale, though elegantly played, would benefit from some of the excitement provided elsewhere. Solti's deleted Vienna Philharmonic version is the most convincing I've heard of this work.

I don't mean to suggest that, in his avoidance of Romantic indulgence, Sawallisch is anything of an automaton. Far from it, he brings his own personal touches to each performance, a slight ritard here, a *Luftpause* there. (The Fourth's Finale begins quite deliberately, only to become suddenly faster in the ninth measure—not a successful effect.)

In common with James Levine in his outstanding release of last year (RCA ARL 3-3907, October 1981), Sawallisch demonstrates that Schumann's unjustly maligned orchestration works if given half a chance. It certainly does when played so idiomatically by the great Dresden State Orchestra, when heard in such superbly balanced recordings, and when conducted with such authority and understanding. All things considered, this is not Sawallisch's Schumann, but Schumann's Schumann. With the number of conductors capable of giving meaningful performances of the German classics ever dwindling, our orchestras would be well advised to sign up Sawallisch as a most distinguished guest in this repertoire.

The set is graced by thoughtful annotations by the English writer Burnett James—an astute combination of factual information, "play by play," and personal reactions to the works and the composer. Warmly recommended. J.C.

STRAVINSKY (arr. Achatz): Le Sacre du printemps.

Dag Achatz, piano. [Robert von Bahr, prod.] BIS LP 188, $10.98 (45 rpm) (distributed by Qualiton Records, 39-28 Crescent St., Long Island City, N.Y. 11101).

What is it about *Le Sacre* that makes pianists wish to perform it as a solo work?

Hard on the heels of Dickran Atamian's recording of Sam Raphling's two-hand piano transcription (RCA ARC 1-3636, April 1981) comes a new arrangement by Dag Achatz, who is positively obsessed with the piece. Ever since he heard it conducted by Ernest Ansermet in Geneva, he has "been unable to live without regularly immersing myself in its orgiastic sounds. . . . Like many other instrumentalists, I have dreamed of conducting, but . . . only this work. Partly in order to fulfill this dream, I have played Stravinsky's own four-hand version with colleagues, and I have arranged a fuller version on two pianos. I was still not satisfied. The best solution was to be conductor and instrumentalist at the same time."

Given Achatz' fixation, we might expect him to invest the score with a half-crazed animus. On the contrary, it is Atamian who plays with such demonic abandon that one wonders from what realm he emanates, whereas Achatz offers a slower, saner conception—less volatile, far more carefully controlled. The "Dance of the Adolescents" and "Mock Abduction" provide good comparisons. Atamian, with razor-sharp attacks and kinetic energy of almost frightening intensity, never lets up; Achatz builds the music unhurriedly, as if it were a Bruckner symphony, with massive, static chords that unfold inevitably into a climax of tremendous power.

No doubt pianists and *Le Sacre* aficionados alike will have a field day investigating the differences between the two arrangements. (Raphling's has been published, Achatz'—to the best of my knowledge—has not.) The Achatz strikes me as more detailed but also more overtly pianistic, which is both a blessing and a curse. Unlike Stravinsky's 1921 solo-piano restitution for Arthur Rubinstein of the "*Konzertstück*" (and two other movements) from *Petrushka*, *Le Sacre* is not at all pianistic in conception, and thus Achatz' figurations (e.g., the tremolo at cue 138) sometimes seem unintentionally meretricious.

Much of the stunning impact of Achatz' performance unquestionably derives from the extraordinary recorded sound: rich, resonant, and incredibly dynamic. This is one of the most awesomely realistic LPs I've ever heard. Alas, Bis's quality control did not extend to the distressingly noisy surfaces on my copy.

Certainly I will wish to rehear the Atamian and Achatz performances occasionally, as much for their imaginative conceptions as for their commanding virtuosity. And I welcome back into the catalog the exciting if tinny-sounding 1967 Michael Tilson Thomas/Ralph Grierson account of Stravinsky's own four-hand arrangement of *Le Sacre* (Seraphim S 60364; notable, too, for Lawrence Morton's reasoned assessment of the importance of the composer's piano version). This of course preserves more detail than can be obtained from any two-hand edition, even if it necessarily dictates a sacrifice of individual control and precision. Note well, however, that Stravinsky made piano arrangements of *Le Sacre* and of practically all his ballets from *Firebird* to *Agon* not with intent to create independent concert pieces (the aforementioned *Petrushka* troika is an exception),

but simply as a rehearsal tool for choreographic production.

So while there may indeed be revelations to be gleaned from these editions, no amount of rhetoric will convince me that I'm hearing more than a shadow of the real *Sacre*. (Stravinsky: "I always compose the instrumentation when I compose the music.") That extravagantly imaginative orchestration is an intrinsic part of the piece. You'll excuse me, therefore, if I go immerse myself in those intoxicating colors right now. **R.D.H.**

TELEMANN: St. Luke Passion.

Susan Larson, soprano; Karl Dan Sorensen and Ray de Voll, tenors; James Maddalena, baritone; Banchetto Musicale, Martin Pearlman, dir. [Ralph Dopmeyer, prod.] TITANTIC TI 88/9, $20 (two discs, manual sequence).

TELEMANN: Fantasias for Solo Flute (12).

Barthold Kuijken, flute. [Adelheid and Andreas Glatt, prod.] ACCENT ACC 7803, $11.98 (distributed by AudioSource, 1185 Chess Dr., Foster City, Calif. 94404).

TELEMANN: Works for Oboe and Continuo.

Paul Dombrecht, oboe; Wieland Kuijken, cello; Robert Kohnen, harpsichord. [Adelheid and Andreas Glatt, prod.] ACCENT ACC 8013, $11.98.

Sonatas: in B; in G minor. Suite in G minor. Partita No. 2, in G.

The Telemann tercentenary seems to have produced its finest fruits late in the day, certainly since Kenneth Cooper's feature on the composer last December. These three records each contain superb performances of delightful music and argue the case for Telemann (and incidentally for eighteenth-century performing styles) with great eloquence.

"Delightful," though not the most obvious adjective for a Passion setting, is apt for Telemann's *St. Luke Passion* of 1744. This delicious mixture of midcentury styles, which blends traditional chorale movements with light-hearted soprano arias and dancing meditations, is one of some forty-six Passions he composed. It aims to please—though it is not without its moving moments, especially in Christ's own music—and it is sung and played with ideal lightness and grace in a stylish performance by Boston's baroque orchestra, Banchetto Musicale. This is a live recording of a concert I reviewed in the *New Yorker*; renewed acquaintance suggests that a little tiredness crept in toward the end of the evening. But the first half, including Susan Larson's tripping ditties and the extraordinary outburst where James Maddalena's Christ himself sings an aria picturing his second coming (a procedure Bach would never have dared), is all first-rate. Karl Dan Sorensen could teach every Bach evangelist a thing or two about clarity and phrasing. The small chamber choir sings with good balance and projection, and in the added opening Sinfonia

there is a most eloquent oboe d'amore solo from Stephen Hammer. Typically for Titanic, the sleeve is admirably produced with a well-chosen illustration. In all, one of the best recordings of any eighteenth-century Passion setting, and an object lesson in making unfamiliar music come to life.

Accent is an important little Belgian label whose records are mostly produced by the wind-instrument maker Andreas Glatt and his wife; most of its extremely discriminating repertory features performances by the Kuijken family and their circle. The flutist Barthold Kuijken played one of Telemann's solo fantasias in the tercentenary concert at the Metropolitan Museum last year, and his gentle virtuosity set the hall alight. Here is the complete set of twelve fantasias, and the ear never tires of the sound of the unaccompanied flute, so deft and musical is his playing. This puffy, subtle tone is quite unlike the fiercely attacked noise of the modern flute; Kuijken molds and projects the lines so unobtrusively—whether in French overtures, long singing Andantes, or brilliant Allegros—that the ear is held enthralled.

Paul Dombrecht, an oboist well-known for his contributions to the Telefunken Bach cantata series, here makes a most auspicious solo appearance on disc with gambist Wieland Kuijken and harpsichordist Robert Kohnen. The Telemann works are splendidly varied: The B major Sonata has a Handelian eloquence, and the G major Partita is a sequence of resourceful dances.

Dombrecht's gorgeous playing, supple and lyrical yet piercingly direct, makes this a disc that any oboist—especially one as yet unconverted to the baroque oboe—should own. **N.K.**

WAGNER: Tristan und Isolde—See page 48.

WEINBERGER: Schwanda the Bagpiper (in German; ed. Brod).

CAST:

Dorota	Lucia Popp (s)
The Queen	Gwendolyn Killebrew (ms)
Babinsky	Siegfried Jerusalem (t)
The Judge	Karl Kreile (t)
The Executioner	Albert Gassner (t)
Captain of Hell's Guards	Georg Baumgartner (t)

A Vocal Jubilee from London

by Kenneth Furie

YOU WIN SOME, you lose some. The bad news is, or has been, that London Records' last round of budget labels, Treasury and Richmond, has all but disappeared from the catalog, removing a whole bunch of good performances, not to mention good values. The good news is that London has a new midprice label, Jubilee, and at least on the vocal side it offers cause for celebration.

Not unreasonably, the initial Jubilee list stresses bankable Names. If this produces up-and-down results on the instrumental side, in the vocal realm London certainly has a formidable roster of Names to draw on. Consider, for example, Hans Schmidt-Isserstedt's Beethoven Ninth with the Vienna Philharmonic (JL 41004). Since Joan Sutherland, Marilyn Horne, James King, and Martti Talvela are still very much among us, it may be that you've forgotten what sounds they made in 1966, in which case you should check this performance out posthaste.

The first movement lumbers a bit, but the Scherzo is tight and galvanic, and the Adagio sings eloquently. The prize, though, is the finale. Each of the vocal solo parts has been handled more distinctively elsewhere, yet no other recording brings together *four* such robust, flexible voices, and Schmidt-Isserstedt makes the most of them, keeping the show moving dynamically, but not frenetically, allowing orchestra, chorus, and soloists to be heard to rousing effect in London's sumptuous sound—the Sixties were the sonic glory years of the company's Vienna activities. However many Ninths you own, this one looms large, and you could do a lot worse if you're having only one.

I can be even less equivocal in recommending Fritz Reiner's 1960 Verdi Requiem (JL 42004, two discs) and the 1959 *La Bohème* conducted by Tullio Serafin (JL 42002). Like the Beethoven solo quartet, Reiner's Verdi lineup—Leontyne Price, Rosalind Elias, Jussi Bjoerling, and Giorgio Tozzi—may have been surpassed on an individual basis, but not as an ensemble, and the performance as a whole has a sense of purpose and dramatic power unmatched on records. It also remains, to my taste, the most believable and involving sonic image of the Requiem we've gotten.

The same is true of the *Bohème*. Listen to Rodolfo's play-burning in Act I, and note the vibrant colors of the Santa Cecilia orchestra's playing. Of course your attention is likely to be sidetracked from sonics as such to the performance—to Serafin's confident, knowing shaping of the score and to the lusty work of the Bohemian quartet: Carlo Bergonzi (Rodolfo), Ettore Bastianini (Marcello), Cesare Siepi (Colline), and Renato Cesari (Schaunard).

"Confident" and "knowing" aren't bad descriptions of the performance, in which it turns out to matter surprisingly little that neither Bergonzi, Bastianini, Siepi, nor Renata Tebaldi, the Mimì, is at his or her best. Bergonzi sounds fine but is coasting through, while Tebaldi, Bastianini, and Siepi are laboring to keep those big, juicy voices in balance. Still, these people had enough vocal margin to remain strong presences even in less than prime condition, and in Act III especially we can hear the expressive options open to a Mimì of this vocal size and lower-range strength. Cesari, by the way, is close to being the best Schaunard on records, though Gianna d'Angelo is a disappointingly ordinary Musetta. The much-recorded Benoit and Alcindoro of Fernando Corena are heard here in good representative shape.

If I rate this *Bohème* only No. 2, it's because the competition includes De los Angeles, Bjoerling, and Beecham working their particular magics in concert (Seraphim SIB 6099, rechanneled). But at the Seraphim and Jubilee prices, why not have both? The Jubilee set is certainly superior in overall casting and engineering, which is a reminder that, sorry as I am to see the young Tebaldi's work disappear with the mono Richmond issues, her stereo remakes were generally better cast and conducted as well as recorded.

In the case of *Tosca*, London has bypassed the Tebaldi remake, admittedly not one of its vault treasures, in favor of the 1966 recording with Birgit Nilsson and Franco Corelli (JL 42001), both of whom seem in this case to have responded to the glare of the microphones by inclining uncharacteristically to caution. And it *is* odd to hear these particular singers picking their way through. However, there are moments, generally in the climaxes, when they do let loose, and Corelli in particular produces moments of such excitement as to constitute an entirely different manner of experience from that afforded by more namby-pamby Cavaradossis.

Dietrich Fischer-Dieskau's alternately hectoring and crooning Scarpia still sounds fairly silly, though he no longer sounds quite so hopelessly miscast when you compare the ostensibly more "legit" Scarpias we've heard since—the likes of Manuguerra, Wixell, Milnes (the second time, for London), and Raimondi. More positive notes are Alfredo Mariotti's Sacristan, in its fairly straight way one of the more interesting on records; Silvio Maionica's solid Angelotti; and Piero de Palma's expert Spoletta.

Lorin Maazel's heavily inflected conducting is filled with interesting ideas, many of which are fun to hear thanks to the responsive playing of the Santa Cecilia orchestra. What's disorienting is that the singers don't seem to be part of the conception Maazel is unfolding. As a result, this

Devil's Amanuensis	Heinrich Weber (t)
First Forester	Anton Rosner (t)
Schwanda	Hermann Prey (b)
The Devil	Siegmund Nimsgern (b)
The Magician	Alexander Malta (bs)
Second Forester	Peter Lika (bs)

Bavarian Radio Chorus, Munich Radio Orchestra, Heinz Wallberg, cond. [George Korngold and Theodor Holzinger, prod.] CBS MASTERWORKS M3 36926 (three discs, manual sequence) [price at dealer's option].

