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AUDIO • VIDEO • TEST REPORTS • MUSIC

JANUARY 1989

WE RATE 10 TOP COMPONENTS

- Revox CD Player
- JVC Digital Surround Processor
- Sansui Receiver
- Hafler Power Amp
- Celestion Loudspeaker
- Technics AM/FM Tuner



- Pioneer Car Tuner/CD Player
- Ortofon Phono Cartridge

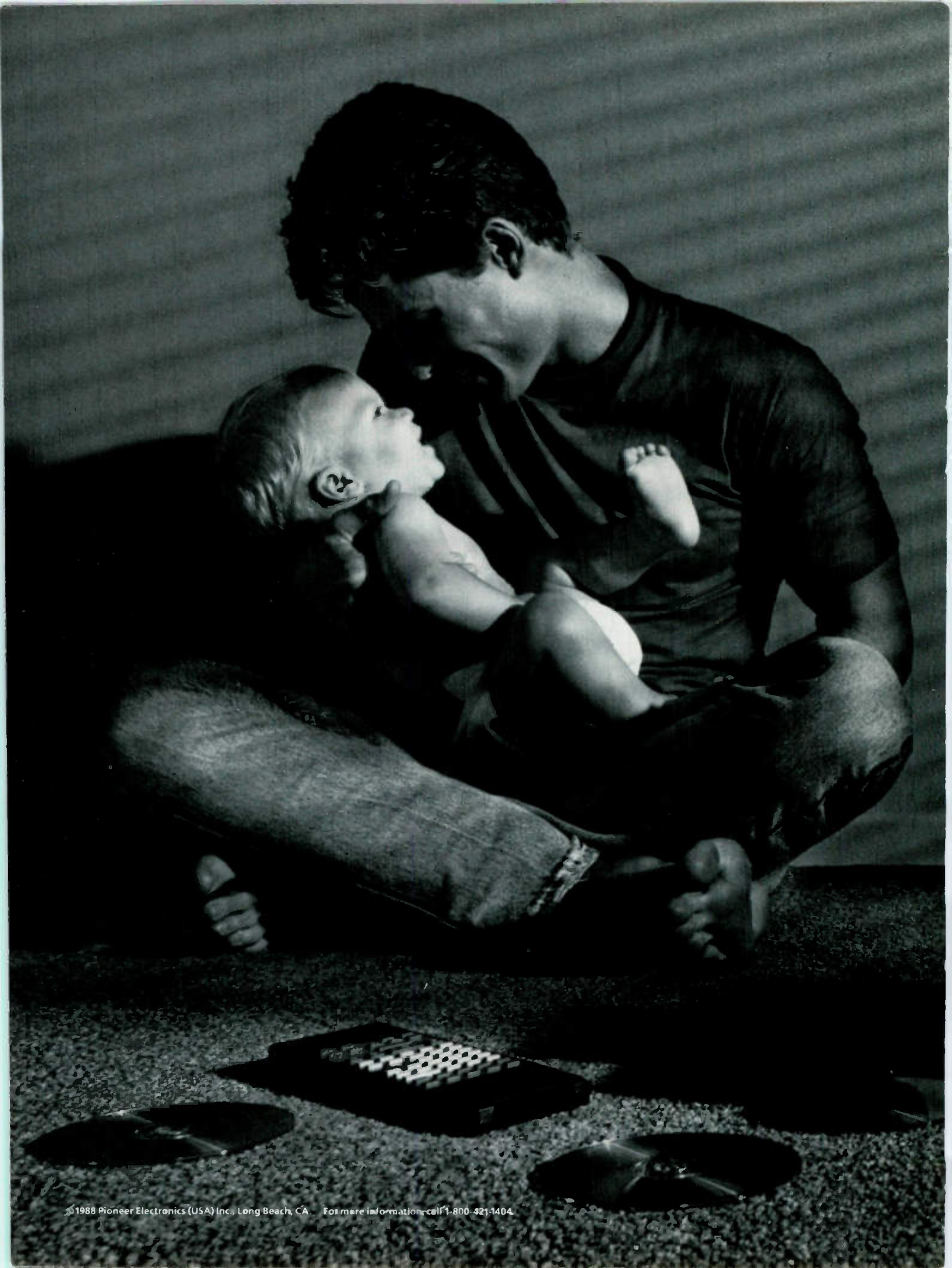
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Tested: Revox CD player, nine more

21



A strong start for Virgin Classics

56



Great jazz from Commodore

79

TEST REPORTS

JVC XP-A1000 digital acoustics processor	21
Technics ST-G70 AM/FM tuner	25
Ortofon 540 phono cartridge	28
Revox B-226S Compact Disc player	32
Sansui RZ-5000 AM/FM audio-video receiver	38
AudioSource SS Two Dolby Surround decoder	42
Mordaunt-Short MS-10 Series 2 loudspeaker	44
Pioneer DEH-66 car tuner/CD player	46
Hafler XL-600 power amplifier	49
Celestion DL-8 Series Two loudspeaker	50

MUSIC

CLASSICAL Brave New Label. A warm welcome for England's Virgin Classics—its first 15 releases herald a noteworthy newcomer to the recording scene./DAVID HURWITZ	56
POPULAR/BACKBEAT The 5-Inch CD-V. We review 42 titles on the latest audio-video format. Plus a report on the 12-inch CD-V. KEN RICHARDSON	72
Commencing the Complete Commodore. An astonishing 23-LP boxed set—the first of three—launches the reissue of every recording from Milt Gabler's legendary jazz label./MICHAEL ULLMAN	79

On the cover: the Technics ST-G70 AM/FM tuner (top, left); the Sansui RZ-5000 AM/FM audio-video receiver (bottom, left); and the Celestion DL-8 Series Two loudspeaker (right).



