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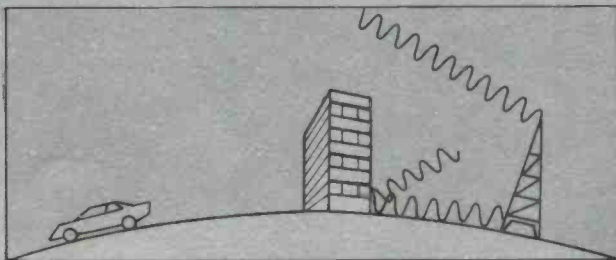
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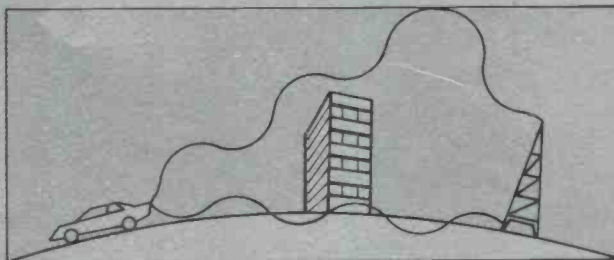
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Peter Aczel *The Audio Critic* Winter 1982-83

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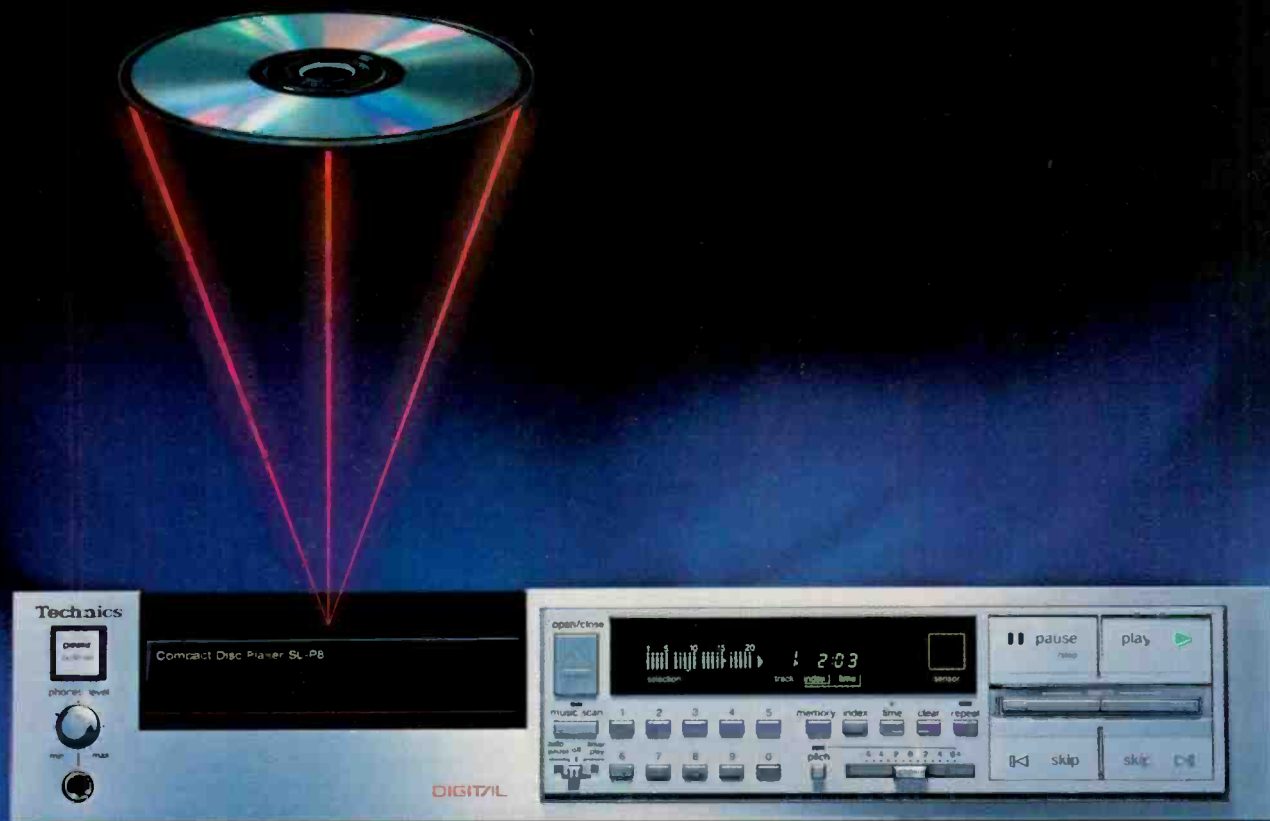
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About This Issue

Inside the Pages of June's High Fidelity

THE AMALGAMATION of audio and video continues, spurred by the recent FCC decision approving the transmission of stereo audio as part of broadcast television signals. In other words, the era of stereo TV has officially been launched.

At about the time you're reading this issue—during the first week of June—the Summer Consumer Electronics Show will be under way in Chicago, and from what we hear now, stereo-capable television sets should debut there as flagship models in many manufacturers' lines. A full report on stereo broadcast TV will appear in a forthcoming issue.

Meanwhile, we are seeing the first of the long-awaited VHS Hi-Fi videocassette recorders. Models from at least six companies are or shortly will be available. How the sound quality of VHS recorders was improved to something approaching the Compact Disc's is similar to the method used by Beta Hi-Fi machines, but significant differences do exist. Complete coverage of this new advance in VCR audio includes "How VHS Hi-Fi Works" and an in-depth lab test on Hitachi's VHS Hi-Fi deck.

Development continues on new digital products, many of which we won't see for some time. Technical Editor Michael Riggs and Electronics Features Editor Peter Dobbin are just back from two separate trips to Japan, where they saw the latest in Compact Disc technology, prototype digital cassette recorders, and advanced digital TV electronics.

This issue marks the inauguration of a special classical music review section in our MUSICAL AMERICA edition. In that section is an article by Thomas L. Dixon on William Kapell, the great American pianist and RCA artist whose recordings have all but disappeared from the catalog. (Prompted by the knowledge that this article would appear, RCA has announced that it intends to offer a Kapell release before the year is over.) In our regular edition, Paul Hume, music critic emeritus of *The Washington Post*, discusses the new generation of singers represented by Jessye Norman, Barbara Hendricks, and Eva Marton—"A Pride of Sopranos."

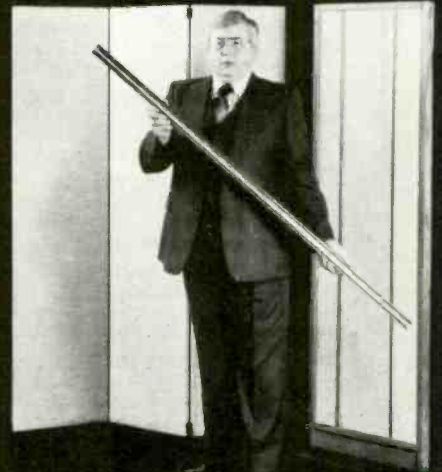
The pop music world was saddened by the death of Marvin Gaye, a gifted composer and performer. An appreciation of his prolific career appears in BACKBEAT. This month's interview offers a revealing portrait of Fleetwood Mac's Christine McVie in "Egos Can Be Painless."—W.T.



Technical Editor Michael Riggs is greeted by Ken Suwa of Technics in Osaka, Japan.

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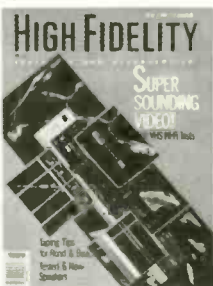
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on page 86,
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Letters

CD Debate

Your reply to G.R. Paterson ["Letters," February] implies negligence on the part of WFMT Radio in handling Compact Discs for airplay. Our experience with a library of more than 300 CDs and seven players may give us the insight to respond correctly to Mr. Paterson's complaint about malfunctioning discs.

First, in defense of our announcers who operate the players, I should point out that standard procedure includes the recommended cleaning, as well as a visual inspection of each disc prior to airing. This does eliminate most dirt and fingerprint-related problems, but not local defects. Although only 4 percent of our CDs contain defects that render them unplayable on any player we have tried, a much larger percentage are marginal, playing flawlessly on one machine and not on another.

There are two types of local defects: surface flaws (scratches) and information-layer glitches, both of which can cause clicks or even sticking. The only way to tell if a small defect will cause a problem on a given player is to try it. Differences in players' error-correction/concealment abilities determine how audible these defects will be—something your equipment reviews have ignored. Further complicating matters is the fact that internal misalignments caused by physical shock during shipping can impair a player's error-compensation performance. Very few units have passed our rigorous evaluation, involving a test CD with deliberate defects and several with accidental ones.

The real source of the problem Mr. Paterson refers to is hardware inadequacy. The players that WFMT now uses are not the most defect-tolerant we have evaluated, but they are the best we have found that also provide the accurate cueing capability that broadcasters require. Previewing a library the size of ours would take about 40 man-days. With that library constantly growing and a large proportion of our airplay drawn from it (80 percent in January), we have no choice but to replace defective discs as they are found. Until manufacturers begin making players suitable for broadcast use with error correction and concealment geared more to the types of flaws occurring on today's CDs, we face the possibility of airing audibly defective Compact Discs.

James S. Addie
Engineering Department
WFMT Radio
Chicago, Ill.

We did not mean to imply any negligence on the part of WFMT or its staff. Our point was simply that insoluble difficulties are rare, with most CD playback problems arising from soiled (and easily cleaned) discs. Certainly this has been our experience, even when using first-generation players, and the latest models have considerably improved error-correction performance. We do, by the way, test this characteristic and report our findings in our equipment reviews. (The test disc probably is the same one you use.) But we have had very little trouble getting commercial releases to play properly on the dozen or so machines we have evaluated.—Ed.

How can you say that skipping in Compact Disc

players is very rare or that it is due to soiled discs ["Letters," February] when in the same issue Robert Long states quite the opposite in "Cross-Talk"? He says that some models are quite touchy and do skip.

Carol Walker
San Francisco, Calif.

It was clear from the contexts of the two letters that the reasons for the skipping were entirely different: dirt and disc defects in the first case, physical shock in the second. The answers reflect this difference. We would stress, however, that skipping for any reason is seldom a problem under normal playback conditions.—Ed.

I have been disturbed by some recent letters you have printed indicating that there are doubts about Compact Discs and players. I own a Technics SL-P10 and 43 CDs, and I have had only one problem with dropouts and mistracking, which was caused by moisture condensing around the laser-pickup mechanism.

Every disc I own shows some improvement over conventional LPs, particularly in high-frequency clarity, bass response, and noise (which is totally absent on CDs, except for master-tape hiss). Classical digital releases are truly awesome. Audiophiles and serious music listeners should do themselves a favor and buy now.

Charles M. Ellis
Langford, Bedfordshire
England

Wanted: Talented Tenors

Will Crutchfield knows opera. More than that, he knows voices. In "Martini & Rossi's Vintage Voices" [April], he effectively pinpoints the most serious shortcomings in opera today.

The fact that today's singers are "markedly lower in their vocal aptitude" can indeed be most effectively illustrated by reviewing the current crop of tenors. Like Crutchfield, perhaps we can begin by placing Pavarotti in first place (that is, the Luciano of ten years ago) and by asking who indeed would be the other top names.

At their best, Domingo and Carreras, the other two tenor "superstars" of both performances and recordings, can be compared comfortably only to the earlier generation's "second string" singers. While it's no insult to be able to sing like Prandelli, Raimondi, Prevedi, and Filippeschi, "superstar" status this was not then and should not be today. That the art of singing opera is now presented to the public by "second string" vocalists masquerading as world-class tenors is a lamentable fact and one that supports Crutchfield's speculation that "a nation's great vocal traditions can die." Unfortunately for us all, it is in this case the world's vocal tradition that has noticeably deteriorated.

Domingo came into prominence by replacing the indisposed Corelli, but certainly never succeeded in taking on that magnificent vocal savage's mantle. And who replaced the honeyed, lyrical tenorizing of Di Stefano, Bjoerling, Valletti, and Tagliavini? Pavarotti? Maybe in some earlier life, but not today. Who equals the elegant refinement of Bergonzi's vocalizing or that of Tucker's big-voiced excitement? Carreras? Hardly, even though he possesses the most naturally beautiful voice of today's three biggies. And why should we wonder when young, newly found heldentenor Peter Hofmann admits that he

would very much like to have a double career—that of Wagnerian tenor and rock and roll star. Well, I've heard Peter sing Lohengrin and would like to wish him all the success in the rock field.

It takes a lot of superb marketing to sell second-string singers as first-rate, world-class vocalists. Domingo records with John Denver and makes movies. Pavarotti marches as Grand Marshal in Columbus Day parades, talks to Johnny Carson, and, to his eventual embarrassment, obviously okayed the massively aggressive repackaging after repackaging of his recordings.

That Pavarotti's *Yes, Giorgio* bombed and that he was booed at La Scala in *Lucia di Lammermoor* (a role custom-made for his earlier voice) shows us that the operatic audience is not altogether insane.

Franco Corelli, where are you when we need you?

George Martynuk
New York, N.Y.

Not on His Toes

Thanks to Matthew Gurewitsch for a very thorough and thoughtful review of the original-cast album of *My One and Only* [April]. However, *On Your Toes* is not a bona fide Gershwin revival! It is a bona fide Rodgers and Hart revival.

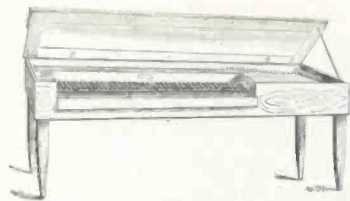
William A. Johnson
Manhasset, N.Y.

In his review of *My One and Only*, Matthew Gurewitsch suggests that you can "spend an evening at the current bona fide Gershwin revival of *On Your Toes* and learn what real boredom is." I guess so: He was too bored to notice that the show was written by Rodgers and Hart.

It's a shame that people who know enough not to credit *Norma* to Donizetti or *Otello* to Wagner (or "Rubber Soul" to Elvis Presley) can be so casual concerning an American art form. For that matter, Gershwin's song is no more "Sweet 'n Low Down" than the Beatle number is "Twist 'n Shout." (Try singing either.) When will shows be given the respect all other music receives?

Richard E. Sebolt
Springfield, Mass.

Mistaken Identity



I am very sorry (and very embarrassed!) that we inadvertently supplied you with an engraving of an 18th century harpsichord instead of a clavichord ["The Keyboard, Baroque and Before," April]. Here is a picture of a clavichord to set the record straight.

David Greenstein
Director, The Bettmann Archive

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.

Your Mercedes, BMW, Porsche or Ferrari are probably leased. Now, lease your Perreaux.

It is befitting that Perreaux of New Zealand, Awarded the Audio/Video Magazine Hi Fi Grand Prix for its "Mercedes-like construction," introduce Sound Leasing—the first leasing program in the history of audio.

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For example, the Perreaux SM2 preamplifier and 2150B amplifier, the performance and quality standard by which all other audio components must be judged, can be leased for under \$100 per month. To arrange for a private consultation, please call (516) 475-1857.



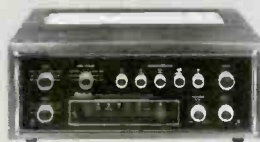
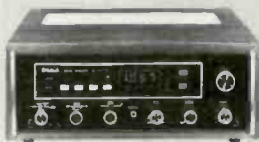
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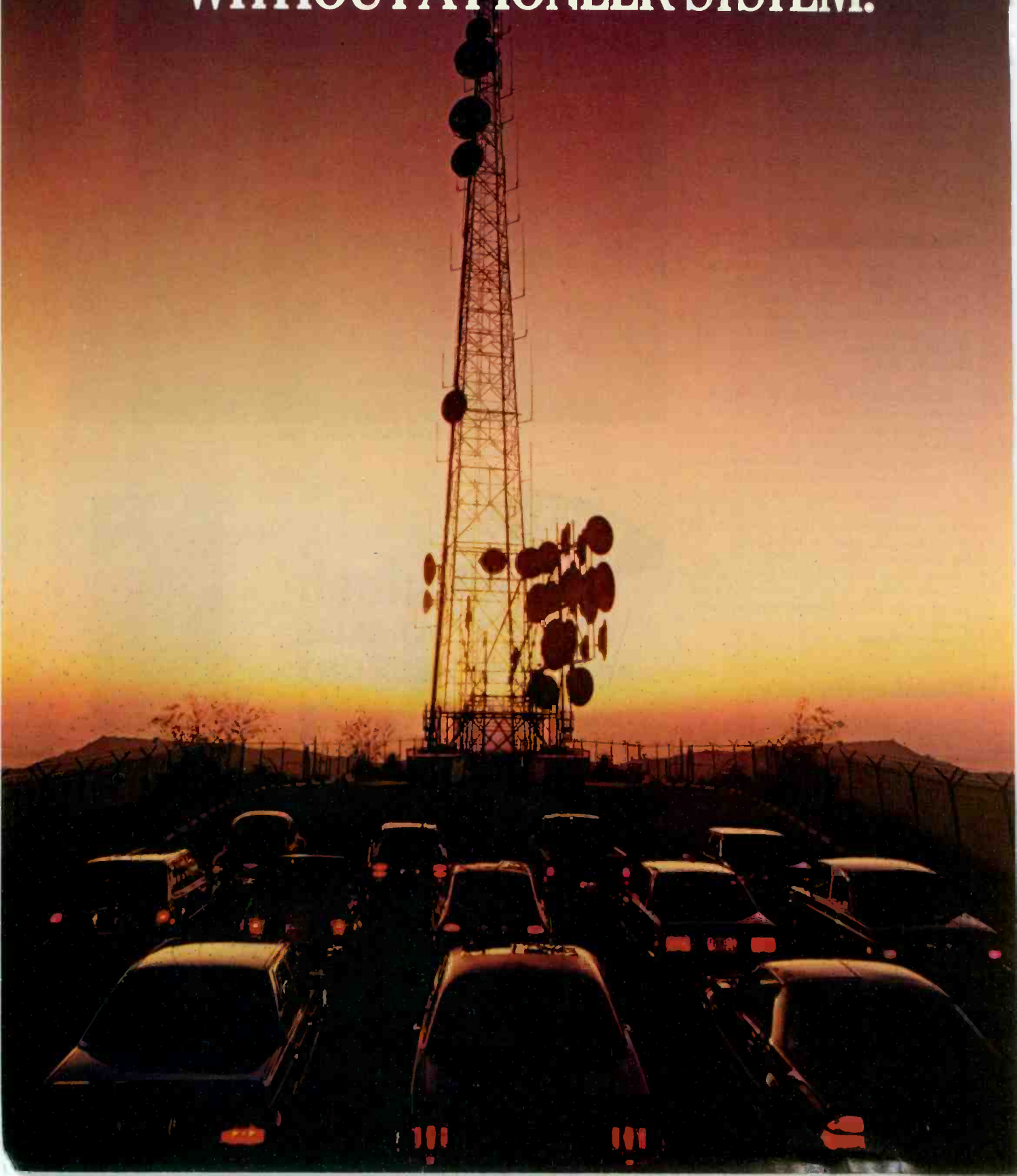
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OF COURSE IT'S POSSIBLE
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Cars move and radio stations don't.

This rather basic precept has always created a lot of havoc for people trying to get good, clear, clean sound on their car's FM tuner.

Because the farther you get from the station transmitter, the weaker the station's signal becomes.

Not to

mention the stuff like buildings, mountains, and overpasses that bounce the signal around like a ping pong ball, turning the music into something that sounds like frying mush.

Of course, if you do get lucky and get clean reception, you immediately reach over and crank up the volume to take advantage of this situation.

Leading directly to the other problem. Speaker distortion.

Of course, you do have options in solving these problems. You can find a drive-in radio theater.

Or better yet, you can equip your car with a new Pioneer sound system. A system that features Supertuner™ III and Maxxial™ speakers.

Supertuner III is an FM stereo car tuner with reception so clear, you'll think you're listening to a cassette.

Because Supertuner III virtually eliminates three-signal-intermodulation, multipathing, and loss of weak signals. In other words, all the aggravating things that cause you to bang your fist on the dashboard of your car.

No other car tuner can do this. At any price. None. A fact that Pioneer

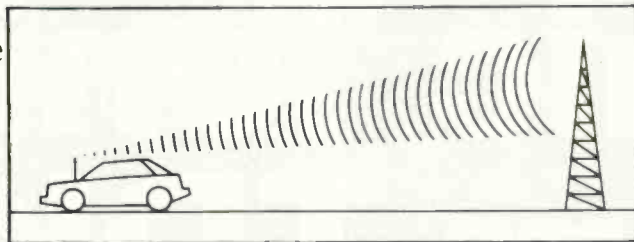
continues to prove in road tests against the highest quality tuners currently on the market. Time after time in these tests, Supertuner III is the clear winner.

But what good would this be, if the speakers put back in what Supertuner III has taken out.

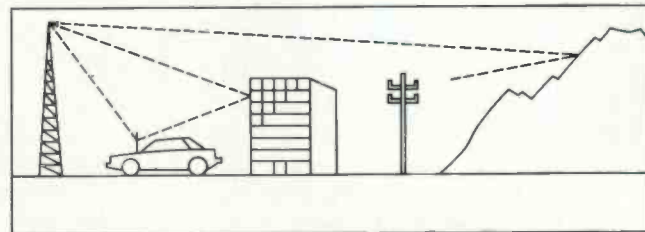
That's why you need Maxxial speakers. Extremely efficient speakers that can handle up to 100 watts of Max Music Power. A rating system comparable to one of those used to measure the power handling of Pioneer home speakers.

Which means that you can boost the volume on your favorite song (now that you can receive it clearly) and still get clean, undistorted sound.

Maxxial speakers are a complete line of the most popular sizes. With compact yet powerful Strontium Magnets that enable their big power handling capability to fit into tight spaces. And our line of



Cars move and radio stations don't. So the further you drive from the transmitter of your favorite station, the harder it is to capture its signal. Unless you have a Supertuner III.



A lot of things stand in the way of clear reception. Like buildings, mountains, even telephone poles. Radio signals bounce off them like balls on a handball court. Creating static, signals cutting in and out. Unless you have a Supertuner III.

universal fit Supertuner IIIs offer digital display, electronic pre-set tuning, auto reverse decks with Dolby.* And more.

So if you want to hear music the way it was recorded and broadcast in the first place, take this word of advice.

Park the system you have in your car. And get moving on a new one from Pioneer.



PIONEER®
Because the music matters.

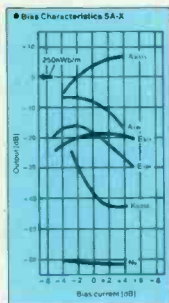
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MODE ***

Sonic Tonic from TDK



What comes out of your audio cassette deck is only as good as what goes in. And if you want unmatched dynamic performance, you need the highest performance audio cassette you can get. You need a TDK Pro Reference Series cassette. Each is designed to maximize the untapped potential of your cassette deck by generating clear, crisp, full-bodied sound.

Take our SA-X high-bias cassette. It offers you a degree of



sound clarity, quality and fidelity virtually unmatched by any other cassette on the market. Its exclusive dual coating of Super Avilyn particles provides optimum performance for all frequency ranges. And SA-X's super-wide dynamic range and higher MOL handle high signal levels without distortion or saturation.

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sure the energy never fluctuates, each TDK cassette is protected by our specially engineered cassette mechanisms for reliable, trouble-free performance. Plus a Full Lifetime Warranty.

Before you waste energy on any other brand, put more life back into your cassette deck with TDK's Pro Reference Series cassettes. They're pure Sonic Tonic.

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Currents

News, new products, and new technologies

FCC Approves Stereo TV

A recent ruling by the Federal Communications Commission paves the way for the start of stereo TV broadcasts. Although the FCC refused to endorse as a standard the Zenith/DBX broadcasting technique recommended by the Electronic Industries Association (EIA), it ordered that no competing system could jeopardize the integrity of the pilot tone used in the Zenith/DBX approach. As in stereo FM broadcasting, the pilot tone of a stereo TV transmission automatically activates a receiver's multiplex decoder for correct reception.

By its protection of the Zenith/DBX system, the FCC's ruling is being read by industry observers as tacit approval of an approach that has already been agreed upon as the ad hoc standard by an industry-wide committee composed of broadcasters, trade associations, and manufacturers. Formed by the EIA, the Broadcasting Television Systems Committee (whose initials will probably form the generic name of the multichannel TV technique) spent five years reviewing and testing various approaches. The Zenith/DBX system that it chose is compatible with current mono receivers and offers three channels of audio information (two for stereo and one for a second-language soundtrack) when properly decoded. Its sound quality is said to be comparable to that of current stereo FM broadcasts.

Transmission of stereo TV could start as soon as this summer, and manufacturers will soon be offering add-on decoders, such



as Sony's \$200 MLV-1100 (pictured here), for receivers equipped with multiplex-adaptor jacks. TV receivers with built-in decoders should be available by the fall.

If you're a cable TV subscriber, you'll have to wait a good deal longer to receive broadcast stereo TV programs. Because of the signal processing done by cable operators, which includes steep filtering so that broadcasts can be accommodated on adjacent channels without interference, the stereo audio information would be seriously degraded. Add to that the additional noise introduced in cable transmission, and the picture for accurate decoding at home grows even dimmer. There's also a problem with the current generation of baseband cable-TV converters used by about five million cable customers. According to Wendel Bailey of the National Cable Television Association (NCTA), baseband converters simply cannot be made to pass a stereo signal.

Don't despair, however. The NCTA fully endorses the Zenith/DBX system. According to Bailey, the cable industry will respond to the challenge of stereo TV by developing new equipment and techniques. But the timetable for these changes will be determined by consumer interest in the new system. Specifically, says Bailey, the industry will use sales of stereo-TV multiplex decoders and stereo-ready TV sets as its index.



Bose on the Road

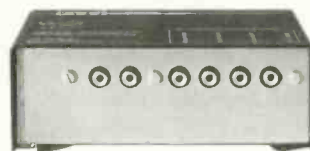
If your car radio/tape player is working well, but you're still not satisfied with the sound of your mobile music system, Bose has a solution—the Model 1201. Consisting of a 25-watt-per-channel equalized

amplifier and a pair of 4½-inch door-mount or 6-by-9-inch rear-deck speakers, the \$300 system is said to be suitable for most small and medium-size cars. For larger cars or vans, Bose offers the 1401 system, which consists of a four-channel, 100-watt booster/equalizer and four speakers. For more information, write to Bose Corp. (100 The Mountain Rd., Framingham, Mass. 01701).

RCA Stops CED Player Production

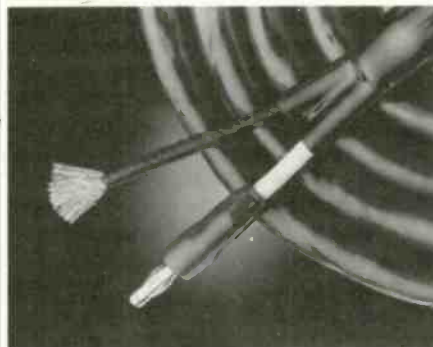
Citing "continuing financial losses and narrowing prospects that the business would turn profitable," RCA has ceased production of its CED videodisc players. By the time RCA's inventory of 12,000 players is sold out, there should be a total of some 700,000 units in consumers' homes.

To support this population of players, RCA plans to keep pressing new CED titles for three years or "as long as reasonable demand continues." And CBS has indicated that it, too, will maintain production of CED videodiscs. To stimulate the demand for its discs, RCA will continue its emphasis on \$20 titles, and owners of CED players will receive periodic mailings outlining new offerings.



Biamping for Beans

Affordable electronic crossovers are relatively scarce these days, so we were delighted to learn of Ace Audio's Model 6000-SF. The \$180 device is intended for speaker biamping and is available with crossover points at any frequency from 200 Hz to 1.8 kHz via plug-in 12-dB-per-octave filter modules. The unit is also equipped with an infrasonic filter to remove unwanted signals below 15 Hz. Level controls on either the high- or low-frequency outputs are available as options. For more information, write to Ace Audio (532 Fifth St., East Northport, N.Y. 11731-2399).



Brand-New Monster

Monster Cable says its new Powerline 2 speaker cable "aligns the high and low frequencies . . . [so that they] travel at the same speed through the cable for dramatically improved frequency response and imaging." Powerline 2 is available in a variety of lengths, at \$2.75 per foot, and with various tip terminations. For more information, write to Monster Cable (101 Townsend St., San Francisco, Calif. 94107).



High-Tech Video

Ultraportable 8mm video systems will face stiff competition from the VHS camp when JVC's one-piece VideoMovie camcorder (camera-recorder) appears this summer. The \$1,400 GR-C1U weighs in at 4.3 pounds and uses a compact VHS-C cassette that, when fitted into a special caddy, can be played in standard VHS decks. Direct connection to a TV set is also possible. The new system uses a head drum only 41mm in diameter (as compared to the 62mm of home VHS decks), but manages to maintain adequate recording bandwidth by using a faster drum speed (45 rotations per second instead of 30) and a tape wrap of 270 degrees instead of 180.

The GR-C1U is equipped with a detachable electronic viewfinder, a 1/2-inch Saticon pickup tube with a rated sensitivity of 15 lux, a 6:1 power zoom lens, and an automatic iris control. The camcorder's

viewfinder can also be used for playback, and shuttle-search and still-frame modes are available. The TC-20 VHS-C cassette used by the camcorder allows for 20 minutes of recording.



Also new from JVC is the HR-D725U, a tabletop VHS deck with the remarkable VHS Hi-Fi (audio frequency modulation) stereo recording system. (See "How VHS Hi-Fi Works," page 41.) To maintain compatibility with standard VHS Stereo decks, the new unit is also equipped with a pair of fixed audio record/play heads and switchable Dolby B noise reduction. Other features of the HR-D725U include a 139-channel tuner, a 14-day/8-event programmable timer that even selects the appropriate recording mode (EP or SP), and variable-speed visual search. The unit's timer can be set for unattended turn-off in 30-minute increments up to four hours. The HR-D725U has direct camera connections and costs \$1,400. For more information, write to U.S. JVC Corp. (41 Slater Dr., Elmwood Park, N.J. 07407).

more information, write to Aiwa (35 Oxford Dr., Moonachie, N.J. 07074).



Better and Cheaper From DBX

With more features and a lower price, the new DBX 10/20 computerized octave equalizer seems an altogether welcome follow-up to the original Model 20/20. The new unit automatically equalizes the left and right channels either individually or in combination. It can analyze the response at as many as ten locations within a room and then set itself for an averaged flat response, and it can store as many as ten separate equalization curves in memory. The \$1,200 digitally controlled device also has a real-time spectrum analyzer function, displaying the relative levels of ten frequency bands. For more information, write to DBX, Inc. (71 Chapel St., Newton, Mass. 02195).

Old Is New Again

Last seen in the early '50s, Jensen's G-610 speaker system is available again for collectors of vintage audio equipment. The "new" G-610 is being built with the same components and to the same specifications as the original model. A triaxial design using a 15-inch woofer, the system is said to have a sensitivity ("efficiency") of 101 dB for a 1-watt (0-dBW) input. Jensen will not give a price for the system, saying only that the speakers are hand-built to exacting standards and are priced accordingly. For more information, write to Jensen Sound Laboratories, International Division (4136 N. United Parkway, Schiller Park, Ill. 60176).



High Performance On a Budget

About \$50 more expensive than the earlier BX-1, Nakamichi's new BX-100 still seems a remarkably good value at \$350. The BX-100 uses a three-motor, single-

capstan transport and a motor-driven cam control system. Most important for quality-conscious recordists, the deck has internal trim pots that enable qualified technicians to adjust bias and recording levels individually for your favorite Type 1, 2, and 4 tape formulations. The two-head deck is equipped with a two-speed master fader, an automatic repeat function for replaying an entire side or any portion of it, Dolby B, and a defeatable multiplex filter. For an additional \$150, the BX-150 adds Dolby C and an output-level control. For more information, write to Nakamichi U.S.A. Corp. (1101 Colorado Ave., Santa Monica, Calif. 90401).

An Aiwa Camera

Weighing in at 3 1/2 pounds, Aiwa's CV-5M is the natural complement to Aiwa's first VCR—the Beta-format V-50 we reviewed in our April issue. The camera uses a 1/2-inch Saticon pickup tube with a low-light sensitivity rating of 60 lux. Its motor-driven zoom lens has an 8:1 focal-length ratio and is equipped with macrofocus capability. The lens's automatic iris control can be defeated for manual fade-ins and fade-outs. The \$950 camera also is equipped with a boom-mounted electret microphone and automatic white-balance circuitry. For



A VCR-cum-Computer from RCA

Possibly the most computerized VCR we've ever seen, RCA's VKP-900 uses your television screen to display status messages and timer-programming menus. This capability enables you to program the VCR (for as many as eight events over a 12-month period) from your easy chair via the unit's hand-held remote control, with confirmation of each step easily visible on your TV screen. The \$1,300 VKP-900 is the second "convertible" model from RCA: Its recording section can be removed from a special tuner/timer cradle, thereby converting to portable use. The VHS unit is equipped with a 133-channel tuner, fixed-head stereo recording capability, and a scene-transition stabilizer for glitchless edits. For more information, write to RCA Consumer Electronics (600 N. Sherman Dr., Indianapolis, Ind. 46201).

We rest our case.



Aiwa introduces the smallest, lightest Beta hi-fi portable video in the world*

Aiwa's new Beta hi-fi portable certainly is small, but when it comes to performance and features, it's definitely in the big time.

For breakthrough sound quality, a single connection to Aiwa's full-featured Beta hi-fi amplifier unleashes this little portable's state of the art audio technology. It actually outperforms open reel audio decks!

To match this audio technology Aiwa offers brilliant picture quality and outstanding special effects. There's 2X speed playback with sound, auto program location, insert editing and a 15X or 25X normal speed multi-search feature. And that's not all.

Unlike conventional portable VCRs that require a separate tuner for playback, the Aiwa AV-50M video deck has its programmable tuner/timer built-in for true portability.

It can go from room to room, from house to house. Not just for recording (that's just half the story), but playback too (that's all the fun!). What's more it's already equipped to receive stereo TV broadcasts as soon as they hit the airwaves.

The Aiwa Beta hi-fi video portable is also the perfect match for Aiwa's critically acclaimed S.P.A.N. audio systems. Same convenient size! Same advanced styling.

Aiwa's new Beta hi-fi video system... a really fresh idea. For your nearest Aiwa Beta hi-fi video system dealer call:

800-633-2252 ext. 300

*Weight and size comparison does not include AC powered SV-50M Beta hi-fi amplifier/adaptor.

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



Electrical and Electronics Division

The Autophile

Going on the road with stereo by John Bishop

Is Car Stereo Ready for the Compact Disc?

AT THE WINTER Consumer Electronics Show, five manufacturers displayed working prototypes of Compact Disc players for the car. Kenwood, Mitsubishi, Panasonic, and Philips claim that they will deliver finished products late this year or early in '85, while Fujitsu Ten already is supplying Toyota with CD players for factory installation in some Supras and Cressidas in Japan. Clearly, the car stereo industry is poised for the appearance of this exceedingly high-technology mobile music source.

micron-level tolerances, survive a Chicago pothole (much less a New York City crater)? Probably not, but neither can a cassette transport nor most heavy-duty shock absorbers.

Also worrying is the potential for noise pickup. Can a CD player's electronics effectively reject alternator whine and the other contaminants created by a car's electrical system? The suppliers showing prototype players all say "no problem." And the durability of the discs themselves will be tested as dust, fingerprints, and the occasional soft drink mar their pristine plastic coating. In my own experience, however, even heavily soiled CDs have been restored to playability with a quick wipe or wash. By way of contrast, just try resuscitating a cassette that has accidentally landed in a cup of cola.

frequencies. In fact, at mid and high frequencies—the critical zone for realistic reproduction—noise is about 15 to 20 dB lower.

What this means is that we really have to contend with an effective noise floor in the critical range of 40 dB or less. Romantic symphonies with a dynamic range of more than 90 dB will still put excessive strain on a car amplifier and speakers—not to mention your ears—but much classical music never exceeds 60 dB or so, and a pop recording with more than 20 to 30 dB of dynamic range is extraordinary. So CD playback levels would rarely exceed 100 dB on the loudest transients; for extremely wide-range music perhaps manufacturers will have to start offering variable compressors in their car CD players.

Even with a more realistic view of the peak power requirements necessary to accommodate CD playback in a car, the basic qualities inherent in the digital medium will put a premium on car stereo electronics. To get the best from CDs, you'll have to select an honest amplifier—that is, one whose distortion and output capabilities on the road remain true to the manufacturer's spec sheet. And, although most well-made car speakers should be able to withstand the occasional extra stresses of a CD's uncompressed transient peaks, you'd miss out on another benefit of the CD system if you settled for a traditional speaker setup.

A CD player's precise channel balance and frequency response can generate stable and convincing stereo effects, but stereo usually won't work if you're seated two feet from one speaker and five feet from the other, as is the case with typical front speaker installations. Rear-deck speakers improve the geometry a bit, placing you five feet from one and seven feet from the other. Direct-radiating satellites that can be angled so that they fire toward the listener seated at the opposite side in front will further improve the stereo effect by broadening the imaging area. And a front-imaging arrangement using three satellites in a left-right-left configuration can also give good results. However, all of these stereo configurations require the use of a separate subwoofer and amplifier, since satellite speakers must be small for proper placement.

In sum, the Compact Disc's imminent arrival on the car audio scene signals major advancements in an environment where high-fidelity reproduction currently comes only with great expense and care. But to realize these benefits will take some innovative thinking from hardware manufacturers and consumers alike. **HF**



Most of the prototype car CD players we've seen are dedicated devices—that is, they complement existing car-stereo systems by adding CD playback. This Fujitsu Ten unit goes one better by combining an AM/FM tuner and CD player in one chassis, with some multipurpose controls. And models that add tape playback should appear soon.