Schwanda might be described as the unharmonious but inevitable coming together of two people made for each other: Schwanda the Bagpiper and the Devil. Schwanda is the well-meaning soul who manages to succumb to every temptation without troubling his conscience by the simple expedient of neglecting to maintain one. He has extreme difficulty, in fact, maintaining more than the dimmest awareness of any circumstances other than the most immediate, and the most convenient.

At the same time, Schwanda serves as a useful reminder that there is no automatic correlation between artistic talent and a functioning ethical sense. One of the opera's innumerable ironies is that the hero winds up in hell voluntarily, though the result he *intended* was rather different. At the end of Act II, backing up his latest lie with an invitation to the Devil to take him on the spot, he is discommoded to find his invitation accepted in an outburst of thunder and lightning, fire and smoke. Naturally when we next meet him, in hell, he's peeved as all get-out to be there.

Indeed the Devil is on the whole the most congenial of the opera's characters. At least he is less hypocritical than the others about his personal and professional objectives, which center around establishing and operating the sort of hell a self-respecting Devil can be proud of. As far as the establishing part goes, he seems to have done a good job of it. When the robber and bon vivant Babinsky crashes the joint in quest of his bosom buddy Schwanda, he makes a point of complimenting the proprietor on his swell spread. The only problem is that the establishment isn't attracting the right clientele, and the awful truth is that there isn't a bloody thing to do. Hell is, good grief, *boring*. The Devil can't even get up a decent card game, as not even the guests nominally under his power will put up with his outrageous cheating any more.

Enter Schwanda, in such a snit that he

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set doesn't crowd the favorite versions I listed in my review of the Levine recording (Angel DSBX 3919, March). All the same, for its special virtues, I have found myself returning to it regularly over the years.

The London folks haven't overlooked one of the choicer corners of their catalog. Already scheduled are the two best recordings the D'Oyly Carte company made: the 1958 *Pirates of Penzance* and *Mikado* conducted so delectably by Isidore Godfrey and featuring the remarkable Peter Pratt (the Major General and Ko-Ko) and Ann Drummond-Grant (Ruth and Katisha), in the spiffy company of Donald Adams (the Pirate King and Mikado), Kenneth Sandford (the Sergeant and Pooh-Bah), Jean Hindmarsh (Mabel and Yum-Yum), Thomas Round (Frederic and Nanki-Poo), and Alan Styler (Pish-Tush in *Mikado*).

Note that there's already a Jubilee *Pirates* (JL 42003), but the initial pressing is of the wrong recording. What it is, as correctly identified on the album box and labels, is the 1968 recording with spoken dialogue, also conducted by Godfrey but with the Royal Philharmonic rather than the New Symphony of London. Perhaps even by the time you read this, the records will have been made to match the cast given in the booklet. Meanwhile you might want to take advantage of the temporary availability of the later recording, which will remain in the catalog as London OSA 1277, at reduced price. It's an estimable performance in its own right—not as sparkling as the earlier one and not as imposingly cast, but with a potent attraction of its own (apart from the dialogue) in the Mabel of Valerie Masterson.

The other vocal items in the Jubilee list tempt me less. Skipping over the mediocre 1976 Dorati Phase-4 *Carmina burana* (JL 41006), there are two Name single discs, both containing previously unreleased material.

On "The Great Voice of Joan Sutherland" (JL 41011), we hear Sutherland—accompanied by the Philomusica of London under various conductors—in her prime (c. 1958–59), the voice supple and steady, the communicative impulses direct and unaffected. There is a side devoted to Handel, all reissued, and the disc's most valuable function may be to salvage sixteen minutes' worth of *Alcina* ("*Tornami a vagheggiar*" and "*Ombre pallide*," with their recitatives) that come not from the later complete recording, but from a 1958 Oiseau-Lyre Handel miscellany conducted by Anthony Lewis—Sutherland's only contributions, in fact. Filling out this side are Galatea's "Hush, hush, ye pretty warbling quire" and "Heart, the seat of soft delight" from the 1959 *Acis and Galatea* conducted by Adrian Boult, which you undoubtedly already own. (What? You don't?) Jubilee will, incidentally, have more Sutherland/Boult Handel: their 1961 *Messiah*—her first, his second.

On the other side of the disc, released for the first time, are eight eighteenth-century arias conducted by Granville Jones, which we are told "date from some of the artist's earliest recording sessions." She sings it all very prettily, but I can't say that a terribly persuasive case is made for the material, either Italian ("*Per la gloria d'adoravi*" from Bononcini's *Griselda*, Paisiello's "*Nel cor più non mi sento*," and "*Furia di donna*" from Piccini's *La buona figliuola*) or English ("The soldier tired" from Arne's *Artaxerxes* and three songs from Shield's *Rosina*).

Finally, we have a joint recital by Mirella Freni and Luciano Pavarotti (with Leone Magiera conducting; JL 41009), which we are told was recorded live at the Teatro Comunale in the singers' hometown, Modena. This disc was published in 1980 by Cime, which suggests a date around 1979. (Earlier such Cime recordings, imported by London, carried recording dates.) In any event, both singers are in surprisingly good, relaxed form, perhaps feeling no need to put on superstar airs for the hometown crowd. Of course it's also true that the repertory is all of congenially lyric weight, drawing either on lyric roles or on lighter-weight excerpts from heavier-weight roles.

Luciano is heard by himself as Werther ("*Pourquoi me réveiller*"), Enzo in *Gioconda* (the closest I've heard him come to solving "*Cielo e mar*"), and Vasco da Gama in *L'Africaine* ("*O paradis*," in Italian). Mirella is heard as Elena in *Vespri siciliani* (the Bolero), the Daughter of the Regiment ("*Il faut partir*," in Italian), and —a terrific role for the Freni of old—Boito's Margherita ("*L'altra notte*"). Together they sing the Brindisi and "*Parigi, o cara*" from *Traviata*, and two extended duets: "*Una parola*" from *L'Elisir d'amore* and the Cherry Duet from *L'Amico Fritz*. The latter in particular rouses mixed feelings. Like the rest of the program, it's agreeably sung, but it inevitably conjures images of those prodigiously gifted young singers who came together in the late Sixties to record the complete opera for Angel (SBL 3737). What ever happened to them? I guess we all lose our innocence.

All in all, Jubilee is off to an impressive start, and when you think about all the material London has at its disposal, the prospects become mighty heady—all of this for only $6.98 per disc or cassette. (All releases are available both ways. Substitute "JL5" for "JL" for cassette numbers.) The discs, mastered in England and pressed in Holland, are generally of excellent quality.

The packaging is uneven. Recording documentation is at best sketchy, more often nonexistent. The sets contain good notes and complete texts, from previous London issues, of course. The Sutherland and Freni/Pavarotti discs have less-good notes and no texts. The Beethoven Ninth comes with only a brief anonymous note in English and French. (The packaging is printed in Canada.) But then, everyone knows all about the Beethoven Ninth. **HF**

absolutely refuses, no matter how politely asked, to provide a bit of entertainment with his bagpipes. It could be that he's learned a lesson from the last time he played for such a cold house, in Act II, Scene 1, when his polka (*the* polka, that is) melted the heart of the Ice-Hearted Queen, who consequently conceived such an overpowering urge to marry him that he somehow couldn't find a suitable conversational lull for mentioning the small detail of already having a wife, whose unexpected arrival put a crimp in the festive mood. Yes, it could be that Schwanda has learned a lesson. Or it could be that the company of the Devil, unlike that of the rich and beautiful and available Queen, has the effect of making him unable to think of anything but his dear Dorota.

As long as you remember to judge the characters of *Schwanda* not by what they *say* they want, but by what their actions indicate they do, you should be delighted by their unflappable pursuit. Does the Devil's inability to compel Schwanda to play his bagpipes daunt him? Certainly not. After obtaining his grumpy guest's permission (there's a right way of doing things, after all), he attacks the bagpipes himself, producing a grotesque and hilarious version of Schwanda's polka. What the hell, it helps pass the time.

Once you tumble to the logic of all this crazy behavior, it all seems a great deal less crazy—practically veristic, in fact. Consider that with a friend like Babinsky Schwanda hardly needs enemies. It's true that Babinsky is constantly rescuing him, but who lures him from his happy home and hearth into royal misadventure in the first place? And when Babinsky retrieves him from hell, by being a better cheater than the Devil (whose guard is perhaps lowered by his desperation for a card game, with the result that he nearly loses hell, his livelihood and life's work), he is motivated primarily by the desire to show the inconsolable Dorota what a lunk she's married to. He is, in other words, trying to steal his best friend's wife.

This merry confusion extends even to the Queen and the evil Magician whose prisoner she seems to be. She certainly thinks of herself as a prisoner, and yet the fact of the matter is that she got her ice-heart in a freely transacted swap: her living heart in exchange for a diamond scepter, with the ice-heart thrown in. (Two for one! Some deal.) True, she didn't anticipate that the arrangement would lead to her murdering a handsome young prince come a-wooing, but then, anticipating consequences isn't one of the higher priorities of the characters in this opera. (Believe it or not, there are people in real life almost as innocent of the proposition that actions have consequences.) Like many such real-life relationships, the seemingly poisonous one between the Queen and the Magician turns out to be symbiotic. As the Magician points out, the ice-heart protects her from feeling remorse over the murdered prince. These people have chosen each other, they need each other, and they deserve each other.

Though not a dream cast, CBS's singers are good enough to qualify this set as a discovery.

Schwanda is, as you may have guessed, a very funny opera, but not in the usual ha-ha way. Certainly none of the participants, with the fleeting exceptions of the Magician and Babinsky, are likely to see much humor in their situations. This has the happy effect of discouraging performers from playing the humor, which is made even more difficult by the musical difficulties of the writing. Jaromír Weinberger (1896–1967) was thirty-one when the opera that would prove to be his only enduring work was first performed, in his native Prague. The year being 1927, we should hardly be surprised to hear the folk-comedy heritage of Smetana's *Bartered Bride* reheard through the ears of late German Romanticism, as evolved through Wagner and Humperdinck and Strauss.

To get some idea of the scale of the piece, consider the cast the Met assembled from its German-wing stalwarts for the five performances (plus two on tour) given in 1931–32: Friedrich Schorr as Schwanda, the young Maria Müller as Dorota, Rudolf Laubenthal and the young Max Lorenz as Babinsky, Karin Branzell as the Queen, Ivar Andrésen as the Magician, and Gustav Schützendorf as the Devil. (From 1921 to 1935, while his younger brother Leo was plying much the same repertory in Europe, Schützendorf was the company's resident Alberich and Beckmesser, also singing many medium-weight German roles and backing up first Clarence Whitehill and then Schorr in their lighter Wagner roles—Wolfram, Kurwenal, Amfortas.)

It's a shame that none of these people seem to have made records of this music. Since we no longer have any such people to perform *Tannhäuser* or *Lohengrin* or *Meistersinger*, we obviously don't have them for *Schwanda*. Still, CBS hasn't done badly, and what matters most is that the singers have thrown themselves into it with a will. The same is true of the orchestra, which is confronted by writing of enormous scale and elaborate development. In contrast to the mostly leaden singing and playing in CBS's recent resurrection of Korngold's *Violanta*, the *Schwanda* performers are clearly turned on by their piece, and their work is captured in a recording of glowing

immediacy. The sound is genuinely spectacular in detail, breadth, color, and presence—and appropriately so, given the nature of the writing.

Two of the principals seem to me quite well cast. Alexander Malta, who has all the physical ingredients for a first-rate bass, has been threatening for some years to make a really first-rate recording. Now he's done it. His inky-black sonorousness makes an imposing figure of the Magician.

Also impressive, at least when the music doesn't lie too high, is Siegfried Jerusalem's Babinsky. The role is studded with large-spirited lyric effusions to which Jerusalem's robust and golden-colored midrange is well suited. Predictably, he gets into trouble when the writing moves higher (his strained B flats simply don't complete the voice in the way you'd expect from the sound down below), and he is under fairly constant pressure in the confrontation with the Devil, where the writing lies consistently higher, up around the break. Still, his juicy entrance solos and the passionate plea *"Dorota, weine nicht!"* are fun to hear.

Lucia Popp and Gwendolyn Killebrew clearly aren't Müller and Branzell, and I do wonder whether a heftier soprano mightn't make Dorota seem less passive a kvetch. Within their vocal limitations, however, both women sing well and with conviction. I'm less happy with the baritones. Maybe it's unfair to Hermann Prey that I can't get the thought of Schorr out of my head, but even without that thought I think I'd find his singing problematically lightweight and self-satisfied. Siegmund Nimsgern would actually seem better suited to Schwanda, especially as he doesn't make much of the Devil, a role that strikes me as potentially fascinating. Not having seen a score, I can't provide chapter and verse in support of my suspicion that the writing would make more sense for a bass (a Moll, say) or at least a bass-baritone (a Van Dam?) than for any species of baritone, even one of the Alberich-Beckmesser sort. Of course Nimsgern isn't even one of the latter, and so he sings through the role in his usual heavy-handed way, trying without great success to push the voice down into some semblance of a darker, weightier sound.

Not a dream cast, then, but quite good enough to qualify this recording as a substantial discovery. I can't tell what corruptions may have been introduced in Max Brod's German translation. Although Brod was a friend of Weinberger, he was a friend of Janáček too, and that doesn't seem to have guaranteed accuracy in his German editions of the latter's operas. Anyhow, I'm content to defer consideration of the question until we get a Czech recording—one as good, I hope. (Note that for sanity's sake I've stuck to German forms of the character names.)

In the matter of the libretto, I'm far more disturbed by what CBS has put into its

Schwanda booklet—made in Germany, like the terrific-sounding records. I have to guess that Dennis Arundell's English translation is a singing version *of the original Czech*; at any rate, the English text rarely gets closer to the German than dealing with the same general subject matter. Better still, the parallel French translation is a more or less literal rendering of the English! Could this have been someone's idea of a joke?