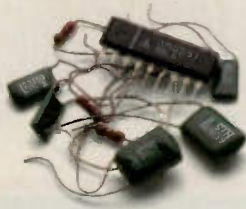
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COLUMNS

Front Lines Why equipment testing is important./MICHAEL RIGGS	5
Crosstalk Cassette-deck meter problem; importance of power-supply capacitance; creating a budget recording studio./LARRY KLEIN	14
Scan Lines Inside IDTV. DAVID RANADA	18
Tape Tracks Taping off of FM: Who cares?/ROBERT LONG	19
Medley DG is getting a new neighbor in Hamburg: CBS Masterworks. THEODORE W. LIBBEY, JR. Yuletide tunes giving you fits? Hear the words of... HANK BORDOWITZ	55

DEPARTMENTS

Letters	6
Currents The FCC's guidelines for HDTV; Minolta's continuous-autofocusing Master Series-C 50 camcorder; Canon's E77 8mm camcorder.	12
The CD Spread Elgar and Vaughan Williams from Orpheus; Barbirolli's Sibelius; plus Bach and Bloch, Haydn and Honegger.	60
Classical Reviews Bernstein returns to Mahler, and Wand to Bruckner's Eighth, with superb results; Barrók's Bluebeard's Castle and a piano-work premiere; memorable Rorem from Atlanta.	62
General Index 1988	85
Advertising Index	87



Yamaha just solved the industry's biggest problem.

All those little capacitors, resistors and semiconductors?

They make up what's known as a CD player's analog filter.

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FrontLines

Test We Must, Yes, We Must!

By Michael Riggs

For a long time now, we have opened the year with a special issue featuring ten test reports—nearly twice the usual number. And over the course of 1989 we will perform full laboratory evaluations on approximately 70 pieces of audio and video equipment.

Test reports are important for the obvious reason that they help you distinguish excellent products from the merely good, the undistinguished from the unacceptable. They also unravel the trade-offs made in every product among performance, features, and price. In short, they help you decide what to buy. But a good test report, especially of a component incorporating new technology, can do more than that: It can help you understand new developments in audio and video and what they really mean to you. Over time, careful reading of our reviews can give you a better perspective on what is important in equipment design and what isn't—which can help you out even when you're considering a piece of equipment we haven't had the opportunity to test.

Nonetheless, not everyone feels that we approach the task in the best way. The last decade has seen a great increase in the popularity of what is commonly known as "subjective testing": evaluation by means of the ear alone. The argument for this method usually is that the ear can discern subtleties of performance that defy quantification and that those of us who base our reviews in large part on instrument testing are led astray by the results, missing sonic distinctions between superficially similar electronic components that would become obvious if we would just shake off the blinders of technology.

This view is not merely wrong, but destructive as well. I say this not because I believe listening is irrelevant or unimportant. We listen to every audio component we review, and in the case of loudspeakers, most of our conclusions about product quality are based on what we hear, not on what we measure. Loudspeaker testing has not yet reached the stage where one can determine exactly how a product will sound just by looking at a set of numbers and curves. It can help confirm or explain what we hear, and it can tell us a great deal about things such as how loud a loudspeaker can be expected to play without excessive distortion, how much power it will require to deliver reasonable playback levels, and whether it will make any unusual demands on the amplifier used to drive it. But the measurements can't tell us everything we need to know.

On the other hand, laboratory testing (properly done) can tell us pretty much everything we need to know about the performance of a typical piece of electronics: an amplifier, a preamp, a tuner, or even a Compact Disc player. We know what the important characteristics are, how to measure them, and how to interpret the results. And we know what we know by virtue of carefully controlled listening tests that have demonstrated the adequacy of these test methods. We still listen, just in case something has slipped by on the bench. But we don't believe in magic, and we don't go on snipe hunts.