But is it the right technology for the road?

In several respects, the answer is an emphatic yes. The CD system's incredibly low distortion, wide dynamic range, ten-octave bandwidth, and intrinsic immunity to wow and flutter make it clearly superior to the Compact Cassette. A glance at the frequency response curves of a HIGH FIDELITY car stereo test report is sufficient to see how poorly the cassette decks in some front ends perform. Factor in the vagaries of azimuth alignment and Dolby mistracking, and a cassette player's performance can plummet from poor to horrendous in a flash.

Obviously, then, we music lovers are ready for the improvements in audio performance offered by the Compact Disc, but is the CD system ready for the automobile environment? Can the delicate laser-tracking system, which must function at

Okay, so CD hardware and software can (we hope) survive life in the dashboard—but can the rest of the autostereo chain survive CD? To use what has so quickly become an audio cliché, are car stereo electronics and speakers "digital ready"? This concern revolves around the Compact Disc system's ability to reproduce a dynamic range of more than 90 dB. In a car with an ambient noise level of 70 dB, will we therefore have to install amps and speakers capable of reproducing cymbal crashes at a sound pressure level of 160 dB, as some critics of car CD players predict?

Thankfully, no. First, the car can discriminate desired sounds to about 15 dB below the noise floor, so the masking effect of the noise is effectively lower than the 70-dB "raw" figure would suggest. And second, psychoacoustic studies have shown that the perceived realism of reproduced sound depends more on an adequate dynamic range in the mid and high frequencies than in the low frequencies. An examination of the spectral content of automobile noise shows that it consists chiefly of low

John Bishop, our guest "Autophile" columnist, is car stereo editor of Motor Trend magazine.

CrossTalk

Practical answers to your audio and video questions by Robert Long

Mr. Clean?

My VCR salesman told me to bring back my deck to have it professionally cleaned. I don't know anyone with a VCR who has had this done, but I don't want to ruin my heads. Can you advise me?—Debbie Hoster, Mount Holly, N.J.

Your salesman may have taken you as someone who would prefer to be sure the job is done right, even at a price, than to risk messing up on her own. Or he may have taken you as a sucker—I can't tell which. A number of cleaning devices are available that are easy to use and safe for the deck as long as you follow the directions scrupulously. That's important. If you leave them running too long or use them too frequently, premature head wear is possible. Fortunately, there's seldom (often never) any need to clean the heads in a VCR. When there is, you'll start seeing unusual amounts of video noise (snow, streaks, and so forth).

How High Is Up?

Okay, gents. What I need to know is the real poop on the Nakamichi BX-1 [test report, February 1983]. What kind of record/play response am I going to see at 0 dB or at +5? That's where I record. I know of very few people who set peaks at -20. And what kind of biasing anomaly can I expect with BASF Chromdioxid 2 or Sony UCX-S? Is there going to be a marked sag, and will it be very audible?

Finally, when is the IEC measurement standard for record/play response going to be changed to include test levels of 0 dB (and even +3 or +5)?—J. Fritz Orzelek, Binghamton, N.Y.

Never, I hope, for reasons that your letter demonstrates. When you "set peaks at 0 or +5 dB," only the midrange has much likelihood of reaching the maximum level. What levels will actually be attained in the deep bass and the high treble will depend on the program material, but even the most demanding is unlikely to reach above -20 dB at, say, 10 kHz. Therefore, the standard test level represents a severe but not unrealistic picture of what we can expect to hear from the combination of recorder and tape under test. A test level of 0 dB or higher at frequencies above 5 kHz or so is very unre-

alistic for the vast majority of uses to which recorders—particularly cassette decks—may be put. It does tell us something about the compression (self-erasure) characteristics involved, but it is much too easily misinterpreted as representing the audible frequency response.

Like most current decks whose bias and recording EQ aren't adjustable, the BX-1 is factory set for a ferricobalt (in this case, Nakamichi SX, which is essentially interchangeable with TDK SA) when Type 2 is selected. The BASF (which is a true IEC Type II chromium dioxide tape) prefers somewhat more bias and, for best Dolby tracking, slightly higher recording drive. All other things being equal, this should introduce a lower-treble sag with some peaking at the very top on a deck such as the BX-1. The Sony tape, which we haven't tested, presumably is more similar to the TDK and Nakamichi products.

Whether or not the sag or peak will be audible will depend in part on the program material; whether any audible difference (and I would expect some on music rich in highs) will be a detriment or an improvement will depend partly on your taste. Incidentally, theory dictates that both the sag and the peak will disappear by about the time recording level reaches Dolby reference—some 2 dB below DIN/IEC 0 dB. So if 0-dB response were really important, this mismatch could be ignored altogether.

Not Down the Tube?

I have noticed a growing interest in vacuum-tube amplifiers among my peer audiophiles. Transistor amplifiers are said to be more reliable and more linear in response, but tubes are said to create a warmer and more realistic quality in music. What is the real story? And if tube amplifiers sound better, why are they so rare?—Jeff Hopkins, Fresno, Calif.

There seems to be no resolution in sight to the debate between those who believe that tubes are subtly better (though they often bandy extravagant terms like "vastly better") and those who don't. However, scientifically controlled listening tests have consistently indicated that amplifiers with suitably low noise and distortion (a criterion met by virtually all modern units) sound identical as long as they have the same frequency response and level through the loudspeakers and are not driven beyond their power limits into clipping. (See "The Great

Ego Crunchers—Equalized, Double-Blind Tests," March 1980.) This does not mean that differences never exist—only that they are small, easily explained without recourse to the types of devices doing the amplifying, and just as easily eliminated. On the other hand, there's no doubt about the greater expense of building tube equipment and its much poorer energy efficiency, which argues against the use of tubes both at moderate-to-low prices and at very high power ratings. That doesn't leave much territory, and all of it already is inhabited by successful transistor amps.

Outboard Motor

Manufacturers' ratings notwithstanding, my amplifier's 50 watts per channel barely seems enough for my Ohm 1 speakers. Does anyone make an outboard power amplifier that, say, produces 200 watts from a 20-watt input?—Travis Jarman, Clearwater, Fla.

DAK offers such a unit, and a cheap, simple pair of homemade voltage dividers (see "Sonic Ambience—The Missing Ingredient," October 1982, for directions) would enable you to achieve the same end with the power amp of your choice. But the best approach is to replace your present amplifier with a more powerful model. A 200-watt (23-dBW) unit should yield 6 dB greater maximum loudness than your 50-watt (17-dBW) amp.

Hard Landing

There appears to be no way of controlling the cueing damping of my Sanyo Plus Q-50 turntable's tonearm. It descends too fast. I ruined a \$50 stylus, and I wrote to Sanyo but received no answer. What can I do?—Gordon Burmeister, New Era, Mich.

The only way out of such a problem, unfortunately, may be the substitution of a more rugged pickup. I know that's cold comfort: Your \$50 stylus assembly implies at least twice that much in the price of the cartridge you will be setting aside. First, however, you should check with your dealer or a Sanyo warranty service facility to make sure that the damping can't be increased.

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

AUDIOPHILE FILE™ XL-S

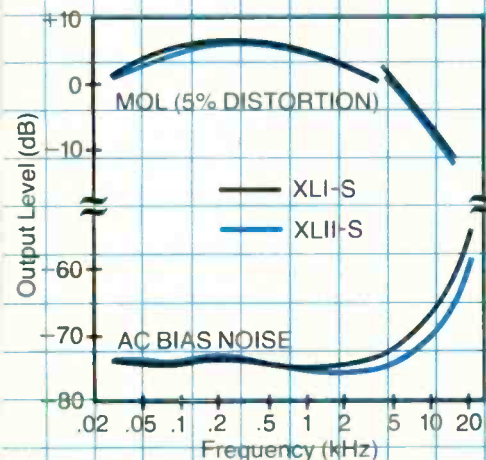
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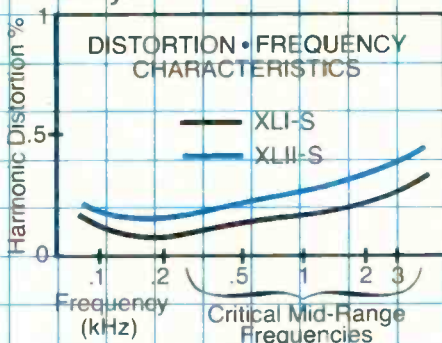


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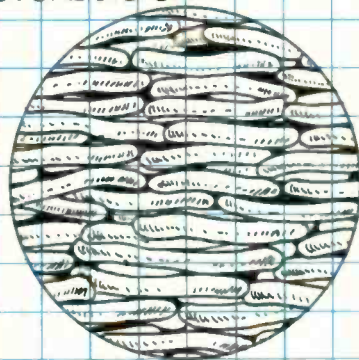
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Retsoff's Remedies

Simple solutions to common system problems by Alexander N. Retsoff

Test Discs For Today's Systems

TEST DISCS can be an invaluable ally in the struggle to keep an audio system operating up to par. You can use them to check for correct phono cartridge alignment and speaker phasing and placement; they also provide a consistent signal source for setting recording levels and establishing proper speaker equalization.

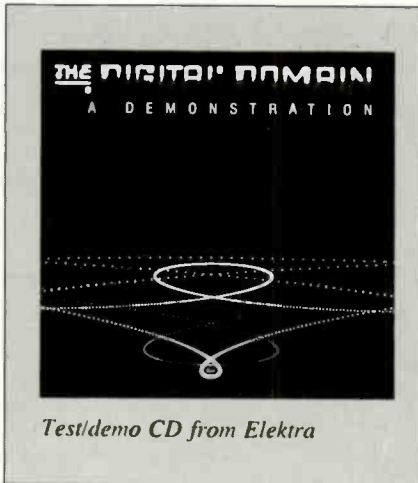
The majority of test discs are, of course, LPs and therefore reflect any anomalies in the phono pickup's response. That's fine—even desirable—if most of your listening is to conventional records, but you may also want a test source independent of the phono cartridge. For that, the Compact Disc is ideal. In most players, a CD's response is ruler flat, presenting your system with a near-perfect source signal.

The first test/demo Compact Disc available in this country is Elektra's "The Digital Domain" (\$19). Created at the Center for Computer Research in Music and Acoustics at Stanford University, it contains both natural and synthetic sounds. You'll find everything from perfect silence (to check the noise floor of your electronics) to the sound of a jet passing directly overhead (to tax your speakers to their utmost). If you have an ounce of sense, heed the producer's warning about volume setting. The contrast in levels between insects chirping in a field and a jet in flight (both on Band 1) is dramatic.

Many of the cuts on the Elektra CD are synthetically derived or computer-doctored, and you may find it difficult to know what they should sound like. But *Hologram* (Band 4) is a "straight" harpsichord recording made with B&K studio microphones, and Bands 6 and 11 bring a racquetball match into your listening room. Band 16 offers a Huey helicopter recorded at Hamilton Air Force Base with B&K high-intensity microphones. The disc's final 7½ minutes contain various test signals: a 1-kHz square wave (1002.273 Hz, for those who insist on digital accuracy), pink noise (first in the left channel, then right, then at various recording levels), and 1-kHz sine waves (recorded at -20, -40, and -60 dB). The test section concludes with a minute of silence.

If you have a ⅓-octave real-time analyzer, the pink noise provides a very accurate source for checking overall system

response. (More than 30 seconds of it would have been nice.) The final minute of silence enables you to check the noise floor of your system, and the left and right pink noise establishes channel identification and balance. The remaining test signals strike me as somewhat less useful. And be sure to turn the volume way down when listening to the square wave!



Test/demo CD from Elektra

Three of the newest analog test discs come from Ortofon, Shure, and Telarc. Ortofon's latest "Pickup Test Record" (No. 003, \$25) is composed entirely of musical excerpts from the Opus 3 label, a small Swedish company. All 11 cuts were made with the Blumlein crossed-microphone technique, which is especially adept at preserving the acoustics of the recording environment.

The selections on Side 1 were chosen to help determine your system's tonal balance, depth of stereo image, and dynamic range. Liner notes tell you what to listen for. The five cuts on Side 2 zero in on various technical parameters: vertical tracking angle, tracking ability, treble distortion, and speaker phasing.

Shure's newest "Audio Obstacle Course" disc (TTR-117, \$15) was introduced with the company's flagship V-15 Type V cartridge. The most intriguing innovation in this test record is the means it provides for establishing what Shure calls a cartridge's TTI, or Total Trackability Index—a figure of merit that describes the maximum recorded levels a pickup can track, as well as the LP wear and tear that such tracking involves. To measure TTI, the disc presents your cartridge with a three-tone test signal that simultaneously exercises it at low, middle, and high frequencies. The relative levels of the three tones (200 Hz, 2.1 kHz, and 17 kHz) are set

to correspond with the levels in these regions on music discs, and the tri-tone signal itself is recorded at six different levels. Any decent cartridge should be able to track the lower levels; the higher ones will prove extremely challenging.

While the TTR-117's main claim to fame is measurement of TTI, it's an excellent cartridge-setup record overall. In addition to strobe bands on the label to establish turntable speed, there are channel identification, balance, and phasing tests. A band at reference level can be useful for setting recording levels on a tape deck, and the final band on the first side helps you adjust antiskating force for your cartridge. Don't be surprised to find the gauge on your tonearm way off. And last, but certainly not least, the final band on Side 2 enables you to check tonearm resonance.

About the most complete audiophile test disc I've come across is the two-record "Omnidisc" set from Telarc (\$30). Its 12-page instruction manual is only a little short of being a minicourse in system setup. In general, the booklet is well written, factual, and reasonably accurate—with one important exception. An LP's outer groove wall contains right-channel information, not left channel. This means that antiskating force should be increased (not decreased) if distortion is heard in the right channel at lower recording levels than in the left.

The Telarc set gives you a lot to work with. Side 1 is a grooveless blank with a set of indices pressed into the vinyl and printed on the label to aid you in setting cartridge overhang and lateral tracking angle. Side 2 is loaded with test signals, and Sides 3 and 4 contain music chosen to tax your system. Telarc's infamous recording of the cannon shots from Tchaikovsky's *1812 Overture* is featured, along with a piano piece for testing transient response, a choral cut for definition, and excerpts from Stravinsky's *The Rite of Spring* and Beethoven's *Fifth Symphony* for low and mid/high tracking ability, respectively. On a lighter note are the fugue for Britten's *The Young Person's Guide to the Orchestra* (with a diagram depicting the layout of the orchestra) and the Beach Boys' *Good Vibrations*, a rock and roll number to check tracking, response, and dynamic range.

Considering the amount you've already invested in your stereo system, it seems well worthwhile to spend a few dollars on one or more of these test records. Get familiar with them and take them with you the next time you shop for new equipment. In a sense, you'll be taking your test lab with you.

HF

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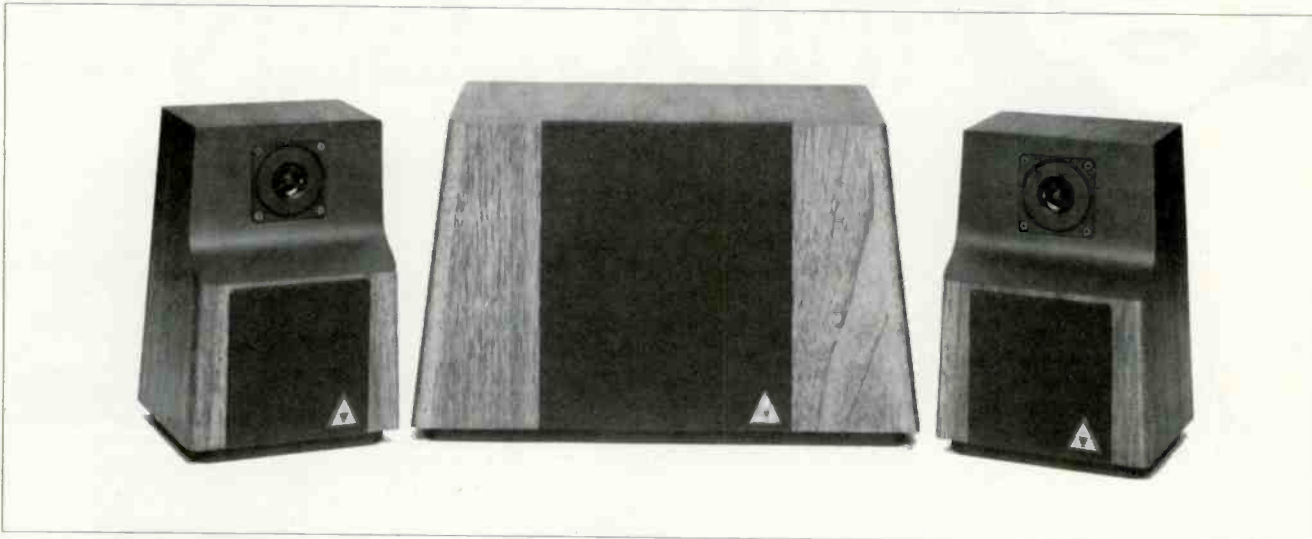
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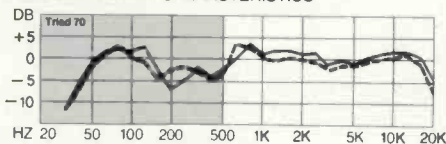
Preparation supervised by Michael Riggs, Peter Dobbin, Robert Long, and Edward J. Foster. Laboratory data (unless otherwise noted) supplied by Diversified Science Laboratories.



A Three-Piece Speaker from Acoustic Design

Triad 70 three-piece stereo loudspeaker system with powered woofer module, in wood enclosures with walnut veneer finish. Dimensions: satellites, 5 $\frac{3}{4}$ by 8 inches (front), 5 inches deep; "subwoofer," 13 $\frac{1}{4}$ by 8 $\frac{1}{4}$ inches (front), 8 inches deep. Price: \$575; optional metal stands, \$90; optional wood stands, \$250. Warranty: "limited," five years parts and labor. Manufacturer: Acoustic Design Group, a division of Aspen Recreational Products, Ltd., P.O. Box G-3, Aspen, Colo. 81612.

ROOM RESPONSE CHARACTERISTICS



— boundary-dependent region
 - - - on-axis response
 off-axis (30°) response

SENSITIVITY (at 1 meter; 2.8-volt pink noise, 250 Hz to 6 kHz) 87 $\frac{1}{4}$ dB SPL

AVERAGE IMPEDANCE (250 Hz to 6 kHz) 10 ohms

APPROX. TWEETER CONTROL RANGE (re "flat") +3 $\frac{1}{2}$, -0 dB above 4 kHz

APPROX. BASS CONTROL RANGE (re "flat") \pm 6 dB, 50 to 200 Hz

AMONG THE MOST INNOVATIVE new loudspeakers we've seen is the Triad 70 from Acoustic Design Group—a relative newcomer to the field, located in Aspen, Colorado. That this is a subwoofer-cum-satellites system is hardly news, but the bass module in particular is distinctly unlike that of any three-piece system we've tested before. Its built-in power amplifier—whose performance-enhancing secrets Acoustic Design Group declined to share with us on the grounds of pending patent applications—makes this diminutive woofer appear to exceed its own theoretical limits.

The Triad 70 is a recent revamp of the Triad 50, which it resembles very closely. There are two essential differences, however: The 70 has a two-position tweeter level switch in addition to a three-position woofer switch, and the amplifier has been reworked for more power and headroom. Because the manufacturer provided only rather sketchy specifications for the earlier model and no final specs were yet available for the 70 when we tested it, we have had to deduce much of our understanding of its operation from Diversified Science Laboratories' measurements.

The "subwoofer," like most comparable devices, actually delivers all of the bass range and thus might better be

described as a woofer module. It has four pairs of spring-loaded clips on its bottom panel; half are for the power leads from your amplifier, the remainder feed the satellites. The Triad's own amplifier is built into this section (which therefore has its own AC cord). It powers only the bass driver, which reproduces the sum of the two channels.

There is no crossover in the bass unit: It simply hands your amplifier's output unaltered to the satellites, having derived its signal from the voltages as they pass by, so to speak. There is a blocking capacitor at the satellite inputs to keep out the bass frequencies, but the woofer's response rolls off acoustically (without electrical filtering) at the top of its working range. Connections to the satellites are spring clips recessed into the bottom surface.

Two drivers are mounted in each satellite. Behind a nonremovable grille cloth is a midrange cone about three inches across. Above it, and recessed so that (we presume) its voice coil will effectively be in the same plane as that of the lower driver, is a small (perhaps $\frac{3}{4}$ -inch) tweeter protected only by its outer "acoustic lens" structure. The lab's near-field measurements suggest that crossover between these two elements is at about 3 kHz. The midrange driver (whose near-field response appears exceptionally

Report Policy: Equipment reports are based on laboratory measurements and controlled listening tests. Unless otherwise noted, test data and measurements are obtained by Diversified Science Laboratories. The choice of equipment to be tested rests with the editors of HIGH FIDELITY. Samples normally are supplied on loan from the manufacturer. Manufacturers are not permitted to read

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flat between about 150 and 700 Hz) rolls off at a steady 12 dB per octave below the 125-Hz measurement band.

The near-field curve for the bass driver describes a fairly broad parabola with a maximum in the 80-Hz measurement band. On the face of it, this is surprising because the small, sealed enclosure normally would indicate a higher resonance. The manufacturer does give a figure of "about 100 Hz" or "about 105 Hz," but it also says that it has found electronic means of driving the woofer below resonance. We take this to mean that the amplifier includes an equalization circuit to counter the natural rolloff below the resonance frequency. And it definitely has an infrasonic filter to prevent overdrive from warp signals or other ultra-low-frequency information. The company clearly implies that more is involved, but it isn't saying what.

The bass level switch is characterized as ± 4 dB with respect to the "flat" middle position. If the system is used away from the wall, this switch may be at FLAT or +4; against the wall, FLAT or -4 is recommended. Actually, according to DSL's data, it's more complicated than that. Because the bass response tends to peak rather markedly in any of the measurements made by the lab with the middle setting, the implication of simple shelving at +4 or -4 dB is somewhat misleading. With respect to FLAT, the boost position raises response abruptly by about 7 dB just below 250 Hz, maintains this boost down to 80 Hz, and then gradually backs off again. The cut position starts reducing output below 250 Hz, reaches a sharp minimum of about -9 dB in the 100-Hz band, and then gradually pulls back up toward -6 dB with respect to the flat setting.

The action of the tweeter switch is easier to describe. Its two positions provide essentially identical results up to about 2.5 kHz; from there, the curves diverge until, about 5 kHz, there is a steady difference of approximately $3\frac{1}{2}$ dB between the two settings. There is some question, however, concerning which should be considered "flat."

In determining how best to measure the Triad system, DSL tried many combinations of switch positions and placement. It concluded that in its test room and using the Triad metal stands, best overall results were achieved by placing the speakers against the wall and setting the bass at FLAT and the tweeter control at the more attenuated position. The curves and data shown here were all measured with the system set up that way, with the bass unit directly below the satellite being tested.

However, Acoustic Design Group has expressed some preference for free-standing use of the Triad 70 (the Triad 50 was described as a bookshelf system, implying that against-the-wall placement was standard) and conceives the higher-output position of the tweeter switch as the norm.

Using the metal stands, we did most of our listening tests with the speakers well out into the room, which seemed to give better stereo imaging, but we agreed with the lab's choice of switch positions.

Actually, the lab's curves for placement against the wall and free-standing (four feet out into the room) are quite similar except in the bass, where boundary effects have a strong influence. In the on-axis response curve shown here, wall reinforcement brings one octave of the bass to approximately the same level as the entire upper half of the curve; measured out from the wall, bass response never quite attains the levels that characterize the curves from 500 Hz up—even though these curves were made with what the manufacturer considers the attenuating position of the tweeter control.

Our listening experience didn't altogether match the curves in one respect: The bass is not as reticent as they suggest. Indeed, with the bass switch in its boost position, rumble in some broadcasts was intolerable, and even at FLAT, studio air-conditioner noise during announcements was astonishingly apparent. That this much bass energy can be coaxed from so small a box is a subject for wonder; that it is not as clean and musical as that of most bigger speakers (assuming they deliver this much bass, which many don't) is not.

Response toward the top end may also be a little rougher than the curves suggest. We found it not only rather "hot" (our reason for preferring the lower tweeter setting), but relatively unresponsive to attempts at tone-control improvement. The sound also has a certain boxiness (usually attributable to response roughness further down) that we weren't able to eliminate by changing relative driver positions. And though we considered the imaging good, it was not as spectacularly good as the company's stated design objectives had led us to hope.

Typical of compact systems are the sensitivity and dynamic range. The former, at $87\frac{1}{4}$ dB from the equivalent of 1 watt into 8 ohms, is noticeably lower than average among the speakers we test, though not by enough to be cause for concern. And the manufacturer is the first to point out that such a small system is not ideal for use in big rooms and can be pushed too hard. The Triad did accept the equivalent of more than 21 dBW (125 watts) peak into 8 ohms before exhibiting excessive distortion in the 300-Hz pulse test; at that drive level, it delivered a calculated peak sound pressure level of $108\frac{1}{2}$ dB, which is quite hefty. Distortion figures run from an average of about 1 percent above 100 Hz at 85 dB SPL to more than $2\frac{1}{2}$ percent at 100 dB. At all levels, distortion measures significantly lower above 500 Hz than it does at lower frequencies: At 100 dB, for instance, it averages less than $\frac{3}{4}$ percent in the upper range.

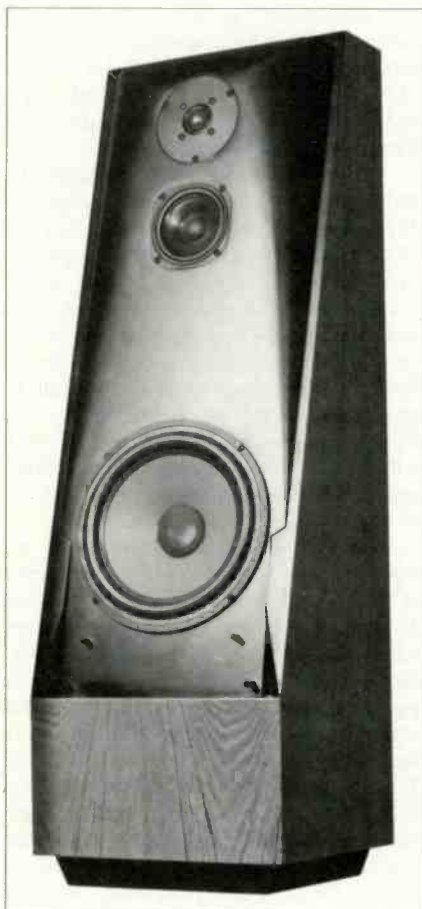
The Triad's impedance is very high in the bass (almost 35 ohms at 20 Hz), as one would expect from the design. It falls in an essentially straight line to the first low of less than 7 ohms near 120 Hz. Following a peak of more than 13 ohms near 170 Hz, it drops to less than 5 ohms in the midrange, then rises to just over 20 ohms near 2.2 kHz. It falls to its minimum value just above 10 kHz—between 3 and 4 ohms, depending on the position of the tweeter switch. The range over which our 10-ohm

average is measured doesn't include this minimum, so with synthesizer rock or other signal sources loaded with highs, paralleled pairs might not prove as safe as the high average implies.

Despite our reservations about some aspects of the Triad 70's performance, we believe Acoustic Design Group is up to something interesting here. And we hope they further develop the ideas the system embodies.

Circle 104 on Reader-Service Card

Thiel's Latest Coherent-Source Speaker



Thiel CS-3 floor-standing loudspeaker system, in particleboard enclosure with teak veneer finish (other finishes available by special order). Dimensions: 13 by 41 inches (front), 13 inches deep. Price: \$750 each. Warranty: "limited," 90 days parts and labor, extended to ten years with return of warranty registration card. Manufacturer: Thiel Audio Products Co., 1042 Nandino Blvd., Lexington, Ky. 40511.

THE CS-3 LOUDSPEAKER is a third-generation version of Thiel's original "Coherent Source" design, the Model 03. (The Model 03A remains in the line at a somewhat lower price.) Its 10-inch woofer, 4-inch midrange driver, and 1-inch dome tweeter are arrayed vertically on the front of a sealed, floor-standing enclosure. The cabinet is finished in lacquered wood veneer on all exposed surfaces and is held a few inches off the floor by an integral stand (also veneered). A gap in the back of the stand gives inconspicuous cable access to bottom-mounted banana-jack binding posts.

If that were the whole story, the CS-3 would be a pretty routine item. The first clue that it isn't comes when you remove its dark-brown cloth grille, revealing a tapered baffle with gently rounded edges. Thiel says this expensive shaping serves to prevent diffraction of high-frequency sound waves at sharp cabinet edges, smoothing the frequency response and clarifying the stereo image.

The baffle also has a slight backward slope that aligns the drivers' acoustic centers in the same vertical plane. This strategy, together with an elaborate first-order (6 dB per octave) crossover network, is said to yield accurate time and phase response (a coherent source, if you will). The audible significance of this refinement is controversial, but Thiel considers it an important contributor to the system's clarity and imaging.

The enclosure itself is made of 1¼-inch particleboard—almost twice as thick as that used for most other speakers—to minimize spurious vibration. Unusually high construction quality also is evident in the crossover, which uses air-core coils, polypropylene and polystyrene capacitors, and metal-film resistors for lowest possible distortion. Deep bass response is maintained by an external active equalizer that counters the woofer's natural rolloff in the bottom two octaves.

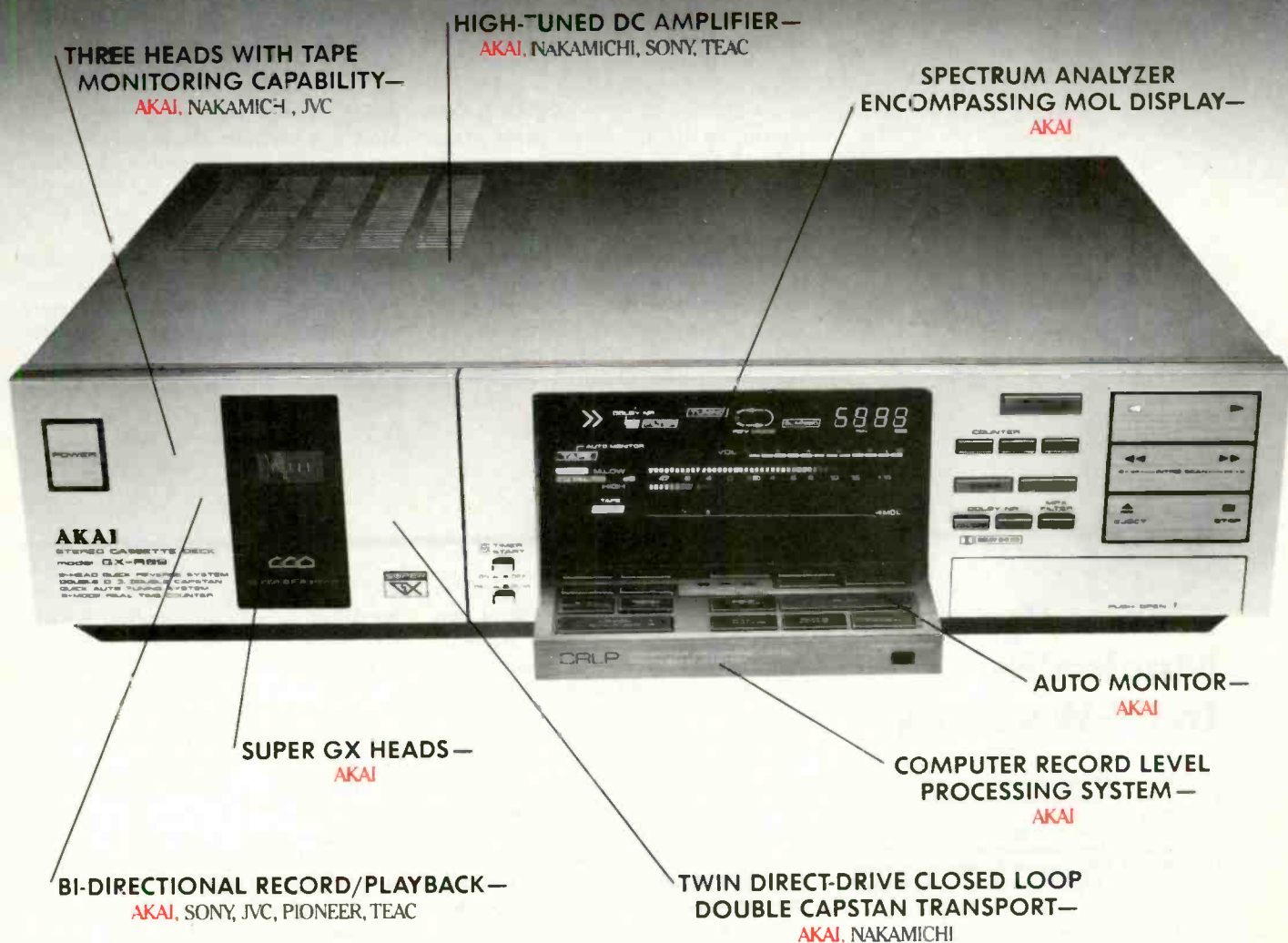
Thiel recommends placing the speakers away from any walls and aimed straight

ahead, at least eight feet in front of the listener. Consequently, Diversified Science Laboratories used the second of its two calibrated measurement positions, four feet in front of the back wall, for all of its tests. (The lab did run an additional set of response curves at the other calibrated position, with the speaker's back against the wall, for reference.)

The CS-3's measured sensitivity is on the high side of average, and its impedance curve is extraordinarily smooth, dropping from a maximum of 12.5 ohms at 20 Hz to about 3.5 ohms at 100 Hz. From there on up, the impedance meanders between a low of 3.3 ohms at approximately 400 Hz to a high of 4.7 ohms at about 3 kHz. The curve's flatness indicates that the speaker is essentially nonreactive (i.e., purely resistive) over almost the entire audible range and therefore easier for an amplifier to drive. Still, the impedance is quite low—especially in the upper bass and lower midrange, where most musical energy is concentrated—which suggests that best results will be obtained with high-current amplifiers. It also means that you should not attempt to run a pair of CS-3s in parallel with another set of speakers.

Power handling is very good, but not exceptional. On the lab's 300-Hz pulse test, the speaker accepted an input of 55 volts peak—equivalent to 25¼ dBW (376 watts) into 8 ohms or 28¾ dBW (750 watts) into 4 ohms—for a calculated peak sound pressure level (SPL) of 115¼ dB at 1 meter before the onset of audible distortion. At a moderately loud 85 dB sound pressure level, harmonic distortion averages approximately 1½ percent over the lab's measurement range (30 Hz to 10 kHz). And from 100 Hz up, it averages a mere ½ percent. Naturally, at higher levels, the distortion increases, so that at 95 dB SPL it averages 3¾ percent over the entire test range and about 1¼ percent from 100 Hz up. These are respectable results, if not outstanding, and the speaker should sound clean at anything short of disco levels. Distortion at very low frequencies rises somewhat faster

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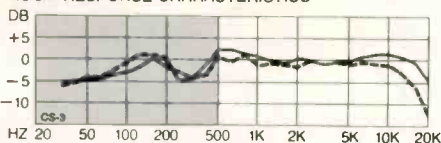
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ROOM RESPONSE CHARACTERISTICS



— boundary-dependent region
 — on-axis response
 - - - off-axis (30°) response

SENSITIVITY (at 1 meter; 2.8-volt pink noise, 250 Hz to 6 kHz) 90 dB SPL

AVERAGE IMPEDANCE (250 Hz to 6 kHz) 4.1 ohms

than usual, perhaps because of the bass boost applied by the equalizer. According to DSL's measurements, this amounts to about 3 dB of boost at 80 Hz and approximately 12 dB at 25 Hz, below which it falls off rapidly to prevent overload from infrasonic signals.

The CS-3's third-octave response is quite smooth, especially through the mid-range and treble. On axis, it is within $\pm 3\frac{3}{4}$ dB from 40 Hz to 20 kHz. Off axis, response droops a bit in the top octave (above 10 kHz) because of the tweeter's increasing directivity, but no more so than average. And overall, the curve is even smoother here than on axis, maintaining a spread of just $\pm \frac{1}{2}$ dB from 1 to 10 kHz and of ± 4 dB from 40 Hz to 16 kHz. The dip centered on 320 Hz and the peaks around 160 and 640 Hz probably are caused by interference effects from reflections off the floor.

In the curves shown here, the bass response tapers down about 5 dB from 125 to 25 Hz before dropping sharply. The curves taken with the speaker against the back wall show a response *rise* between 125 and 40 Hz, which indicates that the bass loss in the published curves is simply the result of inadequate boundary reinforce-

ment at the measurement position. Placing the speakers between the two distances DSL used might actually give the best performance.

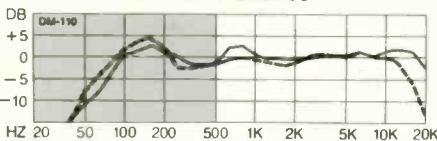
We tried all three in our listening room and found ourselves preferring the wall and midway-out placements (the latter especially, just as we would have expected from the measurements). But none of them left us with any cause for serious complaint: The CS-3 is simply a superb-sounding loudspeaker with a remarkably natural tonal balance. Vocal reproduction, which is the great Achilles' heel of most speakers, is one of its most notable strengths; brass and strings sound clear without shading into stridency. And imaging is excellent, combining openness with precise localization. Most welcome is the absence of any artificial forwardness, which makes some otherwise good loudspeakers sound slightly vulgar by comparison to the Thiel's polite refinement.

If we seem enthusiastic, it's because we are. The Thiel CS-3 has become a favorite here—well enough liked to be deemed worth its not inconsiderable price. We heartily recommend that anyone looking for a speaker in this bracket give the CS-3 a long, serious listen.