Otherwise the booklet contains a long background piece by Christopher Palmer that once again sounds back-translated from German (note: it isn't), plus an amiable reminiscence by Hans Heinsheimer, who as head of Universal Edition's opera division played a decisive role in propagating *Schwanda* when it was new. **K.F.**

Recitals and Miscellany

TWENTIETH-CENTURY CONSORT

Twentieth-Century Consort, Christopher Kendall, dir. [Bill Bennett, prod.] SMITHSONIAN N 1022, $13.98 ($12.58 to members) (two discs) (add $1.50 for shipping: Smithsonian Recordings, P.O. Box 10230, Des Moines, Iowa 50336).

CHENOWETH: Candles. PENN: Fantasy for Solo Harpsichord. ROCHBERG: Electrikaleidoscope. SCHWANTNER: Elixir (Consortium VIII); Sparrows. WRIGHT: Chamber Symphony.

The Twentieth-Century Consort is a six-year-old, Washington-based, mixed-timbre group, whose apparently elastic membership is drawn largely from the National Symphony. Its aim, according to a note by percussionist and executive director Anthony Ames is "to present new music as a serious but fundamentally *enjoyable* phenomenon." In another, somewhat more rhetorical essay, conductor Christopher Kendall and producer Bill Bennett explain how, at least in these recordings, the group endeavors to meet that goal: They feel that the crisis of contemporary musical language is simply another example of the "recurring adolescence" music undergoes during all transitional periods; and they support the implication that we are now in just such a transitional era by suggesting that "if there is a quality unifying the works recorded here, for all their apparent diversity, it is [an] impulse to synthesize the old and the new."

That synthesis must be loosely defined, for while Joseph Schwantner's *Sparrows* mixes baroque and Renaissance references with patches of atonality and George Rochberg's *Electrikaleidoscope* jumps from Copland-esque, to jazzy, to Beethovenian languages and back again, the elements of "old" and "new" are harder to isolate in most of the other works. For instance, Maurice Wright's *Chamber Symphony* pairs an "old" piano and a "new" synthesizer, and William Penn's *Fantasy* uses an "old" harpsichord; but both pieces are thoroughly rooted in the twentieth century. Hardly confined to the current eclectic school, this ambitious program surveys a good deal of stylistic ground, much of it satisfying.

Most immediately striking is the Penn *Fantasy*, an aggressive harpsichord solo lasting nearly twelve minutes. With a briefly subdued, contrapuntal middle section surrounded by brutally percussive chordal passages, lightning-fast runs, and swirling washes of sound, the piece is every bit as gripping as Bach's *Chromatic Fantasy and Fugue*, and in terms of dexterity and stamina, probably more demanding of the player. Lambert Orkis sails through it with apparent ease.

Orkis is also soloist in Wright's *Chamber Symphony*, a better than average instrument-and-tape piece. So well integrated are the synthesizer and piano parts that both appear to be played by "live" musicians, reacting to and playing *with* (rather than against, as in many less carefully worked out mixed-media pieces) each other. The synthesizer/piano combination makes for variety not only in timbre, but in perspective: The piano, obviously, is always up front, while the synthesizer's often playful skitterings move between an echo-shrouded, distant illusion of source, and a clear, close one. There is, however, little novelty in the synthesizer sound itself, which relies heavily on fairly stock, but not unattractive, low-pass filter "phasing" timbres.

Lucy Shelton, a young soprano who, in recent years, has distinguished herself as a versatile and sympathetic contemporary-music performer in the tradition of Jan DeGaetani and Phyllis Bryn-Julson, is particularly convincing in Gerald Chenoweth's *Candles*, a chilling and depressing work based on images drawn from the poems of C.P. Cavafy, set in often angular vocal lines over a hauntingly understated ensemble (strings, clarinet, harp, pitched percussion). The set's other vocal piece, Schwantner's *Sparrows*, based on fifteen unrelated haikus, is a lighter, jauntier work that veers between simple prettiness, dramatic lushness, and ungrateful dissonance, all worked into a smooth and concise flow that allows these odd juxtapositions to fall together painlessly, if not always logically. References to styles of distant eras, presented in parody, melt in and out of other styles, sometimes with interludes in which instrumental and vocal sounds blur together deliciously. But though *Sparrows* is interesting as a sonic tapestry, the connections between musical styles and the texts they adorn are rarely made clear; one wonders if there is any rhyme or reason to the choices.

Schwantner's *Elixir*, by contrast, is a serial work that makes no such compromises with the past. As in *Sparrows*, he goes out of his way to find odd and often eerie timbral combinations, but here a single expressive mode persists. With its stretches of quiet intensity struggling with pointedly forceful gestures, it is thorny, but not unattractive.

Which leaves Rochberg's *Electrikaleidoscope* to close the set, as *Sparrows* opens it, in the fields of eclecticism. It is perhaps strange that the works here that use the simplest musical language seem the most perplexing, yet when so many unrelated styles are mixed into a single piece, one can only wonder why. Unlike *Sparrows*, a collage, *Electrikaleidoscope* has five discrete movements, each in its own idiom, arranged in an arch: The first and last, energetic and Forties-ish, sound like a combination of Copland's folksiness and Stravinsky's sardonic neoclassicism. The second and fourth are straight-out amplified Fifties-style jazz. And in the middle is a lengthy, sometimes sensuous Adagio, in a late-classic, early-Romantic vein, distorted slightly by a modern prism, which eventually breaks down entirely, if only for a moment, into a quotation from a dance by Renaissance composer Tielman Susato. All told, it is an entertaining if puzzling score; putting aside the question of what Rochberg is trying to say with all of this, one is left admiring the versatility of the players, who seem equally competent and convincing in all these styles.

In fact, the set as a whole features playing and singing that are never less than first-rate, and although the pressing has intrusive flaws, the recording is clear and warm. The Smithsonian provides an attractive package, which includes texts of the vocal works, three essays (one on the ensemble, one on the music, and a short piece of Smithsonian salesmanship), plus short biographies with selective discographies of the five composers. **A.K.**

VIENNESE SONATAS FOR VIOLIN AND PIANO

Norbert Brainin, violin; Lamar Crowson* and Lili Kraus†, piano. [Leo Black, prod.] BBC RECORDS 22313, $17.96 (mono; two discs, manual sequence) (distributed by Gemeom, Inc., P.O. Box 290007, Fort Lauderdale, Fla. 33329).

BEETHOVEN: Sonata No. 8, in G, Op. 30, No. 3.† MOZART: Sonatas: in E minor, K. 304*; in F, K. 376†; in F, K. 377*; in A, K. 526*. SCHUBERT: Sonatina in G minor, D. 408.†

The BBC has been releasing on discs a few of the many performances originally taped for broadcast, with some—but not much—editing. (According to the note on this album, there has been a bit of additional "touching up" for this more permanent documentation; presumably all the outtakes of these performances from the mid-1960s have been saved.)

Norbert Brainin is best-known as the first-violinist of the Amadeus Quartet, and although he rarely appears as a solo performer, his credentials are excellent: Viennese-born, he studied first with Rosa Hochmann (Artur Schnabel's childhood sweetheart, and mother of his illegitimate daughter), and after going to London, with Carl Flesch and Max Rostal. Brainin also recorded Mozart's *Sinfonia concertante*, K. 364, with his quartet partner Peter Schidlof and the Netherlands Chamber Orchestra, David Zinman conducting (on a budget-priced EMI disc never available domestically); but apart from that, these off-the-cuff sonatas are his only recorded endeavors outside the quartet.

His two cohorts are likewise first-rate. Lamar Crowson, a versatile stylist and the longtime pianist of the Melos Ensemble, is one of England's most perceptive chamber musicians. Lili Kraus, whose playing is somewhat uneven these days, was once a brilliant international artist; I treasure her superb prewar recordings of Beethoven and Mozart sonatas with Szymon Goldberg and an excellent early-1950s complete edition of Mozart trios with Willi Boskovsky and Nikolaus Hübner.

The three Mozart sonata performances with Crowson are together on the first of these two discs. The E minor, K. 304, is an absolute gem, with springy, well-dovetailed phrasing and a perfect balance between instruments (so crucial in view of all the unison writing). The Minuetto, with its slower, more protracted *maggiore* trio section, is especially magical here. Neither of the other performances is quite on that exalted level. In the F major, K. 377, the first movement's spinning triplets are a bit sedate. The piano is rather loudly balanced and, in the epiloguelike third movement (so anticipatory of the Andante con moto from Schubert's Fifth Symphony), too bass-heavy. But the variations have passion and profile. And the presentation of the great A major, K. 526, though solid and musicianly, misses some of the first movement's finely sprung rhythm and the bravura finale's bracing élan.

Kraus's more delicately graded playing (I might as well say it, "feminine") imparts a somewhat fleeter tone to the performances on the second disc. These are among the sonatas she did *not* record with Goldberg, although she did perform Schubert's G minor Sonatina with Jean-Pierre Rampal (on flute, of course). In these sonatas, Brainin keeps his vibrato, which sometimes impedes linear clarity in the quartet, within tasteful bounds; only the defective pressing (pops, clicks, and multiple tracking problems on the review copy; the first disc was much better) prevents total enjoyment of the symmetrical, vivaciously fluent, and—when needed—dramatic, music-making. Surface problems aside, the mono sound is warm and ambient. On the whole, highly recommended. **H.G.**

The Tape Deck

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

Viva Voce

Temperamental affinities, which so insidiously shape our tastes in music (and everything else), largely determine the more or less pronounced "tilts" in listeners' preferences toward either vocal or instrumental music. Connoisseurs stoutly deny any such biases, and professionals overcome them; but it's not only naive amateurs who instinctively respond more readily either to human voices (and become opera or Lieder fans) or to instruments (and favor orchestras, string quartets, pianists, etc.). It's sheer stupidity, obviously, to become so one-sided that we totally deny ourselves enjoyment of either half of the music world. But we should not be ashamed to find our keenest personal pleasures in one or the other hemisphere—so long, that is, as we never abandon the ideal of tonal catholicity and the invigorating stimulus of adventuresome variety.

So it behooves me to redress, at least for one month, this column's too frequent imbalance (reflecting my own instrumental predilections, if not those of most of my readers) by featuring some musicassette programs that are predominantly vocal.

The first warrants double kudos, for the "Art of Victoria de los Angeles, 1949–69"—a generous anthology of some of the Spanish soprano's most spellbinding performances, especially of Spanish songs and zarzuela airs—is also newsworthy for Angel's shift to compact multiple-cassette packaging. Grossly oversize disc boxes are junked at last for the far more convenient "Prestige" type pioneered by Polygram. In addition to the present delectable example (4X3X 3914, $30.94), Angel has adopted the format for several operas; all have complete notes and texts.

The grandest recent opera taping is the too-long-delayed cassette edition of Herbert von Karajan's 1967–70 complete Wagner *Ring* (Deutsche Grammophon 3378 048/9, two volumes of six cassettes, $65.88 each). Unevenly sung and lacking the dramatic grandeur and sound-stage effects of the pioneering Solti/London version, this set makes a special appeal to listeners of an instrumental bias with its superb orchestral playing (Berlin Philharmonic) and recording. Then, contrasting markedly in size and character, there's a fascinating recital of Elizabethan ayres and duets—seven by Dowland, with others by Campion, Danyel, Ferrabosco, Hume, Jones, and Pilkington—by the London Camerata (Hyperion KA 66003, $13.98, via Brilly Imports, 155 N. San Vicente Blvd., Beverly Hills, Calif. 90211). Most of the remarkable songs, plus two anonymous lute solos, are relatively familiar, but Glenda Simpson and Paul Hillier are distinctive of voice and unique for their use of authentic period pronunciations.

Enticingly novel, too, are no fewer than three operas from off the beaten path: Janáček's *Cunning Little Vixen*, in the latest Supraphon version, an endearing all-Czech performance conducted by Václav Neumann (Pro Arte box 2PAC 2012, $19.96); Mozart's unjustly neglected *Il Rè pastore*, in the 1967 Denis Vaughan Neapolitan version once available from RCA Victor (now Arabesque box 9050-2L, $16.96); and what may well be the first complete recording of Grétry's wellspring of melody, *Zémire et Azor*, starring Mady Mesplé in a 1976 Pathé Belgian version conducted by Edgard Doneux (Arabesque box 9060-2L, $16.96).

Venturing still farther afield, there's invaluable documentation of the "Unknown Kurt Weill": early songs in which soprano Teresa Stratas carries on, in her own way, the authentic Lotte Lenya interpretative traditions. Moreover, she and pianist Richard Woitach are digitally recorded with notably vivid presence (Nonesuch DI 79019, $11.98, lamentably lacking the disc edition's fine notes and texts). Deutsche Grammophon does better, with complete German and English texts, if no notes, for its tapings of two great Romantic Lieder cycles: Schubert's *Winterreise* and Schumann's *Frauenliebe und Leben*. The former is the latest, and arguably best, Fischer-Dieskau version with pianist Daniel Barenboim (DG 3301 237, double-play, $10.98). The latter, augmented by thirteen other Schumann songs, is ecstatically sung by Edith Mathis with beautifully matched piano collaborations by Christoph Eschenbach (DG 3301 323, $10.98).

Finally, we cast off all instrumental weights to free the airborne sonorities of unaccompanied chorus as the twenty-four-strong Clerkes of Oxenford, under David Wulstan, bring us rare representations of two obscure Tudor masters: John Sheppard or Shepherd (*Cantata* Mass and a responsory) and Robert White or Whyte (*Lamentations of Jeremiah* and four motets); all are eloquently sung in vibrant 1977 Calliope recordings with the authentic acoustical ambience of an Oxford chapel (Nonesuch N5 71396 and H4 71400, $5.98 each).