I said earlier, in effect, that abandoning laboratory testing is dangerous, for two reasons. One is that this would make it much harder to objectively define a component's performance envelope—things like how much power an amplifier can deliver into various loads, how effectively a tuner can pull in distant stations, and so forth. In many cases, this information is key to making a good buying decision. The other reason is that relying on the ear alone throws open the door to bias and charlatanism. Human beings are very suggestible creatures (as witness some of the stories in Ken Kantor's October 1988 article, "Audio Fetishes"). It is easy to believe that an 18-bit, eight-times resampling CD player *must* be better than a "lesser" design, until you see what a top-notch 16-bit, four-times player like the Revox B-226S reviewed in this issue can do. Specifications may not be sexy, but they tell an important tale. And they help keep manufacturers honest. □

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L E T T E R S

AUDIO FETISHES AND OVERSAMPLING

My congratulations to Ken Kantor for "Audio Fetishes" [October 1988]. It was a superb, and much-needed, debunking of a phenomenon that can be described as a combination of placebo effect, Hawthorne Effect, first-on-the-block syndrome, and just plain gullibility.

Interestingly, there is a prime example in the same issue of the kind of advertisement that tends to perpetuate this phenomenon. It claims that in conventional speaker cables skin effect causes discontinuities in the electrical currents carried by the conductor—which leads in turn to distortion, poor imaging, and other ills. Well, I was a Senior Member of the Institute of Radio Engineers (before it became the IEEE), and I recommend looking up the subject in the texts of Glasgow or Terman. Skin effect increases *continuously* with rising frequency and is negligible at audio frequencies. (The 1930s-era remedy was to use *Litzendraht*, or "litz" wire, for RF circuits in which low losses were desirable. This wire was a woven or braided bundle of fine, individually insulated wires, in which no single strand was permitted to remain inside the bundle for any appreciable length along the wire.)

Charles H. Chandler
Malden, Mass.

I just had to write and tell you how much I enjoyed Ken Kantor's "Audio Fetishes" article. My stomach still hurts from laughing! Quite often I've had friends over (including several audiophiles, some of whom do testing for product reviews) and played "Is it CD or tape?" on my modest stereo setup. More than 70 percent of the time, they can't tell or guess.

Anyway, further striking examples of how beliefs alter perception are contained in the same issue, in "Currents" on page 12 and in an ad on pages 33 and 34: the fetish that some have for tube amplifiers. Despite the measurements and statistics, there are those who insist that these amps somehow *sound* better than transistor models. Well, they can go right ahead and shell out \$17,500 for a pair of Carver Silver Sevens, while I enjoy my \$799 Carver M-4.0t. And a new car. And maybe some new furniture . . .

Stu Chisolm
Roseville, Mich.

As owner for the last ten years of a small "mid-fi" audio store (specializing in Luxman and Allison) and classical-record shop, and as a music lover for the last 30 years, I don't know which I enjoyed most in your October issue: Gordon Brock-

house's interview of Bob Carver with the Van den Hul silver cables anecdote, Ken Kantor's "Audio Fetishes" article, or David Ranada's excellent exposé "The Overselling of Oversampling." In any case, I applaud you wholeheartedly and encourage you to keep up the great work.

Rick Oakley
Electric Gramophone
Sudbury, Mass.

I read with great interest David Ranada's article "The Overselling of Oversampling" [October 1988]. For a layman who had suspected the truth all along, it couldn't have been more enlightening or informative. With articles like that, you have a subscriber for life.

Gloria Shapiro
Little Neck, N.Y.

Here's to your October issue for saving me hundreds, if not thousands, of dollars. My equipment, of fairly high quality, is getting on in years (Phase Linear 400 power amplifier, Apt Holman preamp, AR 9 speakers, and a Technics SLP-3 CD player). For some time I've been reading about all the advantages of oversampling: two times, four times, and now eight times. My little CD player doesn't oversample at all and even has an analog filter. I was considering buying a new player to replace it.

Then I read your October issue. The incomparable David Ranada has done it again. He explains things so I can understand them and reminds me that I can't hear the difference between 0.1 and 0.01 percent distortion; as my mother used to say, "Good is good." After reading Mr. Ranada's "The Overselling of Oversampling," I sat in front of my system, played a good CD, and heard it sounding better than it had in months.

Thank you, David Ranada—and HIGH FIDELITY.

Edward Buxbaum
Brooklyn, N.Y.

I was amused by Ken Kantor's article "Audio Fetishes." His conclusion seems to reiterate the well-known fact that subtle psychological factors may influence the perception of recorded music. There is nothing new in this idea; after all, depending on the listener's mood, the same recording played on the same system may sound very different on different days. We don't hear much anymore about "listener fatigue," but that phenomenon suggests that cumulative effects may also be important (and may further suggest that the usual A/B comparisons used in evaluating

equipment may not tell the whole story).

Kantor's first example, electrolytic capacitors, seems especially ill-chosen, however. Here, if anywhere, there *are* mechanisms whose magnitudes are measurable: To some people, the evidence *is* audible. If you want to pursue such technical matters, would it not be better to devote an article to a scientifically reliable analysis of capacitors than to glibly assume that a trivial fetish is involved?

I would like to turn the issue around. Rather than discussing technical effects that have little chance of influencing musical perception, it would be preferable to discuss effects that *do* influence that perception. In recent years, we have read in *HIGH FIDELITY* and similar publications that "all CD players sound the same." This may or may not be so, but what about factors that do influence CD sound? I recently was amazed to discover, through a local audio dealer, the beneficial effects of using CD stabilizers. The improvement in articulation, and the reduction in harshness noted on some discs, is immediately obvious. The improvements may be enough, finally, to push CD sound past

that of good analog LPs. But from you, nary a peep on the subject.