Mannerly Musicality In B&W's Baby

B&W DM-110 loudspeaker system, in particleboard enclosure with simulated walnut or black-ash finish. Dimensions: 10 $\frac{1}{4}$ by 19 inches (front), 10 inches deep. Price: \$300 per pair. Warranty: "limited," five years parts and labor. Manufacturer: B&W Loudspeakers, Ltd., England; U.S. distributor: Anglo American Audio Co., Inc., P.O. Box 653, Buffalo, N.Y. 14240.

ROOM RESPONSE CHARACTERISTICS



— boundary-dependent region
 — on-axis response
 - - - off-axis (30°) response

SENSITIVITY (at 1 meter; 2.8-volt pink noise, 250 Hz to 6 kHz) 91 dB SPL

AVERAGE IMPEDANCE (250 Hz to 6 kHz) 12 $\frac{1}{2}$ ohms

LIKE OTHER PROMINENT exponents of computer-aided loudspeaker design, B&W began by seeing how perfect a speaker it could build, price no object, using the new technology. But digital recording and the Compact Disc—with their potential for superaccurate frequency response, dynamics, and transient reproduction—have accentuated the importance of these digital design tools for wringing maximum performance from every product. So B&W has now turned its full technical resources to the task of making loudspeakers for which price very definitely is a consideration.

The DM-110, reviewed here, and DM-220 are the resulting members of the company's Digital Monitor Series. The essential difference between the two models is in how they handle the low frequencies. The 220 fits two woofers into a sealed enclosure for maximum power-handling capacity and deep-bass response; the 110's single woofer is mounted in a smaller, ported enclosure for maximum cost effectiveness. The woofers themselves are 8-inch cones, crossed over at 3 kHz to a 1-inch dome tweeter. Connections are made at color-coded binding posts that accept banana plugs. The binding posts are in a back-panel recess with angled sides that make visibility of the holes for bare-wire leads marginally better than average, and in all

but one of the eight we examined, the hole was oriented vertically—a further aid in what can be an awkward hookup process.

The design speaks clearly of care in manufacturing. Loudspeakers today make a much more elegant impression than their forebears when you remove the grille, and the undraped appearance of the DM-110s is well above average even by current standards. Our test samples sported the simulated black-ash finish—a welcome antidote to the ever-present walnut, which also is available. (As usual in today's vinyl finishes, this one is virtually a dead ringer for real wood grain, despite the unusual color.) The baffle-panel paint and grille fabric complement the cabinet colors.

B&W's advice for room placement is unexceptionable, if a little vague. The owner's manual recommends asymmetrical positioning between the two side walls—a good point that's often overlooked—and advises that the speakers be free-standing rather than wall-mounted or, worse, corner-mounted. Diversified Science Laboratories made its measurements with the speaker on a 12-inch stand and four feet in front of the wall; for listening, we kept the speakers a little higher and even farther out from the back wall.

The lab's on-axis response curve is remarkably flat throughout the working

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range. With the exception of two mild prominences centered in the 160- and 800-Hz bands, barely reaching +2½ dB, response is within ±2 dB from the 100-Hz band to that just below 20 kHz. Near-field measurements show that the woofer itself rolls off below 80 Hz, while the vent reaches maximum output at 50 Hz. The off-axis response, which would seem very good were not the on-axis curve so superior, shows more rise around 160 Hz and rolls off a bit earlier at the top, but is otherwise within ±3 dB over the same frequency range.

Sensitivity is (as B&W claims) higher than you might expect in a system this small. At 91 dB, it's fairly typical of the speakers of all sizes we test these days, though some models—even large ones—come in several dB lower. The average impedance (12½ ohms in our standard test band) is higher than usual. The impedance curve ripples between highs of just over 20 ohms (at about 23, 83, and 950 Hz) and lows of 5½ ohms or more (at about 43, 200, and 3,000 Hz). Paralleled pairs shouldn't overtax any well-designed amplifier.

Distortion is quite low and increases relatively slowly as drive level is boosted. In all of DSL's tests, harmonic distortion is even lower at high frequencies than it is in the midrange, but the averages for all frequencies above 100 Hz run from about ¼ percent at a sound pressure level (SPL) of 85 dB to about ¾ percent at 100 dB (the lab's highest test level). In the 300-Hz pulse test, a change in sound coloration and observable waveshape, establishing the upper limit of the speaker's useful dynamic range, occurred at a calculated 116¾ dB

SPL (from a peak input of 55 volts—the equivalent of 25¾ dBW, or 375 watts, into 8 ohms), which is more than loud enough for any home reproduction purpose we can imagine.

We are very pleased indeed with the sound of the DM-110. It is smooth and accurate to the point of being self-effacing. Our only complaint, and it's a minor one, is that stereo imaging is not particularly vivid. The "sound stage" seems somewhat narrow, and instrumental placements within it a bit vague. We suspect that this may be caused, at least in part, by the speaker's somewhat broken-up baffle surface and the heavy grille frame that fits against it. When so much attention is being paid to removing sources of sonic reflection and diffraction in the baffle areas of current speakers—including B&W's own premium products—this element of the design is a little disappointing. In any event, however, the imaging is acceptable.

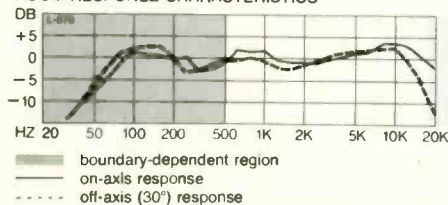
If you're used to the sort of exaggeration that once was commonplace, you may think the DM-110's sound understated at first hearing. But that would be at least partially attributable to its very low coloration. As in virtually any small speaker, response is not strong in the deep bass, but neither is it thumpy and toneless—as it can be in ported systems less carefully designed than this one. The sound is thus more musically accurate than sonically spectacular. And it's surprising that so beautifully crafted a speaker can be imported from an ocean away and still sell for so reasonable a price.

Circle 101 on Reader-Service Card

ADS's Atelier-Compatible Loudspeaker

ADS L-570 loudspeaker system, in particleboard enclosure with wood-grain or flat vinyl finish. Dimensions: 11¾ by 19 inches (front), 10 inches deep plus 1-inch clearance for grille. Price: \$220 each in simulated walnut, \$200 in flat black; optional F-5/B floor stands, \$25 each. Warranty: "limited," five years parts and labor. Manufacturer: Analog & Digital Systems, Inc., One Progress Way, Wilmington, Mass. 01887.

ROOM RESPONSE CHARACTERISTICS



BY NOW WELL KNOWN as a loudspeaker manufacturer, ADS recently added electronics: the Atelier series, actually manufactured by Braun in West Germany and (surprise!) bearing a distinctly Continental look. The L-570 speaker is (like the smaller L-470) a two-way system designed as, among other things, a suitable match for the Ateliers. The beveled edges do suggest their profile, and the perforated steel grille reflects not only European styling, but also that of ADS's landmark minispeakers. Of course, the L-570 can be used with other component brands as well.

The woofer is an 8-inch cone that is formed with a tapered cross section, held in a butyl rubber surround, and mounted in a sealed (acoustic suspension) enclosure. It crosses over at 1.8 kHz to a 1-inch soft-dome tweeter. The two drivers are aligned vertically on a simple, uncluttered baffle. Because the steel grille is self-supporting, it requires no frame and is presumably about

as acoustically transparent as possible. In a recess on the back panel are spring-loaded connectors that accept banana plugs as well as bare wires. The overall appearance is fairly handsome, though we consider the "wood grain" vinyl less convincingly naturalistic than average. (We didn't examine the alternative matte-black vinyl finish.)

ADS recommends keeping the speakers at least ten inches off the floor and (despite the "bookshelf" designation, which specifies size rather than preferred placement) at least two feet from other room boundaries. Diversified Science Laboratories made its measurements with the speaker mounted on a 12-inch stand four feet away from the wall, and we positioned the L-570s similarly for our listening tests.

The on-axis curve is quite smooth, with relatively minor departures from flat response. Among these is a dip in the lower midrange (around 350 Hz) of about 2½ dB below the curve's average level—probably

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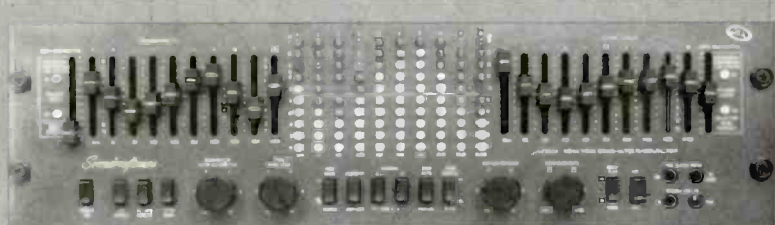
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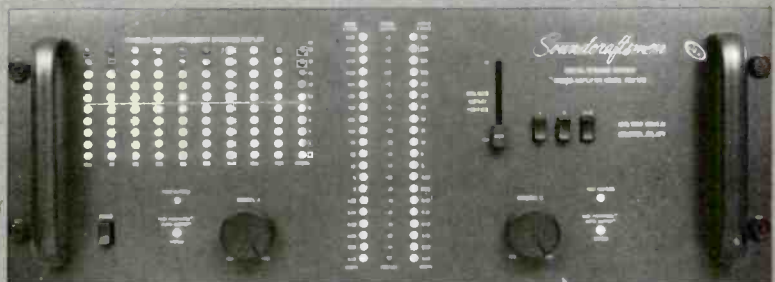
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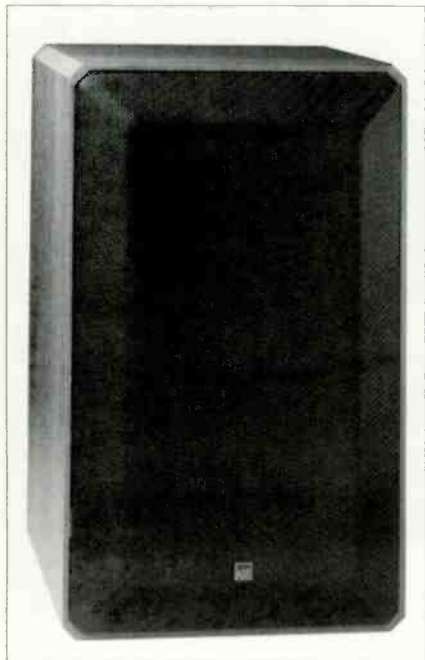
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AUDIO New Equipment Reports

SENSITIVITY (at 1 meter; 2.8-volt pink noise, 250 Hz to 6 kHz) 88 1/4 dB SPL

AVERAGE IMPEDANCE (250 Hz to 6 kHz) 12 1/2 ohms



caused by interference from a floor reflection. The largest is a prominence of about 3 1/4 dB centered just below 10 kHz. Otherwise, the on-axis response falls mainly within a ± 2 -dB window from 80 Hz up, including a shallow trough approximately 1 dB deep between 1.2 and 3 kHz. The off-axis response is a good match and stays within ± 3 dB (even including dips and peaks) from the 63-Hz band to that centered on 12.5 kHz.

The curves suggest some emphasis of the upper treble, but they didn't fully prepare us for the bright liveliness of the sound, which you may view as either super-detailed or rather aggressive, depending on your taste. The speaker's brightness emphasizes hiss in FM broadcasts and tape playback, and during the listening tests we preferred to roll off the top end slightly at our preamp's treble control.

Distortion averages about 1/4 percent from 100 Hz up at the lowest test level (85 dB SPL), though it runs close to 3/4 percent—attributable almost exclusively to the relatively benign second harmonic—from 200 through 400 Hz. At 90 dB SPL, overall distortion is not much higher, though the second harmonic jumps to approximately 1 percent in the 200- to 400-Hz octave and is slightly higher at 10 kHz (the highest frequency used for these tests). At 95 dB, the second harmonic runs about 2 percent between 200 and 400 Hz and at 10 kHz, while distortion averages about 1/2 percent elsewhere. At the highest test level (100

dB), these figures increase to more than 3 percent and near 3/4 percent, respectively, though signs of distress at 6.3 kHz induced the lab to discontinue the test there and at 10 kHz.

Performance in the 300-Hz pulse test was exemplary. The L-570 accepted with no trouble the full output of the lab's amp—the equivalent of 27 1/4 dBW, or 530 watts, peak input to 8 ohms—for a calculated sound pressure level of 115 1/2 dB. Sensitivity, at 88 1/4 dB, is to the low end of average among the speakers we test, at least partly because of the L-570's relatively high impedance.

The impedance curve descends to broad minima of just over 5 ohms, punctuated by narrow peaks of 14.9 ohms at bass resonance (60 Hz) and 23.9 ohms in the crossover region. The measured average of 12 1/2 ohms documents (and perhaps even overstates) the fact that paralleled pairs should pose no threat to competently designed amplifiers.

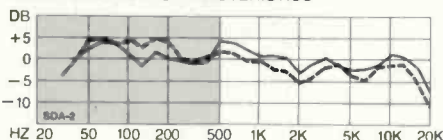
This leaves what may be the L-570's most amiable property: its imaging. We found it broad and detailed, yielding a specific picture of instrumental placements in, for example, Schubert's Octet for Strings and Winds, in F (Nonesuch Compact Disc 9-79046-2). The speaker's vivid bite on the attacks helps create a special immediacy in such music—though, as we say, you can tame it into a more laid-back sonic persona by a slight treble reduction if you prefer.

Circle 103 on Reader-Service Card

Super Stereo From Polk Audio

Polk SDA-2 Stereo Dimensional Array floor-standing loudspeaker system, in particleboard enclosures with walnut or rosewood finish. Dimensions: 16 by 39 1/4 inches (front), 11 3/4 inches deep plus clearance for connections. Price: \$1,200 per stereo pair. Warranty: "limited," five years parts and labor. Manufacturer: Polk Audio, Inc., 1915 Annapolis Rd., Baltimore, Md. 21230.

ROOM RESPONSE CHARACTERISTICS



— boundary-dependent region
 - - - on-axis response*
 off-axis (30°) response*

SENSITIVITY (at 1 meter; 2.8-volt pink noise, 250 Hz to 6 kHz) 91 dB SPL*

AVERAGE IMPEDANCE (250 Hz to 6 kHz)
 one channel driven 3.3 ohms*
 both channels driven (mono) 9.2 ohms*

*See text.

WHEN WE REVIEWED Polk's first Stereo Dimensional Array system (the SDA-1, January 1983), we commented on what an exciting and interesting loudspeaker it was to listen to. Although by no means a flawless reproducer, it was capable of some extraordinary feats of stereo imaging. It was also quite expensive, so designer Matt Polk set out to make a less costly version without giving up too much in sound quality. He succeeded so well that the SDA-2 system not only sells for \$500 less, but it actually sounds *better* than the original SDA-1. Naturally, that sent him back to work on the top model, giving rise to the SDA-1A, but that's a story for another time.

With its grille on, the SDA-2 looks exactly like the SDA-1, only a little smaller. Removing the grille reveals that the woofer complement has been reduced from two 6 1/2-inch cones to one, augmented by a large passive radiator. The woofer operates from 125 Hz down. Directly above it is an identical 6 1/2-inch midwoofer that works from 2.5 kHz down, including the range

covered by the woofer. It also is loaded by the passive radiator—another difference from the SDA-1, in which the midwoofer was mounted in a vented subenclosure, isolated from the other drivers and the passive radiator. On top is a soft-dome tweeter slightly more than 1 inch in diameter.

Right next to the tweeter and midwoofer, toward the baffle's outside edge, is an identical pair of drivers, also with a 2.5-kHz crossover. But they do not reproduce the same signal. These drivers are fed the *difference* between the left- and right-channel signals: left minus right (L-R) to the left speaker's outer "dimensional array," right minus left (R-L) to the right speaker's. This is achieved by means of matrix circuits in the crossover networks and a cable that connects the two speakers in a stereo pair together. The three drivers forming the inner "stereo array" get straight left- and right-channel signals, just as in an ordinary pair of loudspeakers.

The point of all this fancy footwork is to fool your ears into thinking they're hearing a real, live sonic event, rather than a



pair of speakers trying to fake you out with a stereophonic illusion. That is, the SDAs try to create a more convincing illusion than is possible with ordinary stereo. The output from the dimensional arrays (which are separated from the stereo drivers by about the width of a human head) serves mainly to cancel false localization cues that normally would arise from each ear hearing the outputs of both speakers in a conventional stereo pair. With the SDAs, the left ear hears the left speaker and the right ear hears the right speaker. (For a more complete explanation of how the SDA systems work, see our review of the SDA-1.) This is similar in principle to what electronic devices such as the Carver Sonic Hologram Generator and (especially) the Sound Concepts IR-2100 Image-Restoration system seek to achieve.

Because of the SDA-2's unusual design, Diversified Science Laboratories found it difficult to obtain unambiguous test results. The lab ran a total of 42 third-octave response curves, with the speakers in various positions and configurations (both together, or one in the room and one out with its output muffled by blankets) and with several types of input (mono, left only, and right only). The curves shown here were made with both speakers standing together against the back wall and a mono pink noise signal. (Thus, they are directly comparable to the curves we printed for the SDA-1.) These are neither the best nor the worst of the curves, but they are fairly representative of the lot. We were gratified, however, to see that all of the curves DSL obtained from the SDA-2 are smoother than those for the original SDA-1 and that they are significantly more consistent with one another. The latter point, in particular, makes us much more confident of the validity of the measurements.

Impedance measurements also posed something of a problem, because the SDA-2's impedance varies according to how "stereo" the drive signal is. A mono signal, which exercises only the inner arrays, gives a very smooth, flat curve, with a maximum of 13 ohms at 50 Hz, a minimum of 6.1 ohms at 110 Hz, and an average of slightly more than 9 ohms. Driving the left or right channel only brings the dimensional arrays into full play, dropping the maximum impedance to 7.2 ohms, the minimum to 3.0 ohms, and the average to between 3 and 4 ohms. With typical program material, the impedance would vary continuously between these extremes.

Regardless of drive condition, the impedance is notably constant with respect to frequency above about 100 Hz, indicating that the system constitutes an essentially nonreactive load—i.e., one that is almost purely resistive, with only minor capacitive or inductive elements. This is beneficial in that it makes the system easier for an amplifier to drive, and we would not expect any problems in this regard using good, modern

equipment. However, the impedance can be very low under some circumstances, so we would not advise running another pair of speakers in parallel with the Polks.

DSL measured sensitivity, power handling, and distortion very conservatively—using a mono drive signal with one speaker in the room against the back wall and the other in another room, muffled with blankets. The sensitivity nonetheless proved fairly high, which means that it's probably even a little higher under more typical conditions of use. And in the 300-Hz pulse test, the SDA-2 accepted the full output of the lab's amplifiers—63 volts peak, equivalent to 27 dBW, or 500 watts, into 8 ohms, for a calculated peak sound pressure level of 118 dB. Plenty loud enough for anyone, we'd say.

Harmonic distortion is quite low, averaging about ¼ percent from 100 Hz to 10 kHz at a moderately loud 85 dB sound pressure level (SPL). Another 10 dB is required to get the distortion up over ½ percent, and it doesn't really begin to take off until a very loud 100 dB SPL is reached, generating approximately 1¼ percent distortion.

Polk says that the speakers should be placed at least several feet away from side walls, but otherwise recommends experimentation. We found them quite satisfactory (and not much different) both against the back wall and out in the room, though we used the latter position for most of our listening. What struck us first were the obvious improvements over the original SDA-1. There is no evidence of stridency, for example. Indeed, the balance of the SDA-2 is exceptionally smooth and natural with, if anything, a slight tendency to warmth. Nor have we noticed any of the odd echoey effects that cropped up with some recordings played over the old SDA-1.

What does remain unchanged (or nearly so) is the remarkable stereo imaging that set the first SDAs apart from the crowd. Everything sounds a little more solid and "there" on the SDA-2s than it does on conventional speakers. They also have the ability to place sounds out to the left or right, beyond the confines of the space between the speakers—an amazing experience, and quite startling the first few times you realize it's happening. The new model seems somewhat less disposed to spectacular, surreal effects than the original was, but this mainly tends to make it sound more realistic and less gimmicky. And the degree to which it sounds different from other speakers depends to some extent on the characteristics of the recording being played, though we have yet to hear any stereo program that doesn't benefit at least a little from Polk's novel design.

In short, these are very fine and utterly fascinating loudspeakers. Even if you know you'll never be able to afford them, you owe it to yourself to audition them, just to hear what they can do.

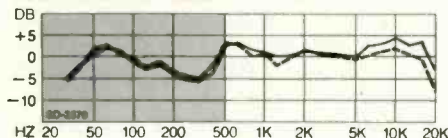
Circle 35 on Reader-Service Card

Magnavox's Deluxe Loudspeaker



Magnavox SD-2570 loudspeaker system, in particleboard enclosure with walnut veneer finish. Dimensions: 14½ by 41 inches (front), 13½ inches deep. Price: \$800 per pair. Warranty: "Unlimited," 12 months parts, three months labor. Manufacturer: Magnavox/N.A.P. Consumer Electronics Corp., P.O. Box 6950, Knoxville, Tenn. 37914.

ROOM RESPONSE CHARACTERISTICS



— boundary-dependent region
 - - - on-axis response
 . . . off-axis (30°) response

SENSITIVITY (at 1 meter; 2.8-volt pink noise, 250 Hz to 6 kHz) 91 dB SPL

AVERAGE IMPEDANCE (250 Hz to 6 kHz) 7½ ohms

NOT SO LONG AGO, audiophiles looked on Magnavox as "one of them"—a sort of enemy because of the company's "brown goods" line of stereo consoles. That was before it was acquired by North American Philips, which, among other things, has drawn it into the vortex of the Compact Disc revolution. The Magnavox image thus has changed, over the last couple of years especially, and so have its products and the people to whom they are sold.

The SD-2570 is one of two floor-standing three-way loudspeakers whose black grilles cover most of the front, while walnut veneer covers the exposed surfaces of the front and sides. (The other model, the 9300, has a black baffle panel behind the grille, while the 2570 continues the walnut veneer right up behind the drivers' mounting flanges.) The back surface is painted black; spring-loaded clips in a recess about halfway up this surface accept bared wire leads from the amplifier. Also on the back panel, near the floor, is the mouth of the ducted port that loads the woofer. For correct operation, this port must be kept away from the wall so that it can "breathe," though the unveneered back argues against free-standing placement well out in the room.

Diversified Science Laboratories' near-field response measurements indicate that maximum vent output occurs at about 25 Hz, with the 12-inch woofer delivering its maximum direct output near 80 Hz. Crossover to a 2-inch midrange dome is at about 500 Hz; it, in turn, hands the signal over to a 1-inch dome tweeter at about 3 kHz. The woofer is centered on the front panel; the two domes, though aligned vertically, are offset by approximately 1½ inches from the woofer's vertical axis.

The lab tested the SD-2570 standing eight inches in front of the back wall—a position for which we have room correction data and one that is substantially the same as the 12-inch distance Magnavox recommends. (The exact dimension normally won't be critical in this kind of system as long as the vent has enough space to work.) DSL also measured third-octave response with the speaker standing four feet out in the room, with quite similar results except for somewhat less acoustic output in the deep bass.

The response is not as smooth as we might have liked, and we found tone controls of only moderate help except in compensating for the deep-bass loss in the free-standing position. In the primary measurement position (against the back wall), on-axis response is within about ±4¼ dB from below 40 Hz up, with the exception of a trough centered near 300 Hz, where measured response drops beyond -5 dB. (This probably is caused by interference from a reflection off the floor.) From 500 Hz up, however, the curve stays consistently above the 0-dB average until the very top of the audible range and exceeds +2 dB in a broad

peak above 5 kHz. Together, these factors give the sound a somewhat colored quality, with a certain edginess that's difficult to banish from string tone.

This may be abetted marginally by a marked increase in third harmonic distortion around 300 Hz. At sound pressure levels of 85 and 90 dB, for instance, distortion over the range above 80 Hz averages about ¼ percent, which is very good; but the third harmonic is about 1 percent at 250 and 320 Hz at the lower test level and about 1¼ percent at the higher one. Elevating the test level still further raises the distortion both in this limited range and across the board; at 100 dB SPL it reaches about ½ percent overall (which is excellent) and around 1¼ percent in the 300-Hz band (not too bad except by comparison to the fine overall figures).

Through most of the frequency range, the impedance is very well controlled. The port introduces a peak of more than 30 ohms into the infrasonic region of the curve, and another of just over 53 ohms occurs at about 47 Hz. A broader and milder rise (to 14 ohms) is centered just below 300 Hz. Otherwise, the curve stays mainly between 6 and 8 ohms, as reflected in the 7½-ohm average in our data. If you want to parallel pairs of SD-2570s (or, more likely, one pair of the Magnavoxes with a pair having a similar impedance rating), you need not fear for your amplifier.

Sensitivity, at 91 dB, is on the high side of average—though not as high as you might guess from the speaker's size and ported design. In the 300-Hz pulse test (where the SD-2570's impedance is fairly high), it accepted without complaint the full brunt of the test amplifier—the equivalent of 28 dBW (630 watts) into 8 ohms—for a calculated peak sound pressure level of 119 dB. Magnavox rates the design at 100 watts power-handling capacity, and it appears capable of accommodating considerably more than that on musical material and therefore of reproducing a greater dynamic range than home listeners normally will need.

We aren't as impressed with the stereo imaging, which would have passed muster a few years ago but seems rather shallow and vague by today's standards. Magnavox's failure either to align the drivers vertically or to provide symmetrical arrays in its stereo pair (both fairly commonplace techniques nowadays) may be part of the reason.

Still, the speakers make an imposing appearance and, sonically, represent a huge step into true high fidelity for a company once shunned by audiophiles. The new Magnavox demands to be taken seriously as a manufacturer of high-quality audio equipment, and we find we can take the company at its word in this respect even if we have some reservations about this particular product.

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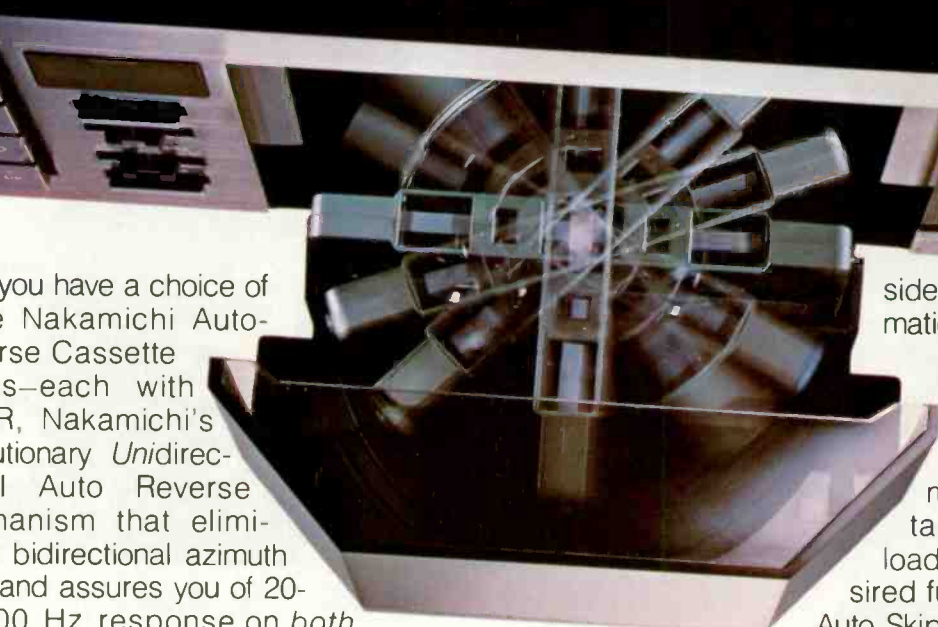


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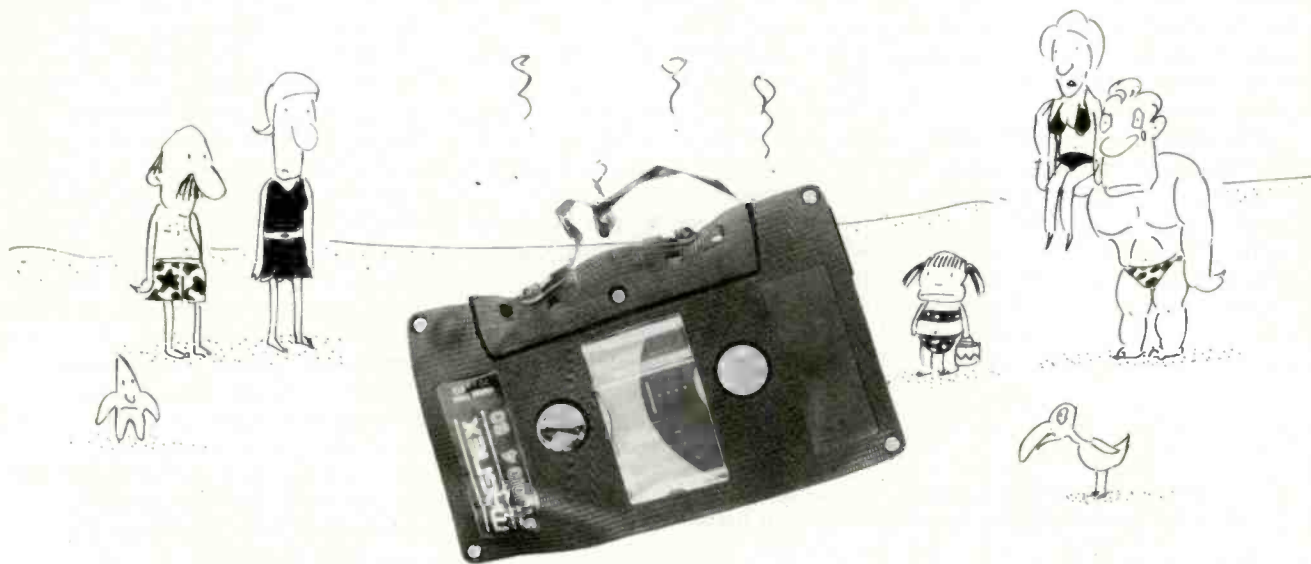
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A COMPLETE GUIDE TO summertime taping



BY

ROBERT LONG



Tips on making traveling tapes, and how to rescue your damaged recordings

AMONG THE UNIQUE JOYS of the audio cassette is its portability. It's the musical medium of choice just about anywhere that's out of AC-cord range. (Radio once enjoyed the honor, but it has a harder time delivering a clean signal under many conditions and usually is plagued by commercials.) Basic to your enjoyment of cassettes outdoors or in the car, however, is the acknowledgement that once a tape

leaves the listening room, it faces a totally different (and sometimes quite threatening) environment.

At home, it's relatively easy to store cassettes in the consistently moderate temperature and humidity that they prefer, and away from the dust and grime that they abhor. By contrast, car interiors run the gamut in temperature from sub-zero to meltdown (literally, from the cassette's viewpoint), and vary in humidity from desert-dry to dew point. And even the flotsam that infests the floors of most cars is nothing compared to the abrasive grit of beach sand.

So the first decision you must

make about your tapes is their degree of disposability (or, conversely, of archivability). You can leave all your taped treasures at home and take only copies into the wild, or you can limit your portable listening to just a few carefully chosen and even more carefully protected cassettes. A caddy will help keep out the grime (be sure to buy one that accommodates the cassettes with their original protective boxes) and will enable you to carry your collection with you instead of leaving it to the untender atmospheric mercies of a parked car.

Remember that foreign matter can harm the deck as well as the tape. So

unless you can afford to treat your hardware as disposable, it's a good idea to toss out a contaminated cassette and redo the recording with a fresh one. Damaged tapes often can be restored (see "How to Repair Your Cassettes," page 40), but once gummy or gritty substances have gotten into the shell, the tape should be treated as a permanent security risk.

Though the likelihood of damage is reason enough to create a separate (and ultimately disposable) library of cassettes for portable use, the playback characteristics of most battery-powered and car decks also support the idea. To be blunt about it, the playback response of these decks, particularly in the highs, is not in a class with that of good home recorders. Add to this the limitations of small speakers and headphones (though both have made considerable strides in the last few years), the vagaries of in-car or alfresco acoustics, and the ambient noise that's likely to accompany portable listening, and you're no longer dealing with the highest of hi-fi environments.

This gives you license to adopt some techniques in making portable recordings that I couldn't recommend in good conscience for home-use cassettes (which should be as "flat" and therefore as close to objective perfection as possible). Many of these compensatory techniques require a certain amount of cut-and-try; all

depend on a serendipitous relationship between your tape, your player, and your listening environment. So don't be surprised if some of them fail to work for you.

ADJUSTING EQ AND BIAS

The most obvious approach is to pre-equalize your tapes to compensate for playback losses. Because you have no convenient way of measuring those losses, you must start by guessing—perhaps by adding a 6-dB boost at 10 kHz with an equalizer inserted between the music source and the recorder. You won't know whether this is too little, too much, or just about right until you actually play the cassettes in your portable or car deck. On the basis of what you hear, you can fine-tune your technique for future dubbing.

There are cheaper (but less flexible) ways of getting similar results, however. The best known is to record with appropriate equalization on tapes in the Type 2, 3, or 4 groups (chrome/ferricobalt, ferrichrome, and metal, respectively) and then use the "normal" Type 1 EQ for playback in the car (120 microseconds, instead of the 70 microseconds that is standard for the other three types). The difference between the two EQ curves will effectively boost the whole top end of the response.

Bias—the ultrasonic signal necessary for low-distortion audio recording—can be altered instead of

equalization. When bias and recording EQ are in perfect balance, the result is ruler-flat response; reduce the bias, and a peak begins to appear at high frequencies. So you can perk up high-frequency response by recording with the deck set for a tape requiring less bias than the tape with which you're working.

Typically this would mean recording and playing back a Type 2 ferricobalt or chrome as though it were a Type 1 ferric, which requires less bias current. The resulting peak will fall into the frequency range where azimuth misadjustment robs response. If the degree of bias mismatch is just right, the amplitude of the "correction" may even be just about what you want. The trouble with this technique is that it's hard to control quantitatively, and results tend to be unpredictable when you switch tape types.

It appears that Fuji has sought to do something similar in its GT-I cassettes, which are labeled "for car stereo." The company's Type 1 oxide is formulated to deliver more high-frequency output than conventional LN oxides when both are used with "normal" Type 1 recording settings. I find the extra "zing" subtle at best—certainly not enough to counteract any serious azimuth problem. But there are other advantages to the GT-I. Its shell is molded of a plastic rated dimensionally stable to 230 degrees (though it's not as rigid, even at normal temperatures, as Loran's superstable Lexan shell). Also of interest is its tactile coding for the two cassette sides, whose asymmetrical design helps you find the side you want even in the dark.

FIGHTING AMBIENT NOISE

Compression is another technique that I wouldn't normally recommend for home taping, but one that can make a major contribution to listening enjoyment with car or personal-portable playback. Though compression has become something of a dirty word in this era of digital recording, the truth is that even Compact Discs are often compressed. Polygram, for instance, doesn't allow its CDs the full run of that medium's nominal 90 dB, on the grounds that trying to reproduce so extreme a range is impractical for most consumer purposes. In fact, we live

FUJI'S GT-I CASSETTES are specifically designed for car use, with heat-resistant shells and tape formulated to give a slight rise at high frequencies.



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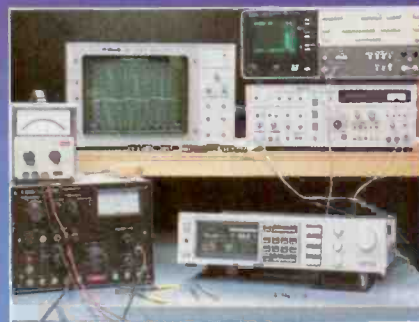
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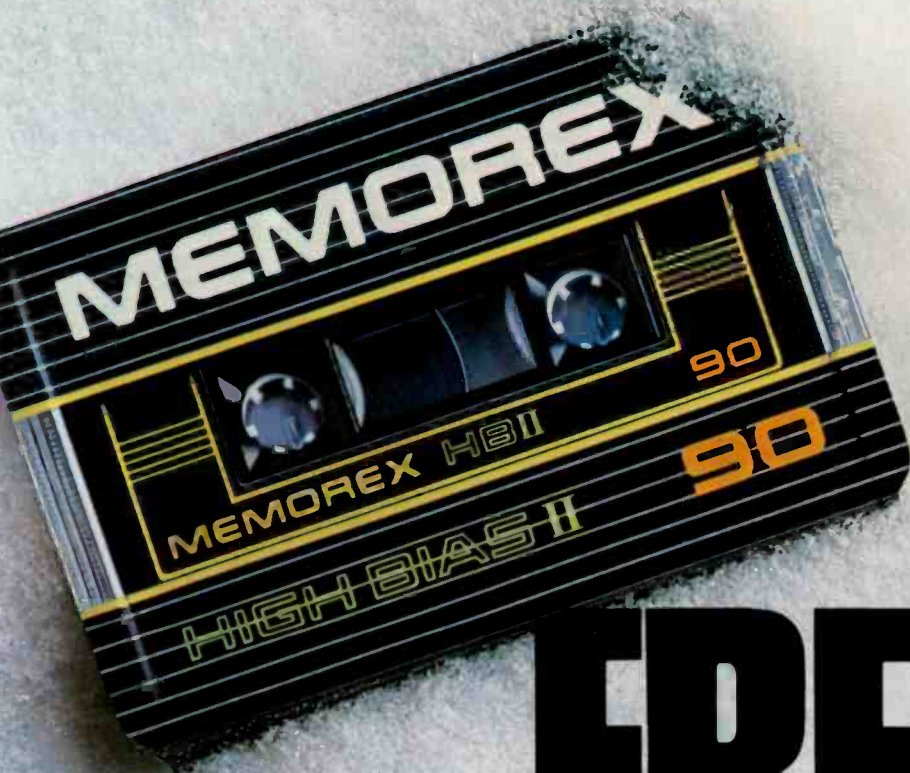
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daily with music reproduction whose dynamic range is compressed in varying ways and to varying degrees, and it seems that the vast majority of listeners never notice.