My conscience thus appeased, I'll stubbornly continue to ignore innumerable "name" soloists' opera and song recitals, which appeal almost exclusively to the individual singers' devoted fans—who neither need nor want critical evaluations.

Custom-tailored for "Walkmen." Philip Glass's CBS debut with his own ensemble in *Glassworks* persuasively exemplifies the ritualistically patterned (or just obsessively repetitive) music-making so much in vogue; here it is given wider appeal by bright scoring, some actual tune bits, and at least some merciful restraint in the perpetuation of ostinatos. Its cassette edition (CBS FMT 31265, price at dealer's option) makes history as the first tape to be "specially mixed for your personal cassette player." There's no dope on what has been done (indeed no notes or even listing of performers), so I have to guess, from comparisons with the undoctored disc edition, that there's some boosting of modulation level and midrange frequencies for accentuated "presence," plus some kind of resonance stressing. Certainly the desired mesmeric effect of this kind of music is enhanced in peripatetic alfresco listening. The "straight" disc sonics are much cleaner and more natural, but for once gimmicking has some genuine *raison d'être*—maybe enough to create a best-seller of a specialized sort.

Another *Eroica* rejuvenation. Still reeling from the shock of last March's startling period-instrument *Eroica* by the Collegium Aureum (Pro Arte PAC 1029), I now find more of my conceptions of this presumably familiar Beethoven masterpiece shattered by Michael Gielen and the Cincinnati Symphony. Their electrifying digitally recorded superchrome taping (Vox Cum Laude VCS 9007, $10.98) is faster overall, at 44:10, than any previous version I know, including Toscanini's and Szell's. But more significantly, it's so galvanic, mercurial, and elated—especially in its first and last movements—that it, no less than the Seventh Symphony, warrants the appellation "apotheosis of the dance." It also documents, by comparison with Gielen's c. 1966 Viennese/Audio Fidelity version (still available in the CCC 36 taping), an astonishing conductorial growth in both skill and daring. Gielen has already caused considerable consternation in Cincinnati. Now he's likely to jolt conservative listeners everywhere into a complete tizzy! **HF**

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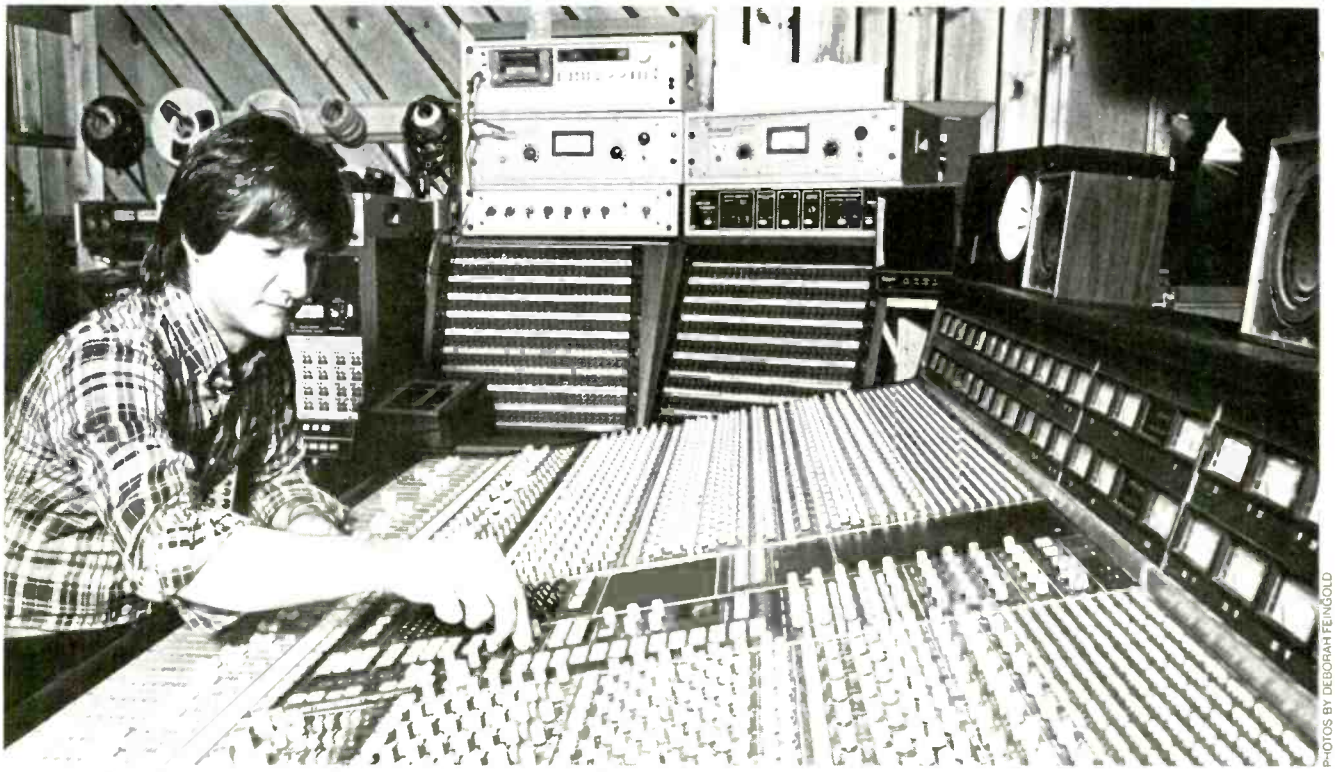

PHOTOS BY DEBORAH FEINGOLD

Engineer Bob Clearmountain at the new Solid State Logic 48-track board in Studio C's control room

The Power Station States the Art

Who says the recording studio business is in trouble?

by Crispin Cioe

ONE AFTERNOON LAST WINTER, I was playing tenor sax with my horn section for an overdub at the Power Station, a Manhattan recording studio that has just completed its first five very successful years of operation. The tune we were working on was *Ya Ya*, from singer/songwriter Steve Forbert's new album. We were in Studio A, a big, open, seven-sided room with a huge, pointed dome built into the ceiling, lots of wood slats on the walls, and a sound that has made regular customers out of Bruce Springsteen, the Rolling Stones, Chic, Blondie, the Clash, and David Bowie, among others. The session went smoothly, and after we had finished the last bit of double-tracking and trumpet flourishes, producer Steve Burgh's voice came through the headphone monitors: "That's it, come on in and take a listen." As we put our horns back in the cases, I noticed the baritone sax player shaking his head. "Roger," I asked, "is something the matter?" He smiled, slowly stared up into the dome, and said, "No, not at all—I just can't believe how good horns sound in this room."

In the insular, highly competitive world of recording studios, that kind of comment can make all the difference. Since fewer LPs are being recorded these days, many state-of-the-art studios in New York and L. A. have been forced to lower their rates and rely on jingles and soundtracks to stay in business. Yet for several top-shelf New York rooms—Mediasound, the Hit Factory, and Sigma Sound among them—business is booming. And in the case of the Power Station, by far the newest kid on the block, things have never been better. Owners Bob Walters and Tony Bongiovi recently opened the new Studio C, which, along with Studios A and B, appears to be buzzing with clients day and night.

The Power Station doesn't actively pursue business: It never advertises and its

Co-owner Bob Walters in his office

Assistant engineers Barry Bongiovi and Jason Corsaro at Studio B controls

owners work very hard to keep its profile low. There appear to be two reasons for this. One is that Bongiovi and Walters want their clientele to be able to work in an atmosphere of uninterrupted professionalism. The other is that they simply don't want to risk letting any trade secrets out. They agreed to this feature—the first in any publication—on the conditions that we not take any photos of the studios themselves and that I not get too specific when discussing the mountains of equipment on hand. A picture is worth a thousand words, so bear with me.

The Studio is located on the far West Side of midtown Manhattan in what was originally a Con Edison power plant. (It's no accident that it still *looks* like a Con Edison power plant.) Each of the building's five floors has 7,500 square feet of space, connected by a huge 21,000-pound-capacity freight elevator for trucks, cars, and equipment, and one regular elevator. The ground floor houses a parking lot and a fully equipped carpentry shop; the reception area and Studios A and B are on the first floor; on the second are several offices and Studio A's dome; on the third are Studio C, technical manager Ed Evans' workshop and lab, and more parking space that eventually may be converted into a video/film production area; living quarters for employees who burn the midnight oil are on the fourth floor.

The interior is uniformly functional and pleasant, but in no way plush or opulent. As Walters explained when he ushered me into his practical, slightly cluttered office, "We built the place to look good without being ostentatious. When you walk into the building and up the concrete entrance stairs, it's neutral and kind of industrial. You have no idea what you're walking into, and we wouldn't change that. Years ago when I was at Mediasound, Otto Preminger was there to do a soundtrack. One day he came into my office, which looked a lot like this one, to use my phone. He looked around the room, smiled, and then said in his thick accent, 'Very good. You are smart—you spend your money where you make it, and not in the office.' Well, that's been our basic approach here right down the line. We spend our money in the studio, where we make it, and not in the office."

Walters is a friendly, bearded man who says he was a musician long before he was a studio owner. "I play trumpet and sing and have been a bandleader for years. I stopped performing only recently; working at this place is so satisfying that I don't really miss it." Walters started in the studio business in 1969 when, along with a couple of partners, he founded Mediasound. That was also where he met Bongiovi. "We hired Tony on sight one day in 1970 when he walked in and asked for a job. He already had an incredible reputation, having engineered records for Motown when he was seventeen and later working at [New York's] Record Plant. Media had been a jingle studio mainly, though occasionally we would do a soundtrack. Two weeks after we hired Tony, the record business started coming in. He went on to train the other engineers how to make records."

One of his trainees was Bob Clearmountain, now one of the most respected audio engineers in the country. "Bob started as an assistant engineer at Media when he was nineteen," recalls Walters. "One day Tony was working on a Kool & the Gang album, and just as the mixing session was about to start he said, 'I don't think I'll mix today—Bob, you do it,' and Clearmountain, on his first solo flight, proceeded to mix a gold single."

So in 1976, when Walters and Bongiovi left Media to open their own studio, Clearmountain went with them, as did Ed Evans. "We were all eager to get the rock & roll business," says Walters. "We certainly knew we had the talent to start a business of our own." Clearmountain, who recorded mostly r&b at Media, was also eager to work with more rock acts. "I thought that by building a new studio, instead of having to break from a history of doing film scores and big r&b productions, we could start fresh and gather a rock clientele from scratch."

"When we found this building," continues Walters, "and worked out the financing to buy it, we decided to do everything ourselves. We immediately hired two carpenters, rather than go through the hassle of dealing with a contractor, and we still keep those carpenters on staff, full-time. Tony had been carrying around these ideas about studio design for years, so our method was that he would design the rooms, and then an architect would come in and draw up the plans for the carpenters to execute. We opened Studio A first, and B was finished

about a year later."

In the initial planning stages of Studio A, Bongiovi used a computer to figure out formulas for decay time and so forth. Then, when it came time to determine the actual shape and size of the room, he, together with Clearmountain and other staff members, laid out one-by-two-inch wooden boards on the floor and experimented with various configurations.

If not revolutionary, Bongiovi's design clearly is unique. Clearmountain and Walters both point to it as the primary reason for the studio's early acceptance by rock groups. In the '60s, many studios adopted a basic acoustic principle that went hand-in-hand with the growth of multitrack recording. The theory was, that in order for the engineer to have complete control over each track, particularly in the mixing process, it was necessary to record each track with its instrument(s) in complete isolation. Many studios therefore were built to be as absorptive as possible. A lot of good records have been made in these heavily padded, carpeted, baffled, "dead" rooms, so the theory is indeed workable. But it doesn't allow for one very important element: resonance. Any instrument, even a guitar amp, depends in part on what comes back off the walls to create its total sound. In the past few years, room sound and resonance and the ability to control them have become a major factor in studio design. The idea is not only to create a deeper sound for records, but also to give each musician the ability to hear his own sounds as he plays them—live.

"Basically," says Clearmountain, "this studio was designed with musicians in mind. For instance, Tony used to ask horn players what kind of acoustic environment they'd like to work in ideally. They would say things like, 'Such and such a studio is great, but it would be even better if it were a little brighter.' Those kinds of comments were taken into consideration, in detail."

What Bongiovi did was to elevate the concept of a "live" room to a very sophisticated, controllable level. "We built Studio A to be live," continues Clearmountain, "with the option to isolate very thoroughly, using sliding glass doors. They can create up to three different subrooms within the studio, and two isolation booths. The way Tony planned it, the room actually gets more live-sounding the higher up you go. There are two mikes mounted on a motorized winch in the room's dome; you can move them up and down. I can close-mike a snare drum, say, on the floor and get a very tight sound. Then I can also use those ambience mikes in the dome; the farther up I take them on the winch, the more reflective and bright the sound gets. The wood slats higher up are treated with more coats of polyurethane. We varied the walls' reflectivity by altering the amount of space between the wood slats—the farther apart the slats, the more absorptive the surface.

"On rock sessions, I'll often put the drums in the middle of the room and utilize the miking options I've just mentioned. I'll put the other instruments in the glassed-in areas. That way, I can really get a big drum sound without having to worry about leakage to other tracks."

Clearmountain and I talked in a third-floor office crammed with reels and reels of master tape. When asked, he explained that his latest project was to weed through sixty-odd tapes of Rolling Stones concerts he had recorded when he was on the road with the band last year. He showed me a list of fourteen songs taken from the fourteen shows, cross-indexed with comments on each track (e.g., "Mick's vocal fuzzed out"). "We've narrowed it down to ten song versions now," he says. "For two weeks or so I just listened, mostly in Studio C, mostly alone, sorting through them." Once he had picked the best takes, it was time to do some overdubbing with the band. "It's hard to get those guys in the studio during the day," he continues, "and Billy Squier and Dire Straits had two of the rooms block-booked at night, with various clients using the third studio. So when I could, I'd just grab Studio B at night and get Keith [Richards] in for his little overdubs. Actually, there weren't that many to do. We used almost all of Mick's vocals intact, except for one or two places where his wireless mike blanked out onstage. We didn't even have to add applause—it fell in the right places. So this really is a live album, which makes me happy."