Edward C. Olson
Urbana, Ill.

The point of "Audio Fetishes" was to explain the art of critically appraising claims made for audio products or techniques and why such evaluative skill is necessary. The examples given are ancillary to that goal.

However, we don't feel the capacitor example is a poor one. Yes, capacitors do cause distortion; virtually any component causes at least a tiny bit (David Hadaway of DB Systems has measured the distortion of various types of resistors). But it is small and normally irrelevant except in the context of the product in which the part is used—particularly where feedback or feed-forward is used to reduce distortion below the levels that would be generated by some of the constituent parts if operated without such a corrective mechanism. In other words, it doesn't matter if some part, on its own, produces even several percent distortion so long as the product in which it is used generates levels that are inaudibly low (say, less than 0.1 percent or so). We have

not noticed that changing the type of capacitors used in a well-designed audio product makes any sonic difference.

Regarding CD players, we have never said that they all sound the same—only that they will sound the same if certain minimum conditions are met. Frequency-response errors occasionally result in small audible differences between players, and it is possible in some extreme cases that poor low-level linearity may cause audible distortion in very soft music passages. We have not commented on CD stabilizers because we have not found that they provide any benefit. Moreover, the explanation usually given for why they should help—error reduction—doesn't hold water.

One of the great benefits of the Compact Disc system is its ability to reproduce exactly what is on the master tape used to create it. If you routinely prefer the sound of LPs, it probably is because your phono cartridge or the RIAA de-emphasis network in your preamp is introducing an appealing coloration. In particular, many cartridges put a small dip in the mid-treble that softens the sound a little. (See "CD vs. LP: Little Things Matter," March 1984.)—Ed. ▶



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U2: Rattle & Hum • New live set includes the hit *Desire*. Still Haven't Found What I'm Looking For, more. Island 200596

Anita Baker: Rapture • Sweet Love, Caught Up In The Rapture, You Bring Me Joy, Been So Long, Mystery, more. Elektra 173404

Itzhak Perlman: French Violin Showpieces • Carmen Fantasy, Tzigane, Poème, Havanaise, more. DG DIGITAL 115457

Tracy Chapman • Extraordinary singer/songwriter with hit *Fast Car*. Talkin' Bout A Revolution, Baby Can I Hold You, Mountains O' Things, Why?, etc. Elektra 153582

Guns N' Roses: Appetite For Destruction Welcome To The Jungle, Sweet Child O' Mine, It's So Easy, more. Geffen 170348

Jerry Lee Lewis: Original Sun Greatest Hits • Whole Lotta Shakin' Goin On, Great Balls Of Fire, more. Rhino 154118

Kitaro: The Light Of The Spirit • Sundance, Mysterious Encounter, The Field, In The Beginning, etc. Geffen DIGITAL 164228

Richard Marx • Endless Summer Nights, Should've Known Better, Don't Mean Nothing, etc. EMI-Manhattan 134073

Jimmy Page: Outrider • Wasting My Time, The Only One, Prison Blues, more. Geffen 123721

Robert Plant: Now And Zen • Dance On My Own, Heaven Knows, Tall Cool One, Ship Of Fools, etc. Es Paranza 134392

Led Zeppelin: Houses Of The Holy Dyer Maker, Over The Hills And Far Away, etc. Atlantic 134321

George Harrison: Cloud Nine • Title song, I Got My Mind Set On You, When We Was Fab, more. Warner/Dark Horse 174328



Phil Collins: Buster 100517

James Taylor's Greatest Hits Warner Bros. 123790

Dire Straits: Brothers In Arms • Money For Nothing, Walk Of Life, So Far Away, more. Warner Bros. DIGITAL 114734

Pops In Space • John Williams & The Boston Pops. Music from Close Encounters, Star Wars, others. Philips DIGITAL 105392

Rod Stewart: Greatest Hits • Do Ya Think I'm Sexy?, Tonight's The Night, Maggie May, Hot Legs, etc. Warner Bros. 133779

Andres Segovia Plays Bach • Includes the famous Chaconne. MCA 163600

Poison: Open Up And Say...Ahh • Nothin' But A Good Time, Good Love, Fallen Angel, Love On The Rocks, etc. Capitol/Enigma 173989

Bobby McFerrin: Simple Pleasures Don't Worry Be Happy, All I Want, Drive My Car, Title song, Good Lovin', more. EMI-Manhattan 164165

Cream: Disraeli Gears • Sunshine Of Your Love, more. Polydor 104898

Simon & Garfunkel: The Concert In Central Park • Mrs. Robinson, Bridge Over Troubled Water, etc. Warner Bros. 244006

Alabama: Live RCA 160027

Previn: Gershwin • Rhapsody In Blue, Concerto in F, more. Philips DIGITAL 115437

Eagles Greatest Hits, Vol. 1 Asylum 123481

Keith Richards: Talk Is Cheap • Big Enough, How I Wish, Take It So Hard, Struggle, I Could Have Stood You Up, more. Virgin 100518