The benefit of compressing recordings destined for portable use is that it enables you to hear quiet musical passages when ambient noise is competing for your attention. And if the loudest sounds are squeezed closer to the softest, you won't have to turn the volume up so far that loud passages become intolerable and potentially ear threatening, an especially acute problem with headphone listening.

The best method for compressing wide-range material probably is a little gain-riding as you make your dubs. Though the process can be intimidating at first, it becomes a challenge and an adventure to see how musically natural you can make the final product. In its simplest form, gain-riding consists of gradually boosting the faintest passages—the ones that you ordinarily must strain to hear—and then fading them away again before the next fortissimo.

The job is easier if you know the music well enough to anticipate its climaxes, but with concentration you can develop a sixth sense about where composers and arrangers are likely to go next. When a sudden outburst catches you with your fader up, the result is overrecording. Never mind: Start your dubbing over and learn from the experience. Pretty soon you'll find that you can take a bassoon solo that's 30 or 40 dB below the level of the full orchestra and unobtrusively sneak it up by 15 dB or more during the first few measures. As long as you can get the level back down in time, you're home free.

A stereo recorder with a built-in ALC (automatic level control)—which these days is likely to mean a model contained within an inexpensive one-brand rack system—can be used to make dubs with reduced dynamic range. The compression won't be as subtle as good gain-riding by any means, but it could be quite acceptable.

If you decide to keep your dubs uncompressed, noise reduction will be obligatory. Dolby B is fast becoming as standard in portable and car decks as it is at home, and both Dolby C and DBX are appearing in more and more

UPDATING YOUR PERSONAL-PORTABLE

IF YOU HAVE A POCKET-PORTABLE cassette player with no noise reduction—and that includes most of the models made to date—you can upgrade it with a cleverly designed outboard noise reduction adapter from DBX: the PPA-1, also known as the Silencer.

This little plastic box has a belt clip, an off/off switch, a three-position mode selector, an output level control, a stereo mini jack, and a one-foot cord terminated in a stereo mini plug. You place two AAA cells (not supplied) into a bottom compartment, insert the mini plug into the headphone jack on your player and your headsets' plug into the PPA-1's jack, and you're ready to go.

The first step is to adjust the output of your tape player until the loudness seems approximately the same in the DBX and bypass modes. From then on, level adjustments are made only on the PPA-1. In addition to handling cassettes recorded without noise reduction or with DBX, it will accommodate those made with Dolby B, using what the adapter calls the "DBX B" mode. This is where the initial level-setting is necessary, although the tracking of the Dolby signal is only approximate.

As the instructions say, if the sound of a Dolby tape seems preternaturally dull, crank up the output of your player a little. With touch-ups of this sort, I got very respectable results quite easily with my tapes and player, and I can't imagine why this method should not work as well with most portables of at least fair quality. (Spectral balance in decoding of DBX tapes isn't level-dependent, so there you needn't worry about level.)

The PPA-1 noise reduction adapter costs \$50 and is a good bet if you want to turn a garden-variety portable into a micro high fidelity system.

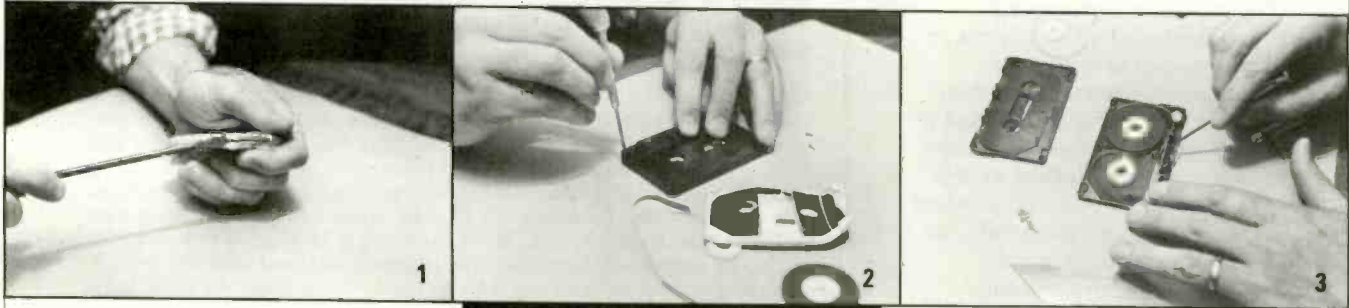


models. (And you can add DBX to a portable player: see "Updating Your Personal-Portable," above.) Don't sell these features short even if you're prepared to live with compression as a musical way of life. Tape hiss and ambient noise don't always occupy the same frequencies, and therefore hiss isn't always masked by wind noise and such. Noise reduction simply keeps hiss from becoming one more problem of listening away from home.

And finally, a word of advice if

your portable or car deck also is a recorder. The erase head may operate on DC, rather than the magnetically more efficient AC oscillators of home decks. If so, you may get quieter tapes if you take care to bulk-erase any cassette before rerecording on it. It's a good idea with home decks, too, but here it's even more important—particularly if you own one of those rare battery portables that will record on metal tape, which is relatively difficult to erase.

HOW TO REPAIR YOUR CASSETTES

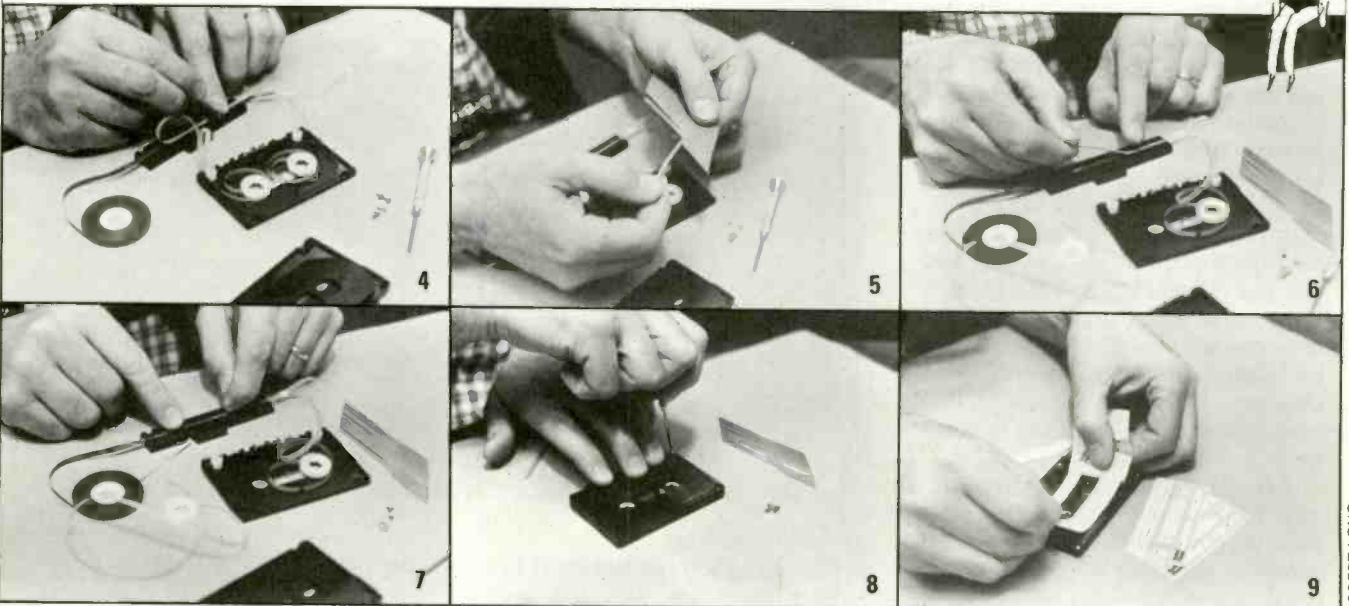


THE SHELL GAME

THE EASIEST WAY to repair damaged cassettes is to buy a kit that contains the necessary ingredients—illustrated here by the Radio Shack Professional Cassette Tape Repair Kit. Often, as with this heat-warped shell, the first job is to remove the tape. Cassettes with sonically welded or snap-together shells must be pried open rather like a clam. A large-blade screwdriver inserted into the erasure-prevention slots is the safest means of forcing the halves apart (Photo 1). A pocket knife can be helpful, but beware of damaging the tape. The new black shell supplied in the kit is held together with screws (Photo 2), as are those of most premium blank cassettes. If you take apart one of your own cassettes to make use of its shell, carefully note the position of all

parts—the slipsheets, the guide wheels, the pressure pad and spring, and the shield (the little metal box just behind the pad-and-spring assembly).

Usually, you will be able to keep the salvaged tape on its hubs and substitute them for those in the new shell. (If not, observe how the tape in the new shell is locked into its hubs, remove that tape, and substitute the tape you are restoring.) Place the tape and hubs in the shell, carefully using a tool to coax the tape into its path around the guide wheels, past the fixed guides, and in front of the pressure pad (Photo 3). Then close the shell, making sure that all parts are correctly aligned with the upper as well as the lower half.



SAVED BY A SPLICE

TO CUT OUT A LENGTH of damaged tape or to replace damaged leader, you need a splicing block (supplied with the Radio Shack kit). Most blocks have both diagonal and perpendicular cutting slots, for use with a single-edge razor blade. The diagonal cut will make the quieter splice. Cassette tape must be inserted "upside down" by open-reel standards because it is wound with the oxide out, and the splicing tape must be applied to the backing. Never touch the oxide side of any tape you plan to save.

Place the two tape ends in the splicing block, overlapping them so that the splice point on each falls at the diagonal cutting

slot. Cut through both thicknesses with a single stroke (Photo 4) and carefully remove the unwanted end of the upper layer. Next, take a splicing-tape patch from the sheet (Photo 5) and apply it to the splice point, using the paper backing as a handle and as a guide to align the patch in the block (Photo 6). Burnish one end of the patch with a fingernail, pull the paper backing from the other half, and burnish it (Photo 7). Then carefully remove the tape from the block and wind it into the shell by turning the hubs within it. Now all that's left is to screw the two halves of the shell together (Photo 8) and affix the supplied labels (Photo 9). HF



ROBERT LONG

NEW
TECHNOLOGIES

Digital Audio
Video
Software Reviews

How VHS Hi-Fi Works

BY

PETER W. MITCHELL

WHEN THE FIRST VHS videocassette recorder appeared in 1978, the home VCR industry began a game of technological leapfrog. Sony, which had introduced the Beta VCR two years earlier, found itself competing with a system that offered something extra at the outset: twice as much uninterrupted recording time.

The Beta camp quickly responded, and the battle seasawed with a multiplicity of tape lengths, running speeds, and elaborately programmable

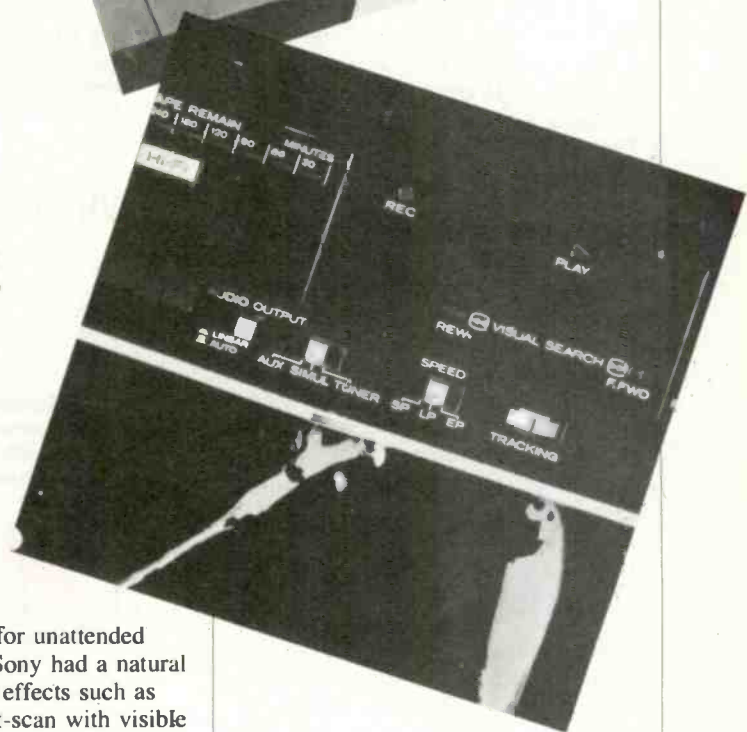
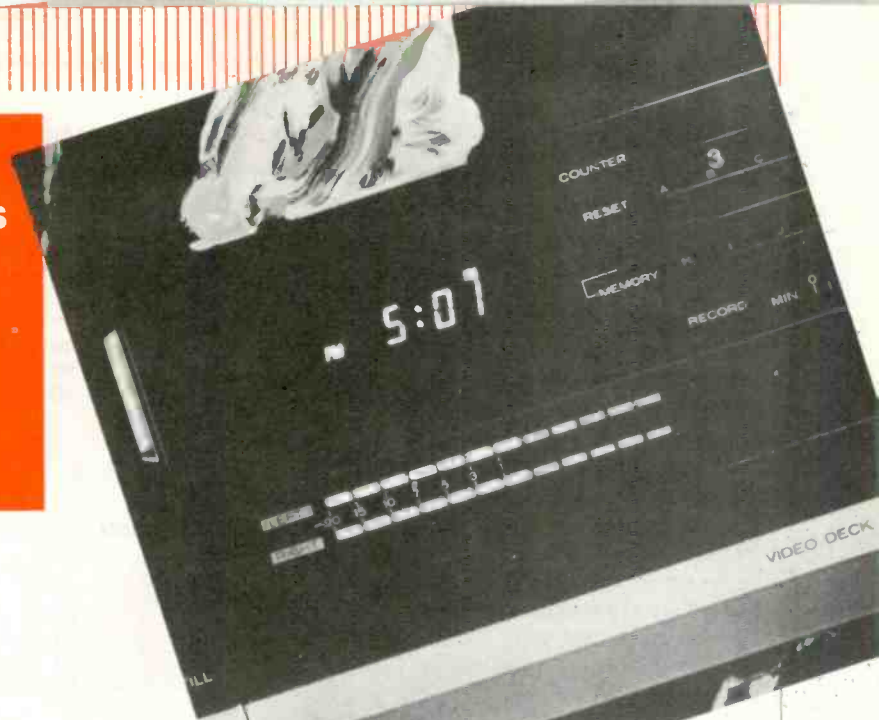
Audio frequency
modulation brings
near-digital-
quality sound to
VHS decks.

tuner/timer systems for unattended recording. At first, Sony had a natural advantage in special effects such as slow-motion and fast-scan with visible picture, because the Beta winding pattern permits the tape to remain in contact with the head drum at all times. But the VHS camp ultimately managed to come up with equally satisfactory special-effects techniques.

The competition continues today—with the delighted consumer reaping the benefits. A year ago Sony launched

a major new advance called Beta Hi-Fi that transformed VCR sound from mediocrity to true high fidelity. The basis of Beta Hi-Fi is FM (frequency modulation) recording—using the audio waveforms to modulate two pairs of FM carrier signals and then recording those FM signals together with the video on the tape. It is fair to say that FM recording improves the sound of videotape playback as

Peter W. Mitchell is the proprietor of Mystic Valley Audio, a design and consulting company, and a frequent contributor to these pages.



dramatically as Dolby Stereo improves the sound of theatrical motion pictures. And not incidentally, audio FM (AFM) recording opens the door to home reproduction of the full sonic impact of a Dolby Stereo film on videocassette. (See "A New Dimension for Video Sound," November 1983.)

Initially, it wasn't certain that the audio FM carriers could be included in the VHS video recording format. But this has indeed been accomplished, and VCRs equipped with VHS Hi-Fi will be on the market soon from JVC, Matsushita (Panasonic and Quasar), Hitachi, RCA, and other VHS suppliers. (See test report on the Hitachi VT-88A on page 49.)

FM RECORDING

Frequency-modulated recording is not a new idea. All videodisc and VCR systems use it for their video signals, while the CED and LaserVision videodisc systems also use it for audio. The obstacle to including FM audio in VCRs arose because no space was reserved for audio in the FM recording spectrum when the Beta and VHS formats were originally developed.

Instead, the audio was split off and relegated to a separate track, one millimeter wide, at one edge of the tape. Deprived of the benefit of the wideband heads on the spinning head drum, the audio was recorded directly on the slow-speed tape by a separate head located several inches downstream from the drum, using the same technology as in audio cassette decks. Since the videotape moves past the stationary audio head at a crawl (only about a half-inch per second at the Beta III and VHS EP speeds), the quality of the direct analog recording is just adequate for dialogue—and the tape flutter at these slow speeds sometimes makes even speech sound funny. Conversion to stereo didn't help: When the 1mm mono audio track was split into 0.35mm tracks for the two channels and guard band, nearly 10 dB in signal-to-noise (S/N) ratio was lost. Adding Dolby B to VHS Stereo decks restored the S/N ratio to what it was in mono, but exacerbated the chronic problem of high-frequency distortion and rolloff inherent in the audio track.

In FM recording the audio signal is not recorded on the tape directly. Instead, the audio waveform modulates an FM carrier, causing the carrier's

frequency to shift up and down at a rate that is equal to the frequency of the audio signal and by an amount (deviation) that depends on the amplitude (volume) of the audio signal. Thus, with a 400-Hz tone, the frequency of the FM carrier will shift up and down 400 times per second. The up-and-down deviation of the FM

carrier is less for soft sounds and greater for loud ones.

The essential advantage of this indirect method of recording is that it alters the relationship between recording flaws and the quality of the sound. For instance, frequency response is uniform from 20 Hz to 20 kHz, while on the direct analog track

BETA HI-FI RECORDING FORMAT

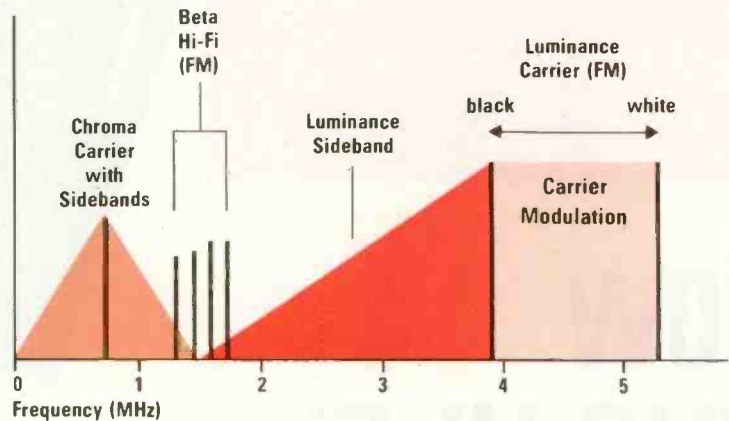


FIG. 1. BETA HI-FI'S four audio FM carriers (two each for the left and right channels) are sandwiched between the chroma and luminance signals. To make room for them, the luminance carrier is shifted up in frequency (in comparison to standard Beta) by 400 kHz, so that it ranges between 3.9 and 5.2 MHz.

VHS HI-FI RECORDING FORMAT

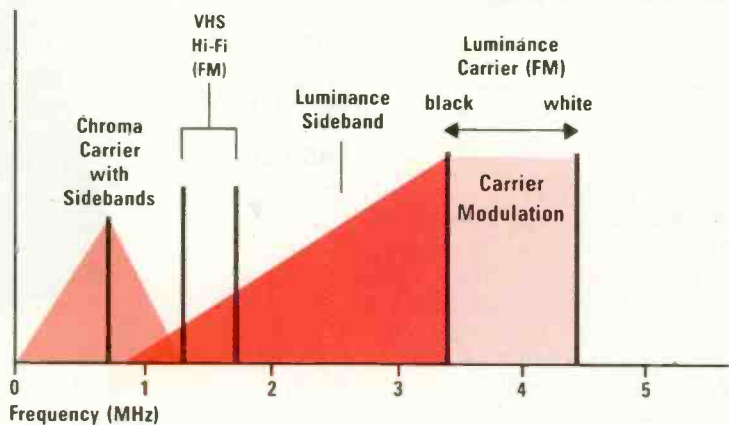


FIG. 2. THE VHS RECORDING format has no convenient space for the audio FM carriers. VHS Hi-Fi, therefore, uses only a single carrier each for the left and right audio channels (at 1.3 and 1.7 MHz, respectively) and minimizes crosstalk and video interference by using differently canted audio and video recording heads.

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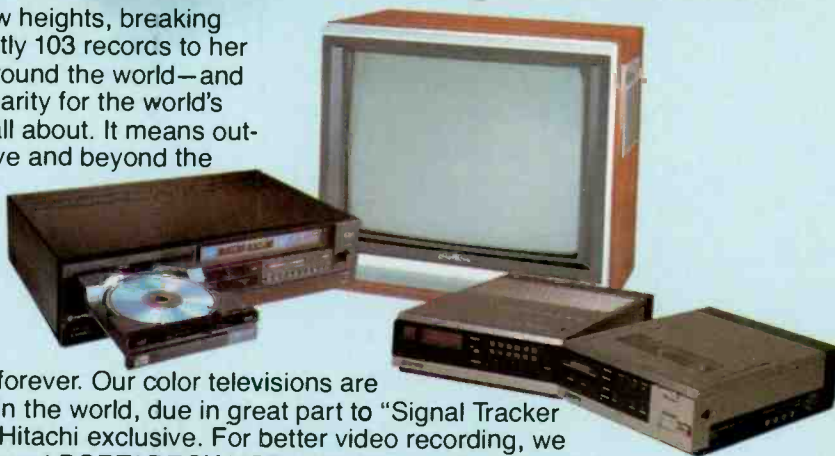
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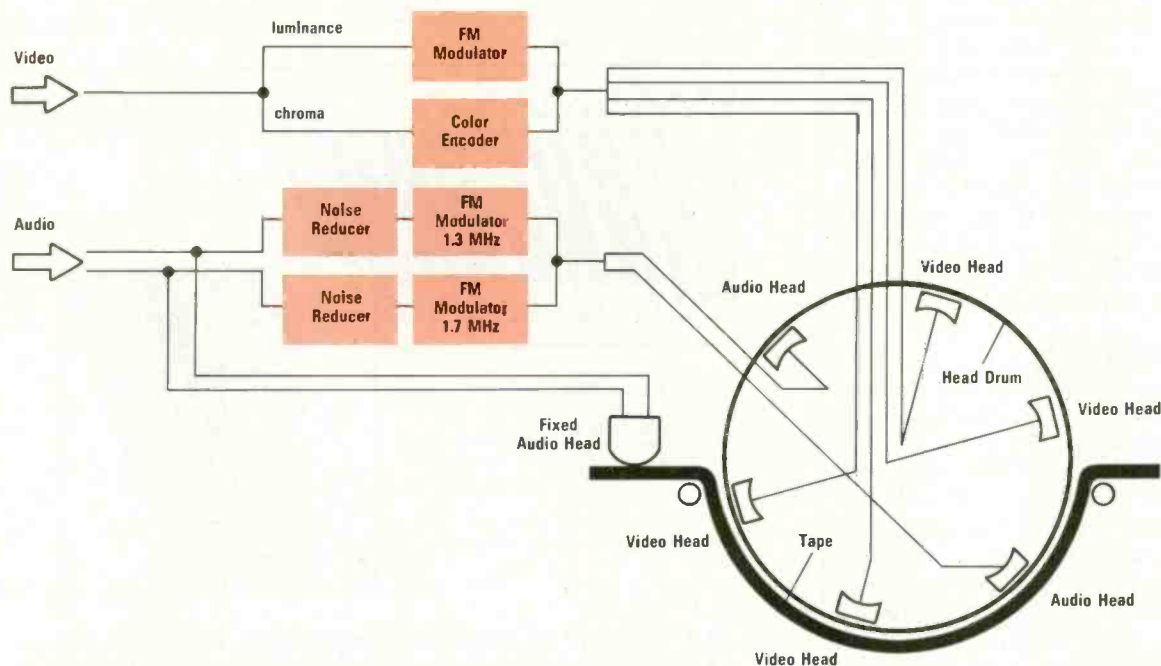


FIG. 3. IN VHS HI-FI RECORDING, the left- and right-channel audio signals are compressed (to be expanded in playback), modulated on separate FM carriers, and recorded via two audio-only heads mounted on the rotating head drum. The higher-frequency video information is then recorded over the audio. A stationary head records a standard audio track for compatibility with non-Hi-Fi VCRs.

the bass rolls off below 80 Hz and the treble dies above 8 kHz (or lower, depending on speed, tape type, and tape-to-head contact, which is sometimes problematic in VHS Stereo's left channel, nearer the edge of the tape). Perhaps the most dramatic advantage of FM audio is the remarkable solidity and clarity resulting from the virtually total elimination of wow and flutter. (In an FM recording system, flutter is not heard as unsteadiness or fuzziness but simply as background noise.)

THE VCR RECORDING SYSTEM

As you may recall from our previous discussion of this subject ("How Beta Hi-Fi Works," August 1983), the composite video signal is reformatted by the VCR's electronics before it is recorded. The video signal that is recorded on tape is made up of three parts (Fig. 1)—the luminance carrier, the lower luminance sideband (the upper one is at too high a frequency range to be recorded), and the chroma information. The luminance

signal expresses the light-to-dark gradations in the picture via variations in the frequency of the FM carrier. The brightest white highlights shift the carrier up to about 5 MHz; the black synchronization bar between video frames moves it down to below 4 MHz. The luminance sideband, a by-product of the modulation process, conveys the actual picture information, while the chroma subcarrier and its sidebands carry all the color information.

The engineers who developed Beta Hi-Fi took advantage of the small gap around 1.5 MHz between the chroma and luminance sidebands. They shifted the luminance carrier and sidebands up slightly in frequency to enlarge that gap and placed the two pairs of audio FM carriers in the space.

Why two pairs? Because of a basic compromise in the design of all modern VCRs, arising from the way television pictures are formed. The video head drum rotates 30 times per second, making one complete turn in one thirtieth of a second, which is the

duration of one complete 525-line video "frame" on the TV screen.

Each TV frame consists of two 262.5-line "fields" alternating at intervals of one sixtieth of a second, with their scanning lines interleaved on the screen. Therefore, every VCR has at least two heads located on opposite sides of the video drum (one for each field), with the signal switched back and forth between them as the drum spins. Each field is recorded on one diagonal stripe across the tape. When one field ends, the head on the opposite side of the drum begins to record the next field on the adjacent track (Fig. 4).

The compromise occurs because long recording times require a slow tape speed. This causes adjacent tracks to overlap, resulting in crosstalk between them. Azimuth recording helps to minimize the video crosstalk. By tilting one head gap forward by about six degrees and the other back from vertical by the same amount, video head A will tend to reject the field B signal and vice versa. But in

Beta Hi-Fi this isn't sufficient to prevent interference between the relatively low-frequency *audio* carriers. So it is necessary to use two alternating pairs of FM carrier frequencies for successive tracks. Video head A carries video field A and audio FM signals at 1.38 MHz (left channel) and 1.68 MHz (right); on the next track, video head B records video field B plus audio FM signals at 1.53 and 1.83 MHz. In playback, these signals are switched 60 times per second as the head drum rotates, to recover continuous video and audio output signals.

THE VHS DIFFERENCE

The video head drum in VHS machines is 16 percent smaller than that in Beta decks. Consequently, the writing speed of the VHS heads across the tape is 16 percent slower, making the available recording bandwidth narrower than in Beta. The modulation range of the VHS luminance carrier (Fig. 2), for instance, is from 3.4 to 4.4 MHz. As the skeptics predicted, there is no gap between the chroma and luminance sidebands in the VHS spectrum where audio FM carriers could be conveniently added.

For VHS Hi-Fi, audio FM carriers are recorded at 1.3 and 1.7 MHz for the left and right channels, respectively. This initially posed two problems: crosstalk between the audio carriers and the luminance sidebands (which would produce herringbone interference patterns in the picture) and crosstalk between the FM signals in overlapping adjacent tracks (the same problem that forces Beta Hi-Fi to use two carrier frequencies for each channel). Both problems were solved in one bold stroke—by using a separate pair of heads for VHS Hi-Fi's audio FM carriers.

Tilting the two audio-only gaps at plus and minus 30 degrees reduces crosstalk between audio and video to negligible levels. And even though the video is recorded directly over the audio on the tape, the two are effectively separated in playback by the difference in azimuth angles (Fig. 4).

That's right: The video is recorded directly on top of the audio. As the head drum spins, it records the audio FM signal and then overwrites the video signal on the same track, without destroying the audio! This technique has been christened with an exceedingly high-tech name—"depth

AZIMUTH RECORDING

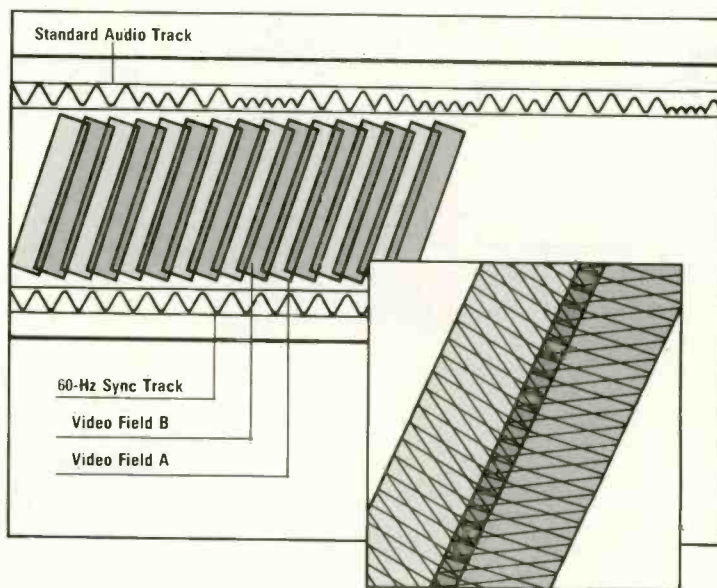


FIG. 4. THE LOW-SPEED HELICAL-SCAN recording used in VCRs creates some overlap of adjacent tracks, or fields. To minimize the resulting crosstalk in a VHS Hi-Fi VCR, audio information on adjacent tracks is recorded at $\pm 30^\circ$, video at $\pm 6^\circ$ (inset). The left and right channels, modulated on FM carriers, are recorded consecutively.

multiplex recording"—but there's actually nothing particularly novel about it.

If you were to disable the erase head in a conventional audio recorder and deliberately record a new musical selection on an old one, you would find that the high frequencies in the first recording were erased (because they tend to be recorded near the surface of the tape). But the low-frequency portions of the earlier recording would still be there, mixed with the new signal.

Similarly, in VHS Hi-Fi the audio FM carriers (which are at relatively low frequencies) are recorded with enough strength to penetrate the full depth of the tape's oxide layer. The video signal is then written on top, with the critical high-frequency luminance signal tending to be captured in the tape's surface layer. Even if the overrecording causes some weakening of the VHS Hi-Fi carriers, it doesn't matter, because it's FM. And as in FM broadcasting, the quality of the recovered audio signal stays the same as long as the FM carrier is strong enough for full limiting

And that brings us to the final problem: noise reduction. As we noted earlier, in any FM recording system the flutter of the tape mechanism produces frequency deviations of the carrier that are demodulated in playback as background noise; the S/N ratio of practical FM recorders is typically limited to 55 or 60 dB. VHS Hi-Fi gains about 6 dB in S/N by setting its maximum carrier deviation at ± 150 kHz (instead of the ± 75 kHz used in FM broadcasting). But to gain their advertised 80-dB S/N ratios, both Beta and VHS Hi-Fi rely on compansion (compression in recording and expansion in playback) for noise reduction. Matsushita and JVC experimented with DBX, but the VHS manufacturing group finally agreed to adopt a new compander developed especially for VHS Hi-Fi.

As is often the case in VCR history, the two formats are again at parity, and you can pick the one you prefer. Both Beta and VHS now offer audio FM recording for wide-range stereo sound, differing in details but, theoretically at least, comparable in overall performance.

HF



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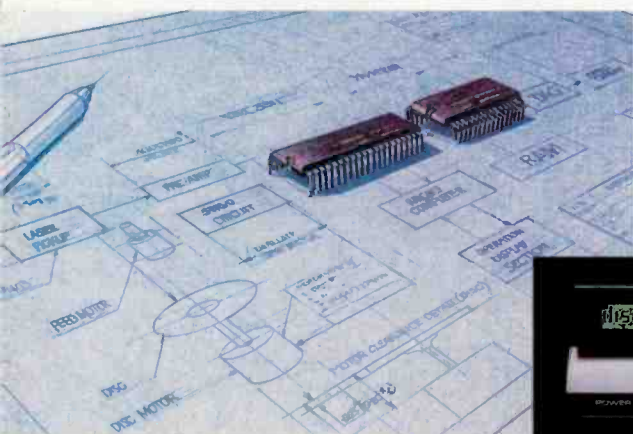
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Second generation CD players have come a long way. But none come close to the new Yamaha CD-X1. It is the most technically advanced, user-friendly high-performance CD player you can buy. For two small reasons.

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Highly accurate conversion of the digital signal to an analog signal is critical for optimum playback performance. Most CD players perform this conversion at the standard sampling rate of 44.1 kHz. Again because of our superior LSI technology, the digital filter system in the CD-X1 doubles this rate to 88.2 kHz. This over-sampling virtually eliminates phase distortion and greatly improves playback resolution.

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But perhaps its most user-friendly feature is the \$599* price tag.

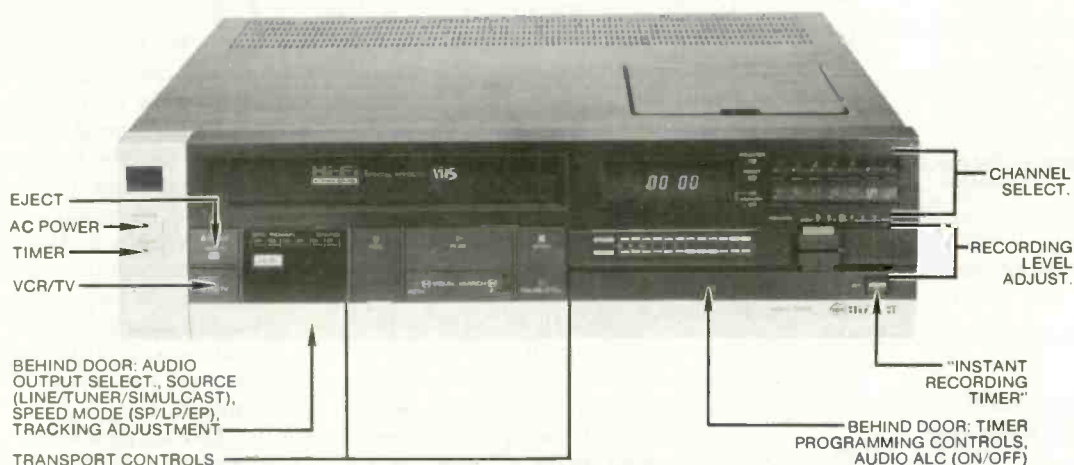
The CD-X1 from Yamaha. The others don't have anything like it. But you can have one just like it. At your Yamaha dealer now.



*Suggested Retail Price

HITACHI VT-88A VHS HI-FI VCR

Hitachi VT-88A VHS videocassette recorder, with 14-day/6-event programmable tuner/timer and VHS Hi-Fi stereo audio. Dimensions: 17¼ by 4¼ inches (front panel), 14¼ inches deep plus clearance for connections. Price: \$1,095. Warranty: "limited," two years parts, 90 days labor. Manufacturer: Hitachi, Ltd., Japan; U.S. distributor: Hitachi Sales Corp. of America, 401 W. Artesia Blvd., Compton, Calif. 90220.



THE VHS CAMP has at last responded to the Beta Hi-Fi challenge with an improved VCR audio recording system of its own, not surprisingly called VHS Hi-Fi. The Hitachi VT-88A is the first VCR using the new system to come into our hands.

The main distinction between VHS Hi-Fi and Beta Hi-Fi is that the VHS technique uses an extra set of recording heads on the rotating drum to lay down the audio information, after which the video heads "overwrite" it with picture information. (In the Beta Hi-Fi

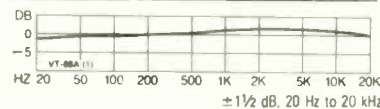
system, audio and video information are recorded simultaneously by the same set of heads.) The VHS group calls its technique "depth multiplex," because the audio information lies in a deeper portion of the tape coating than the video information. In a sense, that's true, but what really keeps the two apart is a different recording azimuth for audio than for video information—±30 degrees for audio, ±6 degrees for video.

The alternation between positive and negative azimuth angles serves to

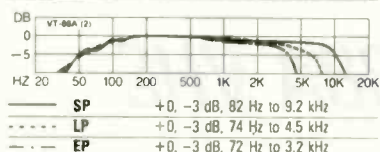
VCR SECTION

Except where otherwise indicated, data are for all speeds—SP, LP, and EP (SLP). All measurements were made at the direct audio and video outputs, with test signals applied to the direct audio and video inputs. For VHS Hi-Fi, the 0-dB reference input level is the voltage required to produce 3 percent third-harmonic distortion at 315 Hz; for the standard audio recording mode, it is 10 dB above the voltage at which the automatic level control (ALC) produces 3 dB compression at 315 Hz. The 0-dB reference output level is the output voltage from a 0-dB input.