Of course, the Power Station didn't develop their stellar rock clientele overnight. How did it happen? "Before the place even opened," Clearmountain explains, "I was a big fan of a band called the Tuff Darts, one of the first New York punk groups. Robert Gordon was the original lead singer. When they signed to Sire Records, what with Tony and Bob knowing the label people and me being friends with the band, they decided to record here. Ian Hunter was also pals with them, and he came in to play some solos on their album.

"Ian really liked the studio; he even liked the fact that the place wasn't finished yet. There was still plasterboard on the walls, blankets over the door wells, and big space heaters for warmth in the dead of winter. He ended up recording his LP "You're Never Alone with a Schizophrenic" here, with the E Street Band as his backing group. They were impressed—especially [drummer] Max Weinberg and [pianist] Roy Bittan—so they went back and told Springsteen he should check it out."

When Bruce Springsteen came in to try cutting a song, he got his drum sounds in an hour, and reportedly quipped, "It took three months at the last place I worked at." He has recorded at the Power Station ever since. Clearmountain asserts that this kind of efficiency is no accident: the engineers have been trained, he says, "not to burden the musicians with things like getting the right sounds on their instruments" for recording. "If they have to spend hours and hours doing that, how are they going to feel like playing anything? I come in before a session and tune the drums myself. I have my own snare drum here, which I prefer drummers use. I'll get all the drum heads tuned the way I like them, then when the drummer comes in, we'll talk about it, he'll play them, and if he doesn't like something we'll both work on it."

Clearmountain weeds through the Stones

The Power Station's high efficiency factor is not the sole province of its engineers, and all of them credit maintenance chief Ed Evans for keeping the equipment in top working form and for continuously improving in-studio service. One of his latest innovations is the small direct box built into each control room's producer's desk. This way, a bassist or synthesizer player, for instance, can record an overdub live in the control room without any repatching or additional set-up time. Evans is also working on a headphone monitoring system that would enable each musician to control not only the volume of his own cue mix, but also his instruments' tone and volume independent of the rest of the mix. All of this, says Clearmountain, is just a matter of "keeping hip to what the musicians want, rather than what the engineers want. Although I must say that being an engineer, I couldn't be happier working here."

For engineer Larry Alexander, the

Engineer Neil Dorfsman with Knopfler

Class photo: assistant engineers Gary Rindfuss, Malcolm Pollock, and Josh Abbey (standing); pianist Doug Katsouris. Corsaro, engineer Larry Alexander.

road to the Power Station was a bit more circuitous than it was for Clearmountain. In the '70s he had engineered at several studios, including Phil Ramone's A&R Recording [see BACKBEAT, April]. One day late in '77, he got a call from the Power Station to program some synthesizer sounds for a record date with Clearmountain at the board. Apparently, it was love at first sound. "I was sitting there waiting to do my overdub," he recalls, "and between Bob's mixing and the overall feeling of the room, I realized that I wouldn't have changed one thing about the way things sounded." Through persistence and a very short internship as an assistant, he eventually landed a full-time job at the studio, where he has since engineered albums for Diana Ross and David Bowie, among many others. We sat and talked in a lounge across from Studio A, where Mark Knopfler of Dire Straits was warming up for his session that was about to begin. "That room," says Larry, "gets a lot of comment from producers and artists—David Bowie said it reminded him of a Swiss chalet—and its sound characteristics lend themselves to all kinds of experimentation. On Bowie's "Scary Monsters" album, producer Tony Visconti would sometimes have me turn the drum mikes way down, boost the room mikes, and then flange the combined sound electronically.

"Another thing producers like," he continues, "is the studio's reliability. All three control rooms are the same size and layout, within a fraction of an inch. And they all have special Pultec tube equalizers fitted for each track of each mixing console. Plus, we can run the entire tape through the Pultec tubes without putting any specific EQ—highs or lows, in other words—on any track or sound. This allows the option of giving the entire recording that warm, tube-electronics sound the Pultecs have without really adding EQ. We have a new board upstairs in Studio C, a forty-eight-track Solid State Logic. We outfitted it with equalizers similar to the Pultecs because when we ran drum sounds comparing the Pultecs with the new board's equalizers, we found the modern ones sounded almost too perfect. So we modified a new, half-million-dollar board, since we thought the tube distortion sounded better.

"Right now," says Larry, "Studio C is a little like a smaller version of A. We're taking a lot of time to get it right. Tony's working with different wall treatments, first getting feedback from musicians, then applying more shellac or covering up more canvas with soft wood and no shellac. The various combinations are designed to do things like change the highs or lows or the decay time. But the control rooms are all consistent with each other."

I asked Clearmountain about the control rooms' design. "Without giving away any of Tony's secrets," he said, "I can say there's little or no concrete used in the control rooms, so the bass, which is usually the biggest problem in getting the sound right, doesn't reflect at all—it just keeps going through the walls without coming back."

Steve Burgh has produced a fairly wide range of artists at the Power Station and will undoubtedly continue to do so, given his high esteem for it. "Even though it's a relatively expensive studio," he says, "it's so efficient and complete that you can actually save money. They have every conceivable piece of outboard equipment stocked in all three rooms, so you never have to rent anything from outside. And the entire staff, especially the assistant engineers, is so efficient that you never waste time: With a good studio drummer, I can get a drum sound in twenty minutes. At the same time, the atmosphere is really relaxed. I once walked into the reception area and found Springsteen and Forbert, who were recording in different rooms, jamming together on acoustic guitars, totally uninhibited and unbothered.

"But ultimately," Burgh continues, "it's the sound of the place that's so amazing. The way it sounds over the speakers, when you know the music is cooking, is the way it sounds on the cassette copy I bring home to study at night, which is also the way it prints when I take it to be mastered. It's just a really good, live-sounding studio, all the time, right down the line."

Yet even though the Power Station has emerged as one of the most important recording studios in the world, Bob Walters assured me that "there will never be an attitude of complacency here. All our engineers—Bob, Larry, Neil Dorfsman, Bill Scheniman, and James Farber—have been here awhile and are still *excited* about being here. So am I. When we all stop being in awe of what we have, when we stop being as concerned about dust in the corners as malfunctioning machinery, we're out of business." Somehow, after seeing the place in action, that doesn't seem at all feasible. For as long as there's a record business, you can bet that those hits will keep on pumping right out of the Power Station and onto the airwaves. **HF**

Reviews

Elton and Paul Redux

LINDA McCARTNEY

Reviewed by Sam Sutherland

Elton John: Jump Up!
Chris Thomas, producer
Geffen GHS 2013
Paul McCartney: Tug of War
George Martin, producer
Columbia TC 37462

IT WOULD BE GRATIFYING enough if either Paul McCartney or Elton John could overturn expectation to regain the power of their earlier work, so the virtually simultaneous arrival of strong new records from both offers one of the year's nicer surprises. That coincidence is reinforced by elements, musical and otherwise, that point up the shared sensibilities between the '60s superstar and a '70s successor who came closest to matching the Beatles' popular success.

Both McCartney and John have long displayed a similar penchant for fusing ebullient rock and r&b sources with a lush pop classicism and spicing the mix with traces of more exotic fare like reggae and African high life. Recently, both have faced charges that their music has become insular and shallow; attempts by each to tackle newer styles (as on McCartney's experimental one-man confection, "McCartney II," or John's late '70s forays into pure disco) merely squandered their popularity without creating any durable work in the process.

Thus, it isn't surprising that their twin triumphs here are rooted in conservative reassessments of their best past traits. By shelving Wings and reuniting with producer George Martin (in their first complete album collaboration since the Beatles), McCartney exploits the advantages of a rotating group of players to yield spacious, lyrical pop/rock that recalls his work on "Abbey Road" and his own "Band on the Run," tapping symphonic punctuation and studio effects to dramatize his songs.

John's approach is somewhat different, but likewise points directly to his work of a decade ago. In his second pairing with producer Chris Thomas, John reassembles the compact, piano-dominated ensemble sound that provided the core for his best records. Like McCartney, he couples that revived attack to a set of songs showcasing his familiar melodic strengths: Brisk, riff-laden rock (the deft *Dear John*, a joyful kiss-off to a lover), neo-soul music (*Spiteful Child* and *Where Have All the Good Times Gone*), country inflection (*Ball & Chain*), and pop romanticism (*Legal Boys* and *Blue Eyes*) all coexist handsomely.

McCartney's music here reaches for more portentous influences, with Martin's hand as coarranger showing clearly. Stately horn fanfares (on *Wanderlust* and *The Pound Is Sinking*), string quartet (*Here Today*), and orchestra (the title song) are mustered at various points. The only striking departure from prior solo and Beatles arrangements is a percolating pop/funk duet with Stevie Wonder, *What's That You're Doing?*

McCartney's thematic concerns are equally ambitious, as well as being more introspective than most of his recent work. That isn't entirely good news, since he has never been as engaging a lyricist as he is a composer: Coy wordplay too often lapses into mere fuzziness. John, by contrast, proves sharper if only due to the wise modesty of his concentration on familiar romantic topics.

The death of John Lennon clearly affected both artists deeply, not least of all because of their respective friendships with him. Curiously, while John's closeness was the more recent (they paired on record several times in the mid-'70s), he elects to comment on Lennon's passing with a formal, symbolic elegy, *Empty Garden*. It is McCartney who offers the more personal, intimate message (due in part to their publicized estrangement), sidestepping the tragedy of Lennon's murder to address the private bond between the two old friends. As such, his *Here Today* is deeply moving, transforming his frequently mawkish sentimentality into true emotion.

Neither album is a grand statement, although "Tug of War" clearly attempts to be. Both, however, are rich pop works and heartening returns to form for two veteran performers some fans had long ago written off. **HF**

Joe "King" Carrasco & the Crowns: Synapse Gap (Mundo Total)
Tony Ferguson, producer
MCA 5308

Will upward mobility spoil Joe "King" Carrasco? Can a major label deal, a Hollywood recording session, or garish album graphics neutralize the personality of a guy who ran naked across the stage at a recent Go-Go's concert? Will the Pinky Lee of Tex-Mex rock & roll grow up bland, or will he stay absurd? The jury is still out, but the evidence of "Synapse Gap (Mundo Total)" is not exactly encouraging. For the most part, all the elements that have made Carrasco's sound such a mad mélange are still in place: Kris Cummings' cheesy organ playing, Carrasco's peppery singing. Still, the album doesn't approach the manic, cross-cultural heights Carrasco is capable of reaching.

Some cuts try to capture his patented spirit (*That's the Love*, *Where We At*, *Front Me Some Love*); others go farther afield into reggae (*Rip It Up*, *Shake It Up*, *Go Go*, *Don't Let a Woman Make a Fool Out of You*); others venture into the early-'60s instrumental combo sound (*Person-Person*

resembles the B-52's as well as bands in the Ventures mode). But the hodgepodge drags. Carrasco tries to perk things up with his "ai-ai-ai" Mexicali trilling, and Cummings' keyboard playing is always brisk, but "Synapse Gap" suffers from too much polish and not enough of Carrasco's spontaneous, one-take quality.

His delightful 1978 debut with the horn-dominated El Molino band and his frenzied 1980 LP with the Crowns were ideal party music: loose, giddy, predictable. There are some enjoyable tracks here (*Person-Person*, *Imitation Class*), but you never are convinced that he is having a good time; he seems to yelp on cue, and there's an academic feeling to the combination of mariachi rhythms and bubblegum pop. Tony Ferguson is credited as the album's producer, but for the suppressive effect he has had on Carrasco's rowdy behavior, he could just as easily be called a chaperon.

MITCHELL COHEN

EBET ROBERTS

Carrasco: The jury is still out.

Johnny Cash, Jerry Lee Lewis, Carl Perkins: The Survivors

Lou Robin & Rodney Crowell, producers. Columbia FC 37961

Every quarter-century or so, the original rockabillys from Sun Records get together and sing *Peace in the Valley*. The first time was in 1956, when Elvis Presley wandered into a Carl Perkins recording session at which Jerry Lee Lewis was playing piano and Johnny Cash happened to be hanging around. The most recent reunion was at a 1981 Cash concert in West Germany, where Lewis and Perkins joined Cash on stage. "The Survivors" documents that event and, like the other Memphis powwow, becomes a session on the subject of piety. The only songs all three sing together are inspirational: *Can the Circle Be Unbroken*, *I Saw the Light*, *I'll Fly Away*, and of course, *There Will Be Peace in the Valley for Me*, dedicated to Presley, who sang lead on that song at the '56 session.

There's more to "The Survivors" than spiritual togetherness. Each survivor—the abused term is not inapplicable in this case, since booze, pills, and/or disease almost destroyed them—sings two solo numbers, and Cash and Perkins have a pair of country duets. Cash does steady-rocking readings of an early hit *Get Rhythm* and *I Forgot to Remember to Forget* (which Elvis cut in '55 at Sun); Perkins takes his turn on *Matchbox* and the inevitable *Blue Suede Shoes*. They're both pros, but Lewis is the last great '50s rock & roller, and while he sounds more fragile than usual on this set, his flamboyance carries the day.

Lewis does two of his themes, *Whole Lotta Shakin' Goin' On* and *Rockin' My Life Away*. Neither is an essential rendering; he really builds up steam on the trio performances. Even when he's singing God's praises, he can't keep the showboat out of his voice or echoes of the whorehouse out of his piano. When he sings "the night is as dark as the sea," you know it's a night he has seen, and when he breaks Hank Williams' *I Saw the Light* wide open with a jumping piano solo, he doesn't have to utter a word to take over.

Much of the singing and playing on "The Survivors" is ragged, befitting the unrehearsed circumstances; Rodney Crowell, Cash's son-in-law, deserves a lot of credit for snipping, patching, and mixing the show into a solid album. There's something moving about these three men celebrating their own endurance and mourning, explicitly and by implication, those who didn't endure. In 1956, the year of *I Walk the Line*, *Heartbreak Hotel*, and *Blue Suede Shoes*, the "Million Dollar Quartet" sat around a piano and sang songs like *Blessed Jesus Hold My Hand*. Twenty-five years down the line, they're still at it.