Steve Winwood: Roll With It 154633

Liz Story: Speechless • Forgiveness, Speechless, Welcome Home, Back Porch, Vigil, Frog Park, more. RCA/Novus 100494

Decade/Best Of Steely Dan MCA 154135

Beethoven, Symphony No. 7; Coriolan & Prometheus Overtures • Royal Philharmonic/Previn. RCA DIGITAL 153621

Jethro Tull: Aqualung Chrysalis 124705

Whitney Houston: Whitney • I Wanna Dance With Somebody (Who Loves Me), Didn't We Almost Have It All, more. Arista 152854

Metallica: ...And Justice For All • One, Blackened, title song, To Live Is To Die, Shortest Straw, more. Elektra 200478

Talking Heads: Naked • (Nothing But) Flowers, Mr. Jones, Totally Nude, Blind, The Democratic Circus, The Facts Of Life, etc. Fly/Sire DIGITAL 153810

David Sanborn: Close-Up • Lush jazz sax effort! Slam, You Are Everything, J.T., Goodbye, Same Girl, etc. Warner Bros. 134408

Dwight Yoakam: Buenas Noches From A Lonely Room • Title Song, Streets Of Bakersfield (with Buck Owens), more. Reprise 100009

The Best Of The Band Capitol 134485

Classic Old & Gold, Vol. 1 • 20 hits! A Little Bit Of Soul, He's So Fine, A Teenager In Love, Sweet Talkin' Guy, etc. Laurie 134627

INXS: Kick • Need You Tonight, Devil Inside, New Sensation, title song, Never Tear Us Apart, The Loved One, Wild Life, etc. Atlantic DIGITAL 153606

The Glenn Miller Orchestra: In The Digital Mood • In The Mood, Chattanooga Choo Choo, more. GRP DIGITAL 143293

Tangerine Dream: Phaedra 100510

Steve Winwood: Chronicles • Higher Love, Valerie, While You See A Chance, My Love's Leavin', Talking Back To The Night, more. Island 134501

Pictures At An Exhibition, Night On The Bare Mountain, more • Montreal Symphony/Dutoit. London DIGITAL 125314

Whitesnake • Here I Go Again, Still Of The Night, Give Me All Your Love, Crying In The Rain, Bad Boys, more. Geffen 163629

ZZ Top: Afterburner Warner Bros. 164042

Carly Simon: Greatest Hits Live Anticipation, You're So Vain, Coming Around Again, Nobody Does It Better, etc. Arista 154537

Huey Lewis: Small World • Perfect World, Walking With The Kid, World To Me, Better Be True, Old Antone's, etc. Chrysalis 134347



Horowitz Plays Mozart 115436

Najee: Day By Day • Personality, title song, That's The Way Of The World, Tonight I'm Yours, Gina, Najee's Nasty Groove, etc. EMI-Manhattan 100001

Genesis: Invisible Touch • Land Of Confusion, title song, etc. Atlantic 153740

More Dirty Dancing • Do You Love Me, Love Man, Big Girls Don't Cry, Wipeout, Some Kind Of Wonderful, Cry To Me, more. RCA 130766

The Who's Greatest Hits MCA 164160

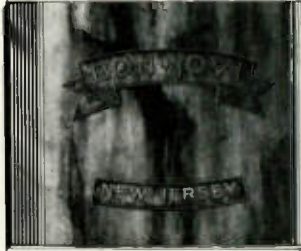
Tchaikovsky, 1812 Overture; Romeo & Juliet; Nutcracker Suite • Chicago Symphony/Solti. London DIGITAL 125179

James Galway: Greatest Hits RCA 173233

The Moody Blues: Sur La Mer • I Know You're Out There Somewhere, No More Lies, Here Comes The Weekend, Vintage Wine, etc. Polydor 124546

The Beach Boys: Endless Summer California Girls, Help Me Rhonda, Surfer Girl, more. Capitol 223559

Cinderella: Long Cold Winter • Gypsy Road, Don't Know What You Got (Till It's Gone), The Last Mile, etc. Mercury 114780



Bon Jovi: New Jersey 100516

Strauss, Also sprach Zarathustra Chicago Symphony Orchestra/Reiner. RCA 163627

Charlie Parker & Dizzy Gillespie: Bird & Diz • Leap Frog, My Melancholy Baby, Mohawk, etc. Verve 173413

Robert Palmer: Heavy Nova • Simply Irresistible, Disturbing Behavior, She Makes My Day, More Than Ever, Change His Ways, etc. EMI-Manhattan 100035

The Very Best Of The Everly Brothers Bye Bye Love, Crying In The Rain, Bird Dog, others. Warner Bros. 103826

Kenny G: Silhouette • We've Saved The Best For Last, title song, Tradewinds, Pastel, Against Doctor's Orders, Let Go, more. Arista 100603