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



STANDARD RECORD/PLAY RESPONSE (-20 dB, mono)



	standard	VHS Hi-Fi
SP	+0, -3 dB, 82 Hz to 9.2 kHz	84 dB
LP	+0, -3 dB, 74 Hz to 4.5 kHz	84 1/2 dB
EP	+0, -3 dB, 72 Hz to 3.2 kHz	80 1/4 dB

AUDIO S/N RATIO (re 0-dB output; R/P; A-weighted)	
standard	VHS Hi-Fi
SP	47 dB
LP	45 dB
EP	46 1/2 dB

INDICATOR CALIBRATION (315 Hz; VHS Hi-Fi)	
for 0-dB input	> +8 dB
for -10-dB input	0 dB

DISTORTION (THD at -10 dB input; 50 Hz to 5 kHz)	
standard	VHS Hi-Fi
SP	≤ 3.2%
LP	≤ 3.9%
EP	≤ 4.5%

CHANNEL SEPARATION (315 Hz; VHS Hi-Fi)	
standard	60 dB

INDICATOR "BALLISTICS"	
Response time	1.6 msec
Decay time	≈ 250 msec*
Overshoot	0 dB

FLUTTER (ANSI weighted peak; R/P)	
standard	VHS Hi-Fi
SP	± 0.13% avg. < ± 0.01%
LP	± 0.35% avg. < ± 0.01%
EP	± 0.35% avg. < ± 0.01%

SENSITIVITY (for 0-dB output; 315 Hz)	
VHS Hi-Fi	440 mV
standard	1,200 mV

AUDIO OUTPUT LEVEL (from 0-dB input; 315 Hz)	
VHS Hi-Fi	1.7 volts
standard	0.56 volt

AUDIO INPUT IMPEDANCE	
standard	41k ohms

VIDEO RECORD/PLAY RESPONSE			
	SP	LP	EP
at 500 kHz	+ 1/4 dB	+ 1/4 dB	- 1/4 dB
at 1.5 MHz	- 4 1/4 dB	- 4 1/4 dB	- 7 3/4 dB
at 2.0 MHz	- 7 3/4 dB	- 7 3/4 dB	- 11 1/4 dB
at 3.0 MHz	- 16 1/4 dB	- 16 1/4 dB	- 14 dB*
at 3.58 MHz	- 21 dB	- 21 dB	- 5 dB*
at 4.2 MHz	**	**	**

LUMINANCE LEVEL	6% high
GRAY-SCALE NONLINEARITY (worst case)	≈ 11%
CHROMA LEVEL	2 1/2 dB low*
CHROMA DIFFERENTIAL GAIN	≈ 8%
CHROMA DIFFERENTIAL PHASE	≈ ± 4°
MEDIAN CHROMA PHASE ERROR	0°

*See text.
**Too low to measure

prevent crosstalk between adjacent tracks (successive fields). So, unlike the Beta Hi-Fi system, which uses a different set of FM carriers for adjoining tracks to keep them apart, VHS Hi-Fi can use the same set of carriers on both and rely on the azimuth difference to prevent interference. The single pair of carriers—one for the left channel, one for the right—not only simplifies the demodulation process (the FM "receiver" needn't be "retuned" 60 times a second) but also allows the use of a wider deviation ratio to improve the signal-to-noise (S/N) ratio.

In describing the specifics of the Hitachi VT-88A, we are handicapped by the lack of an owner's manual or full technical information, neither of which was available in time for this review. But here's our best effort at doping out what it does (and doesn't) do. The front end is electronically tuned and covers 105 VHF, UHF, and CATV channels. You can preset any 14 channels via controls under a top-panel lid and tune them via front-panel pushbuttons. There's a 14-day/6-event timer, plus an "Instant Recording Timer" (IRT) to quickly set taping time and length in simple 30-minute increments. You adjust clock and program times with plus and minus pushbuttons behind a door at the lower-right portion of the front panel. Here too are a dimmer switch for the display and an ALC (automatic level control) on/off button.

Like Beta Hi-Fi, VHS Hi-Fi maintains compatibility with conventional systems of its kind by recording audio information on the standard edge track as well. Thus, tapes made on the VT-88A can be played on non-Hi-Fi decks, and regular VHS tapes will play on the VT-88A, albeit in neither case with Hi-Fi sound. According to Hitachi, the VT-88A reproduces a stereo edge-track recording in stereo but records the edge track in mono, so Diversified Science Laboratories could not check stereo performance in this mode. The company also informs us that the VHS Hi-Fi noise reduction system—a new development called PNR—is used both on the edge track and for the Hi-Fi recording. Because technical details on this system have not been released, we cannot comment on its compatibility with the Dolby B system used for normal VHS Stereo edge-track

recording.

When the ALC button is pressed, recording levels for both VHS Hi-Fi and edge-track recording are automatically controlled. With the button released, you set recording level with dual sliders, guided by 12-segment LED indicators calibrated from -20 to +8 dB. Above 0 dB, the LEDs change from green to red and the decay time increases from 250 to almost 1,250 milliseconds (msec). DSL's tests suggest that in the VHS Hi-Fi mode you can record well into the red without fear of overload. Total harmonic distortion (THD) doesn't reach 3 percent until the indicator is off scale, and the 0-dB reading (the first red LED) is a full 10 dB below 3 percent THD at 315 Hz. At this level, midband distortion is less than 0.25 percent, rising to 0.75 percent at 50 Hz and 5 kHz. By 10 kHz it's up to 2.5 percent, but with normal program material, you'll never have that much high-frequency energy to contend with.

Undoubtedly, you'll want to set recording level manually in the VHS Hi-Fi mode to make optimum use of its wide dynamic range—more than 80 dB even at the slowest (EP) speed and 84 dB or more at LP or SP. The limited dynamic range on the edge track (45 to 47 dB, depending on speed) makes use of ALC advisable, so DSL measured edge-track performance with the ALC engaged. (As far as we can tell, Hitachi's arrangement precludes simultaneously using the ALC on the edge track and setting VHS Hi-Fi level manually.)

DSL measured edge-track distortion at the "knee" of the ALC curve, above which the recording level is kept virtually constant regardless of the input voltage. (A 1-dB increase in input causes less than a 1/4-dB change in recorded level.) Midband distortion is 2 to 2.25 percent, depending on speed, and 3.25 to 4.25 percent at 50 Hz. This is at least three to five times as great as in VHS Hi-Fi. Flutter also is much greater on the edge track, with peaks of ±0.15 percent at the SP speed and ±0.45 percent at LP and EP, whereas the flutter in VHS Hi-Fi is below our measurement limit of ±0.01 percent at any speed.

Another big difference is in frequency response, although in the SP mode the bandwidth of the VT-88A's



Not for the meek

There are some people who simply can't appreciate all that Sanyo's new FT-E25 car stereo system has to offer.

With 2 or 3 times the power of most car stereos, and hardly a trace of distortion, Sanyo gives automotive sound the

clarity and "sock" it's always lacked. Of course, you get bass, treble, and loudness controls — plus a built-in fader to make the most of 4-speaker installations.

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sophisticated FM Optimizer system deliver superb stereo reception without fading or "picket fencing." And besides Dolby B* it has super-advanced Dolby C* noise reduction to keep tape hiss inaudible.

Fortunately, we've made it easy to use — with auto reverse, automatic tape and radio search, human engineered controls, and clever illumination that eliminates fumbling in the dark.

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Warning: Sanyo car stereo definitely separates the men from the meek.

SANYO
The modern art of electronics.

If noise, hum and distortion turn you off, turn on Sansui's new AU-D77X* integrated amplifier for pure, true sound.

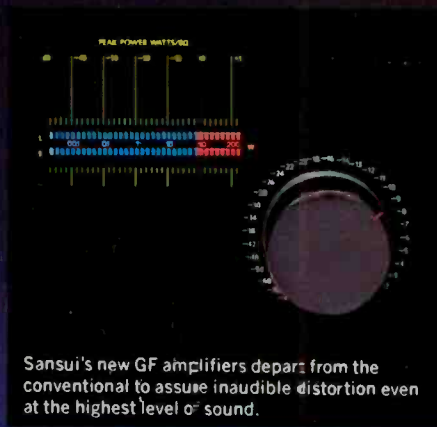
Only Sansui offers a trio of exclusive noise-eliminating innovations.

First, the unique Super Feed-forward DC power amplifier system routs virtually all types of distortion at all frequencies in the power amplifier.

Then, DD/DC circuitry, another Sansui breakthrough, produces high speed response and unmeasurable TIM in the predriver stage of the power amp.

And finally, Sansui's latest contribution to silent performance, the Ground Free circuit, remarkably reduces Interface Hum Modulation (IHM) distortion in the power supply.

The result is clean, uncluttered music that's virtually free of noise, hum and distortion. (You also get this impeccable



Sansui's new GF amplifiers depart from the conventional to assure inaudible distortion even at the highest level of sound.

performance with Sansui's 130-watt* top-of-the-line AU-D11 II integrated amp.)

One outstanding performer deserves another. The TU-S77X tuner adds a new dimension to the state-of-the-art. Its new FM multiplex decoder improves channel separation and reduces distortion significantly. Also available is the TU-S77AMX tuner which automatically receives and switches to every approved AM stereo broadcast system.

The AU-D77X and TU-S77X make the perfect tuner/amp combination for people who appreciate great technology as much as they enjoy the silence in great sound. Get the "Silent Treatment" at your Sansui audio specialist, or write for literature.

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THE SILENT TREATMENT



Putting More Pleasure in Sound.

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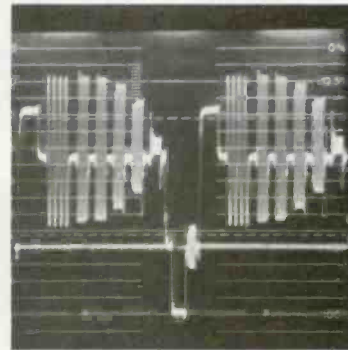
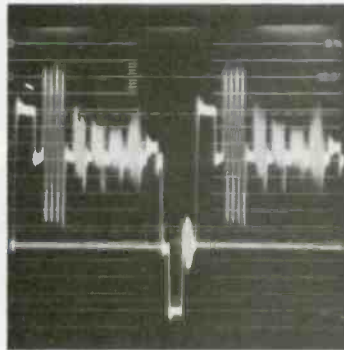
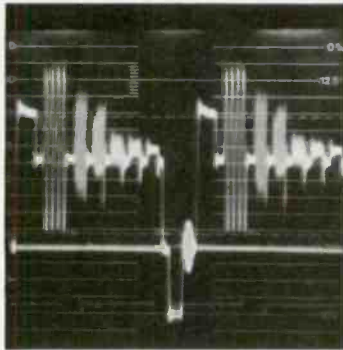
*AU-D77X—110 watts, 0.0028% THD; AU-D11 II—130 watts, 0.0025% THD.
Minimum RMS, both channels driven into 8 ohms, from 10-20kHz.

edge track is about the best we've measured, being only 4 dB down at 10 kHz. The top end drops off rapidly above 6.5 kHz in LP and is limited to about 4 kHz in EP. In VHS Hi-Fi, on the other hand, bandwidth extends from below 20 Hz to beyond 20 kHz and is essentially independent of recording speed.

On the samples we tested, however, the response uniformity varied according to the recording level. For example, at -10 dB (relative to the level at which 3 percent THD is reached at 315 Hz), which corresponds

head downstream. Hitachi has instituted a modification to eliminate this effect from production models, which should yield virtually ruler-flat response at all recording levels. We plan to check one of these units and will report the results next month.

In playback, the VT-88A automatically senses the presence of a VHS Hi-Fi recording, lights the Hi-Fi logo, and chooses that reproduction mode when the audio output switch is in AUTO. You can override the feature by pressing the switch to select the edge track in all cases. This switch, the



MULTIBURST RESPONSE for the VT-88A's recorder section running at SP (left), for the recorder at EP (middle), and for the TV tuner section (right). (The VCR's response at the LP speed is virtually identical to that in SP.) The test signal consists of a reference "white bar" (far left) followed by bursts at 500 kHz, 1.5 MHz, 2.0 MHz, 3.0 MHz, 3.58 MHz (the color-carrier frequency), and 4.2 MHz (the upper limit of the NTSC broadcast system). Each photo shows two complete multibursts. It is the video frequency response that determines horizontal resolution, or sharpness.

In SP, the VCR's response is down slightly at 1.5 and 2.0 MHz and drops off severely at higher frequencies. Nonetheless, this is excellent performance for a VCR. In EP, its response rolls off more swiftly (as one would expect) but bounces back up at 3.58 MHz. Output at that frequency is not stable enough for this apparent improvement to enhance the quality of recorded images, however. The tuner section's response is unusually extended, remaining essentially flat out to 3.0 MHz and showing just a slight dip at 3.58 MHz before falling off sharply at the upper edge of the NTSC band.

to a reading of 0 dB on the recording-level indicators, response is within $\pm 1/4$, $-1/4$ dB from 20 Hz to 20 kHz. At our standard response measurement level of -20 dB, the tolerance broadens to $\pm 1/2$ dB, and 10 dB further down it widens to ± 4 , -1 dB. Close examination of the response curves suggested that this was caused by mistracking of the noise reduction system—something that should not occur in an FM recording system.

We therefore contacted Hitachi, which was likewise puzzled by the problem. Ultimately, the company discovered that the culprit was indeed compander mistracking, caused by bias leakage from the standard fixed audio

three-position recording-speed selector, the tracking control, and a three-position input selector (AUX, SIMULCAST, and TUNER) lie behind a flip-down door at the lower left of the front panel. (In playback, the correct speed is selected automatically.)

In AUX, the VT-88A can be used as a high-performance audio recorder. That's also the position you'd use for making home movies: There's no camera input as such, but a camera could be connected to the video line-input pin jack on the rear via a power-supply adapter. (There's no microphone input, either, so you'd need a microphone preamp to drive the audio line-input jacks; because audio

READ THIS AD AND YOU'LL BUY A HARMAN KARDON CASSETTE DECK



That's a bold statement, but Harman Kardon has been making bold audio statements for over thirty years, introducing the world's first high fidelity receiver, the first stereo receiver and ultrawideband frequency response. Harman Kardon was also the first company to use Dolby¹ in a cassette deck.

Today, Harman Kardon products continue to be so technologically advanced that "state-of-the-art" falls short of describing them. They have become "state-of-the-mind," the highest level at which the mind can create.

The CD491 is Harman Kardon's most sophisticated state-of-the-mind cassette deck and one of the few in the world that can equal the full range of human hearing. The CD491 has a remarkable 20Hz to 24kHz frequency response using any tape formulation, not just expensive metal tape. An audiophile would settle for nothing less. Even more remarkable is that in a national challenge,² Harman Kardon measured frequency response and beat 98% of the competition, including units costing twice as much.

The CD491 incorporates a dual capstan transport with twin flywheels to insure perfect movement of the tape across its 3 high performance heads. The dual capstan serves to isolate the tape from the cassette shell while the dynamically balanced flywheels help generate a

consistently accurate tape speed. Together they enable the CD491 to reduce wow-and-flutter to an inaccurate .025%. The only "wow" you'll ever hear is the reaction of people listening to your Harman Kardon cassette deck.

The CD491 incorporates Dolby HX Pro¹ for extended frequency response, plus Dolby B and C¹ for maximum noise reduction. Three precision heads offer improved performance and the convenience of monitoring while recording. Included is a Sendust head to withstand high record levels without overload and a ferrite playback head for extended high frequency response.

The combined benefits of the CD491's performance features allow for the accurate recording of more dynamic audio signals than previously possible. In fact, the large signal response (frequency response at 0V_u) of the CD491 is a virtually unrivaled 20Hz-20kHz \pm 3dB. This is especially significant as more demanding forms of software, such as digital audio, become available.

So, while other manufacturers continue to pile on unnecessary features and gimmicks, Harman Kardon continues to develop only fundamentally advanced audio equipment.

(1) Dolby is the registered trademark of Dolby Laboratories Inc.
(2) In 1982, Harman Kardon challenged individuals to bring in their cassette decks to a local HK dealer. All units were cleaned and demagnetized in order to insure fair test results. The Harman Kardon unit was factory packed.

Harman Kardon "Stacks The Deck" with FREE Maxell Tapes! See Your Dealer for Details.*

harman/kardon

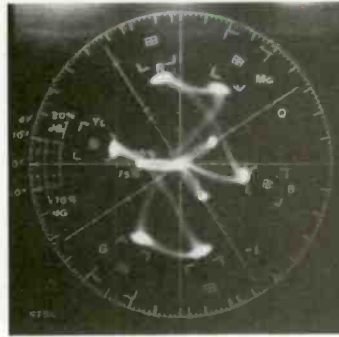
Our state-of-the-mind is tomorrow's state-of-the-art.

input sensitivity is rather low, the preamp's gain is an important consideration.) TUNER is the usual setting, enabling you to record cable or TV broadcasts via the built-in TV front end, and SIMULCAST makes it possible for you to record video from the tuner and audio from an FM receiver connected to the audio input jacks.

The VT-88A is a front-loader with power-assisted operation. Its transport controls respond to a light touch and are duplicated on a small infrared remote control. The remote also enables you to scan through the channels sequentially and to activate FRAME ADVANCE and FAST PLAY. The display doubles as both clock and footage counter, alternated by sequential taps on COUNTER. When MEMORY is engaged, the VT-88A rewinds and stops the tape at "9999." When the tape runs out, rewind and shutoff are automatic. A six-segment tape-remaining indicator senses tape and hub speed and suggests how much time you have left, in 30-minute increments to 120 minutes and then hourly to 240 minutes.

DSL'S TESTS on the VT-88A's tuner section indicate very flat video response to 3.0 MHz and a slight rolloff at the color-burst frequency (3.58 MHz). Although the tuner does not manage the full 4.2-MHz bandwidth of the NTSC system (no TV tuner we've seen does), it should provide close to 300 lines of horizontal resolution on a good monitor. Luminance level is very accurate, gray-scale nonlinearity fair but not outstanding. Chroma level is shy of the mark but not to the extent that it can't be corrected at the monitor. Chroma differential phase (hue variation with scene brightness) is very well controlled, but there's substantial chroma differential gain. Fortunately, most of it occurs only at the highest luminance level, so the color washout that it implies should rarely be noticeable. Color accuracy itself is very good, a 4-degree touch-up on the tint control being sufficient to bring all color vectors within $\pm 2\frac{1}{2}$ degrees of perfection.

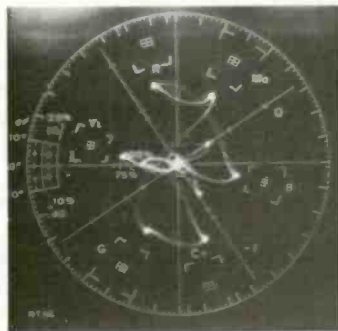
Audio response is almost dead flat out to 20 kHz. Obviously, there's no 15.7-kHz notch filter in this system, so we're not surprised at the relatively high level of the horizontal-scan component in the output. Taking that



VCR COLOR ACCURACY is very good and essentially identical at all three speeds. (The vectorscope photos shown here are for SP, which is the fastest.) The left-hand photo shows the uncorrected color. A $2\frac{1}{2}$ -dB increase in chroma gain puts all six color vectors (the small white blobs near the circumference of the grid) onto their targets, as shown in the right-hand photo. This simulates the best results one could obtain using the color control on a monitor—in this case, virtually perfect. The diffuseness of the color vectors is caused by chroma noise, which would show up in a video image as flecks of colored snow. Chroma noise is lowest in SP, slightly greater in LP, and considerably greater in EP. This is the usual pattern, and in no case is the noise worse than average. Indeed, at the two higher speeds, it is quite low for a VCR.

into account, the A-weighted signal-to-noise figures are quite respectable.

Video recording performance in the SP and LP modes is first-rate, with response down less than 8 dB at 2 MHz. At the slowest speed (EP), video response is down an equivalent amount at 1.5 MHz. (The apparent improvement in response at 3.58 MHz in the EP mode is not significant: The signal is too unstable to add anything

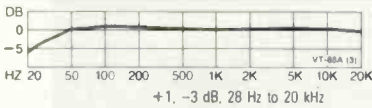


TUNER COLOR ACCURACY is very good. The vectorscope photo at left indicates low color saturation (chroma level) and a small amount of hue (chroma phase) error. The photo at right—made with $3\frac{3}{4}$ dB additional chroma gain and approximately 4 degrees of clockwise phase rotation—simulates the best results one could obtain using the color and tint controls on a monitor. This adjustment brings all six color vectors (the small white dots near the circumference of the grid) onto or very near their targets, which is excellent performance. In fact, the spread is actually $\pm 2\frac{1}{2}$ degrees or less.

TV TUNER SECTION

All measurements were taken at the direct audio and video outputs.

AUDIO FREQUENCY RESPONSE



AUDIO S/N RATIO (A-weighted)

best case (no video signal)	50 dB
worst case (window display)	36 3/4 dB

RESIDUAL HORIZONTAL SCAN COMPONENT (15.7 kHz)

-39 1/4 dB

MAXIMUM AUDIO OUTPUT (100% modulation)

ALC off	1.0 volt
ALC on	0.25 volt

AUDIO OUTPUT IMPEDANCE

930 ohms

VIDEO FREQUENCY RESPONSE

at 500 kHz	-1/4 dB
at 1.5 MHz	-1/2 dB
at 2.0 MHz	-3/4 dB
at 3.0 MHz	-1 1/4 dB
at 3.58 MHz	-4 1/2 dB
at 4.2 MHz	~ -19 dB

LUMINANCE LEVEL

4% high

GRAY-SCALE NONLINEARITY (worst case)

~22%

CHROMA LEVEL

3 3/4 dB low

CHROMA DIFFERENTIAL GAIN

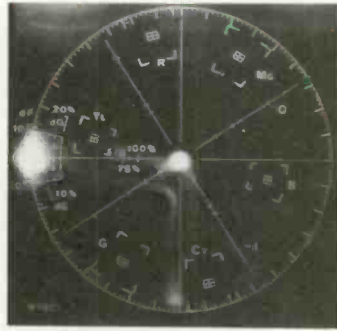
~50%

CHROMA DIFFERENTIAL PHASE

~±2 1/2°

CHROMA PHASE ERROR

red	+3 1/2°
magenta	+3 1/2°
blue	+1 1/2°
cyan	+6 1/2°
green	+5°
yellow	+5 1/2°
median error	+4°



COLOR CONSISTENCY for the VT-88A's recorder section running at SP (left) and for its TV tuner (right). (The results for the VCR in LP and EP are essentially identical to those in SP, so we have omitted the photos for the slower speeds.) In each case, the ideal would be for the cluster of dots toward the left edge of the grid to be a single dot at the intersection of the nine-o'clock axis with the circumference. The radial spread of the dots indicates chroma differential gain, which is a measure of how much color saturation (chroma level) varies with changes in scene brightness (luminance). Their angular spread shows the chroma differential phase, which tells how much hue (chroma phase) shifts with changes in brightness. The VCR performs excellently in this test. The tuner also has very low differential phase, and its differential gain, though rather high, is mainly at the highest luminance level.

to the picture.) Luminance level, gray-scale nonlinearity, and chroma differential gain and phase are identical and excellent at all three speeds, and at none of them is there any measurable color error. Chroma level is on the low side at all speeds, but not unduly so; on our sample, however, it was somewhat unstable in EP, which could produce an annoying flickering of color intensity. And as usually is the case, chroma noise is substantially higher at the slowest recording speed than at SP and LP, which are quite good in this respect.

In our hands-on evaluation, we were mightily impressed with the VT-88A's tuner. It is noticeably more sensitive and noise-free (especially on Channels 2 through 7) than most. The gray-scale nonlinearity is barely noticeable, the chroma differential gain only in the very brightest scenes. Video record/playback performance is equally noteworthy at the SP and LP speeds. Unfortunately, the VT-88A's special video features do not work as well at those speeds as at EP. Still-frame in the SP mode is virtually useless: A wide noise bar is likely to cover more than half the picture. Fast-scan operation at that speed produces barely enough information to make the picture content discernible. LP special effects are a good bit better. There's

some bending at the top of the screen in still-frame, but it's livable, and you can follow the action in fast-scan. At the EP speed, the special effects are excellent. Still-frame couldn't be better, and the fast-scan is clear enough to follow with ease. Normal operation at the EP speed is at least up to snuff—better than on some other VCRs—but no match in definition, color noise, and color stability for the excellent performance at SP and LP.

TV-broadcast sound being what it is, we couldn't hear the problems DSL uncovered in the VHS Hi-Fi noise reduction system with that source, so we tried taping a high-quality piano recording on the VT-88A and playing it back over our reference high fidelity system. With this (admittedly taxing) test, we could readily distinguish between source and copy. The piano seemed to lose bass in the quiet passages, and there was a noticeable surging character to the VCR tape copy. Once the bias-leakage problem is eliminated, however, these effects should disappear entirely. With that proviso, we certainly would rank VHS Hi-Fi the equal of Beta Hi-Fi as a great step forward in VCR sound quality, bringing it almost up to the performance level of digital recording. We look forward to confirming that in our follow-up next month. **HF**

REVIEWS

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

POPULAR COMPACT DISC

SONNY ROLLINS: Way Out West.

Lester Koenig, producer. MOBILE FIDELITY SOUND LAB MFCD 801 (digitally mastered analog recording; digital Compact Disc). LP: CONTEMPORARY 7530.

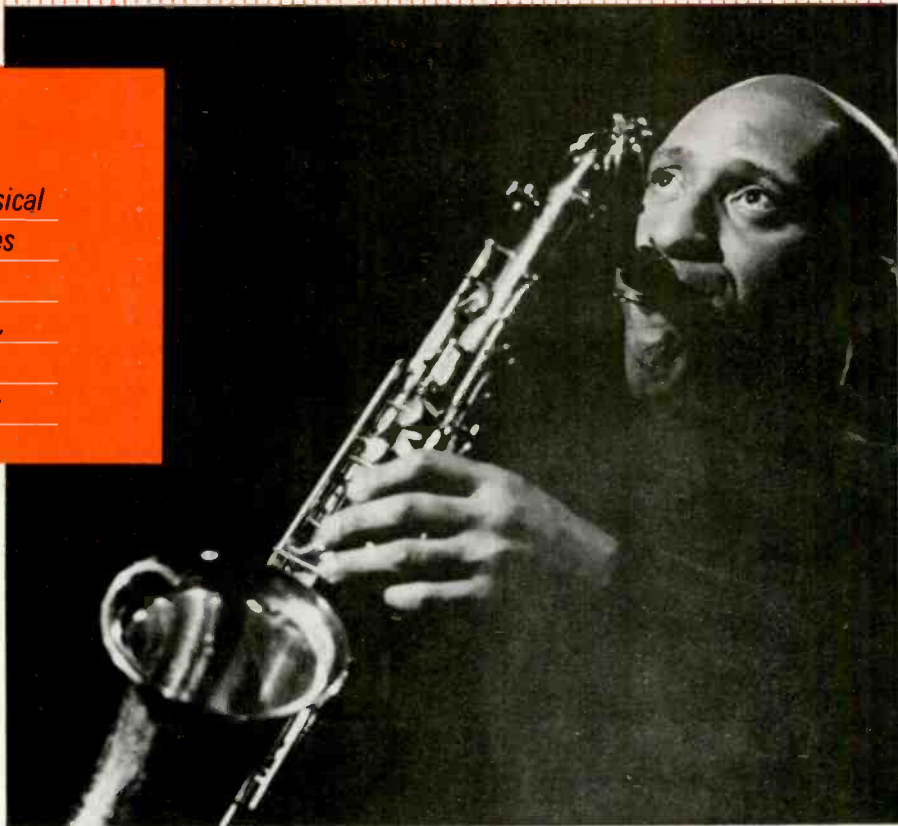
Way Out West" signals the Compact Disc debut for the analog audiophile mavens at Mobile Fidelity. There are three other titles in the company's first batch of digital discs, but this 1957 album is the standout. It also serves as a timely reminder that basic engineering technique is as crucial to good sound as any specific piece of equipment.

The session, teaming saxophonist Sonny Rollins with bassist Ray Brown and drummer Shelly Manne, demonstrates just how accurate early documentary stereo recordings could be. It was taped live, without overdubs—only a two-track Ampex 350 was used—and the resulting tracks are immaculate. Rollins's jabbing, playful phrases and mercurial tone are captured with a presence unsurpassed on more recent multitrack analog and digital dates; angular, vibrato-less lines, guttural asides, and sultry, lyrical phrases are all reproduced with stunning naturalism.

Rollins's partners fare nearly as well. In the opener, Johnny Mercer's *I'm an Old Cowhand*, Manne's syncopated wood block lays the foundation for the saxophonist's winsome but swinging reading of the melody, supported by Brown's vinous double bass.

Inevitably, some details betray the vintage of the technology, notably in the slightly muffled timbre of Manne's snare and tom-tom in spots, but on balance the sonics, like the performance, are terrific. Any tape hiss from the original is all but

For additional reviews of Pop and Jazz recordings, see **BACKBEAT**.



ROLLINS: The "Way Out West" CD sounds as good as the LP did 30 years ago.

inaudible; at normal playback, vanishingly low noise floor duplicates the quality of true digital-to-digital CDs.

Mobile Fidelity's premise is that well-produced analog masters can rival digital works when properly transferred. On the strength of this astute candidate (which is highly recommended regardless of configuration), the Original Master line will probably enjoy a high-end niche in the CD market.

—SAM SUTHERLAND

WILLIAM ACKERMAN: Passage.

William Ackerman, producer. WINDHAM HILL WD 10114 (fully digital Compact Disc). LP: SP 10114

Guitarist William Ackerman makes audiophile reproduction a focal point of his record label, and this 1981 work by Windham Hill's founder marked his first experiment with digital recording. Given his success in achieving high-quality LP pressings, and the release history of "Passage" in both conventional and half-speed mastered formats, it's not surprising that the CD exacts only modest gains. If anything, it is surprising that any improvements were made at all, apart from the expected elimination of surface noise.

These evocative chamber pieces pair Ackerman's distinctive acoustic steel-string guitar with violin, English horn, cello, and piano. This intentionally spare aesthetic clearly dramatizes the Compact Disc's reliable strengths in dynamic range and signal-to-noise ratio, while raising such subtler questions as the new technology's propensity for tone coloration. There are

moments in which Ackerman's chiming, bell-like guitar sacrifices some of its ambience, but overall the digital version benefits. At moderate volume (and few listeners are likely to play Windham Hill's introspective music much louder), the "Passage" CD achieves the illusion of a palpable, live performance in your living room.

—S.S.

JAMES INGRAM: It's Your Night.

Quincy Jones, producer. QWEST 23970-2 (analog recording; digital Compact Disc). LP: 23970.

JEFFREY OSBORNE: Stay with Me Tonight.

George Duke, producer. A&M CD 4940 (digitally mixed analog recording; digital Compact Disc). LP: 4940.

Thus far, it appears that the high cost of Compact Disc hardware is prompting record companies to restrict their offerings to the classical, jazz, pop, and rock music favored by the system's first, upscale customers. Black and country releases, limited to crossover material, are still in comparatively short supply.

These two contemporary black albums illustrate that strategy. Both exemplify the recent resurgence of lush, romantic modern r&b, as well as the emergence of a new generation of male vocalists who blend contemporary funk and dance music with a shrewdly updated, courtly persona. Both James Ingram and Jeffrey Osborne are sexually knowing, even slyly boastful, yet far removed from the down 'n' dirty explicitness of hard funk. Producers Quincy Jones and George Duke achieve adroit

stylistic syntheses with silky string arrangements, nimble rhythm sections, and rich backing vocals.

For Ingram's debut, Jones's only departure from his characteristically expansive productions is a subtle one—a slight shift toward keyboards and away from guitars and horns, consistent with Ingram's own keyboard-based writing. There are still plenty of brassy workouts, like the vivacious *Party Animal* and the big band-inflected *One More Rhythm*, which features a guest appearance by Jimmy Smith on organ. On the album's high point, the moody, urgent gospel of *Yah Mo B There*, the clarity of the CD is dramatized in the arrangement's darkly compelling electronic keyboards, especially the elastic, synthesized bass.

Osborne's "Stay with Me Tonight," the former LTD lead singer's second solo effort, shines as a CD. Producer Duke gives the transfer an added edge, since the original album was digitally mastered. Separation, signal-to-noise ratio, and imaging are all first-rate, with Osborne's fluid, virile tenor reaping greater presence. The propulsive title track rides a hard-edged, syncopated rhythm arrangement that sounds freshly detailed, but Osborne's creamier ballads are also showcased handsomely. —S.S.

KEITH JARRETT: The Köln Concert.

Manfred Eicher, producer. ECM 810067-2 (analog recording; digital Compact Disc). LP: ECM/WARNER BROS. 2-1064 (two discs).

PAT METHENY: 80/81.

Manfred Eicher, producer. ECM 815579-2 (analog recording; digital Compact Disc). LP: ECM/WARNER BROS. 1180 (two discs).

For more than a decade, Manfred Eicher's pristine chamber jazz recordings have represented a technical as well as musical achievement. He has stressed purity and spaciousness, consistently striving for immaculate master sources and the cleanest pressings and tape transfers. Detractors have found the results occasionally sterile, but no one has ever accused Eicher or ECM of technical laxness.

Although the label has released fine digital recordings, both "The Köln Concert" and "80/81" are derived from analog masters. Whatever additional tape noise the latter route incurs is minimal, however, in keeping with Eicher's emphasis on a more straightforward, classically influenced production style (i.e., no extramusical fireworks). More notably, ECM has taken pains to exploit the longer playing times possible on Compact Disc by creating edited versions of double sets.

"The Köln Concert," Keith Jarrett's most popular solo work to date, documents a 1975 German performance by the pianist. Captured at his most lyrical, Jarrett shifts

seamlessly from skeletal gospel riffs to airy, impressionistic musings and sudden chordal abstractions. The minimal tape hiss is masked by the acoustics of the performing space; the only technical flaw is the slight harshness of a few upper register notes. On balance, however, it's a gorgeous recording that retains its ambience in CD.

Pat Metheny's ambitious "80/81" is arguably a greater compromise, since about 20 minutes had to be cut from the original program, compared with the six-minute encore deleted from Jarrett's set. But the result is still an impressive CD, thanks to Eicher's meticulous studio production and the empathetic support of Charlie Haden's soul-deep acoustic bass, Jack DeJohnette's superb drumming, and the tenor saxophones of Dewey Redman and Mike Brecker.

When originally released, "80/81" was a timely reminder that Metheny is much more than a fusion stylist. He shifts away from the liquid electric guitar orchestrations of group recordings to probe a more improvisational attack. And his choice of partners brings stronger elements of free jazz and bebop to the proceedings. —S.S.

SQUEEZE:

Singles—45's and Under.

Various producers. A&M CD 4922 (analog recording; digital Compact Disc). LP: 4922; reviewed 3/83.

The emphasis of pop anthologies on hits allows record companies to expand the number of artists available in Compact Disc without releasing multiple albums—an important consideration, since limited manufacturing capacity still entails long lead times before delivery of finished discs. But assembling such packages usually requires an extra tape generation in transferring selections from several masters. The added noise and distortion, however incremental in the context of an analog LP or cassette, may be dramatized by the higher signal-to-noise ratio and lower distortion characteristics possible in CD.

Although variations in the noise level and overall ambience are audible here (as they are in the LP and cassette versions), this tribute to the late, great Squeeze still notches slight gains in CD. The music itself is so strong that most fans will forgive minor sonic glitches in return for the format's greater durability: These songs are narcotic enough to invite countless spins.

Songwriters Glenn Tilbrook and Chris Difford combine sharply detailed lyrics and strong melodies with deceptively uncluttered arrangements. The band uses electronic keyboards sometimes, as on their first single, *Take Me I'm Yours*, but their penchant for sunny, Beatle-browed melodies and classic rock guitar insures a more timeless style. Most familiar are the modified soul stylings of *Tempted* and *Black Coffee in Bed*, but lesser-known gems



SQUEEZE me: Tilbrook (top) & Difford

like the final single, *Annie Get Your Gun*, and the upbeat yet heartbreaking *Up the Junction* are equally compelling. If only there had been more singles, "45's and Under" could have exploited the CD's longer playing time. —S.S.

TALKING HEADS: Speaking in Tongues.

Talking Heads, producers. Sire 23882-2 (analog recording; digital Compact Disc). LP: 238831-1; reviewed 9/83.

The title of this 1983 album is tinged with a gentle irony, for "Speaking in Tongues" is actually more lucid and less fevered than its two predecessors. Leader David Byrne's vocal persona strikes many of the same frenzied postures, but a drier wit and underlying tenderness are also in greater abundance. The pared-down arrangements—which strike a deft balance between the minimalism of the original trio and the sinuous, richly detailed funk of the augmented late '70s ensemble—provide ample opportunities for the Compact Disc medium to display its virtues.

Sinewy guitar and synthesizer lines, many of them played by guests Wally Badarou and Bernie Worrell, gain a bit more presence. The bristling, acoustic introduction to *Burning Down the House*, the memorable hit single, emerges with even greater portent, followed by the clattering entry of drums and percussion. Here, as elsewhere, the mix emphasizes the intricate cross-rhythms set up by the band

For additional reviews of classical recordings, see *Classical Reviews*.

and visiting percussionists, and CD's superior separation enhances that aspect. Any flattening of the stereo image is minimized by this expansive scheme, too.

—S.S.

CLASSICAL
COMPACT DISC

MOZART:

Concertos for Violin and Orchestra, in D:
No. 2, K. 211; No. 4, K. 218.

Anne-Sophie Mutter, violin; Philharmonia Orchestra, Riccardo Muti, cond. [John Mordler, prod.] EMI CDC 47011 (fully digital Compact Disc). LP: DS 37904.

BACH:

Concertos for Violin and Orchestra: in E,
BWV. 1042*;
in A, BWV. 1041*. Double Concerto for
Two Violins and Orchestra, in D, BWV. 1043*†.
Anne-Sophie Mutter* and Salvatore Accardo†, violins; English
Chamber Orchestra, Salvatore Accardo, cond. [John Mordler,
prod.] EMI CDC 47005 (fully digital Compact Disc). LP: DS 37989.