MITCHELL COHEN

Original Soundtrack: Cat People

Giorgio Moroder, producer
Backstreet BSR 6107

In revamping the 1942 fantasy classic *Cat People* into "an erotic fantasy about the animal in us all," writer/director Paul Schrader has touched off divided feelings. He seems to have a penchant for injecting Grand Guignol elements of horrific spectacle into virtually every script he fashions. No such charges of exaggeration can be leveled against the film's music, however: In his second film collaboration with Schrader, Giorgio Moroder turns in one of his most effective scores to date. On it, he returns to the more unified synthesizer ensemble approach he used for *Midnight Express* but has since diluted through too much emphasis on creating recognizable pop singles for radio exposure (e.g., his scores for *Foxes* and *American Gigolo*).

"Cat People" isn't entirely instrumental—the title theme may be David Bowie's most accessible vocal performance in several years. In contrast to the subtler, more convoluted effects and arrangements Bowie has utilized on his own records, Moroder frames the singer's deeply melodic verses and howling chorus readings with a more stripped-down, conventionally rhythmic rock band.

The collaboration is distinctive thanks to Bowie's remarkably concise condensation of the film's basic supernatural premise into a haunting confession of sexual longing elevated to mythic proportions. In the song's brooding opening, Bowie's subdued baritone prowls with stately menace against ethereal synthesizer and softly insistent tabla. The piece goes on to replicate the film's central image of horrific transformations as its narrator explodes into the chorus against snarling, hissing guitars and synthesizer effects.

Moroder's work is laudable for that performance alone, but the real strength of the score is the way it provides a unifying atmosphere for the film. Granted, that pushes the composer to some heavier-handed shock effects. (*The Autopsy* is programmatic in its use of sudden dissonances and dramatic shifts in dynamic perspective; a slice of chase music is just that.) But there are some well-rounded, piquant themes at work here, particularly that accorded to Irena, the feline "love" interest. And the sinister theme—subtitled *Putting Out Fires*—is intelligently interwoven into several other score segments.

SAM SUTHERLAND

David Lasley: Missin' Twenty Grand

David Lasley, Willie Wilcox, & Joe Wissert, producers
EMI/America ST 17066

Within the industry, David Lasley has made a name for himself as a session singer, vocal arranger, and songwriter. "Missin' Twenty Grand," his first solo outing, is noteworthy in much the same way that Rickie Lee Jones's debut was, because it combines a high level of vocal and compositional craftsmanship with a very personal approach. Lasley is from Detroit and got his start singing professionally there during the height of the Motown explosion. The LP's title alludes to that city's—and the era's—most popular soul nightclub, the Twenty Grand.

Though Lasley may indeed "miss" the good old days, he is very much a contemporary pop artist who, like James Taylor and Bonnie Raitt (both of whom sing

backup here), has been profoundly influenced by black music. *Treat Willie Good* rolls along on a good-time, shuffle beat behind Jerry Hey's lush horn arrangements, as the singer advises a female friend about how to keep her man. *On Third Street* directly recalls Lasley's youth with such lines as "lost my britches on Third Street, cop skips his beat on Third Street," and his incredibly precise falsetto paints the song's dreamlike images with easy believability. On David Loggins and Randy Goodrum's *If I Had My Wish Tonight*, which is somewhat in the Bee Gees' melodic mold, Lasley's impassioned voice draws out the vowels of the lyrics to attain an expressive range far beyond that of the brothers Gibb.

"Missin' Twenty Grand" is not a masterpiece. Some of the material seems lacking; *Roommate*, for instance, has an ominous reggae flavor that overreaches the story of roommates who don't get along. And the mix sometimes suffers from a diaphanousness, where one wishes the drums would cut through the strings and piano more potently. But these are slight flaws in an otherwise impressive, panoramic debut. CRISPIN CIOE

The Motels: All Four One
Val Garay, producer
Capitol ST 12177

Folks in the L. A. rock community have been predicting great things for Martha Davis and the Motels, ever since the group was first granted a recording contract in the flurry of signings that followed the Knack's platinum debut. On both their first disc and the followup, "Careful," lead singer/songwriter Davis and her band fashioned a sound that mixed the moody dramatics of the Doors with the brainy nervousness of Talking Heads and threw in a dash of Lotte Lenya for good measure.

In light of the Motels' previous work, "All Four One"—which was entirely re-recorded after Capitol executives declared the first version was devoid of singles—is a major disappointment. Under Val (Kim Carnes, Kenny Rogers) Garay's slicked-up production, the smokey ambience and tension that once permeated their music has been supplanted with a nondescript rock approach. And Davis' torchy punk tunes, rife with allusions to drinks, drugs, and desolate romance, lack the fired-up urgency of earlier compositions like *Danger* and *Cry Baby*.

Part of the problem could be the departure of Tim McGovern, whose taut, reckless guitar infused "Careful" with a shadowy, on-edge tone. Replacing him is Guy Perry, a mainstream rock axe man late of New York's Elephant's Memory. But even the three remaining Motels—keyboard and sax man Marty Jourard, bassist Michael Goodroe, and drummer Brian Glascock—have had their roles diminished by Garay, who brought in most of Kim Carnes's band (Waddy Wachtel, Bryan Garofalo, Craig Hull) to gussy things up.

Still, all is not lost: *Take the L* ("take the L out of lover and it's over") boasts some suitably spooky keyboards and thumping drum work; Davis' *Only the Lonely* is a pretty, downbeat tune (no relation to Roy Orbison's), sporting a jazzy sax break by Jourard; *Change My Mind*, for all its Billie Holiday/Rickie Lee Jones cocktail lounge mannerisms, is a heartfelt ballad about the impermanence of love; and the cover of the Phil Spector sickie *He Hit Me (and It Felt like a Kiss)*, while not as good as the original Crystals' single, still indicates a healthy, demented streak of bad taste on Davis' part.

It's too early to tell if Garay's Motels clean-up will pay off in terms of big hits and big bucks, but even if it does "All Four One" remains a compromised, lackluster collection. It leaves you wondering what the original "All Four One," now gathering dust in some studio vault, sounds like. Odds are, it's better than this. STEVEN X. REA


RON SLENZAK

Rock & roll talent Terry Scott: a shake-up for FM radio's playlist

Mike Oldfield: Five Miles Out
Mike Oldfield, producer
Virgin/Epic ARE 37983

The man responsible for the fifty-minute electronic hippie symphony "Tubular Bells" is back again. This time, Mike Oldfield's record is called "Five Miles Out," and it sticks pretty much to the tried-and-true formula of its six predecessors. Side 1, titled *Taurus II*, is a swirling twenty-five-minute's worth of bouncy, busy instrumental music. Side 2 has four tunes: *Family Man*, a spacey rock effort; *Orabidoo*, with music-box chimes and nursery-room ambience; a sort of Anglo-Peruvian ditty (complete with flutes, recorders, and percussion) called *Mount Teidi*; and the title track, which is based on Oldfield's near-disastrous experience copiloting a plane over the Pyrenees in a violent storm.

Part of the multi-instrumentalist's charm—and Oldfield's music can be charming—comes from his decidedly out-of-fashion instincts. Here we are in the Eighties, with most British bands marching to a stark Teutonic synthesizer beat, and Oldfield is still dallying with strings and cymbals and zithers, mucking around with syrupy melodies and overblown arrangements.

Oldfield gets away with all this because he's so doggedly *into* it; his compositions consist of layer upon layer of intricately worked out musical bits, each painstakingly mixed together into an unabashedly grandiose whole. The inside cover of "Five Miles Out" sports a reproduction of the studio track sheet for *Taurus II*—a beginning-to-end documentation of every sound on every one of the piece's twenty-four tracks. A partial list of said ingredients includes Uileann pipes (courtesy of the Chieftains' Paddy Moloney), brass, strings, flute, banjo, bodhran, trombone, oboe, Hammond Prophet organ, vocoder, choir, vibraphone, not to mention a spate of guitars (played by Oldfield and Rick Fenn), percussion (Morris Pert), and more keyboards (Oldfield and Tim Cross). In the midst of this aural tempest, Oldfield plops a short lullaby titled *The Deep Deep Sound*, sung in an angelic timbre by Maggie Reilly.

It's doubtful that anyone will be listening to Oldfield's music one hundred years from now. Stripped of their multiple layers and elaborate arrangements, his compositions are little more than catchy commercial fodder; they don't seem to have enough of an emotional edge or depth to warrant continued listening. But played occasionally, when one's puttering around the house with nothing much to do, Oldfield's musical meanderings can create a mood that's peaceful and sublime. STEVEN X. REA

Terry Scott
Hank Medress & Dave Appell, producers. Elektra E 1-60014

It has been awhile since a black musician made it big in the world of hard rock & roll. Unfortunately, American FM rock radio adheres fairly strictly to white rock acts, and record companies follow radio's needs.

EBET ROBERTS

Split Enz: a fondness for the absurd

Yet no one can deny that rock as we know it today exists in part because of players like Chuck Berry, Bo Diddley, and Jimi Hendrix.

All of this makes singer/songwriter/guitarist Terry Scott's eponymous debut especially gratifying. This is a talented black musician who is thoroughly committed to rocking out. His playing is grounded in the styles of Jimmy Page, Clapton, and Hendrix, and he sings in a clear, expressive, Stevie Wonder-influenced style. As a writer, his songs here are fairly evenly divided between message songs and those that deal in love affairs. Of the former, *In Your Life* is the most convincing. A grim warning about the future effects of one's present actions, it combines biting lyrics with twisting, delicately interlocking guitar and keyboard lines.

Scott's four-man band works fine, although at times one wishes the producer had captured more bombastic sounds from drummer Nelson Jenkins. The group clicks best on the straight-ahead rockers, sounding like an '80s version of crunching, late-'60s hard rock. One of the best examples of this is *Over and Over*, which slips easily between a pile-driving verse and the chiming, anthemic half-time chorus; the lyrics' obsession with love gone bad are deftly framed in a landscape of shifting power chords. Scott shows a good deal of talent here; given the right production setting, he may yet emerge as a strong new voice in mainstream rock. CRISPIN CIOE

Split Enz: Time and Tide
Split Enz & Hugh Padgham, producers. A&M SP 4894

"Let's get into the swing of things, let's continue the downward trend." So chirps Tim Finn with incongruous zest in a typical moment on the new Split Enz album. While that pronouncement certainly captures a global mood, it in no way describes the direction of this New Zealand ensemble. Such glib contradictions (from *Never Ceases to Amaze Me*) typify the band's admirable skill at—and continuing success from—mixing the cynical with the ingenuous to an infectious beat.

Like its predecessors, "True Colours" and "Waiata," "Time and Tide" applies the group's early eclecticism to a more disciplined, post-new wave pop style. Melodic warmth remains intact, even amid intricate counter-rhythms, synthesizers, and special effects used to conjure up the sometimes cartoon-sized heroes and villains. The arrangements here cover a wide spectrum of generic references, yet Neil and Tim Finn's writing style remains sharply defined. Their loosely conceptual framework—mirrored in the album's title—is filled with fables of discovery whose sense of scope slip from epic tableau to intimate vignette in the wink of an eye.

The writers' fondness for the absurd and for slightly phantasmagorical images is reflected in the set's array of horror stories (*Dirty Creature* and *Giant Heartbeat*) and personal histories (*Hello Sandy Allen*, about the world's tallest woman, and *Haul Away*). Throughout, kinetic rhythmic clockworks give the music a mysterious yet downright peppy drive.

These voyages are mostly ocean-bound—*Six Months in a Leaky Boat* appears on Side 2, after many references to setting sail on Side 1—but some are also interior journeys. *Haul Away*, perhaps the most hypnotic and certainly the most personal song, combines Celtic folk and psychedelic rock to color its singer's life resume, which candidly outlines growing up absurd in private schools, escaping to the brave new world of rock, and finally teetering on the brink of nervous collapse.

Such psychodrama, along with Side 1's more fantastic, threatening moments, might imply a grim self-indulgence, but the band's musical verve and humor are saving constants. This is modern rock for those who can dance, sing, and chew gum all at the same time. SAM SUTHERLAND

The Temptations: Reunion
Rick James, Barrett Strong, Iris Gordy, Berry Gordy, Ron Miller, & Smokey Robinson, producers. Gordy 6008GL

The news that Eddie Kendricks and David Ruffin would rejoin the Temptations brought high expectations for this classic vocal ensemble's new album—its second since returning to Motown, the label that fostered its '60s and early '70s hits. Unlike its labelmates, the group had always sidestepped the usual lead-voice dominance, relying instead on the greater range afforded by alternating soloists. Still, Kendricks and Ruffin had become identified as the Temps' strongest assets. For many fans, their return—along with the renewed creative interest of label founder Berry Gordy—signaled a potential reconstruction of the hitmaking strategy of Motown's halcyon days.

That strategy is indeed at work here; Gordy has returned to a production approach common in Motown's middle years, one that reinforces individual performances. But on "Reunion" that creates frustrating barriers to any sense of coherence. The chairman's late '60s ploy of allowing multiple producers to work with the same act, with the aim of releasing only the best from each collaboration, may have fostered a certain healthy internal competition. He usually allowed only the most effective team to complete an entire LP. Yet here, as on a number of the label's recent top-priority projects, there is a round-robin of studio partnerships. The result is a composite.

As such, this reunion suffers from a split personality that might reap the hoped-for single hits, but translates into a garbled identity for the group. Rick James repays the Temps for their guest shot on his "Super Freak" by giving them *Standing on the Top*, an extended funk workout (what else) that tries to meld some caustic observations on success with a more routine advertisement for funk itself. That tack simply doesn't mesh with the grab bag of pop ballads (*I've Never Been to Me*, a cover of the five-year-old Charlene single that has recently returned from total obscurity) and uptempo, melodic r&b.