D.J. Jazzy Jeff & The Fresh Prince: He's The D.J., I'm The Rapper • Parents Just Don't Understand, Nightmare On My Street, etc. Jive 264134

Raffi: Singable Songs For The Very Young Shoreline 144494

Elton John: Reg Strikes Back • A Word In Spanish, I Don't Wanna Go On With You Like That, Goodbye Marion Brand, Town Of Plenty, etc. MCA DIGITAL 100602

Elton John: Greatest Hits, Vol. 1 MCA 163322

Vivaldi, The Four Seasons • English Concert/Pinnock. Archiv DIGITAL 115356

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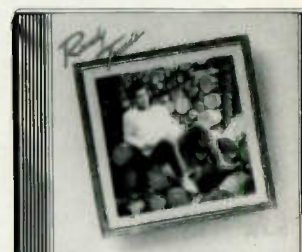
Parton/Ronstadt/Harris: Trio • To Know Him Is To Love Him, etc. Warner Bros. 114804

Chicago 19 • I Don't Wanna Live Without Your Love, Heart In Pieces, etc. Reprise 154404

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UNANSWERED QUESTIONS

You failed to answer Jeffrey Crunkleton's questions about decay of Compact Discs ["Letters," November 1988]. I am left with the impression that you have been unaware of the potential oxidation problem described. I am enclosing a copy of an article from the *Miami Herald* that first alerted me to this problem. I hope you will investigate and provide better answers.

Jeffrey L. Leites
North Hollywood, Calif.

We did look into the matter when we received Mr. Crunkleton's letter, and the upshot was pretty much what we reported. Nimbus, a small English manufacturer, apparently has had some problems stemming from chemical reactions between the protective lacquer backcoating on its discs and the ink used on some of its labels. So far as we have been able to determine, this flaw is limited to a portion of this one company's output. No one else has reported it. If we learn more, you'll read it about here.

It is perhaps worth noting that we have received a number of calls recently from the general press looking for a story of this kind. Usually the reporter has read something about laser rot (an oxidation problem, since solved, that cropped up in some laser videodiscs a few years ago) and wants to know if this happens to CDs as well. The reaction, when we say that it is very unlikely, is typically a rather dispirited, "Well, I guess I don't have a story after all."—Ed.

DON'T YOU CRY FOR SUSANNAH: LP DUE

I am a Susannah McCorkle fan, and your recent article about her ["A Champion of Songs," July 1988] is right on the money. Problem is, I have tried to find her albums in every record store in my area, but no one stocks them. Any help you can provide would be appreciated.

Alvin Shelov
Cherry Hill, N.J.

As Francis Davis mentions in his article, both of McCorkle's record companies became insolvent—with the result that all seven of her albums are currently out of print. However, we have some very good news: McCorkle tells us that she owns the masters to those albums and hopes to reissue the material on Compact Disc. Meanwhile, the singer has signed a new contract with Concord Jazz (P.O. Box 845, Concord, Calif. 94522), which plans to release a brand-new McCorkle recording in the first months of 1989.—Ed.

All letters should be addressed to The Editor, High Fidelity, 825 Seventh Ave., New York, N.Y. 10019. Letters are subject to editing for brevity and clarity.

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HDTV: The FCC Edict

When, last September, the Federal Communications Commission laid down guidelines for wide-screen high-definition television (HDTV), most experts thought that, while the FCC didn't define a specific system as a U.S. standard, it did effectively rule out Japan's MUSE, the leading contender. Only nine days later, Japan's NHK, the government-owned broadcast-

ing network that developed MUSE, came up with a system that met FCC requirements.

It's been like that lately with HDTV, as members of Congress, broadcasters, the cable industry, and consumer-electronics manufacturers become increasingly aware of the problems of picking a system for use in the United States. To that end, the Telecommunications and Finance Subcommittee of the House of Representatives

held hearings and saw demonstrations of rival systems from five would-be suppliers (NHK, Philips Laboratories, Faroudja Laboratories, the New York Institute of Technology, and Thomson/NBC/RCA/GE), with papers from Zenith and Del Rey Associates describing yet another two.

Subcommittee chairman Edward Markey (D., Mass.) made it clear that he favors an "American-based, American-owned" system compatible with the nation's 160 million existing TV receivers and 70 million VCRs—one that will maintain terrestrial broadcasting (as opposed to direct-satellite broadcasting or cablecasting) as the backbone of home video in North America. Michael Sherlock, technical vice president of NBC, representing French-based Thomson Electronics, and Mark Rochkind, president of the Dutch-owned Philips Laboratories, took exception to Markey's statement, pointing out that while their parent companies may not be American, their HDTV technology is, and that jobs resulting from the technology would be in the U.S. Neither Markey nor the FCC gave any indication whatsoever in their statements that the *quality* of the technology or the resulting video images were a concern, leading some to believe that Congress and the FCC might well opt for an inferior system simply because it is American.