Why is Mozart so hard—not for violinists (Anne-Sophie Mutter does just fine here), but for so many of today's conductors? Could it be they've been scared by all the Olde Musicke Academies? Since the advent of performers like Christopher Hogwood, and their associated scholarly hit-men, nearly every modern-instrument Mozart performance I've heard has sounded timid and cowed. In a word, skittish.

It's as if a generation had gone to music school only in time to learn that the performances they'd grown up on were Very Naughty, but before a solid new tradition had taken hold. (Or at least had percolated down—Hogwood certainly isn't scared!) They learned to furlough a few of their players until the Bruckner symphonies, start the trill on the right note, and listen to the scholars on matters of appoggiaturas and bowing. But their hearts weren't in it. They couldn't get in tune with this new approach, and so they lost touch with Mozart as well. When it comes to Mozart, our thirty-to-fifty-year-old conductors are a lost generation, as if they'd been banished to the provinces by the Cultural Revolution.

What Riccardo Muti offers here amounts to chunky phrasing, sluggish andantes (Muti needs lessons in nimble), passages that chug instead of bounce, and some audible sweating over lugubrious "expressive" effects that seem less felt than applied, like graffiti. This is spray-can Mozart.

It wasn't always so hard. From my own haphazard shelf I found a whole new world (old world?) in just the first few bars of the Fourth Violin Concerto with David Oistrakh, playing and conducting for Angel. Even more buoyant are Henryk Szeryng and Alexander Gibson on Sequenza in the Second Concerto. (Perhaps the real measure of what's wrong here is that Oistrakh's comparatively unschooled conducting trounces Muti's far more than his playing

overshadows the young Mutter's.)

Sonically this Mutter/Muti coupling has had a checkered history, coming out first on conventional LP, then (in England, at least) on EMI's first Direct Metal Master pressing, and now on CD. The sound on all three is similar, but just definably different. Although this was the first DMM in my experience that did not significantly improve on its conventional pressing, it did offer a bit more presence to the orchestra

and less inner-groove distortion. Both it and the CD have a less detailed solo-violin sound, though on CD the violin is surrounded by a shade more air. (Mutter's attacks in particular are fuzzed, those precise distinctions between legato and staccato that define Mozart phrasing vaguer than on LP.) CD partisans will no doubt insist I'm just partial to the extra distortion that vinyl imposes, but despite CD's many virtues, I've always heard a slight loss of

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detail on solo strings (compared to a good LP front end). There's less of the burr of horsehair and rosin that Peter Goldmark was trying to capture when he invented the LP.

In no version is Muti well served by his engineers, who (as in his sad *Orfeo*) exaggerate his worst tendencies, making already lethargic andantes sound even woolier. Mozart's writing for oboes and horns—sparing, crucial—is all but lost, while massed strings, particularly on rising phrases, have that digital edge that should be avoidable with a thinned-down band.

But it is Mutter herself who suffers most. Her tone is thin and watery (which it emphatically is *not* in live Mozart) and disfigured by an odd kind of jitter, somewhere between an inhumanly rapid vibrato and outright flutter. A pity, too, because her performance here is agile, fleet, and bouncing, holding its own against any

The Bach music presents fewer questions. It is Bach in a style one might call Romantic-Ascetic. The basic approach is rich and heavy, of a sort one could have heard 30 years ago, but within that old-fashioned frame Salvatore Accardo and Mutter allow themselves few liberties. This is nose-to-the-grindstone Bach, committed, intense, with a rather relentless allegiance to the Serious elements—the two are *never* playful. (The E major *all* sounds like C sharp minor).

Again it took only a few seconds of comparison (the first three chords of the E major by Jaap Schröder and Hogwood) to be reminded that these pieces can indeed be springy, buoyant, at moments even jocular. If a period-instruments comparison seems unfair, a similarly old-line aesthetic does not prevent Isaac Stern and Shlomo Mintz moments of nimble play on Deutsche Grammophon's Huberman Festival recording, and with a far greater sense of the sheer pleasure these works can give.

The ponderously resonant, edgy sound of the Compact Disc is nearly indistinguishable from the LP, although again the CD seems to offer a shade more air around the soloists, in trade for a touch less string detail. —THOMAS W. RUSSELL III

WEILL:

The Unknown Kurt Weill.

Teresa Stratas, soprano; Richard Woitach, piano. [Eric Saltzman, prod.] NONESUCH 79019-2 (fully digital Compact Disc). LP: D 79019, reviewed 2/82. Cassette: D1 79019.

Nannas Lied; Complainte de la Seine; Klops-Lied; Berlin im Licht-Song; Und was bekam des Soldaten Weib?; Die Muschel von Margate; Petroleum Song; Wie lange noch?; Youkali; Tango Habanera; Der Abschiedsbrief; Es regnet; Buddy on the Night-shift; Schickelgruber; Je ne t'aime pas; Das Lied von den braunen Inseln.

An appealing collection, and how especially welcome on Compact Disc, far from the maddening *Boheros* (four, as of March) and *Four Seasons* (six) that bulk up so many companies' offerings at a time

when a lone CD purveys Schubert songs.

With texts that stretch from Leon Feuchtwanger to Oscar Hammerstein II, Nonesuch's collection highlights Weill's range. For a composer whose best-known work seems so unmistakable—a bar or two of piano lead-in will place most of *The Threepenny Opera*—Weill had a curious streak of the chameleon. It wasn't so much his ability to conjure up wildly different



KURT WEILL: a fox, or a hedgehog?

moods as a willingness to submerge himself, like Shakespeare's "dyer's hand," in already established idioms. If his deepest ambitions lay in extending the genius of his native Berlin cabaret, one senses here his almost perverse pleasure in working on shores far from home, from the war-bond rally jingoism of Howard Dietz's *Schickelgruber* to the convincingly Gallic *Complainte de la Seine* and *Je ne t'aime pas*, two songs the Little Sparrow herself might have felt comfortable with.

Still and all, there's no mistaking Weill's native accent whether in the frankly self-cannibalizing *Der Abschiedsbrief* or the more masterly *Nannas Lied* and *Und was bekam des Soldaten Weib?*—both to texts by Brecht. If his most basic bag of tricks is no bigger than Cole Porter's, why should it have been? Weill proved his foxlike qualities often enough; who cares if he preferred to stay a hedgehog?

Characteristic Weill tricks include his attraction to strophic songs, particularly

those with refrains, with verses that keep repeating the same setup, changing only their predicates: The soldier sends his wife a hat from Amsterdam/Belgian lace/etc. The kicker in the last line of that song—his final gift is a widow's veil—elicits another echt-Weill effect: A refrain or a last line will often be set with a melting lyricism that ironically underscores the bitterness of what the verses tell us.

Teresa Stratas applies her bewitching talents skillfully to each song. If she seems less at home than the composer's widow in those few moments of *Sprechstimme*, surely the rest could never have been better *sung*. Perhaps surprisingly, for such a renowned Lulu, it is the bittersweet lyricism of so many of these songs that seems most congenial. Stratas's line-by-line characterization is masterly too, subtly varying the mood of each increasingly pessimistic verse of *Nannas Lied*, or conveying in another song the singer's failing attempt to convince herself that *Je ne t'aime pas*. Yet she can encompass as well the enthusiastic anger of a protest work like the *Petroleum Song* and the fatal rhythm of *Und was bekam des Soldaten Weib?* (The everywhere excellent Richard Woitach is particularly helpful on the latter, his piano suggesting not just the soldier's marching tread but the more monotonously fatal rhythm of the woman's life.) Song by song, Stratas is splendid, even thrilling.

If there is any reservation to be made, it is only that she doesn't go much beyond that. The highest traditions of French and German cabaret singing involve less the re-creation of a song than the new-creation of a character. Listening to the best in that tradition, you're struck by the singer's evocation of a new persona for each song, a particular character who seems to exist beyond the borders of the song. It's that mystical suggestion of a slice-of-the-infinite that's missing here. Still, that is to demand the preternatural as a matter of course. Stratas acquires herself admirably and honorably.

The same, alas, cannot be said of Nonesuch. To issue a Compact Disc—at current inflated prices—with *no* texts or translations, and sans Kim Kowalke's splendidly useful LP notes, is simply a scandal. Surely a postcard telling us we can send for them? Not even for ready money. [Nonesuch advises that a free copy of the texts and notes can be obtained by contacting its Consumer Dept., 9229 Sunset Blvd., Los Angeles, Calif. 90069, telephone (213) 205-7400.]

On the other hand, as one who is at best an agnostic on CD, I have to say that the sound here is gorgeous: achingly sweet, positioned in space with an absolute solidity few cartridges can match. The LP is a shade edgier, the CD just that degree smoother to fully justify the increased price. If only there were notes . . . —T.W.R. III

A Pride of Sopranos

Reviewed by Paul Hume



Jessye Norman (left) and Barbara Hendricks: imposing voices in concert and on disc

New recordings by Jessye Norman, Barbara Hendricks, and Eva Marton showcase the talents of a rising generation.

WASHINGTON AND NEW YORK were fortunate, in the second week of this year, to hear two distinctive and distinguished artists, Jessye Norman and Barbara Hendricks, singing together in the Second Symphony of Mahler. Each made a profound impression, giving unusual dimension to the vast concept projected by the conductor, Leonard Bernstein. Hendricks was the soprano, and Norman sang the mezzo lines with almost indescribable effect.

The two are just slightly more than three years apart in age; each has taken her own good time to reach the position of eminence she occupies today. It is rare for any concertgoer to hear them singing together. But because of that felicitous conjunction in January, it is of special interest to take up two new recordings from Norman and one

from Hendricks at the same time.

Norman's voice is by far the larger, the more spacious in size and resonance. For her operatic debut in 1969 in West Berlin, the Germans called her a "jugendlich" ("youthful") dramatic soprano and properly cast her as Elisabeth in *Tannhäuser*. In the intervening years, Norman has divided her time between opera, concerts, and orchestral engagements. Her roles have included Aida, Selika, Mozart's Countess, and both Cassandra and Dido in *Les Troyens*, the work in which she made her Metropolitan Opera debut in the fall of 1983.

Today her voice must be described as a genuine dramatic soprano, but one with so impressive a lower register that she is completely comfortable in mezzo territory; it is even fascinating to speculate on how she would sound as Erda. Clearly this is the kind of voice Richard Strauss had in mind when he asked that the first performance of the *Four Last Songs* be given by Kirsten

Flagstad. No other soprano with such amplitude has recorded them since that premiere.

In range—there is only one high B and one high B flat in the four—these songs suit Norman's voice and temperament. Two of them, *September* and *Im Abendrot*, lie within the most lustrous part of her voice, barely covering a tenth, up to the F sharp. But it is the magical, almost mystical spell that these songs cast, with their most mature Straussian interweaving of voice and orchestra, that raises them to the level of his finest writing. The secret of that spell lies in the degree to which the singer clearly projects the beauty of each word in the text. This Norman does very well on her Philips disc—very well indeed. And yet one wishes that she would sculpt the words even more strongly, for they are the key to the meaning of the songs.

Vocally these *Four Last Songs* are pure joy. Norman can soar through the largest, highest phrases without any thought of limitations. But if you listen to them sung either by Elisabeth Schwarzkopf—the earlier or the later recordings—or by Elisabeth Söderström, you hear those ineffable moments that come as much from the enunciation as from the singing.

The other six songs on Norman's

Paul Hume is music critic emeritus of The Washington Post and music critic of radio station WGMS.

Strauss collection include some of the finest singing yet heard from this marvelous artist. Try her *Ruhe, meine Seele* if you want to hear something of the sound she projected in the Mahler symphony as she sang "O Röschen roth!" The opening *Cécilie* is sometimes a problem when sung with orchestra; it almost seems that there are too many instruments to permit the singer the kind of headlong impetuosity the poem requires. In this case, too many phrases linger when they should leap. *Morgen!*, on the other hand, gains something very precious when the violin plays that long, sustained solo, which cannot be held by the ear in the same way when the piano alone has the task.

This record makes you want to hear Norman in those Wagner roles for which she, like Flagstad at the same age, is now ready. It is bound to happen. Strange footnote to this recording: The texts of the *Four Last Songs* are printed on an insert in German, but a note says, "Permission to print English and French translations could not be obtained." Six other recordings, checked at random, had no such problem.

Because Norman's vocal study included substantial time with Pierre Bernac, it is not surprising that she has sung perhaps equal quantities of French and German literature. Her Erato recording of Chausson's *Poème de l'amour et de la mer* has moved straight to the top of my brief list of favorite recorded performances. It stands there next to the 1977 Gérard Souzay disc, though again there is no comparison if we are going to talk about projecting the text. But the music suits Norman ideally, and she is extremely convincing throughout. The Monte Carlo Philharmonic can sound more involved with another conductor—for instance (and you may be surprised to know that this performance exists), Pierre Monteux, who many years ago conducted a recording of the work with Gladys Swarthout. That is a real treasure in every way!

The *Chanson perpétuelle*, which, with the piano and string quartet, has distinct aural parallels with the *Concert* for Violin, Piano, and String Quartet, is close to ideal in this new recording. The chamber ensemble has a lovely radiance and Norman finds the work right down her alley. Results vary in the songs with piano, well enough played by Michel Dalberto (without effacing any memories of Dalton Baldwin). *Le Colibri*, as Jennie Tourel told one of her somewhat heavy-footed pupils, is about a hummingbird, not a vulture. Norman does not make such a misjudgment, but her voice does not lighten up as it should; we know from much other evidence in Strauss and Chausson that she is capable of exquisite pianissimo lines. This is, however, a welcome addition to the still-slighted repertoire of French songs on records, and a bright signpost on the Norman path of growing artistry.

Barbara Hendricks is a beautiful artist, secure in handling her shining lyric soprano, an instrument she treats with the respect it deserves. She said in a recent radio interview that she would be delighted to sing Zerlina indefinitely but was not at all sure she should ever take on Donna Elvira, though Herbert von Karajan had asked her to. In the kind of modest display too few younger singers are willing to offer, Hendricks said that for her, Schwarzkopf's Elvira is the model—and one that she could never approach. That kind of perceptive musical intelligence is a rare and treasureable gift.

Hendricks is widely known, and rightly, for her astounding recorded performance in David Del Tredici's *Final Alice*, with the Chicago Symphony Orchestra and Sir Georg Solti, as well as her ravishing singing in the C minor Mass of Mozart, under the Karajan baton. She has also released a marvelous disc of spirituals, to which she brings a strongly individual approach.

Her Philips collection of French arias gives you an excellent profile of her voice: easily capable of the loveliest high soft tones and phrases, powerful enough for the larger moments in the Mirror Scene from *Thaïs* and the climax in "Depuis le jour." But the longer you listen to this record, the more you may be disturbed by several recurring difficulties. First of all, the French enunciation is both highly unsatisfactory and unclear. For example, the first word in the recitative leading up to Manon's "Adieu" is "Allons!" Try as often as I might, I never heard the slightest suggestion of the word. An even more troublesome fault is that Hendricks, clearly a singer whose teachers insisted that she avoid the vowel *ee* in any of its manifestations, employs a darkening technique that prevents her from singing any French *e*,



Eva Marton: the Brünnhilde of the '80s?

whether mute, accented, or open. This proves ruinous in such words as "belle," "destinée," and so on. Then there are serious technical problems of agility in the demanding aria from *Benvenuto Cellini*, which ends with a disastrously unsuccessful attempt at a high D, though that is a note in which Hendricks is at other times secure.

It is strange that anyone who studied with Tourel should have problems with the French language. These could be remedied if the greatly gifted young singer would seek the assistance of any good coach of singing French. With her voice and instincts, Hendricks should let nothing keep her from clearing up this language hurdle. An artist who insists on restoring Juliette's "Dieu, quel frisson" to Gounod's score, thus giving the character a substance she (Continued on page 89)

STRAUSS: Songs.

Jessye Norman, soprano; Leipzig Gewandhaus Orchestra, Kurt Masur, cond. Philips 6514 322. Cassette: 7337 322. CD: 411 052-2.

Four Last Songs; *Cécilie*; *Morgen!*; *Wiegenlied*; *Ruhe, meine Seele*; *Meinem Kinde*; *Zueignung*.

CHAUSSON: Songs.

Jessye Norman, soprano; Michel Dalberto*, piano; Monte Carlo Philharmonic†, Armin Jordan, cond. Erato NUM 75059. Cassette: MCE 75059.

Poème de l'amour et de la mer†; *Chanson perpétuelle**; *Le Colibri**; *Serenade Italienne**; *La Dernière Feuille**; *Les Papillons**; *Le Charme**.

BARBARA HENDRICKS: French Opera Arias.

Barbara Hendricks, soprano; Monte Carlo Philharmonic, Jeffrey Tate, cond. Philips 410 446-1. Cassette: 410 446-4.

BERLIOZ: *Benvenuto Cellini*: *Entre*

l'amour et le devoir. BIZET: *Les Pêcheurs de Perles*: *Me voila seule dans la nuit*. CHARPENTIER: *Louise*: *Depuis le jour*. GOUNOD: *Roméo et Juliette*: *Ah! Je veux vivre*; *Dieu, quel frisson*. MASSENET: *Manon*: *Adieu, notre petite table*; *Cours la Reine scene*; *Thaïs*: *Dis-moi que je suis belle*. OFFENBACH: *Les Contes d'Hoffmann*: *Elle a fui, la tourterelle*.

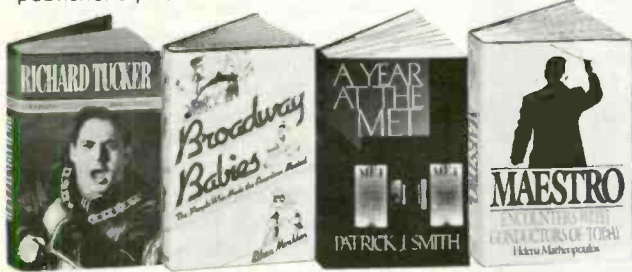
EVA MARTON: The Early Recordings.

Eva Marton, soprano; Hungarian Radio and Television Chorus†††; Hungarian State Opera Orchestra†; Budapest Philharmonic Orchestra†; Budapest Symphony Orchestra***; Andras Korodi †††, cond.; Gyorgy Lehel**, cond.; Ervin Lukacs*, cond. Hungaroton SLPX 12454. Cassette: MK 12454.

BRAHMS: *Requiem*: *Ihr Habt nun Traurigkeit**. LISZT: *The Legend of Saint Elisabeth*: *Elisabeth's Prayer****. MENDELSSOHN: *A Midsummer Night's Dream*: *Bunte Schlägen*†. VERDI: *La Forza del destino*: excerpt†. WAGNER: *Tristan und Isolde*: *Liebeshod**.

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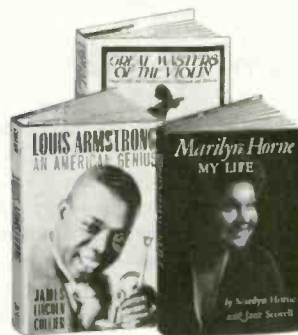
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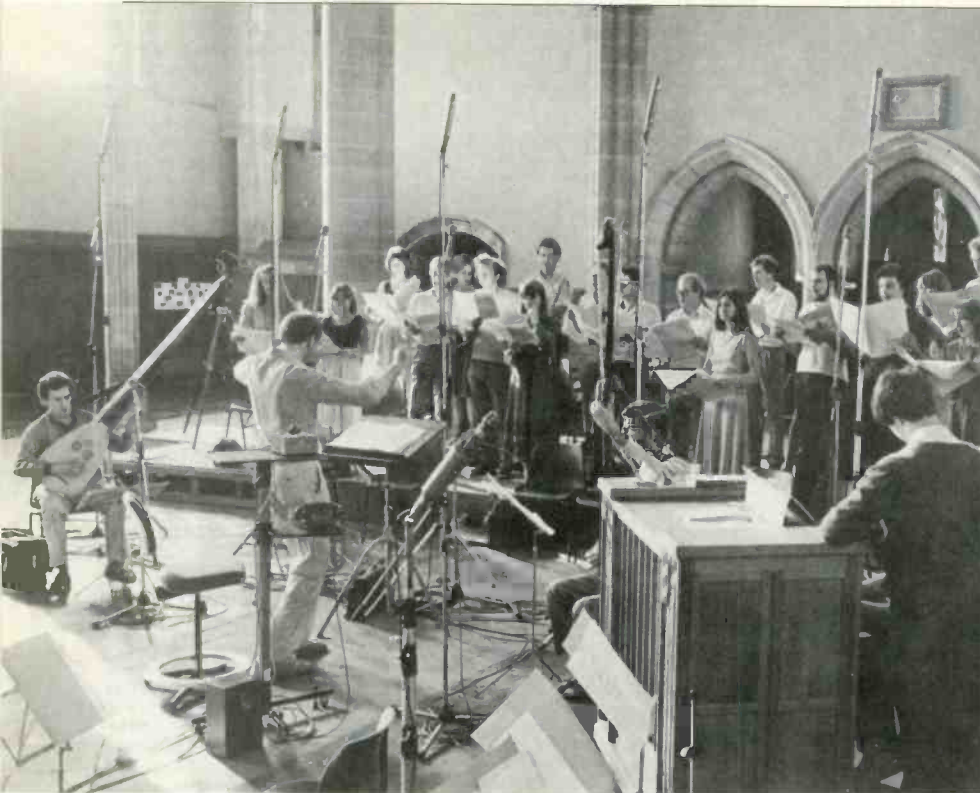
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Angel's Reflexe: Brisk Accounts of Early Music

Reviewed by James Wierzbicki

UNLESS THEY LIVE in New York, Boston, Ann Arbor, or Washington, American listeners are likely to get their exposure to first-rate performances of early music primarily through imported recordings. The specialists in Medieval, Renais-

sance, and Baroque repertoire who are based in those cities do tour, of course, but only on occasion, for most of them are homebound by obligations to careers as teachers, instrument makers, or (in most cases) free-lancers ready and willing to

serve the cause of music from all periods. Besides, they're as limited in number as they are in mobility: The rosters of Titanic, Pro Arte, Gasparo, Smithsonian, and those few other labels that issue high-quality domestically produced recordings of early music tend to feature the same names, and typically it's the same handful of singers and players who dominate the faculties of the various early music workshops and institutes held around the country. Despite the growing popularity of affairs such as the biennial Early Music Festival launched in Boston in 1981, pre-Classical music is still a cottage industry in America, and it will probably remain so until the current crop of artists spawns at least several generations of able protégés.

How different it is in Europe, where the seeds of interest in early music were planted decades ago. After Arnold Dolmetsch's pioneering work around the turn of the century, the torch was taken up by, among others, Paul Sacher and August Wenzinger, who in 1933 co-founded the famed Schola Cantorum in Basel, Switzerland. The Dutch harpsichordist Gustav Leonhardt is a product of the Schola Cantorum, and it was largely through his efforts in the early 1950s that audiences in the Netherlands began to develop a taste for "authentic" performances of music from the 17th and 18th centuries. English cathedral choirs had long maintained a tradition of "authenticity" in the performance of

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The most noteworthy releases reviewed recently

BACH: *Concertos for Oboe, Strings, and Continuo; Concerto for Oboe d'Amore, Strings, and Continuo.* Hammer: Bach Ensemble, Rifkin. PRO ARTE PAD 153, Feb.

BACH: *Goldberg Variations; Chromatic Fantasy and Fugue in D minor; Four Duets, S. 802-5.* Schiff. LONDON LDR 73013 (2), Apr.

BERWALD: *Septet for Clarinet, Horn, Bassoon, and Strings, in B flat.* JANÁČEK: *Concertino for Horn, Bassoon, Piano, and Strings.* PROKOFIEV: *Overture on Hebrew Themes for Clarinet, Piano, and Strings.* Amsterdam Nonet. NONESUCH 71412B, Mar.

COLGRASS: *Déjà vu; Light Spirit.* DRUCKMAN: *Aureole.* Starobin; Members of St. Louis Symphony, Comet; St. Louis Symphony, Slatkin, NEW WORLD NW 319, Apr.

GRIEG: *Lyric Pieces, Holberg Suite.* Katsaris. TELDEC 6.42925, May.

HANDEL: *Arias from Rinaldo and Other Operas.* Horne; I Solisti Veneti, Scimone. ERATO 75047, Feb.

MAHLER: *Symphony No. 6, in A minor.* London Philharmonic, Tennstedt. ANGEL DSB 3945 (2), Mar.

MASSENET: *Manon.* Cotrubas. Kraus. Quilico, Van Dam; Orchestra and Chorus of Toulouse, Plasson. ANGEL DSCX 3946 (3), Apr.

MOZART: *Requiem.* Price, Schmidt. Araiza, Adam; Leipzig Radio Chorus; Dresden State Orchestra, Schreier. PHILIPS 6514 320, May.

PENDERECKI: *Te Deum; Lacrimosa.* Gadulanka Podles, Ochman, Hiolski; Polish Radio

Chorus and Orchestra. Penderecki. EMI/ANGEL DS 38060, May.

PURCELL: *Songs (15).* Esswood, Sonnleitner, Medlam. HYPERION A 66070, Mar.

SCHUBERT: *String Quintet in C, Op. 163.* Schiff; Alban Berg String Quartet. EMI/ANGEL DS 38009, Apr.

SZYMANOWSKI: *String Quartets, Nos. 1, 2.* Varsovia Quartet. PAVANE ADW 7118, Feb.

WAGNER: *Tristan und Isolde.* Behrens, Hofmann; Bavarian Radio Symphony and Chorus, Bernstein. PHILIPS 6769 091 (5), May.

WOLPE: *Suite im Hexachord for Oboe and Clarinet.* Williams, Randall. CRYSTAL S 355, Mar.

NICOLAI GEDDA: *Anthology of Swedish Song.* BLUEBELL 121, 122, 127, 142, 147 (5), Mar.

CHRISTOPHER HOGWOOD: *Keyboard Music.* OISEAU-LYRE DSLO 609, Apr.

sacred choral music; the accomplishments of Dolmetsch notwithstanding, it was only in the late 1940s—when the countertenor Alfred Deller made his first recordings—that British audiences in general were reminded of the glories of Elizabethan lute songs and other decidedly secular genres.

The influence of Leonhardt, Deller, and the others was enormous. By the mid-1960s not only they but also a fair number of their emulators were flourishing; today, especially in London and Amsterdam, the public's appetite for pre-Classical music is almost as ravenous as it is for the mainstream repertoire. The number of European early music ensembles currently represented on such labels as Archiv, Telefunken, Oiseau-Lyre, Hyperion, Oryx, Harmonia Mundi, and Das Alte Werk is staggering, and it seems that with each season the community of fully occupied performers expands to meet the ever-growing demand.

Angel's new Reflexe series offers a wide sampling from the current treasure chest of European groups. This is the label's first major early music project since it introduced the work of the late David Munrow and his London Early Music Consort to American listeners in the 1970s. As was the case with the Munrow recordings, the Reflexe discs feature performances that are as musically excellent as they are musically authoritative, and they benefit considerably from painstakingly engineered digital sound and generally meticulous pressings. Every one of them is a treat; taken as a whole they add up to a sonic feast that's indescribably delicious.

Among the initial releases, those that contain the earliest repertoire boast the most intriguing sounds, and not only because the pure fifths and high thirds of the "just"

intonation and mean-tone tuning systems offer such a refreshing contrast to the compromised intervals of 18th-century equal temperament. The Machaut recording is a recreation of the 14th-century *Messe de Notre Dame* as it might have been heard in a functional setting, with the six polyphonic Mass movements intermixed with plainchant from the Feast of the Nativity of Our Lady and the ringing of sacristan's bells at the liturgically appropriate moments. Engineer Neville Boyling's attempt to duplicate the three-dimensional ambiance of a conjectural performance in Rheims Cathedral is only partially successful, but the sonics are sumptuous nonetheless, and the clarity of the singing is beautifully complemented by transparent veils of architectural echo.

Josquin's reverential motets and lively chansons for four, five, and six voices are performed in a drier space, presumably comparable to the private chapels and palace ballrooms in which they were introduced in the decades surrounding 1500, and the minimal acoustical resonance allows the ear to focus clearly on the extraordinary musical resonance that results from pure intervals sung with scarcely a trace of vibrato. Paul Hillier's ensemble features several of the finest male soprano and alto voices ever captured on disc, and it's a pity their owners aren't credited in the jacket literature.

Monteverdi's 1640 *Selva morale et spirituale* is a voluminous collection of sacred pieces designed for performance in Venice's spacious St. Mark's Cathedral, but few of them call for the antiphonal choirs favored by resident composers of both earlier and later generations. Thus, even the more complexly scored components (for example, the "Dixit Dominus" for double chorus) of this hypothetical Vespers service are presented without back-and-forth gimmickry, although the engineering (also by Boyling) is keen enough so that a listener can pinpoint in the stereo field

the positions of the soloists and accompanying string players. Castrati being unfashionable these days, the top parts are all taken by women; Emma Kirkby sounds as ravishing here as she does on the famous Christopher Hogwood *Messiah* recording, and the crystalline quality of her voice is shared by the female choristers. This is easily the most luxurious release among the incipient Reflexe offerings, with the music's great timbral, textural, and rhythmic variety proudly served by the soloists' elegant ornamentation and Andrew Parrott's deft balancing of vocal-instrumental forces.

The only one of the new Reflexe discs that has sonic flaws is the Purcell collection. The performances by the members of the group called London Baroque are superb, and the glistening sonorities of these affectionately bowed viols deserve to be framed in absolute silence. However, an intrusive rumble filters into all the between-cut spaces, and on the second side a few of the final cadences dissolve into a vapor of high-pitched noise that is definitely not coming from the harmonics of a still-vibrating string.

There's noise, too, on the two records of the C. P. E. Bach package, but in this case it's simply the percussive pitter-patter that results from close miking of the harpsichord. Bob van Asperen's Melante '81 Orchestra is new to the early music scene in Holland. His string players take a moderate approach to tone production, with the gently swelling bow strokes one associates more with the British ensembles than with the established Continental groups. Their sound is vibrant and their playing vigorous, just right for supporting the impeccably clean virtuosity of their leader. Trevor Pinnock and his English Concert recorded No. 5 of the 1772 *Hamburg* set a few years ago (Vanguard 71265), but the other concertos are scarcely known on this side of the Atlantic. The harmonic content is rather straightforward but they're loaded with

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

engaging melodies and ear-catching dynamic effects, and doubtless at least a few of them will become standard concert fare as soon as the long-anticipated C. P. E. Bach renaissance gets underway.

Of the Basel-based Linde Consort's two J. S. Bach albums, the more impressive is the one containing the Suites for Orchestra. The balances are inevitably right, and Hans-Martin Linde's flute solos in the B minor Suite have a self-effacing innocence about them that belies the part's technical difficulties. There's fine flute playing to be heard on the cantata disc, too, but like the voices it seems to be thrust into the foreground in a way that calls attention more to the performer than to the music. In any case, the singing is vivacious, joyous, and witty, enjoyable as much for its theatrical insouciance as for its musical finesse.

The Reflexe jacket material is inconsistent. Specific information regarding instruments and personnel is given for the Monteverdi and C. P. E. Bach collections, but not for the J. S. Bach sets; members of the Hilliard Ensemble are not named; on the concerto and cantata albums credit is given to the translator but not the author of the liner notes.

Those quibbles aside, this is an extraordinarily good series. Collections of Dunstable motets, Renaissance music from Naples, and lute pieces from the 16th and 17th centuries are forthcoming, and one hopes there will be many more releases after that.

BARBER: Concerto for Cello and Orchestra, Op. 22. SHOSTAKOVICH: Concerto for Cello and Orchestra, No. 1, Op. 107.

Raphael Wallfisch, cello; English Chamber Orchestra, Geoffrey Simon, cond. [Brian Couzens, prod.] CHANDOS ABRD 1085 (digital recording). Cassette: ABTD 1085.

We have a problem with the cello concerto, but who is the most to blame? Conductors? Audiences? The cellists themselves? Surely the blame must rest with today's conductors, those high priests who appear to believe that there are but three or four cello concertos worth presenting to the public. A case in point: When André Previn devised his British Festival a couple of seasons ago, he brought Yo-Yo Ma forward for yet another performance of the Elgar Concerto, when this same cellist is, to my knowledge, the only current performer of the very neglected Finzi Concerto, another British work that is at least the equal of the Elgar. Such are our tired concert patterns today.

Thus, there is ample reason to welcome this disc, which should serve to remind us (and conductors) that the Barber Concerto is worth many more performances than it currently receives. Even if it must be said that the work is not the equal of Barber's Piano Concerto (few twentieth-century concertos for any instrument are) nor

even of his Violin Concerto, it will nonetheless be a major treat for anyone unfamiliar with it.

This concerto has been recorded twice before. I have not heard the Raya Garbousova performance for a long while; however, after a careful comparison with the Zara Nelsova recording (conducted by the composer himself), this new version is roughly equal to that one, but with far better sound. That is really what tips the scales in its favor, as well as the wonderfully sympathetic and acutely sensitive collaboration by Geoffrey Simon and the English Chamber Orchestra. The soloist, Raphael Wallfisch,

is nothing less than a major new talent. All the more credit to him, then, for exploring fresh repertoire, as he and Simon also did in their recently released all-Tchaikovsky recording, also on Chandos.

Finally, but hardly least, the somewhat more frequently played and recorded First Shostakovich Concerto receives a performance of at least equal voltage to any other, and that includes the account by Rostropovich. In fact, I also prefer this version to the two others I know, namely those by Miloš Sadlo (on Supraphon) and Mikhail Khomitsner (on a deleted Melodiya/Angel).
THOMAS L. DIXON



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CUMMING: Cycles and Songs.

Donald Gramm, bass-baritone; Carole Bogard, soprano; Richard Cumming, piano; Beth Orson, oboe; Theodore Mook, cello. [Charles Fisher, prod.] CAMBRIDGE CRS 2778 (digital recording).

LA MONTAINE: Wilderness Journal.

Donald Gramm, bass-baritone; Paul Callaway, organist; National Symphony, Antal Dorati, cond. FREDONIA DISCS FD 11. Cassette: FDC 11. (3947 Fredonia Drive, Hollywood, Calif. 90068.)

There is a bittersweet nostalgia in listening to recordings dominated by the voice, and the often quite magical art, of the late Donald Gramm. The "bitter" is the sorrow at the unexpected death of this rare artist in the summer of 1983, when he was fifty-six years old and very much at the peak of his long and eminently successful career. He had been enjoying seasons of singing Don Alfonso with the Metropolitan Opera and Falstaff at Glyndebourne (as well as in Boston), and he was preparing to record Nick Shadow in *The Rake's Progress*. A fatal heart attack ended that career.

The "sweet," however, is the realization that Gramm can be heard on various recordings in some of his finest moments, illustrating all that made him outstanding on the recital stage and in the opera house. With Glenn Gould, he recorded the two dramatic songs that are Arnold Schoenberg's Opus 1. With Beverly Sills and Sarah Caldwell, his longtime colleagues, he recorded Donizetti's *Don Pasquale*. And in Leonard Bernstein's *Songfest*, Gramm's singing of the Whitman poem *To What You Said* is the breathtaking moment of the wonderful score.

John La Montaine wrote *Wilderness Journal* in 1969 and 1970 on commission from Catherine Filene Shouse, who asked the Pulitzer Prize composer for a work with which to inaugurate the Aeolian-Skinner organ she was giving to the Kennedy Center. For a text, La Montaine turned to the writings of Thoreau and created a symphony for large orchestra, bass-baritone, and organ. The piece was heard for the first time during the Kennedy Center's inaugural season, in the fall of 1971. It is from tapes made at that time that this recording has at last been pressed. The intervening years were spent in securing the necessary permissions from conductor Antal Dorati (then music director of the National Symphony), the musicians, and the soloists.

Of his singing in the *Journal*, Gramm told La Montaine, "I have never heard so rich and varied a recording of my singing." And it is true, as the music takes him through three quarters of an hour of excerpts from Thoreau's essays and journals. The language seems to call for precisely Gramm's style and sound: "I thank you, God. I do not deserve anything, I am unworthy of the least regard; and yet the world is gilded for my delight and holidays are prepared for me." The full Thoreau text



Michael Haydn (1737-1806)

accompanies the record.

Gramm's voice is elegant, flexible, and impressive at every point. So is the playing of organist Paul Callaway, for whom the solo keyboard part was designed. There are some formidable passages, together with some imaginative bird music for the organ and throughout the orchestra. Interestingly, with the organ and the bird calls, there is still no close parallel with Olivier Messiaen's use of both of these. For Callaway—who was, at the time of the recording, still in his 39 years as organist of Washington Cathedral—formidable passages were no hazard. The organ has, in the recording, a somewhat more reedy sound than it presents live in the hall, and there is a compressed sound that is not heard in the Center. But the music is of striking beauty, evoking nature in many moods, out of orchestral writing that changes as quickly as waving reeds on a marshy strand or birds flashing through a western sky at sunset. It is good to have so distinctive a work presented in this manner. Had Dorati taken a larger, more intense approach, rather than a somewhat constrained view, the orchestra would have achieved a greater tonal luster than can be heard here.

Throughout his long career, Gramm was one of those rare creatures who loved the song recital and worked to keep it alive and kicking in an era when it was steadily being eroded both by composers who looked down on the writing of songs and by the willingness—nay, the insistence—of concert managers to engage opera singers for recitals that turned into periods of opera with piano.

Soprano Carole Bogard will forgive me for having spent so much time talking about Gramm, with whom she shares the other recent release. It is a recording of 20 songs by Richard Cumming, whose name you may or may not know, but whose music you should hear. (Lovers of the piano might be interested in John Browning's Desto

recording of Cumming's 24 preludes.) Cumming has a true gift for the writing of songs. The cycle in which he joins Gramm as pianist was written for the singer in 1963. Called *We Happy Few*, it draws on ten different writers, ranging from the opening Shakespeare through an Egyptian who lived around 3000 B.C., and up to Rainer Maria Rilke and Archibald MacLeish.