All of which is particularly frustrating because the committee approach has indeed turned up some attractive performances, especially those produced by Smokey Robinson and by Gordy. Kendricks, Ruffin, Dennis Edwards, and Otis Williams all shine vocally, as do the other three members, when given the right material. That includes Robinson's *More on the Inside*, which utilizes one of Smokey's familiar lyric paradoxes, and one of Gordy's choices, *Money's Hard to Get*. SAM SUTHERLAND

Deniece Williams: Niecy
Deniece Williams & Thom Bell, producers. ARC/Columbia FC 37952

Deniece Williams' career has included extensive album backup vocal work (for Stevie Wonder among many others), several solo recordings, and some duet outings with Johnny Mathis. Last year she hooked up with Thom Bell, the near-legendary Philadelphia soul producer, and the collaboration yielded a hit album ("My Melody") and single (the lovely waltz-ballad *Silly*). Their second album together reveals an even greater affinity for each other's artistic strengths. Bell's work in the '70s with such artists as the Spinners, the Stylistics, and Elton John were distinctly Bell productions. But Williams has a strong artistic direction of her own, and for the most part

(Continued on page 80)

Jazz

The Art Ensemble of Chicago: Urban Bushmen
Manfred Eicher, producer
ECM2-1211 (two discs)

The Art Ensemble of Chicago's recent recordings have been uneven—brilliantly creative one time, strangely bland the next. One wonders whether the Sixties-based philosophies behind the group's music have become irrelevant in a Reagan-ized decade, whether the Ensemble has, in fact, begun to run out of juice.

This new, two-disc set doesn't really answer the questions. Individually, Lester Bowie, Joseph Jarman, Roscoe Mitchell, et al. are as superbly creative as ever. Each has established a standard on his instrument that has had major impact on younger players. But the group is only intermittently cohesive. Rarely does one hear the kind of sheer tribal passion exhibited by, say, the Sun Ra Solar Arkestra in its better moments. Since the very core of this music is the creation of a seminal encounter between performer and audience, the failure to generate a collective interaction causes, for this listener, some real problems.

The Art Ensemble is a performing group first, and only incidentally a recording unit. There's no doubt that a concert disc like this one (from May 1980) is the best way to hear them. And there are moments in *Ancestral Meditation* and *Bush Magic* that will come close to turning your head around. Ultimately, however, "Urban Bushmen" comes across as the *chronicle* of an encounter between performers and audience rather than as the event itself. The moments in which the Ensemble breaks down the implicit barrier of the recorded disc are simply not frequent enough to satisfy even this receptive listener.

DON HECKMAN

Terry Gibbs/Buddy de Franco: Jazz Party—First Time Together
Herb Wong, producer
Palo Alto Jazz PA 8011

This album brings together two stars of the bebop era, both of whom have been somewhat isolated from the jazz mainstream for the past thirty years. Buddy de Franco and Terry Gibbs began playing together just two years ago, when they were booked separately into Ronnie Scott's club in London. They have since become to bebop what Benny Goodman and Lionel Hampton were to Swing. Each epitomizes the bop style on his instrument—De Franco on clarinet, Gibbs on vibes. They blend with and support each other beautifully, their fine ensemble sound owing a great deal to Gibbs's rhythmic stimulation.


TOM COPI

Gibbs and DeFranco: coupling fiery drive with cool technical prowess

De Franco's solo style—based on Charlie Parker's—is flowing and billowing, not as sharply accented as Parker's, and unlike any other contemporary clarinetist's. Both he and Gibbs are wild swingers, which they daringly establish by opening this, their first disc together, with a Goodman-Hampton specialty, *Air Mail Special*. Goodman and Hampton were pretty exuberant on this number, but De Franco and Gibbs outdo them, neither one ever sounding like his Swing-era counterpart.

A few cuts later they move into another G.-H. standard, a slow, melodically full *Body & Soul*. De Franco abandons the thin, skittering tone he uses in his boppish pieces in favor of a dark warmth that is pure low-register Goodman. Gibbs turns to the deliberate emphasis with which Hampton phrases his ballads. It's as if they decided to demonstrate that they know precisely where they are coming from.

This is a joyous and exciting album. With the fiery drive of Gibbs behind and beside him, De Franco's cool technical prowess is finally getting the hot foot it needs to reach a nontechnical audience.

JOHN S. WILSON

Bill Henderson: A Tribute to Johnny Mercer
Albert L. Marx, producer
Discovery DS 846

In February of 1981, Bill Henderson sang in New York for the first time in ten years, performing some Johnny Mercer songs at Michael's Pub. His month-long engagement was a tremendous success and, when he returned to California, he recorded part of the program for this album.

Henderson has been building a career as an actor in the past decade, and it shows in his singing. His precise enunciation makes every syllable full, ripe, and endowed with nuances of color. Since his acting guru was Bill Cosby, he often phrases and accents his lines with pure Cosby inflections. Both of these aspects come together in his touching, funny reading of *Hooray for Hollywood*. Rather than subjecting the song to the customary uptempo attack, Henderson takes it slow and reflectively, enabling Mercer's lyrics to shine—a chance they rarely get when buried under a hip-hip-hooray approach.

In fact, the rich quality of Henderson's voice, the way he rolls each syllable over his tongue, places all these songs in a fresh light. He is a thinking, creative, and imaginative singer with both taste and wit. As if all of that were not enough, he gets superb backing from Dave Mackay on electric piano and Joyce Collins on acoustic piano. Both work with him regularly, and their playing is as much a part of his performance as his own voice. Collins sings occasionally, contributing background color and even taking a solo on *I Thought About You*. Her sensitivity to vocal shading is as thoughtful as Henderson's.

JOHN S. WILSON

Dick Sudhalter and His Primus Inter Pares Jazz Ensemble: Friends with Pleasure
Richard Sudhalter, producer
Audiophile AP 159
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Dick Sudhalter is a difficult person to get a grip on. He spent eight years as a UPI news correspondent in Europe, during which time he also wrote one of the most complete and literate books on a jazz musician—Bix Beiderbecke—ever published. Then he came to New York as a jazz critic and started playing trumpet and flugelhorn in clubs around the city. This constituted a conflict of interest, one that Sudhalter was as aware of as anyone.

His way of working out the conflict has been to move more and more toward his music. His interest in Beiderbeck and Hoagy Carmichael resulted in a show called "Hoagy, Bix, and Wolfgang Beethoven

(Continued on page 82)

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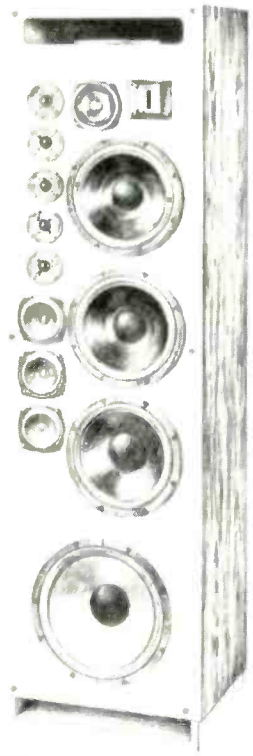

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BÖHM/STRAUSS

(Continued from page 47)

sleek interpretations usually kept a tight rein on the more impassioned moments. He also had an annoyingly keen ear that occasionally made him a tyrant in rehearsal—a reputation he did not deny: "I know no compromise in music. . . . I've always been extremely precise. I never allow my musicians the slightest margin for error—no cheating, no games, no half-measures." One musician at the Metropolitan Opera observed that not only could Böhm pick out the slightest intonational flaw, but he also constantly forced musicians to listen to each other, not to cover up one another. The musician added that Böhm had an almost architectural sense of pacing: "Under Böhm, we never went from moment to moment. In *Die Frau ohne Schatten*, for example, one always had the sense that as Böhm gave the downbeat, he had the final chord in his mind."

Although some of the most memorable moments of Strauss opera under Böhm took place in the opera house, we are fortunate that many of his commercial recordings are still available. Toward the end of his career, a Böhm-led Strauss performance in the house usually meant an all-star cast. However, some of his recordings, specifically *Salome* (DG 2707 052) and *Ariadne* (stereo version, DG, deleted) suffer from curious miscastings—most notably, Gwyneth Jones and Hildegard Hillebrecht in the respective title roles. Ironically, these two recordings offer some of the finest orchestral playing these operas have enjoyed—amazingly transparent and full of vitality.

Böhm's earliest commercial Strauss opera release was the mid-'50s vintage *Frau ohne Schatten* for London (Richmond 64503), featuring Leonie Rysanek as the Empress, Hans Hopf as the Emperor, Schoeffler as Barak, and Christl Goltz as his wife. This first recording of *Frau* stands among Böhm's finest releases.

A 1959 Rosenkavalier (DG, deleted) reunited the conductor with his Dresden Staatskapelle. Its highlight is the work of veteran Kurt Böhme as Baron Ochs. The rest of the cast is relatively strong, with a good performance of Octavian by Seefried, a somewhat less convincing Marschallin by Marianne Schech, an occasionally overdone Sophie by Rita Streich, and a very fine Faninal by Dietrich Fischer-Dieskau.

Two years later, DG released a top-flight first recording of *Elektra* with Böhm once again conducting the Dresden forces (2707 011). Inge Borkh gives a stunning performance in the title role—especially touching is her recognition-scene monologue—and Fischer-Dieskau gives breadth to the role of Orest. Schech and Jean Madeira sing the roles of Chrysothemis and Klytemnestra. Unforgivable, however, are the inexplicable cuts in the second Elektra-Chrysothemis dialogue and the Elektra-Orest scene—stage cuts that, according to Böhm, Strauss often sanctioned. Yet time and again, the composer stated that in principle he disapproved of all cuts in his music; only if absolutely necessary were some more conscionable than others.

To celebrate the 100th anniversary of Strauss's birth, DG issued a live recording of Böhm conducting *Daphne* in 1964 at the Theater an der Wien; out of the catalog for a number of years, it was recently reissued (Privilege 2726 090). Conducting the Vienna Symphony—unfortunately no match for that city's Philharmonic—he makes much of the orchestral playing sound like chamber music, and he has excellent voices at his disposal: Hilde Gueden as Daphne, James King as Apollo, and Fritz Wunderlich as the shepherd Leukippos.

Finally, in 1972, Böhm made his last Strauss opera recording, *Capriccio* (DG 2709 038), the composer's final opera. The Bavarian Radio Symphony plays superbly, especially in the moonlight music of the final scene. There really is no weak link in the cast: Gundula Janowitz as the Countess, Fischer-Dieskau as her brother the Count, Peter Schreier as Flamand, Hermann Prey as Olivier, Tatiana Troyanos as Clairon, and Karl Ridderbusch as the Director.

In addition to the 1944 *Ariadne* reissue, Acanta has released a two-disc Böhm/Strauss retrospective under the rubric "*Dokumente eines Künstlerlebens*" (23 280). Most of the selections—from *Frau ohne Schatten*, *Daphne*, *Salome*, *Capriccio*, *Arabella*, and *Ariadne*—were recorded in the '40s. The exception involves two excerpts from *Daphne* recorded in 1938 shortly after the premiere in Dresden, with the same singers—Margarete Teschemacher as Daphne and Torsten Ralf as Apollo.

A continuing series of releases entitled "Böhm in Dresden," in Vol. 4 (EMI Electrola 137-53514/9), documents his opera conducting and includes some of the Dresden selections also on Acanta (*Salome* and *Daphne*), plus two Sophie-Octavian duets and the Act III waltz sequence from *Rosenkavalier*, and the transformation scene from *Daphne*, taken from the 1938 recording session.

To cap a conducting career of more than sixty years, it was somehow fitting that Böhm's final project—two months before his death—should have been a Strauss opera, a taping of *Elektra* for German television. Although he finished it, he had, in fact, suffered a small stroke during one of the sessions. He chose to record the work with his favorite orchestra, the Vienna Philharmonic, to which he has given all his Strauss manuscripts. Shortly before his death, Böhm recalled the final session: "When I recorded *Elektra* as a trembling old man, I went to the podium and said, 'Look at me, I'm an old man. This is probably the last time I'll be able to stand before you. Please help me to make a happy end of it.' They played, my God how they played." **HF**

TWO *TRISTANS*

(Continued from page 49)

sweat, and dedication into playing the difficult music—but the fact remains that it isn't a world-class ensemble. Solos are insecure (e.g., the viola just before Brangäne's "*dem hehrsten Trank*" in Act I, and also in the Act III Prelude), balances are off (the horns do not always play softly enough), general intonation is imprecise (the rising cello lines in the introduction to Act II, or the strings at "*Lausch', Geliebter*" in the love duet). Undoubtedly the studio conditions have enabled Goodall to get more precision than in the live-performance *Ring* recordings, which is all to the good. Unfortunately, it's inherent in the nature of recordings that imperfections of detail become increasingly distracting on repeated hearings, however remarkable the performance may be in terms of its original context.

The digital recording presents a resonant but not very warm sound, not much like an opera-house perspective; as noted, the singers are to the fore, but when they move away (as the Shepherd in Act III), they sound as if they go into a different kind of space, more churchlike in its audible aspect. The side breaks, about as well chosen as possible in this remarkably seamless score, were obviously planned in advance, for some of them entail the disentanglement of textural overlaps. From the markings in the libretto (with Lionel Salter's excellent translation, once again), the cassette version [not yet available domestically—Ed.], with only a single break in each act, will have advantages in continuity.

Ultimately, the chief value of this recording lies in Goodall's interpretation; even before the arrival of its imminent competitors, it is not easily recommendable as the single recording of choice (though I prefer it in spirit, if not always in detail, to the chilly Karajan, Angel SEL 3777, or the frenetic Solti, London OSA 1502), but its central distinction ensures that it will always be worth hearing by any serious student of Wagner's great work. **HF**

WAGNER: Tristan und Isolde.