Speaking for the chairman, Senior Counsel for Mass Media Larry Irving said that the optimum technology for North America is very much a consideration, but that Congress must be concerned about jobs and the U.S. balance of trade, which could both be affected severely by whatever system is selected. He added that Congress is particularly concerned about over-the-air broadcasting because it is the only signal-delivery medium for which the government, through the FCC, has direct responsibility.

Asked what would happen if an unregulated delivery system, such as videodisc, VCR, satellite, or cable were to introduce a system of its own first, Markey replied that there are numerous examples of the power of Congress to delay implementation of competing systems until Congress has had time to act. Counsel Irving explained that Representative Markey was not threatening to delay introduction of high-definition via nonbroadcast media until terrestrial-broadcast problems have been solved, but simply saying that Congress has the power to do so.

Besides NHK's two NTSC-compatible systems (MUSE-6 and MUSE-9), the other new kid on the HDTV block is Zenith's



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innovative Spectrum Compatible system, which uses one TV channel for conventional NTSC broadcast and a second for low-powered transmission of a digitized, incompatible enhancement signal. According to Zenith, the lower power of the second-channel signal would permit it to be broadcast on the so-called "taboo" channels (such as Channel 3, and Channel 8 in metropolitan areas having local signals on Channels 2, 4, 7, and 9). This goes along with the FCC desire for broadcasters to negotiate among themselves matters of signal coverage and interference. Markey called the FCC suggestion "totally unprecedented" and a possible violation of the 1934 Communications Act. Zenith, incidentally, did not demonstrate a high-definition picture using its system. As of this writing, it exists only on paper.

Robert Angus

Optomechatronic News

Minolta's 60-year involvement with what it calls optomechatronics (a neologism short for optics, mechanics, and electronics, and reminiscent of Disney's audioanimatronics) is said to be responsible for the features in its most advanced VHS-C camcorder, the Master Series-C 50 (\$1,450). The unit's principal claim to fame is its autofocus system. Specifically designed for shooting action, the Multi-Dimensional Autofocus system allows *continuous* focusing from the front lens surface to infinity (when the 9-to-54mm, 6:1 zoom lens is set to its 9mm focal length). The through-the-lens, phase-detection autofocus system is based on technology used in Minolta Maxxum SLR cameras and can automatically compensate for the subject's



The Master Series-C 50 VHS-C camcorder uses Minolta's Multi-Dimensional Autofocus system.

movement to the left or right. A dual-area autoexposure system monitors the 300,000-pixel CCD image sensor in two ways: the entire image area and only the central portion of that area. Exposure is continuously calculated and adjusted according to the ratio of these two light levels, with greater emphasis placed on the light level measured in the central area. The autoexposure system can be locked, allowing the videographer to keep the desired exposure setting for pans and zooms, regardless of changes in lighting conditions. For creative lighting control, the automatic white-balance system can also be locked.

Like most new camcorder models, the Series-C 50 comes packed with features. Among them are a $\frac{1}{1000}$ -second shutter speed, VHS HQ's increased white-clip level and detail-enhancing circuits, a 10-second-

delay self-timer, an interval timer (recording for about $\frac{1}{2}$ seconds every 10, 30, or 60 seconds), a fader, a calendar/clock, as well as a viewfinder that shows the selected autofocus area. Supplied accessories include battery pack, AC charger/adaptor, dubbing cords, VHS-C cassette adapter, shoulder strap, and case. *Minolta Corporation, 101 Williams Dr., Ramsey, N.J. 07446-1293.*

Small 8mm Camcorder

Weighing in at 2.4 pounds without battery (2.87 pounds with), Canon's E77 8mm camcorder has a $\frac{1}{2}$ -inch, 270,000-element CCD image sensor, a 6:1 macro-zoom lens, and a switchable $\frac{1}{1000}$ -second shutter. Exposure control is via a center-weighted system similar to that used in Canon 35mm cameras. The infrared autofocus system enables the 14-element zoom lens to focus as close as 3.9 feet and down to 4 millimeters in macro mode.

Other features include a switchable time and date stamp, an infrared remote control, a 10-second self-timer (to let you get into the picture yourself), a backlight-compensation function, switchable automatic white balancing, and an interval timer (that switches the unit into record for 0.5 seconds in intervals of 10, 20, or 60 seconds). The supplied battery pack will drive the E77 for up to 45 minutes' continuous recording.

For your \$1,700 you get several other accessories, including an 8mm videocassette, AC-power and RF adapters, and a shoulder strap. Overall dimensions of the camcorder are $4\frac{1}{2}$ by $1\frac{1}{4}$ by $4\frac{1}{2}$ inches. *Canon U.S.A., Inc., One Canon Plaza, Lake Success, N.Y. 11042.*

(Continued on page 88)



Canon's E77 8mm camcorder weighs in at less than three pounds, with battery pack included.



Answers to Readers' Questions

By Larry Klein

Bad Tape Channel

When I record from my receiver, one of the meters on my cassette deck reads much lower than the other. Why does this happen and what can I do about it?

Stuart H. Lange
LaPlace, La.