The poems reach out for your attention, especially because you can easily understand every syllable of Gramm's singing, which is richly varied to match the changing moods. Choose your own favorites from these ten, nearly all of which prove to be real gems. Cumming is an expert pianist in the manner of Poulenc and Rorem, and the balance is ideal.

On the other side of the record Bogard sings one duet with Gramm and nine songs on her own, again with Cumming as the pianist. In one song she is joined by oboist Beth Orson, in another by cellist Theodore Mook. Like Gramm, Bogard has always been a distinguished singer of songs. She probes the meaning of the poems and then seduces you with the lovely sounds she makes. The songs cover more than two decades in Cumming's creative career. If the song recital is making a comeback, as seems possible, these songs should be widely heard. Audiences would love them.

Jacket notes by Ned Rorem rise far above the caliber of notes usually provided. His perceptions, his own involvement with the writing of some of this country's best songs, and his wit make the essay a joy. Texts are not included, but you never need them while listening to Gramm, not often with Bogard.

PAUL HUME

HAYDN, M.: Symphonies: No. 19, in C, P. 10; No. 23, in D, P. 43.

Bournemouth Sinfonietta, Harold Farberman, cond. [Antony Hodgson, prod.] TURN-ABOUT D-TV 34902. Cassette: D-CT 4902.

HAYDN, M.: Symphonies: No. 21, in C, P. 12; No. 37, in B flat, P. 28; No. 41, in F, P. 32.

Bournemouth Sinfonietta, Harold Farberman, cond. [Antony Hodgson, prod.] TURN-ABOUT D-TV 34903. Cassette: D-CT 4903.

No less a musician than Wolfgang Mozart thought highly of Michael Haydn. In 1763, when Mozart was still a child, Haydn assumed a position at the archbishop's court in Salzburg, where he was responsible for composing new works as well as directing the orchestra. Thus the younger brother of Joseph Haydn began a 40-year tenure in Salzburg, during which the Mozarts (both Wolfgang and his father Leopold) got to know and respect him. Several incidents illustrate the closeness of Wolfgang's relationship to Michael, of which one is relevant here: In 1783 Mozart wrote an introduction to and performed a Michael Haydn symphony. For decades scholars thought

the entire work to be by Mozart, and it was listed in Mozart catalogs as Symphony No. 37 (K. 444).

The fact that the younger Haydn's music was of sufficient quality to make such confusion possible says a good deal for this underrated composer. And judging from the five symphonies recorded here, it seems that Mozart's high estimation was not unfounded. Though these works never attain the lyric poignancy and chromatic richness of Mozart's nor the humor and daring originality of Joseph Haydn's, they are competent, often exhilarating, sometimes moving.

Each of these discs contains one work from the 1770s. Symphony No. 19 (P. 10; the P numbers refer to Lothar Perger's catalog) was composed in 1773 and is notable for an odd instrumental blend that includes screechy little piffaros (shepherd's pipes) and rough, strident *tamburi*. The other work, Symphony No. 21 (P. 12), is less distinguished. Interestingly enough, both compositions seem more polished, suave, and ultimately more commonplace than many of brother Joseph's symphonies of the 1770s; there is none of his bizarre imagination, stormy emotion, or manic wit.

The remaining three symphonies date from the 1780s. Symphony No. 23 (P. 43) has a fugal finale whose subject begins with four long notes—a close relation to the theme of the finale of Mozart's *Jupiter* Symphony. (As a matter of fact, Mozart was quite taken with Haydn's fugal finales, and even copied a section of this one for study.) Symphonies No. 37 (P. 28) and No. 41 (P. 32) are among Michael's last and display new advances in orchestration (especially in the prominence of the winds) and a confident control of thematic development.

The symphonies from the 1770s are in four movements, while those from the 1780s are in three, lacking a minuet. First movements have vigorous first themes and lyric, clearly contrasting second themes (in this respect Haydn is closer to Mozart than to his brother Joseph). The slow movements are really the only places where Michael realizes the solo potential of the winds: a pair of English horns in No. 19, a solo oboe in No. 21, solo oboes and bassoons in Nos. 37 and 41. The finales, except for the fugal one, are sparkling, uninhibited rondos (much like those of the elder Haydn).

The performances by the Bourne-mouth Sinfonietta, under the inspired leadership of Harold Farberman, are nearly perfect. The small ensemble plays cleanly with contagious enthusiasm; the strings favor a light, crisp spiccato style, while the wind attacks are feathery and precise. Tempos are brisk, and an imaginatively realized harpsichord part adds to the pleasure. Furthermore, the quality of these recordings is surprisingly good, indicating the success of Turnabout/Moss Music Group's effort to

upgrade their product. Though there are occasional bouts of surface noise, the pressings are generally commendable, and the digital sound is rich and well balanced. At their budget price, these releases belong in the library of all devotees of 18th-century music.

K. ROBERT SCHWARZ

LASSUS: Requiem for Four Voices.

Pro Cantione Antiqua, Mark Brown, dir. [Edward Perry, prod.] HYPERION A 66066 (digital recording) (distributed by Harmonia Mundi USA, 2351 Westwood Blvd., Los Angeles, Calif. 90064).

In the rush to celebrate the anniversaries of

Stravinsky and Haydn in 1982, a significant birthday was overlooked—that of Roland de Lassus (Orlandus Lassus), who was born in Mons in 1532. Enough ink was spilled in drawing specious parallels between Haydn and Stravinsky, so I will not attempt to complete the triangle with Lassus. It is sufficient to say that he stands with Palestrina and Victoria as one of the great masters of Renaissance polyphony.

His masses, most experts say, are not his best or most typical works. Perhaps not, but the fervent *Requiem* for four voices bears comparison with settings of the same text by Lassus's most distinguished con-

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temporaries, and the modern listener may find it all the more appealing for its simplicity. Unlike the majority of Lassus's mass settings, it is based on plainsong, sometimes paraphrased, sometimes treated as cantus firmus. The starkness of the Gregorian Mass for the Dead permeates the setting.

In some of its previous recordings, Pro Cantione Antiqua stretched a point by performing Renaissance motets and masses with men's voices only, but in this case the low-lying and closely woven parts admirably suit the ranges of countertenor, tenor, baritone, and bass. There is little historical

justification, however, for performing this music with one singer on a part: A contemporary depiction of the Bavarian court chapel, where Lassus was Kapellmeister, shows a sizable group, and the choir books preserved in the Bavarian State Library carry, in Lassus's own hand, the names of two and three singers per part. But so flawless is the ensemble's blend and intonation here, and so sympathetic the acoustics, that one need not wish for more. The group's declamation is clear and passionate, though its adoption of the conventional Italianate pronunciation of the Latin is surely out of place.

The inclusion of the plainsong tract and sequence sets the polyphonic portions in context and makes the four-voice writing sound extraordinarily grand; the plainsong "*In paradisum*," from the rite of Absolution of the Dead, is a welcome lagniappe. The recording is pleasingly reverberant without loss of focus. MICHAEL FLEMING

MOZART: Opera Arias.

Lucia Popp, soprano; Munich Radio Orchestra, Leonard Slatkin, cond. [Theodor Holzinger and Gerd Berg, prods.] EMI/ANGEL DS 38023 (digital recording). Cassette: 4XS 38023. CD: CDC 47019.

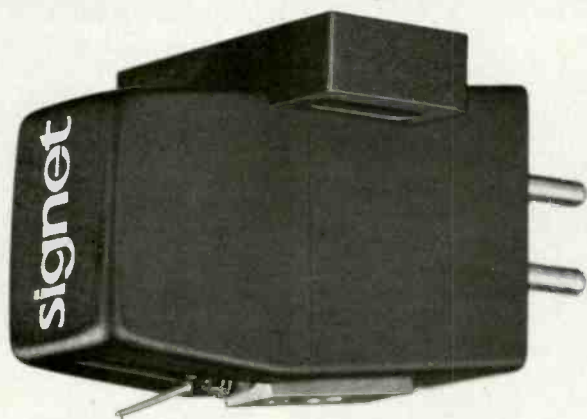
Il Rè pastore: L'amerò, sarò costante. Le Nozze di Figaro: Voi, che sapete; Giunse alfin il momento . . . Deh vieni, non tardar; Porgi, amor, qualche ristoro. Die Entführung aus dem Serail: Welcher Kummer herrscht in meiner Seele . . . Traurigkeit ward mir zum Lose. Idomeno: Solitude amiche . . . Zeffiretti lusinghieri. Don Giovanni: In quali eccessi . . . Mi tradi; Crudele? . . . Non mi dir, bell' idol mio. Così fan tutte: Come scoglio. La Clemenza di Tito: Non più di fiori.

Rarely has Lucia Popp been so irresistible. Since singing the Queen of the Night on the Klemperer recording of *The Magic Flute* about 15 years ago, she has accomplished perhaps the most fruitful transition from coloratura to lyric soprano since Elisabeth Schwarzkopf, and has become a far more important Mozart actress than if she had stayed with the limited coloratura roles.

Unlike Schwarzkopf, Popp remains a somewhat generalized interpreter. Remarkably enough, that proves to be a source of magic here; there is none of the blandness one might expect were a lesser singer to attempt this sort of program. Popp understands her characters well and modifies her vocal approach from one to another, but she cares equally about maintaining a sense of line and emphasizing the architectural aspects of the music. Indeed, her approach is often as symphonic as it is operatic. Why not? This is an aria collection—not excerpts from complete recordings—and thus a showcase for Popp's voice, musicality, and the disarmingly unaffected openness of her personality, all of which couldn't be more congruent within the spirit of Mozart's aesthetic.

Popp owns the roles of Susanna and Pamina, but on this disc she favors territory less familiar to her—with mostly refreshing results, including a rather successful tour de force singing arias belonging to three different characters in *Le Nozze di Figaro*. The recording shows that she has lost little of the tight vocal focus heard in her coloratura years. (Though I wouldn't want to hear her attempt the Queen of the Night again, her technique remains strong enough to handle Donna Anna's "*Non mi dir*."') Furthermore, it demonstrates how she has gained a depth of sound and vocal weight that allow her not only to easily negotiate the difficulties in "*Come scoglio*," but to take on isolated arias usually assigned to mezzos. For

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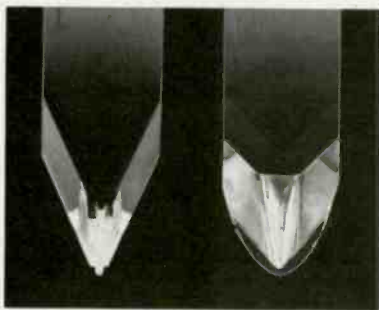


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Lucia Popp contributes magic to Mozart.

instance, while her voice may not be suited to the entire part of Cherubino, she establishes a near-perfect emotional atmosphere in "*Voi, che sapete*." And she sings Vitellia's "*Non più di fiori*" with only a hint of strain in the lower range.

Popp's suitability for the role of the Countess is debatable, but "*Porgi, amor*" lies well in her range. The less-than-rounded tones that come out occasionally at the top in "*L'amerò, sarò costante*" only add character to her account, reminding one that no matter how otherworldly she often sounds, she is indeed human.

Leonard Slatkin's expansive, big-orchestra approach is less appealing and the overly resonant engineering puts the aural counterpart of a soft-focus lens over the proceedings. Also, no translation of the texts was provided in my copy. Ah, well, so it goes with star vehicles.

The digital sound quality is excellent, aside from a few high notes where the sound distorts—a problem less noticeable with the cassette, which is ideal for Walkman purposes, as I can't imagine any Popp fan wanting to go much of anywhere without these performances. They wear especially well over repeated listening.

DAVID PATRICK STEARNS

MUSSORGSKY: Pictures at an Exhibition (arr. Ashkenazy). BORODIN: Polovtsian Dances from Prince Igor.

Philharmonia Orchestra, Vladimir Ashkenazy, cond. [Andrew Cornall, prod.] LONDON 410121-1 (digital recording). Cassette: 410121-4.

There's nothing lacking in its original scoring for solo piano, yet for almost its entire existence Mussorgsky's *Pictures at an Exhibition* has been fair game for transcribers. Mussorgsky composed this suite of illustrative pieces in 1874 as a memorial to Victor Hartmann, an artist who had died the year before. It was published in 1886, five years after Mussorgsky's death, and as ear-

ly as 1891 the bulk of it had been orchestrated by Mikhail Tushmanov, a student of Rimsky-Korsakov. Ravel made his famous arrangement in 1921, at the request of the conductor Serge Koussevitzky, and during the next several decades versions for orchestra were produced by Leopold Stokowski, Lucien Caillet, Henry Wood, Leonas Leonardi, Walter Goehr, and others. In recent years *Pictures* has been recast for classical guitar (by Kazuhito Yamashita, on RCA ARC 1-4203), for brass ensemble (by Elgar Howarth, on Argo ZRG 885), and for electronic music synthesizer (by Isao Tomita, on RCA ARL 1-0838). There

is even a rock music version by Emerson, Lake and Palmer (Atlantic 19122; Mobile Fidelity 031).

The orchestration on the recording under review here is remarkable less for what it is than for what it claims to be. Vladimir Ashkenazy was firmly established as one of the world's finest pianists before he took up conducting. In his brief liner note he says that he always thinks in terms of orchestral color when he plays the piano, and because for him *Pictures* "evokes the strongest orchestral associations," he has developed his own "personal vision of how the piece should sound when transposed

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from the piano to the larger canvas of the symphony orchestra." His version, he says, is "based on complete loyalty to Mussorgsky's idiom" and to what he believes was "in the composer's mind when he conceived this cycle." If that's the case, then what Mussorgsky must have had in mind was a precognition—albeit somewhat pale—of Ravel's orchestral palette.

Ashkenazy's arrangement is indeed more faithful to the original text than is Ravel's version; most significant is its inclusion of the *allegro giusto* "Promenade" sequence with which Mussorgsky connected the sections inspired by Hartmann's pencil drawings of "Samuel Goldenberg" and "Schmuyle" (actually, two drawings combined into one musical portrait) and his sketch of the "Limoges" marketplace. The orchestration itself, though, seems like a faded copy of Ravel's. Ashkenazy does not, of course, try to imitate those things in Ravel that are inimitable—the solos for alto saxophone, tuba, and muted trumpet, for example—and his use of violin harmonics at the beginning of the section labeled "*Cum mortuis in lingua mortua*" is arguably more effective than Ravel's muted tremolos. But, like Ravel, he chooses a solo horn to introduce the second "Promenade," a pair of bassoons to set the mood for "The Old Castle," flutes and oboes in fast alternation to depict the "Chicks in Their Shells," and so on. In both orchestrations the percussion accents tend to fall in the same places, and there are many similarities in the juxtapositions of brass and woodwind choirs.

This is an ably-crafted arrangement, but brilliant neither in sound nor conception. Ashkenazy says that he was guided by what he sees as the "deeper undercurrents of this predominantly dark-colored piece"; with that interpretation in mind, his keyboard account (London 6559) is generally more convincing.

The performance recorded here, in any case, is dazzling. Ashkenazy obviously has a flair for 19th-century music created in his homeland: Both the *Pictures* and the *Polovtsian Dances* (performed with unnamed chorus and soloists) crackle with rhythmic energy.

JAMES WIERZBICKI

RACHMANINOFF: Concertos for Piano and Orchestra: No. 1, in F sharp minor, Op. 1; No. 4, in G minor, Op. 40.

Zoltán Kocsis, piano; San Francisco Symphony Orchestra, Edo De Waart, cond. [Wilhelm Hellweg, prod.] PHILIPS 6514 377 (digital recording). Cassette: 7337 377.

Even in repertoire that is too familiar—or, as in the case of both these lovely concertos, is becoming more familiar—the most dangerous thing any thoughtful reviewer can say is that he has heard everything. This disc is a perfect case in point.

What lover of Rachmaninoff's concertos would suspect that he might ever hear

these two works played as though they had been composed by Mendelssohn? Yet that is the way these performances sound—and what may be even more shocking is that the method works. While neither performance would cause a seasoned listener to ever consider giving away the Byron Janis/Fritz Reiner interpretation of the First or Arturo Benedetti Michelangeli's account of the Fourth, these versions nonetheless do far more than just hold their own. They grip the attention throughout, and, in the badly neglected Fourth, Zoltán Kocsis and Edo De Waart present a revelation of wit, ease, warmth, and total command of Rachmaninoff's idiom. The magnificent digital sound and perfect surfaces on both sides contribute greatly to one's pleasure.

De Waart has already recorded for Philips a complete cycle of Rachmaninoff's concertos, with Rafael Orozco. However, nothing in that set could possibly have prepared one for the level of command exhibited here. On this disc there is never a question of a conductor simply following his soloist in a routine manner. Instead, they are together, matching point for point and, in the process, presenting us with a unified view that makes both concertos shine as they should, but frequently do not.

Whether the balance of the planned cycle will match this initial offering remains to be seen. However, advance reports about the performance of the Third Concerto seem to promise at least as full a revelation as is found here. In the meantime, if there is a more beautiful summer record to savor than this, I'd like to hear it!

THOMAS L. DIXON

STRAUSS, R.: Daphne.

CAST:

Daphne	Lucia Popp (s)
Gaea	Orrun Wenkel (ms)
Apollo	Reiner Goldberg (t)
Leukippos	Peter Schreier (b)
Peneios	Kurt Moll (b)

Bavarian Radio Chorus; Bavarian Radio Symphony Orchestra, Bernard Haitink, cond. [Wilhelm Meister, prod.] EMI/ANGEL DSBX 3941 (digital recording, two discs). Cassettes (2): 4X2X 3941.

There is a beautiful timbre in the lush orchestral sound of this, the second recording of *Daphne*. And that sound is, together with Bernard Haitink's enkindling conducting, the best thing about the new set.

Richard Strauss wrote *Daphne* in 1936 and '37, most of it while visiting Italy. With a text by Josef Gregor, it is called a "bucolic tragedy." And so it is, though this tragedy is no bloody, murderous affair, nor any matter of poisoning, drowning, shooting (except with an arrow), or boiling in oil, nor any of the other things that happen in many operatic tragedies. Rather, the story is that of Daphne, who loves nature, is wooed by the disguised Apollo, and, at the end, because of her desire to become one with nature, is miraculously transformed



Superb Strauss conducting from Haitink

into a laurel tree.

Daphne is suffused with the kind of beauty to which Strauss turned in his autumnal years. Over the gorgeous orchestral writing are set vocal lines of sheer lyrical appeal, both to audiences and singers. Each of the three principal roles—Daphne, Apollo, and Leukippos—is grateful for the voice, though today each can strain any but the best vocalists.

Why do I say "today"? Because there is an earlier recording of *Daphne* made in Vienna in 1964 under the baton of Karl Böhm, who conducted the 1938 premiere of the opera and to whom the work is dedicated. That Deutsche Grammophon version, recorded during a performance at the Theater-an-der-Wien, overshadows this new set in almost every respect. The one exception is in the beauty of sound Haitink draws from the Bavarian Radio Symphony Orchestra, which is everything Strauss asks.

It is an unhappy task to report that Lucia Popp is as out of place in the title role as in her recent traversal of the *Four Last Songs*. Her voice lacks the substance for the role, and she makes unpleasing releases at the end of many consonants, a habit heard so often that it eventually fatigues the ear. Though she has some effective passages early in the opera, the longer she sings, and the greater the demands, the clearer the strain becomes.

Reiner Goldberg has the unenviable job of singing a role that James King sang in his glory days. On the earlier recording with Böhm, King's voice is a marvel of unforced, elegant strength. Goldberg's problems in the present set are clear in every scene. The part is simply too much for him to handle. This is not the case with Peter Schreier, who is one of the most musical and intelligent of today's tenors. Nevertheless, where Leukippos should be the epitome of seductive sound, Schreier often resorts to tense, strained phases that occa-

sionally reach an unattractive near-scream. Again, the unkind but necessary comparison with the Böhm version must bring back the ineffaceable sound and style of the late Fritz Wunderlich, who sang this role like an angel, achieving one of the glories of the recorded repertoire.

Ortrun Wenkel and Kurt Moll are very good as Daphne's parents, and the smaller roles come off well enough, though not as well as the DG performances that placed such now-famous singers as Rita Streich, Kurt Equiluz, and Harald Pröglhöf in those same roles. Strauss lovers who do not have the Böhm recording are advised to get it. Others will have to decide which way to jump.

PAUL HUME

STRAVINSKY: *Le Sacre du Printemps* (1913 version).

Israel Philharmonic Orchestra, Leonard Bernstein, cond. [Hanno Rinke, prod.] DEUTSCHE GRAMMOPHON 2532 075 (digital recording). Cassette: 3302 075. CD: 410 508-2.

The Israel Philharmonic's weaknesses are individual, not collective, and here they tend to show up only in a few passages in which a performer on one of the auxiliary wind instruments has an exposed solo. As a whole the orchestra responds superbly to Bernstein's cool, controlled reading.

This interpretation is less "expressive" but ultimately more powerful than Bernstein's old version with the New York Philharmonic (Columbia MS 6010). Most of its forcefulness comes from the containment, not the unleashing, of rhythmic energy; the only deviation from rock-solid tempo is the accelerando that careens through the second half of the "Dance of the Adolescents." In the long run, it's the precision of the accents, not their decibel levels, that accounts for the performance's very palpable intensity.

Like Bernstein's current vision of this ballet score, the engineering emphasizes a general dryness of sound and weightiness of bass and percussion.

JAMES WIERZBICKI

Recitals and Miscellany

BROOKLYN PHILHARMONIC SYMPHONY ORCHESTRA.

Carol Plantamura, soprano*; Leo Smit, piano*; Nyle Steiner, Electronic Valve Instrument**; Brooklyn Philharmonic Symphony Orchestra, Lukas Foss, cond. [John Kilgore, prod.] GRAMAVISION GR 7006. Cassette: GRC 7006.

HARRISON: At the Tomb of Charles Ives. USSACHEVSKY: Divertimento 1980-1981**. CAGE, COWELL, HARRISON, THOMSON: Party Pieces. SMIT: Academic Graffiti*.

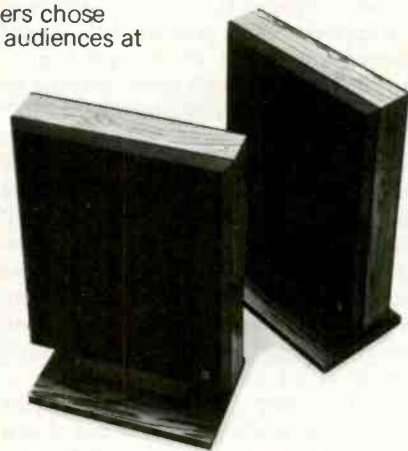
The Brooklyn Philharmonic, founded in 1954, has been an important creative force in New York's musical life for a number of years. With the 1971 arrival of Lukas Foss (Continued on page 89)

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The Tape Deck

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

Olympiad

MIDWAY BETWEEN THE SARAJEVO and Los Angeles Olympic Games, I'm tempted to sort appropriate tape programs into national contingents striving for musical honors. And that fancy is made particularly apt by Angel's reissue of its long-popular "USA" (4XS 36936), featuring Leo Arnaud's Olympic fanfare (ABC-TV's signature for its Games broadcasts) along with favorite martial music and a ceremonial national anthem, all played by Felix Slatkin's Concert Arts Symphonic Band. Its 1972 release was a conflation of Capitol's 1958 "Symphonic Band" and 1959 "Charge!" programs—pioneering stereo spectaculars still impressive for sonic grandeur.

The mostly Sousa marches in these and in even more resplendent new digital recordings strike me as possibly more "American" (in spirit, at least) than almost anything in the so-called serious native repertory. Judge for yourself by comparing our "classicals" (below) with the marches by one of the (if not *the*) best of our university symphonic bands, Michigan's. Whatever the verdict, the "Stars and Stripes Forever and Seven Other Favorite Marches" (Pro Arte/Sinfonia digital/chrome SCS 622) testifies that the Midwestern youngsters under H. Robert Reynolds have lost none of the skills and enthusiasm fostered by William D. Revelli. Their verve is irresistible, and their bravura playing is superbly recorded with magical pianissimos and booming thunders. A Gold Medal winner for sure! For contrast, try the gracious all-Sousa tribute (Angel digital/ferric 4XS 38016) by H.M. Royal Marines Band under G. A. C. Hoskins—more polished and precise, but, as British reviewer Ivan March concedes in *Gramophone*, lacking "transatlantic unbuttoned exuberance."

United States (Classical). Probably no native composers have better resisted—or transcended—European influences than Copland and Ives. They are aptly coupled in two Pro Arte digital/chrome reissues of Sound 80 originals by the St. Paul Chamber Orchestra under Dennis Russell Davies: the *Appalachian Spring Suite* in Copland's 1972 triskaidekander scoring, with *Three Places in New England* in Ives's reduction (PCD 140); and Copland's *Short* and Ives's *Third Symphonies* (PCD 149). They're all first-rate performances, but the Gold Medal (as well as Grammy) winner is the first digital version of the favorite Cop-

land ballet suite in the initial scoring for only 13 instruments. If you want the full symphonic suite and liked Bernstein's 1962 New York Philharmonic one for CBS, you'll welcome his no less idiosyncratic Los Angeles Philharmonic updating (Deutsche Grammophon digital/chrome 3302 084). But the companion piece, a new Gershwin *Rhapsody in Blue*, is more mannered than ever and again inexcusably cut.

The Lukas Foss/Milwaukee Symphony "American Festival" (Pro Arte digital/chrome PCD 102) augments short favorites by Barber, Bernstein, Copland, and Ives with Henry Cowell's *Saturday Night at the Firehouse*, William Schuman's *Newsreel*, and Roger Ruggeri's *If . . . then*. But they all add up to just too contrived a patriotic gallimaufrey.

Less representative are Edward MacDowell's once idolized *Woodland Sketches* and *Sea Pieces*, which, even in Charles Fierro's empathetic account (Nonesuch 71411-4), now seem Yankee-accented paraphrases of Grieg. And Swiss-born Ernest Bloch's five String Quartets are more international than American. Nevertheless, their markedly individual conservatism commands deep respect in the Portland Quartet's powerful performances (Arabesque prestige-box SB 7511-3).

As always, in sports or music, there is strong, mostly European competition.

Austria. Lorin Maazel's fourth Vienna Philharmonic "New Year's Concert" (DG digital/chrome 410 516-4) is somewhat less *Kapellmeisterish* than earlier ones; such high-stepping polkas as the novel Johann Strauss II *Vélocipède* are most effective, and the more familiar waltzes and overtures are very well recorded—here and in the "Live in Vienna" anthology of previously unreleased outtakes from the 1980-83 concerts (DG/Signature digital/chrome 3309 061).

Britain. What could be more rousing-ly British than the shreds and patches of Gilbert & Sullivan operettas so cunningly integrated in Charles Mackerras's lusty *Pineapple Poll* ballet score? And what could be a more surefire Gold Medalist than Sir Charles's own third and best yet recording, this time with the Philharmonia Orchestra (London digital/chrome LDR5 71119).

Czechoslovakia. Intersound regularly brings us authoritative all-Czech Supraphon programs, of which the latest is exemplary: Dvořák's exhilarating Piano Quartet,

Op. 23, in a well-nigh ideally idiomatic performance by pianist Josef Hala and violinist Josef Suk, with viola and cello colleagues (Pro Arte digital/chrome PCD 161).

(West) Germany. Recreating music-making in the twenty-year-old Mendelssohn's home is the first (for me, anyway) complete version of his miniature opera, *Die Heimkehr aus der Fremde*, starring singers/speakers Helen Donath, Dietrich Fischer-Dieskau, et al., with the Bavarian Radio Chorus and Munich Radio Orchestra under Heinz Wallberg (Arabesque NB 9138; notes but no texts). Commonly known only by its fine overture and the English title of *Son and Stranger*, this work in its full-blooded 1978 Electrola recording is a most welcome and engaging discovery.

Ireland. The familiar *Minstrel Boy* and *Believe Me If All Those Endearing Young Charms* are only two of 18 Thomas Moore Irish melodies in appropriate solo, duet, and quartet vocal versions deftly accompanied on a c. 1808 Broadwood fortepiano by Igor Kipnis. Only Jan DeGaetani sings with ideal simplicity, but even the more stylized manner of the other soloists can't seriously mar the charm of these unabashedly sentimental ditties (Nonesuch digital/ferric 79059-4; with notes but no texts).

Mexico. If your knowledge of American (in the larger sense) symphonists doesn't yet include Carlos Chávez, waste no time in discovering his six inexhaustibly vital examples in persuasive London Symphony performances led by the composer's compatriot and one-time student, Eduardo Mata (Vox Cum Laude prestige-box digital/chrome 2D VCS 9032)—the first complete set since Chávez's own of the early '60s for CBS Special Products.

Russia. No all-U.S.S.R. entries as yet this month, but Vladimir Ashkenazy's programs, as pianist and as conductor of the Concertgebouw Orchestra, are all quintessentially Russian in both the music and the interpretations (London digital/chromes). The solo example augments Mussorgsky's unraveled *Pictures* (far superior to Ashkenazy's c. 1967 recording) with characteristic shorter pieces by Borodin, Liadov, Taneyev, and Tchaikovsky (LDR5 71124). The other two discs complete an ecstatic Rachmaninoff symphony series that was begun last October with the Second. Now we have Symphonies No. 1 (LDR5 71103), and No. 3 with the *Youth Symphony* (LDR5 71031). **HF**

BA

BEAT.

Egos Can Be Painless



SAM EMERSON/COURTESY WB

Fleetwood Mac member and solo artist Christine McVie is confident when she says, "I'll leave the trailblazing to the teenagers."

by Steven X. Rea

"CHRISTINE PERFECT" WAS A typical British blues album of the late '60s. In fact, it was a lot like the ones made by a band called Fleetwood Mac. Perfect, who'd been lead singer and songwriter in Chicken Shack, joined the Mac in 1970 and married its bassist, John McVie.

Beginning that year with "Kiln House," Fleetwood Mac (originally formed by veterans of John Mayall's Blues Breakers) adopted a leaner, pop-oriented sound—thanks, in no small part, to Christine McVie's husky, soulful vocals. She has stuck with the group through numerous personnel changes, a bitter legal dispute between the band and its former manager, relocation to America, divorce, and the band's elevation to the status of supergroup. "Rumours," released in 1977, has sold more than 15 million copies. Keyboardist and vocalist for the band (which also includes guitarist-vocalist Lindsey Buckingham, vocalist Stevie Nicks, and drummer Mick Fleetwood), McVie has written many of their hits.

Last summer she got the best producer she could find, Warner Bros. vice-president Russ Titelman (who has worked with Paul Simon and Rickie Lee Jones, among others), hired a core band comprised of guitarist-composer Todd Sharp, bassist George

Hawkins, and drummer Steve Ferrone, and headed for the Mountain Recording Studios in Montreux, Switzerland. She also recorded two tracks in England with Steve Winwood, a singer-keyboardist whom McVie, jaded rock star that she is, gushes about with all the enthusiasm of a teenage fan. The resulting LP, "Christine McVie," is a solid commercial success.

McVie plans to take her band—augmented by a second guitarist and her boyfriend, keyboardist Eddy Quintela—on a summer tour. We met in New York this spring to discuss Fleetwood Mac, her album, and her career.

Backbeat: Let's get this one over with right away: the what's-happening-with-Fleetwood-Mac? question.

McVie: Well, we're talking about getting back together in early fall.

Backbeat: I picture John McVie sitting around on his yacht, waiting for the rest of you to finish your various solo projects.

McVie: Well, that's not far from the truth, although he charters out his yacht to rich Floridians, and he's been busy.

Backbeat: You have this image as the one who writes all the band's moody songs—downbeat, depressing ballads and such. Then you release a cheery, upbeat album yourself. Was that intentional?

McVie: Well, it's true that people think I'm downbeat, but I don't know why. *Don't*

Stop is hardly depressing or moody, or *You Make Loving Fun*, or *Warm Ways*, or *Over My Head*. I think Stevie [Nicks] writes more of that type than I do. I'm trying to figure out which songs they're talking about.

Backbeat: Perhaps it's the way you sing them. There's a sort of languid, melancholy timbre to your voice.

McVie: Right. Maybe it's the plaintiveness of my voice, rather than what I'm saying.

Backbeat: What finally committed you to begin work on a new solo project?

McVie: It was around late fall of '82. I'd been spending a lot of time writing with Todd [Sharp] with no particular objective. We just enjoyed working together; we'd been very compatible as players. I liked his songs. And it became increasingly apparent that something was coming out of our collaboration. Then I met with Russ Titelman. I knew I needed a producer I could trust and who could get the best performance out of me, the best feeling. We got on really well, but he was committed to "Hearts and Bones" with Paul Simon. I didn't want another producer, so I waited.

Backbeat: How did you choose your band?

McVie: I've known Todd since he played with Bob Welch about nine years ago, when Bob left Fleetwood Mac. I met George [Hawkins] seven years ago when he was playing with Kenny Loggins. Steve [Ferrone], formerly drummer with the Average White Band, was new to us. Russ Titelman recommended him.

Backbeat: Was Montreux next?

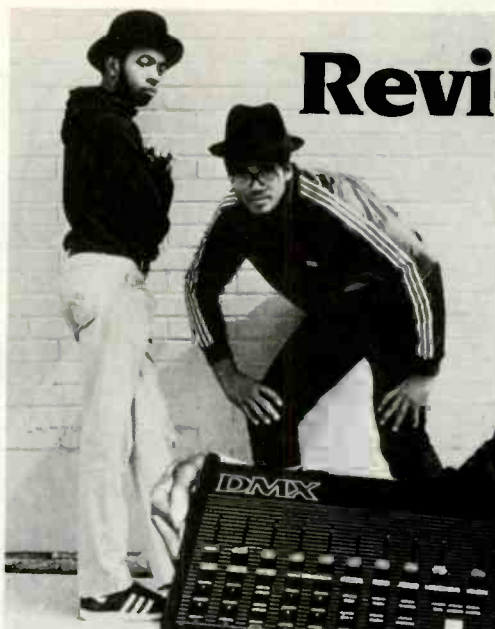
McVie: No, Todd and I made all the demos at my house first. My music room was converted temporarily with a portable studio system and a Teac 4-track machine, a drum machine, microphones, electric piano, synthesizer, grand piano, and so on. We were well organized (not like Fleetwood Mac!). We rehearsed the band for about one week and then went to the Montreux studio.

Backbeat: How did you choose it?

McVie: I really like being in Europe. I wanted to make it something of an adventure. *(Continued on page 90)*



Clever phony Kranz (left); rappers Run-D.M.C. (center) & Davy DMX



Reviews



The Real Jam Masters

Reviewed by Crispin Cioe

Modern rap music—solo or call-and-response verse recited over an original or stolen rhythm track—has not just survived commercial dilution and artistic cooptation since its first hit, Kurtis Blow's *The Breaks*, was released in 1979. Two records from 1982 firmly established the genre: *The Message*, by Grandmaster Flash & the Furious Five, an impressionistic swirl of street sounds and impassioned, angry bulletins, with a churning, sinister beat; and *Planet Rock*, from Afrika Bambaata & Soul Sonic Force, a groundbreaking union of electronic funk and dreamy European synth-pop. Since then, the studio craft and aesthetics of rap and "beat box" music (made with elec-

tronic/digital drum machines and synthesizers instead of the real thing) have grown by leaps and bounds. Although nearly everything continues to be produced in New York City, several German and English 12-inch rap-oriented sides became international hits in 1983. This cross-fertilization, combined with the fact that small, street-wise American labels can still turn a solid profit on a hit dance record, has generated a slew of adventurous, often exhilarating singles in the past few months.

The film *Wild Style* and its soundtrack LP are the best raw evocation of the origins of rap, which started as an act of live performance in discos. Deejay "scratchers"

manipulate two turntables at once, supplying both rhythm and sound effects, while rappers and break dancers do their respective things. Of course, Bronx clubs still carry on this tradition, but if you don't live in the neighborhood or have an adventurous spirit, the "Wild Style" LP projects a crackling warmth and the loose-limbed precision of a funky club date.

Hard-core minimalist rap, which places daredevil raconteurs in a rhythmic high-wire act over a bare-bones electronic groove, has become more of a recording studio phenomenon, and the style is achieving a kind of creative zenith this year. Perhaps the most riveting example is *No Sell Out*. Over a sparse but extremely kinetic track, session drummer/producer Keith LeBlanc spiced excerpts from politician/philosopher Malcolm X's early-Sixties speeches, resulting in a mesmerizing piece of conceptual-art-cum-dancefloor-hip-hop. *Renegades of Funk*, the latest disc from Afrika Bambaata, is a mostly joyous paean to "the renegades of this atomic age." In Bambaata's scheme of things, the Soul Sonic Force and its audience of break-dancing fans share a direct lineage with "Tom Paine, Sitting Bull, and Martin Luther King." Producers Arthur Baker and John Robie's pulsating track drives the rappers like a Maserati negotiating a hairpin curve.

Davy DMX—a former DJ and scratcher for Kurtis Blow—named himself, appropriately, after a brand of electronic drum machine, and he is one of the true master scratchers. Because he has toured

Wild Style

Charlie Ahearn & Chris Stein, producers. Animal APE 6005-ST

No Sell Out (Malcolm X)

Keith LeBlanc, producer

Tommy Boy TB 840 (12-inch single)

Afrika Bambaata & Soul Sonic Force:

Renegades of Funk

Arthur Baker & John Robie, producers

Tommy Boy TB 839 (12-inch single)

Davy DMX: One for the Treble (Fresh)

David Reeves, Jr., producer

Tuff City (CBS Assoc.) 4Z9 04955

(12-inch single)

Run-D.M.C.:

Hard Times/Jam-Master Jay

Russell Simmons & Larry Smith,

producers. Profile PRO 7036-B

(12-inch single)

Warp 9: Beat Wave

Richard Scher & Lotti Golden,

producers. Prism PDS 485-A

(12-inch single)

Grandmaster Melle Mel: Jesse

Sylvia Robinson & Reggie Griffin,

producers. Sugar Hill SH 32016-A

(12-inch single)

IRT: Watch the Closing Doors!