CAST:	
Isolde	Linda Esther Gray (s)
Brangäne	Anne Wilkens (ms)
Tristan	John Mitchinson (t)
Young Sailor	John Harris (t)
A Shepherd	Arthur Davies (t)
Kurwenal	Phillip Joll (b)
Melot	Nicholas Folwell (b)
King Mark	Gwynne Howell (bs)
Helmsman	Geoffrey Moses (bs)

Welsh National Opera Chorus and Orchestra, Reginald Goodall, cond. [Andrew Cornall and Michael Haas, prod.] LONDON LDR 75001, $64.90 (digital recording; five discs, manual sequence).

HENZE: Tristan.

Homero Francesch, piano; Cologne Radio Symphony Orchestra, Hans Werner Henze, cond. [Otto Nielen, prod.] DEUTSCHE GRAMMOPHON 2530 834, $10.98.

ALKAN

(Continued from page 51)

shaped, and the piano part is as wild as almost anything in the Op. 39 Études. Like the rest of his music, the cello sonata was rarely if ever performed during Alkan's lifetime after the premiere, and it took an English scholar and Alkan enthusiast, Hugh MacDonald (who wrote the Alkan entry in the *New Grove*), to bring it back to life by editing a new edition, which the German publishing firm Bärenreiter brought out in 1975. That led to the sonata's first modern performance, by cellist Timothy Eddy and pianist Raymond Lewenthal in December 1975. Since then, there have been few if any live performances; this is (to appropriate Sacheverell Sitwell's description of the concerto for solo piano) "a monumental work, to which the notice 'Keep Out' is applicable where the unwary amateur is concerned."

Fortunately, cellist Yehuda Hanani and pianist Edward Auer are anything but "unwary amateurs," and they give a superb account of themselves here. Of the four movements, the Adagio is perhaps the most affecting. Preceded by a Biblical epigraph from the Old Testament ("... as a dew from the Lord, as the showers upon the grass, that tarrieth not for man, nor waiteth for the sons of men ..."), its twelve minutes are permeated by a rapt, mystical atmosphere. In the central portion, the piano floats and shimmers in the stratosphere, while erratic pizzicatos in some mysterious nonsymmetrical rhythm (perhaps derived from the rhythm of the epigraph) punctuate the singing line. The finale is a wild saltarello, which taxes Auer (and would tax any pianist) to the limit.

Finnadar gives its artists excellent engineering, silent surfaces, and an informative jacket note by Lewenthal. This is a cherishable release; buy it while it is still available. **HF**

ALKAN: Piano Works.

Ronald Smith, piano. [Ronald Kinlock Anderson, prod.] ARABESQUE 8127-3, $20.94 (three discs, manual sequence). Tape: 9127-3, $23.94 (three cassettes).

Douze Études dans les tons mineurs, Op. 39: No. 1, Comme le vent; No. 2, En rythme molossique; No. 3, Scherzo diabolico; Nos. 4–7, Symphonie; Nos. 8–10, Concerto; No. 11, Ouverture; No. 12, Le Festin d'Ésope. Trois Petites fantaisies, Op. 41. La Chanson de la folle au bord de la mer, Op. 31, No. 8. Allegro barbaro, Op. 35, No. 5.

ALKAN: Sonate de concert, Op. 47.

Yehuda Hanani, cello; Edward Auer, piano. [Ilhan Mimaroğlu, prod.] FINNADAR 9030, $8.98.

HITACHI VK-C1000

(Continued from page 43)

ditions. In fact, the only significant problem I encountered was ghosting (the creation of secondary images slightly displaced from the primary ones) when the light was very bright and the scene very contrasty. I had no difficulty getting good pictures with fine contrast and excellent definition and color rendition indoors under normal daylight conditions—a situation in which some cameras start to show their limitations. I did not make extensive tests of the camera's boom microphone, but its quality seemed up to its intended use. And I was pleased at how well it rejected the whir of the VCR, which was only a few feet to the rear of the microphone.

For hand-held operation especially, the VK-C1000 is a dream. Besides being light and small, it's very well balanced. The PAUSE and ZOOM switches lie naturally under your index and middle fingers, and you soon become accustomed to pressing with the index finger to start and stop recording and to rocking with the middle finger to zoom in and out. Although steadying the camera with your free hand is always a good idea, you can operate this one singlehanded in a pinch. That, and a viewfinder that accommodates both right-handed and lefthanded persons and the eyeglass wearer as well as those with normal vision, leads me to give the VK-C1000 high marks for human engineering. **HF**

BACKBEAT REVIEWS

(Continued from page 74)

"Niecy" sounds more like a smooth meeting of the minds.

Williams' unforced soprano sweetness is somewhat unique in contemporary pop/r&b, and harks back to such '60s divas as Barbara Lewis (*Baby I'm Yours*) and early Diana Ross. She walks the thin line between the genuinely sweet and the merely sugary with confidence, always landing firmly in the former camp. Though her strong, high soprano can handle Bell's more muscular arrangements with flair (*Waiting by the Hotline*), she sounds most comfortable on the ballads, especially those in a lilting 6/8 meter. She wrenches every bittersweet truth from the chorus lyric of Teddy Randazzo's *It's Gonna Take a Miracle* (covered in the '60s by the Royalettes and Laura Nyro with LaBelle), and Bell plays it straight, letting the song's inherent strength and the singer's interpretation carry the weight. On his and Williams' *Waiting*, though, he pulls out the stops; the echoing rhythm tracks caress the voice like an evening mist.

As a writer, Williams deals in the unabashedly romantic; as a singer she lends her lines an emotionalism that rings true. In Bell's sympathetically rich arranging/production context small sentiments take on grand proportions, and therein lies the album's charm. CRISPIN CIOE

Jazz SpinOffs

In-brief reviews of current jazz LPs by Don Heckman

Stanley Clarke, Chick Corea, Joe Henderson, Freddie Hubbard, Lenny White: The Griffith Park Collection
Lenny White, producer
Musician E 1-60025

Yes, this is the same group that backed Chaka Khan on a recent Elektra album. Fortunately, they have dispensed with the banshee wails and the inept "jazz" singing in favor of some straight-ahead playing. Hubbard, Henderson, and Corea sound wonderful, as always. One wonders, however, whether White and Clarke have wandered too far down the electronic path to return to the discipline of this kind of music.

Maynard Ferguson: Hollywood
Stanley Clarke, producer
Columbia FC 37713

Well, the title certainly tells you what to expect. But if there are any doubts, note that the album was "produced and directed" by Stanley Clarke. Does the cast of thousands (including Dave Sanborn and Lee Ritenour) make a difference? Not much. Having had a hit with *Rocky*, Maynard just naturally gravitated to *For Your Eyes Only* and *Nine to Five*. But jazz? Forget it.

Eric Gale: Blue Horizon
Eric Gale, producer
Musician E 1-60022

Guitarist Gale's credibility as a blues player is stretched to the limit in this peculiarly uncertain outing. Drifting between blues, rock, reggae, and pop, Gale doesn't seem to have decided where to settle in for the duration. "Special guest" Hugh Masekela's flugelhorn floats inconclusively in and out of the proceedings.

Freddie Hubbard: Ride like the Wind
Jeffrey Weber, producer
Musician E 1-60029

I'm sure there must be some sort of Byzantine financial reason why trumpeter Hubbard elected to do such an outright commercial session for a new label that is allegedly dedicated to MUSIC. Hubbard always manages to play stylishly, more so on trumpet here than on flugelhorn. But in all honesty, have you really been waiting to hear him play songs by Christopher Cross and Kenny Loggins?

Ferguson: Can this be jazz?

Gale: uncertain outing

PHOTOS BY TOM COPI

Marsalis & Freeman: Fathers and Sons
Stanley Crouch, producer
Columbia FC 37972

A fine idea. Side 1 is devoted to the Marsalis family, with siblings Branford and Wynton playing with their father, pianist Ellis. On Side 2, tenor saxophonist Chico Freeman plays with his father, tenor saxophonist Von. Ellis Sr. plays a discreet background role to his rampaging sons, while Von Sr. seems challenged by the interaction with his offspring. An off-the-wall idea that yields results.

Material: Memory Serves
Material & Martin Bisi, producers
Musician E 1-60042

Material is a band whose personnel changes from one recording to the next. The constants are bassist Bill Laswell, synthesizer player Michael Beinhorn, and engineer Martin Bisi. This time out the group's odd mixture of rock, street music, and avant-garde jazz benefits enormously from the highly visible presences of guitarist Sonny Sharrock, trombonist George Lewis, and violinist Billy Bang. They interact so well, in fact, that one hopes they will remain together for more than the course of a record date.

John McLaughlin: My Goals Beyond
John McLaughlin, producer
Musician E 1-60031

This is a reissue of McLaughlin's marvelous recording of the same name for Douglas Records. Side 1 showcases his stunning solo guitar work on pieces like Charles Mingus' *Goodbye Pork-pie Hat*, Miles Davis' *Blue in Green*, and his own *Follow Your Heart*. On Side 2 an early, still very acoustic-sounding, version of the Mahavishnu Orchestra (with Billy Cobham, Jerry Goodman, Charlie Haden, Dave Liebman, etc.) plays two lengthy, Indian classical music-inspired pieces. A fine and valuable reissue. Elektra/Musician should revive more of the adventurous Douglas catalog.

Lee Ritenour: Rio
Lee Ritenour, producer
Musician E 1-60024

Lee Ritenour may have finally found his métier in the rhythms of Brazil. The best tracks in this generally pleasant collection—*Rainbow* and *Simplicidād*—were recorded in Rio with a first-rate Brazilian rhythm section. The warm, sensuous results finally bring out some long-absent passion in Ritenour's playing.

HIGH FIDELITY ARCHIVES

Whiteman and orchestra: an experiment in making jazz "respectable"

(Continued from page 75)

Bunkhaus," produced in Los Angeles in 1981. The group on this disc, the Primus Inter Pares Jazz Ensemble (whose name harks back to Bud Freeman's late '30s Summa Cum Laude Jazz Band) is, except for trombonist Dan Barrett, the band he used in the show. Barrett is one of the delights here, a melodist, a colorist who knows how to use a plunger mute with taste, and, in total, a player Duke Ellington would have loved.

The repertoire is strictly Sudhalter—'20s material known and unknown, written by Hoagy, played by Bix, or, like *Home, Lost, Blue River*, simply popular at the time. The primary soloists are Barrett, Sudhalter, and pianist Dave Frishberg who lends a jaunty bit of singing on *Jamboree Jones* that evokes several singers, including Johnny Mercer. JOHN S. WILSON

Paul Whiteman at Aeolian Hall: An Experiment in Modern Music

Martin Williams & J. R. Taylor, producers. The Smithsonian Collection R 028 (two discs) [Smithsonian Recordings, P.O. Box 10230, Des Moines, Iowa, 50336]

On February 12, 1924, Paul Whiteman and his orchestra performed at New York's Aeolian Hall. The purpose of the concert was to demonstrate to a cultured audience that jazz was more than the collection of raucous sounds than those present presumably thought it was. To do this, Whiteman played the Original Dixieland Jazz Band's *Livery Stable Blues*—with its animalistic squawks, grunts, and shrieks—and contrasted it with his own polite "jazz" treatments of such pop tunes of the day as *Whispering*, *Mama Loves Papa*, and *Yes! We Have No Bananas* and even some semiclassical pieces, *To a Wild Rose* among them.

Reportedly, the evening was a pretentious bore because Whitman failed to communicate through his program what real jazz was. In fact, the concert would have been long forgotten, save for one rather significant event. Whiteman had asked George Gershwin, then known only as a musical comedy composer, to write a piece that would receive its debut that night. Gershwin's contribution was *Rhapsody in Blue*.

There was, of course, no live recording of the concert, but the Smithsonian Institution has managed to recreate it through various recordings of the pieces on the program. Some were made by Whiteman, others by dance bands of the time. Combined with extensive, detailed notes by Thornton Hagert, "An Experiment in Modern Music" is an ingenious and fascinating bit of aural scholarship that gives us a vivid insight into what "jazz" meant to most people sixty years ago, in the decade that has been called "The Jazz Age".

The album includes the Original Dixieland Jazz Band playing its definitive version of *Livery Stable Blues*. Zez Confrey, who was featured in the concert, plays his *Kitten on the Keys*, a classic of the "novelty piano" style of the Twenties. The recording of *Rhapsody in Blue* is the very first, made four months after the concert with Gershwin at the piano. Whiteman's reading is brisker than most later conductors', bringing out the piece's "raggy" qualities—which audiences of the time equated with jazz.

The concert is wrapped up in three of the set's four sides. Side 4 is composed of encores and expansions: a later edition of the ODJB that, without Larry Shields's clarinet, was missing much of its fire; a Dixieland group from the 1920 Whiteman band that provides a hint of what the orchestra's treatment of *Livery* . . . might have sounded like; an unidentified violinist in Confrey's band who really swings; and a 1921 Whiteman recording of *Song of India* that anticipates Tommy Dorsey's 1937 version. Though the concert was not the enlightening event Whiteman had hoped for, "An Experiment in Modern Music" has given it an educational value that would have delighted him. JOHN S. WILSON

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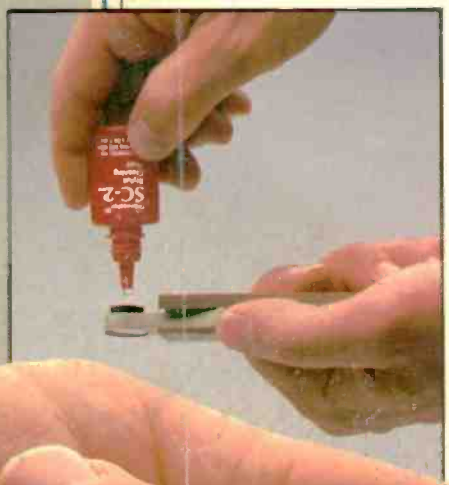

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