Paul Rodriguez & Randy Klein,

producers. RCA PW 13699

(12-inch single)

George Kranz:

Trommeltanz (Din Daa Daa)

Christophe Franke & George Kranz,

producers. Personal PRO 49804-X

(12-inch single)

Art of Noise: Into Battle

Trevor Horn, producer. Island 096974

Europe extensively, DMX has a sharp sense of how attractive sound-treatment innovations are to American dancers. His recent single, *One for the Treble (Fresh)*, pits his complex technique against intricately shifting drum patterns.

Run-D.M.C. is an outstanding duo. Mixed by Blow, the rhythm track for *Hard Times*—a hard-edged current events commentary not unlike *The Message*—is a delicate layering of synthesized sounds with empty space. (Run-D.M.C.'s eponymous debut album includes *Hard Times* and *It's Like That*, plus four additional precision tracks.)

Warp 9 is one of several pop/r&b crossovers, a trio that alternates rapping and singing without losing a pleasantly bouncy street feel; Boe Brown is especially commanding and rhythmic. *Beat Wave* is brightly percussive, fusing Latin and funk influences with rap and beat box. From New Jersey's Sugarhill Records comes *Jesse*, by Grandmaster Melle Mel, a big-production ode to Jesse Jackson featuring slick horns, up-to-the-minute synthesizers, and a detailed endorsement. *Watch the Closing Doors!* by IRT (Interboro Rhythm Team) is a clever excursion on an uptown west side Manhattan subway car, complete with muffled announcements from the conductor.

Two European singles extend the artistic boundaries of modern dance music. George Kranz's *Trommeltanz* (German for "drum dance") has been described aptly by Stewart Copeland of the Police as "a dialogue between a chimpanzee and a drummer." Chanting "Din Daa Daa" and playing a heavy backbeat, Kranz begins singing busier and busier drum figures, which he then duplicates flawlessly on his kit.

Finally, we have the instrumental *Beat Box*, from the "Into Battle" LP by the Art of Noise, brainchild of Trevor Horn (producer of Yes, among others) and three studio musicians. Using a Fairlight synthesizer, Horn starts with a massive natural drum

track that's then programmed, creating an electronic rhythm from a true source. From there, the song explores an array of sounds, stereo panning techniques, and inventive compositional ideas. Not too coincidentally, *Beat Box* is the most aurally influential dance record of 1984. So far, at least.

Back in the Saddle Again: American Cowboy Songs
Charlie Seeman, producer
New World 314/315 (two discs)
(231 E. 51st St.,
New York, N.Y. 10022)

Real cowboys sang to provide relief from the monotony of the range and from their work, as well as to calm the cattle. They sang a capella in harsh, arhythmic voices; because the music was primarily functional, the tune was secondary to the words. Derived from traditional Anglo-Scots melodies, often with hundreds of verses, the music exists solely in oral tradition; very little of it was ever put on vinyl. But the 28 songs recorded between 1925 and 1980 on "Back in the Saddle Again" offer several examples, even if they were cut decades after the cowboy's heyday, the 50-year period of the cattle drives after the Civil War. Harry Jackson's 1957 *The Pot Wrassler* and John G. Prude's 1942 version of *Streets of Laredo* are the roughest and most memorable.

In the more domesticized, transitional West of the turn of the century, westerners (who may or may not have actually been cowboys) accompanied themselves on guitar. They might sing traditional ballads of hardship and danger in the (already!) Old West, as Harry McClintock does here with his Bunyonesque 1928 reading of *The Old Chisholm Trail*, and as Jules Verne Allen does in his 1929 version of *The Dying Cowboy*. Or they might already take a more romanticized or sentimental view, as in Carl T. Sprague's 1925 *When the Work's*

All Done This Fall.

As the realities of the Old West receded further, Americans became more fascinated with its myths. But during the Depression, the bottom fell out of the industry of movie westerns. Hollywood decided that the solution was singing cowboys, completely fictitious characters who did heroic deeds and sang of love and freedom in the wide-open spaces. Of these songs, Gene Autry's 1939 *Back in the Saddle Again* remains the archetype.

Singing cowboys used bigger bands and, eventually, whole orchestras, but they caught the public fancy. For better or worse, they gave rise to such variations as Wilf Carter (a virtuoso yodeler), Tex Ritter (the purest among the most commercialized), Patsy Montana (the first million-selling female artist), the Girls of the Golden West (gimmicky schmaltz), Bob Wills & the Texas Playboys (western swing), and the Sons of the Pioneers (who perfected creamy-smooth western harmonies). "Back in the Saddle Again" covers it all—from the cattle range to show biz.

JOHN MORTHLAND

The Cars: Heartbeat City
Robert John "Mutt" Lange & the Cars,
producers. Elektra 60296-1

Take away the Cars' pretentious solemnity, high-tech orchestrations, and self-conscious Beat poetry, and what's left? Cars and girls, the stuff of every teenage boy's rock dreams. But Ric Ocasek has been either unwilling or unable to connect dreams to life, to use cars and girls as metaphors for everything desired, won, and lost in modern America (in the manner of, say, Bruce Springsteen). After the straightforward, stylish pop of their 1978 debut, the group began buffing their hit machine with arty touches. And as they were busy polishing, the engine fell to rot.

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Ovation Magazine

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Marvin Gaye: 1939–1984

MARVIN GAYE WAS IMPORTANT not only because he helped create the Motown empire, but because he left it. Originally hired by president Berry Gordy as a session drummer in 1961, he coauthored *Dancing in the Streets*, an enormous hit for Martha & the Vandellas; brought out something electric in Smokey Robinson, who produced both *I'll Be Doggone* and *Ain't That Peculiar* for him; and scored hits quickly and deftly, from the gritty *Hitch Hike* to the gospel shout of *Can I Get a Witness* to the sweet buoyancy of *You're a Wonderful One*. And that was only the first four years. This formative period culminated in the masterpiece *I Heard It Through the Grapevine*, a No. 1 hit in 1968 that's still played a lot in clubs and discos everywhere.

Gaye's duets with Tammi Terrell were much more than a sideline. When she died in 1970 he stopped working temporarily, reemerging with the self-composed and self-produced "What's Going On," regarded as the first political concept album by a major black artist. It was also his most introspective. Gaye himself connected "What's Going On" with Terrell's inspira-



tion. "I was profoundly affected by her," he said at the time. "This has been a very spiritual period of my life; it's my time to come out as an artist."

In the 1976 edition of *The Rolling Stone History of Rock & Roll*, Joe McEwen wrote, "Perhaps to cap his career, Gaye followed his more political work with a return, not to 'love,' but to pure eroticism, with the irresistible *Let's Get It On* (1973), a huge hit with some claim to being the sexiest record Motown ever produced." But Gaye topped himself twice after that, with 1977's *Got to Give It Up* and 1982's *Sexual Healing*.

For a man who gave so much in such a short time, this discography should serve as a sort of tribute. After 20 years, 42 Top Ten hits—14 of them No. 1—and a change of labels to Columbia, Gaye finally received two Grammys for *Sexual Healing*. Perhaps his overt politics and eroticism were just different sides of the same person: an uncompromising artist who, fortunately for us, could accept success only on his own terms. He will be missed.

—Georgia Christgau

Selected Discography

Compiled by Mildred Camacho-Castillo

ALBUMS

MARVIN GAYE

- Greatest Hits.** Tamla 252; 1964.
- How Sweet It Is to Be Loved by You.** Tamla 258; 1965.
- Moods of Marvin Gaye.** Tamla 266; 1966.
- I Heard It Through the Grapevine.** Tamla 285; 1968.
- M.P.G.** Tamla 292; 1969.
- Superhits.** Tamla 300; 1969.
- What's Going On.** Tamla 310; 1971.
- Trouble Man.** Tamla 322; 1973.
- Let's Get It On.** Tamla 329; 1973.
- Marvin Gaye Live.** Tamla 333; 1974.
- Anthology.** Tamla 790/1 (two discs); 1974.
- I Want You.** Tamla 342; 1976.
- Live at the London Palladium.** Tamla 353-R2 (two discs); 1977.
- Here, My Dear.** Tamla T 364 (two discs); 1978.
- Midnight Love.** Columbia FC 38197; 1982.

With MARY WELLS

Together. Tamla 5260-ML; 1964.

With TAMMI TERRELL

- United.** Tamla 277; 1967.
- You're All I Need to Get By.** Tamla 284; 1968.
- Marvin Gaye & His Girls.** (with Wells, Terrell, and Kim Weston). Tamla 293; 1969.
- Easy.** Tamla 294; 1969.

With DIANA ROSS

Diana Ross & Marvin Gaye. Tamla M 5124-V1; 1974.

SINGLES

MARVIN GAYE

- Hitch Hike.** Tamla 54075; 1963.
- Pride and Joy.** Tamla 54079; 1963.
- Can I Get a Witness.** Tamla 54087; 1963.
- You're a Wonderful One.** Tamla 54093; 1964.
- Try It Baby.** Tamla 54095; 1964.
- Baby Don't You Do It.** Tamla 54101; 1964.
- How Sweet It Is to Be Loved by You.** Tamla 54107; 1964.
- I'll Be Doggone.** Tamla 54112; 1965.
- Pretty Little Baby.** Tamla 54117; 1965.
- Ain't That Peculiar.** Tamla 54122; 1965.
- One More Heartache.** Tamla 54129; 1966.
- Take This Heart of Mine.** Tamla 54132; 1966.
- Little Darling, I Need You.** Tamla 54138; 1966.
- Your Unchanging Love.** Tamla 54153; 1967.
- You.** Tamla 54160; 1968.
- Chained.** Tamla 54170; 1968.
- I Heard It Through the Grapevine.** Tamla 54176; 1968.
- Too Busy Thinking About My Baby.** Tamla 54181; 1969.
- That's the Way Love Is.** Tamla 54185; 1969.
- How Can I Forget.** Tamla 54190; 1970.
- The End of Our Road.** Tamla 54195; 1970.
- What's Going On.** Tamla 54201; 1971.
- Mercy, Mercy Me (The Ecology).** Tamla 54207; 1971.
- Inner City Blues (Make Me Wanna Holler).** Tamla 54209; 1971.
- Trouble Man.** Tamla 54228; 1972.
- Let's Get It On.** Tamla 54234; 1973.

Come Get to This. Tamla 54241; 1973.

Distant Lover. Tamla 54253; 1974.

I Want You. Tamla 54264; 1976.

Got to Give It Up—Part 1. Tamla 54280; 1977.

Sexual Healing. Columbia 38-03302; 1982.

With MARTHA & THE VANDELLAS

Stubborn Kind of Fellow. Tamla 54068; 1962.

With MARY WELLS

Once Upon a Time/What's the Matter with You Baby. Motown 1057; 1964.

With KIM WESTON

It Takes Two. Tamla 54141; 1967.

With TAMMI TERRELL

Ain't No Mountain High Enough. Tamla 5149; 1967.

Your Precious Love. Tamla 54156; 1967.

If I Could Build My Whole World Around You/If This World Were Mine. Tamla 54161; 1967.

Ain't Nothing Like the Real Thing. Tamla 54163; 1968.

You're All I Need to Get By. Tamla 54169; 1968.

Keep on Lovin' Me Honey. Tamla 54173; 1968.

Good Lovin' Ain't Easy to Come By. Tamla 54179; 1969.

What You Gave Me. Tamla 54187; 1969.

The Onion Song. Tamla 54192; 1970.

With DIANA ROSS

You're a Special Part of Me. Motown 1280; 1973.

My Mistake (Was to Love You). Motown 1269; 1974.

dows the emptiness showed, as the Cars discovered with their poorly received, indulgently eclectic third album, "Panorama." So "Shake It Up" concentrated again on commercial, killer singles. In Boston, the legend goes that they chose them by playing tracks through a pair of cheap car-radio speakers. Indeed, the bracing choruses, squiggly synthesizers, and chunky axe-grinding of *Shake It Up. Since You're Gone*, and *Cruiser* were designed to burst from the dashboard. "Heartbeat City" also yields three exuberant cuts: *You Might Think*, which, with its glassy toy-like piano, could be mistaken for an early Abba song; *Stranger Eyes*, which gallops on Elliot Easton's low-rent guitars and Ben Orr's salacious wailing; and *Drive*, a graceful lovelorn ballad that neatly parallels the sex-as-driving imagery of *Stranger Eyes*.

The rest of "Heartbeat City" is strenuously tuneful, but the Cars take no risks, make no creative progress. In fact, the album is often regressive. *It's Not the Night* is screechy, thudding, virtually unrecognizable arena rock. And on *Hello Again*, with its ponderous power chords and a pompous snippet of Munchkins backed by a symphony, the Cars' new producer does for the band what they've been threatening to do to themselves for years—something even their old producer, Roy Thomas Baker, couldn't do. He turns them into Queen.

JOYCE MILLMAN

Z. Z. Hill: I'm a Blues Man

Tommy Couch & Wolf Stephenson, producers. Malaco 7415 (P.O. Box 9287, Jackson, Miss. 39206)

Malaco Studio has been turning out great soul music records for years, from Jean Knight's 1971 single *Mr. Big Stuff* to "McKinley Mitchell," a memorable label debut from 1978. But what has really put this mini music-combine on the map lately has been the unparalleled chart success of Z. Z. Hill: His '82 LP "Down Home" was the largest-selling blues album in a decade. This follow-up clearly illustrates why.

Hill's voice combines the sad, growling grit of Bobby Bland with a sweetness in the upper register that's all his own. Malaco rhythm sections, often including guitar masters such as Jimmy Johnson, are invariably tight and swinging, even on thumping swamp-funk grooves. Arrangements are straightforward, mixes crisp. But the catalyst is the songs Hill chooses, and the touching, raw vulnerability they reveal in him.

These songs have real stories to tell, allowing Hill to become acutely intimate with his audience as he explores every angle of love, be it true, cheating, carnal, or jealous. On *Three Into Two Won't Go*, Hill laments that he's "tired of checkin' into cheap motel rooms/under false and pretentious names," one of several convincing

arguments for the truth of the title. Yet on the next number, *Cheatin' Love* (by the always resourceful Southern soul queen Denise LaSalle), he looks ahead to his next tryst: "I'll be on time/with our Coke and rum/for cheating love/is the best kind."

Hill explores these ironies in delicious detail on "I'm a Blues Man," even though he never becomes maudlin or melodramatic. But he does have a lot of tenderness, which ought to keep him singing the blues for a long time to come. CRISPIN CIOE

Jason & the Scorchers: Fervor

Jim Dickinson, Jack Emerson, Jeff Johnson, & Warner Hodges, producers. EMI America SQ 1908 (seven-song EP)

The LeRoi Brothers: Forget About the Danger . . . Think of the Fun
Craig Leon & Denny Bruce, producers Columbia SC 39106 (six-song EP)

After hearing too much warmed-over '50s and '60s mush (Billy Joel's "An Innocent Man," the Stray Cats, and the plethora of neo-psychedelic outfits from L.A., Boston, and New York), it comes as no little pleasure to sit down and listen—or stand up and dance—to the unpretentious, ebullient music of groups like Jason & the Scorchers and the LeRoi Brothers. They're both Southern bands (Nashville and Austin, respectively) with recent, respected independent re-

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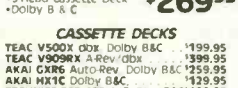
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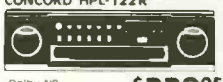


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leases. And both have paid their proverbial dues.

"Fervor" is a reissue of the Scorchers' independent EP on Praxis, and then some. R.E.M.'s Michael Stipe co-wrote and sang harmony on *Hot Nights in Georgia* and *Both Sides of the Line*. And the trio itself has added a hypersonic version of Bob Dylan's *Absolutely Sweet Marie*, featuring Jason Ringenberg's wonderfully wheezy harmonica and some fierce guitar by Warner Hodges; it's a glorious reading. Ringenberg's screwy intensity is both passionate and fun. His voice is reminiscent of Gram Parsons, if a little wackier.

Where the Scorchers opt for tangled webs of imagery, the LeRoi Brothers keep things streamlined and down-home, celebrating basic, time-worn themes. Joe Doerr's booming, midrange baritone perfectly suits rocking party songs such as *Pretty Little Lights of Town* and the bopping public-service ditty *D.W.I.* (Driving while Intoxicated). On the band's version of Roy Head's *Treat Her Right*, bassist Jackie Newhouse lets loose a thundering Yardbirds riff, while guitarist Don Leady pulls out all the stops. Another cover, Ronnie Self's *Ain't I'm a Dog*, is a whoopy rockabilly similar to his *Bop-a-Lena*. Throughout, Mike Buck's backbeat is both insistent and invigorating.

Most importantly, the denominator shared by these two considerably different outfits is how easily they evoke rock and country traditions and still manage to sound vibrant and contemporary. No rehashed rockabilly here, and no nostalgia either—just vital American music. STEVEN X. REA

Nena: 99 Luftballons

Reinhold Heil & Manne Praeger, producers. Epic BFE 39294

Nena, a German rock quintet, has made its initial mark (so to speak) in the U.S. with true distinction. *99 Luftballons*, a Top 3 hit



Nena: better in German



LeRoi Brothers: the same as Jason & the Scorchers, but different

single, was one of the rare foreign-language records to gather wide American airplay in the last several years. Unfortunately, *99 Red Balloons*, its obligatory but imprecise English translation, was the equivalent of a badly dubbed film: It conveyed hardly any of the incisive wit and vivid imagery of the original lyrics, which describe a nuclear war.

One reports happily, therefore, that one side of this initial U.S. release (a compilation of cuts from two prior albums) is in the group's native tongue, and the other is well-translated English. The latter tracks, of non-political nature, offer a comfortable, vernacularized transition from the German. Lead singer Nena Kerner has a voice of silver and steel: She is both seductive and energetic as she explores obsessive love in *Hangin' On You*, *Just a Dream*, and ?—the last a very appealing, ungimmicky song, title notwithstanding.

The second side of "99 Luftballons" is no less compelling. Throughout, the four-man rhythm section combines hot pop-rock and high-tech synthesizer gleam without falling over the edge into predictable clichés. Their apt arrangements give each bouncy melody genuine memorability as well as true rock and roll weight. Had printed lyrics been supplied, even in German, they would have revealed deft poetry underlying the musical inventiveness of *Leuchtturms*, *Kino (At the Movies)*, and *Unerkannt Durchs Marchenland (In Dreamland)*. But in either tongue, Nena is a powerhouse.

BRIAN CHIN

Laura Nyro: Mother's Spiritual

Laura Nyro, Todd Rundgren, & Nydia Mata, producers
CBS FC 39215

The evolution in song of the best iconoclasts carries no formula except their own magic potions, and Laura Nyro has many

earthy fragrances of sound and poetry yet to be pulled from her velvety artist's cape. Especially, the newer, quieter, less frantic tone from "Nested" has come into full blossom on "Mother's Spiritual."

The surge of feminist consciousness in her stories of romance and motherhood will delight many listeners and unsettle others. Nyro is no dogmatist: The independence she has always shown in songs such as "And When I Die" and "Wedding Bell Blues" continues to find expression in secret codes of language rather than in political rhetoric. These lyrics are the stuff of which fairy tales are made. Yet they reveal Nyro at her most candid and down-to-earth.

Musically, the album is tight and uplifting. Nyro's melodies often sound like stretched-out, dreamy versions of jazz scatting. Her songs are graceful, undulent, and always rhythmic to the core. As a singer she is very much in touch with the timbres of the instruments that surround her—especially electric guitar, piano harmonies, and the pulsing traps and congas that lend a far-away, "freight train" atmosphere.

"Mother's Spiritual" documents both Nyro's struggle and her victory. Her visions do not want for lushness or power; they are a musically satisfying mix of the poetry and the anti-poetry in our humble existence. She pushes past the sleek security of conventional lyrics, to the words people really do say on their best and worst days. One refrain echoes throughout: "What is life? Did you read about it in a magazine?" This reviewer heard about it on "Mother's Spiritual."

LAURA KOPLEWITZ

R.E.M.: Reckoning

Mitch Easter & Don Dixon, producers
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BACKBEAT Reviews

Erskine Hawkins, Earl Hines, and Sy Oliver; played baritone saxophone on rock recording sessions for ten years; and doubles on tenor, alto, and soprano saxophones and clarinet in Broadway pit bands. In short, a survivor. Now, at the age of seventy-five, Henry has been given his first credible opportunity to record as a leader.

Henry's rugged, deep-toned swagger on baritone saxophone shows why he was Duke Ellington's first-choice substitute for Harry Carney. He has a bit more fluidity than Carney, and an agile drive that is closer to Gerry Mulligan's. The setting on "The Gentle Monster" could scarcely be improved upon: Henry is surrounded by four excellent musicians playing in top form (Joe Newman, trumpet; Hank Jones, piano; George Duvivier, bass; and Ben Riley, drums). Don Sickler's arrangements are models of the crisp, urgent attack that one associates with the '30s and '40s jump bands of Harlem.

On slower pieces, Henry is sensitive to shading and the subtleties of tonal inflections. He plays his own pop ballad, *Put Yourself in My Place* (which he recorded with Hawkins's band in 1940), with stretched phrasing and provocative breaks. *Good Morning*, *Heartache* is dark and brooding, *You Don't Know What Love Is* is very deliberately phrased, and *Blue Sunrise* rocks gently.

JOHN S. WILSON



DEBORAH FEINGOLD

Amina Myers: She could carry the whole show herself, if she had to.

The Jazztet: Moment to Moment

Giovanni Bonandrini, producer
Soul Note SN 1066

The New York Jazz Quartet in Chicago

Susan & Jim Norman, producers
Bee Hive BH 7013 (1130 Colfax St.,
Evanston, Ill. 60201)

The original Jazztet was the right group at the wrong time. Blessed with a magnificent stylist in Art Farmer and a top-notch writer in saxophonist Benny Golson, this early-Sixties hard-bop unit concentrated on sharply arranged group performances just as the cult of the soloist was beginning. Wisely avoiding remakes of any classic Jazztet material, "Moment to Moment" consists of newer Golson pieces and early Farmer and Golson tunes associated with other bands, *Farmer's Market* and *Along Came Betty* among them.

With a front line of flugelhorn, tenor sax, and trombone (the great Curtis Fuller), the sound is dark but never somber. Supported by a crisp rhythm section, the music takes off with a power that puts it right on today's cutting edge. Golson's emphasis on organization is a breath of fresh air; each soloist is forced to make the most of his moment. Special mention must be made of Farmer's still majestic blowing and Golson's bizarre tenor tone, which turns his mainstream solos into radical statements.

Compared to this inspired reunion, "In Chicago" sounds positively tame. The

playing is fine, but the key ingredient missing is what "Moment" has in abundance: challenging writing. The New York Jazz Quartet, an occasional gathering built around pianist Roland Hanna and reedman Frank Wess, is a virtuoso's band: Too often ensemble work takes a back seat to rip-roaring solos. Surface excitement is not enough, even when supplied by great musicians. Only on ballads is their true communion as a group felt. Bassist George Mraz's *Wisteria* and a glowing performance of the standard *You Don't Know What Love Is* are warm and knowing with real interaction and support. The New York Jazz Quartet should devote more time to arrangements; they've got the soloing down cold.

STEVE FUTTERMAN

**Amina Claudine Myers:
The Circle of Time**

Giovanni Bonandrini, producer
Black Saint BSR 0078

Amina Claudine Myers is one of those special artists who can turn every performance into an intimate experience. The contemporary jazz scene may have more innovative pianists and technically gifted singer-songwriters, but few are as expressive or utterly personal. By mixing her church roots and jazz training with everyone from Gene Ammons to Muhal Richard Abrams, Myers combines free form, gospel, and lyric impressionism into an accessible whole

without sounding fashionably eclectic. She is the real thing.

As a pianist Myers always sacrifices flash to feeling. Yet "The Circle of Time" isn't introspective or moody; her hearty, down-home spirit energizes every note she plays. What makes her so arresting is how subtly she mixes this funky foundation with an avant jazz imagination. There is a clarity of line and space to her solos that avoids the modernist shortcuts of muddy chord clusters and key-bashing dynamics.

Two of the album's three instrumentals are built on simple but stretching blues changes; *The Clock*, a little more ruminative, slips in ingenious stride and atonal bits. The cohesiveness and substance of Myers's piano playing makes up for its lack of inventiveness.

The vocal numbers are almost as successful. At its best her limited range is marked by the same economy of means and expressiveness as her keyboard work. But it is not a commanding voice; when teamed with banal lyrics and eccentric tonal tricks, as on the title track, it can be a hair short of annoying. *Plowed Fields*, a lovely evocation of her pastoral girlhood, and *Do You Want to Be Saved?*, with its out-and-out gospel groove and stirring organ solo, are better conceived.

Myers is supported on "Circle" by two sympathetic team players, bassist Don

Pate and the unjustly overlooked Thurman Barker on drums, who is the most sensitive cymbal player this side of Jack DeJohnette.

STEVE FUTTERMAN

Kenny Wheeler: Double, Double You
Manfred Eicher, producer
ECM 1262

Dave Holland Quintet: Jumpin' In
Manfred Eicher, producer
ECM 1269

Trumpeter Kenny Wheeler and bassist Dave Holland continue a long musical relationship on these two albums. Both men recorded with Anthony Braxton in the mid-Seventies, and Wheeler's first two records featured Holland and Jack DeJohnette, who is also the drummer on "Double, Double You."

Holland's "Conference of the Birds" (ECM 1027) is an acknowledged classic of the new jazz. Though "Jumpin' In" may not be as important as that album, it follows many of the same procedures—the musicians are given carefully constructed themes, but are then left free, while encouraged to improvise together—and it is consistently more vigorous and surprising than "Double, Double You." Wheeler's big tone is both sensitive and inventive: From dark, lower depths he can leap into some unearthly Miles Davis squeals and trills

without losing the direction of his melody. But at times "Double" declines into a kind of slack affability, despite energetic solos by Mike Brecker (he has rarely sounded this good), Holland, and DeJohnette.

The problem may be the compositions and arrangements: On *W. W.* and *Foxy Trot*, Wheeler includes out-of-tempo introductions in which one musician states portentously the minimal themes. When the full band comes in, it goes over the same material, which has by then worn out part of its welcome. Most effective are Wheeler's duet with John Taylor on *Ma Bel* and DeJohnette's stirring solo (and his only solo here) on the uptempo *Mark Time*.

"Jumpin' In," particularly the title cut, seems positively impetuous by comparison. The improvisations of this quintet—which includes Wheeler, saxophonist Steve Coleman, trombonist Julian Priester, and drummer Steve Ellington as well as the leader (significantly there is no pianist)—achieve a freewheeling jauntiness just this side of Dixieland.

First Snow is a delicate theme in 6/8 that features Wheeler prominently, while *Jumpin' In* is a wild, uptempo piece. The serene *Sunrise* avoids the cud-chewing placidity of some jazz tributes to natural wonders. On *The Dragon and the Samurai* Holland solos brilliantly, and it's a joy to hear Priester again.

MICHAEL ULLMAN

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CLASSICAL REVIEWS

(Continued from page 75)

as musical director, the orchestra turned its attention to new music. Its "Meet the Moderns" series draws large crowds to its home at the Brooklyn Academy of Music and to Lower Manhattan's Cooper Union, and its programming is refreshingly varied, reflecting a healthily eclectic view of what is happening in music today. All the more peculiar, then, that this record contains not one really substantial work—that it is in essence an album of curiosities, each piece having some sort of extramusical gimmick. Nor are various musical styles represented: A sort of peculiarly American tonal idiom predominates in three of the four compositions.

Lou Harrison's *At the Tomb of Charles Ives* (1963), though admittedly a curiosity, is fortunately free of the gimmickry. This four-minute work, scored for the exotic combination of dulcimers, psalteries, and strings, is based on a Mongolian folk tune. The sonic result is decidedly non-Western, approximating Chinese music with its decorative embellishments, modal harmonies, odd tunings, and utter lack of directionality. The piece is a sincere, unassuming memorial to a composer with whom Harrison worked, and whom he greatly admired.

Vladimir Ussachevsky's *Divertimento 1980-1981* is scored for a traditional orchestra of strings, brass, woodwinds, and percussion—plus an unconventional contraption called the Electronic Valve Instrument (EVI), as well as recorded tape. Ussachevsky, a co-founder of the prestigious Columbia-Princeton Electronic Music Center and a pioneer in the realm of electronic music, capitalizes here on the sonic potential of the EVI, which is capable of mimicking the timbres of all members of the woodwind and brass families. How odd

then that this innovative instrument is paired with such conservative music: For most of its length, Ussachevsky's piece is in a symphonic style reminiscent of 1940s Americana. Tonal, forthright, jazz-influenced, occasionally dissonant, it sounds uncomfortably close to Copland's popular scores of that period.

Party Pieces has no EVI to hold the listener's attention, but it does have a charming precompositional gimmick. In the '40s, John Cage, Henry Cowell, Virgil Thomson, and Harrison were all living in New York City. Their party games apparently consisted of group composition: "One composer would write a bar of music and two notes, fold the paper at the bar line, and pass it on to the next composer, who would use the two notes as a starting point for his composition." The result was 19 miniature *Party Pieces* (1944-5), together lasting less than ten minutes, all remarkable for their lack of evident seams. The four composers obviously were closely attuned to each other's intentions; all the pieces are cohesive statements cast in a spare, rhythmic, often contrapuntal neoclassic idiom. They are performed here in Robert Hughes's skillful arrangement for winds and piano.

Leo Smit's *Academic Graffiti* (1962/82) rounds out this disc. Scored for soprano, clarinet, cello, piano, and 12 percussion instruments, it sets 11 irreverent quatrains by W. H. Auden, each concerning a historical figure. This is lightweight music, cast in a variety of styles ranging from atonal dissonance to dance-hall parody, the idioms often incongruously matched with the personality being discussed. Not surprisingly, the marvelously pointed Auden texts steal the show.

Though all four of the works on this recording have a certain charm, they hardly



KEN HOWARD

Lukas Foss meets the moderns.

add up to a rewarding musical experience. In each case, the music is considerably less interesting than the programmatic, textual, or technological contrivance involved. Even more surprising is the fact that the Brooklyn Philharmonic is rarely given a chance to demonstrate its abilities: Of the four works, two are chamber music and two call for reduced orchestral ensembles. The playing is excellent throughout, but if a subsequent disc is planned, worthier music should be selected. After all, "Meet the Moderns" has shown us that there is much valuable material from which to choose.

K. ROBERT SCHWARZ

A PRIDE OF SOPRANOS

(Continued from page 62)

otherwise lacks in the opera house, is someone to watch.

Finally, we have a new Hungaroton collection of arias sung by Eva Marton, who turned forty last June. This is a problematic release, yet it leads me to anticipate great results from this singer in the future.

Last November, with the Opera Company of Boston, Marton sang a Turandot of immense power, complete with total vocal control, dramatic perception, and a range of dynamic shadings that Birgit Nilsson never demonstrated. Since Rosa Raisa, who was the original Turandot, I had not heard anyone approach what Marton achieved in that performance. She looked wonderful on-stage, and her voice was even from middle C to the easy top C that effortlessly rang over chorus and orchestra. Her soft singing had a velvet cover that reminded this listen-

er that Marton, like Raisa, is a middle European with lots of Italian training and experience. (Incidentally, Marton will be the Turandot in Los Angeles this summer when the Royal Opera House Covent Garden visits there during the Olympics.)

Thus, I expected great things from the Hungaroton disc, which contains recordings made between 1971 and '77. Its best point is the soprano solo from the Brahms *Requiem* (a live recording from 1971) that is beautiful in sound, artistically phrased, and spacious in its unhurried, broad phrasing. Equally moving is the scene from the Liszt *Legend of Saint Elisabeth*—once staged at the Met with Florence Easton and likely to return to opera houses in the 1986 Liszt observances. Here again, Marton is fully in command, and the music makes you want to hear the entire work.

Her Leonora is well managed, with thrilling sound and moving emotional impact, her brief Mendelssohn scene more

than adequate. The trouble comes in the "Liebestod," which, it must be hoped, is disastrous only because the singer stepped into the live concert on short notice and sang not only the "Liebestod" but also the *Four Last Songs*. The conducting is breathless, and Marton sounds uncharacteristically sharp, forced, and strident, and somehow just plain hectic.

It is still my conviction that within a year or two Marton will emerge as the next great Isolde and Brünnhilde. She will sing Brünnhilde in *Siegfried* this summer with the San Francisco Opera and is scheduled to appear on opening night at the Met next fall, as Ortrud opposite Plácido Domingo. Later that season she will switch to Elsa, and the following season she is expected to take up the Brünnhildes, first in *Die Walküre*. From what I heard in Boston, Marton has everything she needs, plus the firm intention of not becoming exclusively Wagnerian.

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CHRISTINE McVIE

(Continued from page 77)

ture, rather than just schlepping to Van Nuys [California] every night and coming home. I felt that it would be good for all of us to get away. The Mountain Studios were highly recommended. David Richards, the in-house engineer, is brilliant. So it seemed like the perfect place, and it was.

We used the hall where the Montreux Jazz Festival is recorded. We partitioned it off and did all our basic drum sounds and a lot of the vocals there.

Backbeat: Generally speaking, do you think the studio setting makes a big difference in the way a record turns out?

McVie: I can only speak for myself, really, but I think in my case, yes. In Montreux, we were in a bubble, the whole band and Russ, yet we could leave the door open—there weren't many people around and we weren't always being disturbed. And it was inspirational to be in a beautiful place.

Backbeat: Have you ever worked in an environment that was counterproductive?

McVie: Yes, ironically, when we recorded Fleetwood Mac's biggest seller, "Rumours." There was a studio where we had nothing but trouble. A tape machine that we nicknamed Jaws literally ate tape; pianos would never stay in tune—tedious things like that. We changed facilities.

Backbeat: What makes your songwriting partnership with Sharp work so well?

McVie: I've never actually written with a guitar player before, except in limited doses with Lindsey [Buckingham]. Guitarists play different chords and different configurations—different inversions, if you like. Yet Todd and I have similar writing habits. He just added a brightness and freshness to what I was doing.

Backbeat: Did you have any insecurities about having to write a whole album's worth of material? After all, it has been nearly 15 years since your last solo LP.

McVie: Some, but more importantly I felt that it might have been very self-indulgent to record only my songs. I find it hard to listen to solo albums all the way through. I think I'd get bored with myself, too. There's no need for me to do that, my ego isn't so inflated.

But looking at it another way, a solo album gives you the freedom to do exactly what you want, to pick someone else's song and say, "Wow, I'd really like to sing that." With Fleetwood Mac, I could never record a cover version.

Backbeat: A lot of the reviews, although favorable, have said "Christine McVie" sounds just like a Fleetwood Mac album.

McVie: I am a member of that band and I have been for 15 years. I've written one third of the songs and I'm one quarter of the musicians. So, I mean, it's inevitable. If something of me hasn't rubbed off. . . . It's rather silly to say that it sounds like a Fleetwood Mac record, really. It's bound to.

Backbeat: Maybe a different approach was

expected.

McVie: I felt that the one I took was obvious. Not the most experimental, perhaps, but it was the surest way I knew to go without putting myself out on a limb. I don't want to do that. Why should I? Obviously when you put something out on the market, not everyone's going to like it. Unless you're Michael Jackson.

Backbeat: Are you disturbed by the criticism that you and Fleetwood Mac aren't blazing any new musical trails?

McVie: That's very accurate though, isn't it? I'll leave the trailblazing to the eighteen-year-olds. There's so much music nowadays, it'd be pretentious for me to do a Thomas Dolby or something. I don't feel like it. I can do what I want.

Backbeat: How do you feel about the "rock video revolution"?

McVie: It forces you to think in another dimension, so it's good in that sense. But the question is, do we need that dimension? I've always felt that music should be heard and not seen. Music is so personal; you can let your own imagination work for you. Now the images are forced upon us, images that can be detrimental to a good song or very helpful to a bad one. If you don't have a "hip, happening video," then a good song may not get the airplay or the credit that it deserves. So it's a worrying thing for me. I mean, I've never written with a visual in mind, and a lot of bands now are doing just that. I suppose we older musicians have to enter the '80s graciously. **HF**

Selected Discography

CHRISTINE McVIE

Christine Perfect. Blue Horizon 7-63860, U.K.; 1970. (Rereleased in U.S. as **The Legendary Christine Perfect Album.** Sire SR 6022; 1978.)

Christine McVie. Warner Bros. 1-25059; 1984.

With FLEETWOOD MAC

Then Play On. Reprise RS 6368; 1969. (McVie uncredited due to contractual obligations.)

Kiln House. Reprise RS 6408; 1970. (**Then Play On/Kiln House** also available as a double-cassette package. Warner Bros. NA 23946.)

Future Games. Reprise RS 6465; 1971.

Bare Trees. Warner Bros./Reprise MSK 2278; 1972.

Penguin. Warner Bros./Reprise MS 2138; 1973.

Mystery to Me. Warner Bros./Reprise MSK 2279; 1973.

Heroes Are Hard to Find. Warner Bros./Reprise MS 2196; 1974.

Fleetwood Mac. Warner Bros./Reprise MSK 2281; 1975.

Rumours. Warner Bros. BSK 3010; 1977. (**Fleetwood Mac/Rumours** also available as a double-cassette package. Warner Bros. 1-23705.)

Tusk. Warner Bros. 2HS 3350; 1979.

Live. Warner Bros. 2WB 3500; 1980.

Mirage. Warner Bros. 1-23607; 1982.

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