You need to determine whether the fault is in the signal source, the recorder, or the shielded cables between them. First, interchange the left- and right-channel cables between the tape-out jacks of your receiver and your deck's input jacks at one end only. If the problem switches channels, either the signal source or one of the cables is defective. Substituting a different cable on the problem channel may cure the difficulty. If the imbalance does *not* switch channels, then the deck is at fault. If your deck has front-panel bias controls for tape type, try readjusting the bias according to your deck's instruction manual. You may find, as I did recently, that with proper bias adjustment the weak channel will regain its strength. Also, if you have them, don't be afraid to use your deck's balance or dual-channel level controls. That's what they are there for.

Power Supply Capacitance

Why is power-supply capacitance so important in stereo power amplifiers? Most manufacturers make a point of it in their advertising literature, and it is frequently mentioned in test reports. What relationship does power-supply capacitance have to better sound?

Roosevelt A. Anderson, Jr.
Las Vegas, Nev.

In my youth, amplifier power-supply capacitors were called "filter condensers." As far as I knew at the time, their sole job was somehow to eliminate 60-cycle AC ripple from the high-voltage DC provided by the rectifier tube. If the filter condensers were inadequate or defective, an overlay of hum was heard along with the music. In general, the best power-supply filter circuits used two capacitors (usually separated by an iron-core inductor) at the output of the rectifier tube. The British electronics magazines of the day referred to the capacitor at the output of the filter circuit as the "reservoir condenser"—which perhaps should have given me a clue that something more than simple filtration might be going on, as indeed there is.

Power is voltage times current, and, aside from the limitations of an amplifier's output transistors, the major factor determining its maximum output power at any instant are the voltage and current available from its power supply. As output demand rises, the current drawn from the power supply increases and, at a certain point, the voltage available will fall as the reservoir capacitors are depleted.

When an amplifier is driven into clipping, it usually means that the desired output-signal level exceeds the available power-supply voltage level.

The original (and still-used) brute-force method of maintaining an adequate power-supply voltage during high-wattage operation is to employ heavy-duty (meaning massive) power transformers. This minimizes the voltage drop within the transformer during large signal demands. However, today such an approach seems both overly expensive and inefficient, particularly considering some of the very clever alternate designs that have appeared in the last decade or so. The simplest output-enhancing approach is to use very large capacitors at the output of the power-supply filter. Under high-output current drain, these provide a reserve storage capacity by maintaining the supply-voltage level for a short time beyond the point when it would normally have fallen off. The dynamic headroom specification in the current amplifier-test standard is specifically intended to acknowledge the musical relevance of such a design approach.

Incidentally, some of today's power-supply/output circuits are capable of providing as much as 6 dB or so of dynamic headroom for periods extending well beyond the 20 milliseconds specified in the test standard. An amplifier needs more than just extra microfarads of power-supply capacitance to achieve short-term power capabilities exceeding four times its rated continuous power, but the figures provide a good idea of the direction of future amplifier design.

Nondirectional Sound

I've read that low-bass frequencies are nondirectional, yet when listening to my system I can localize the sound of a kettledrum as easily as the sound of a flute. Can you clarify this for me?

Marjorie Butterfield
Wilkes-Barre, Pa.

Bass frequencies below 200 Hz or so *are* nondirectional (meaning you can't tell where they are coming from), and a speaker reproducing low-frequency test tones is virtually impossible to localize by ear. However, when a kettledrum is struck, it produces high-frequency transients at the moment of impact that provide directional cues. Low-frequency tones produced by nonpercussive musical instruments usually have substantial harmonic content in the higher frequencies that the ear uses for localization.

The fact that low frequencies cannot be localized does not, however, provide justification for combining the low frequencies of two stereo channels and feeding the monoized bass to a single subwoofer. Although the ear is not able to localize well at the low end, it is very sensitive to low-frequency interchannel phase effects. If you were to feed a

40-Hz sine wave through one channel and 42 Hz through the other, the sound over a two-subwoofer system would be quite different from that over a single-subwoofer setup.

Budget Recording Studio

I and a group of musician friends have been considering setting up a small recording studio to make demo tapes and to learn more about the recording process. Aside from our budget limitations, we realize we don't know enough about the construction of such a studio to get started. Any suggestions?

Fred Pearl
Philadelphia, Pa.

The second edition of Everest and Shea's excellent *How to Build a Small Budget Recording Studio from Scratch* . . . with 12 Tested Designs recently crossed my desk, and it seems tailor-made for your purposes. The 295-page paperback costs \$14.95 and is available in technical bookstores or directly from the publisher: Tab Books, Inc., Blue Ridge Summit, Pa. 17294-0850; phone: 1-800-233-1128. If you contact Tab, it would also be a worth your while to ask for the company's free catalog, since it lists a number of other titles that might relate to your project.

Tape Restoration

I've been an open-reel tape enthusiast for nearly 30 years. Now I'm finding that an occasional old tape develops a squeal and sort of chatters as it passes over the heads of my deck. I suspect that some of these old tapes weren't of the best quality and that probably their lubricant is drying out. But since some of my favorite music is on them, is there anything I can do to make them playable again?

Charles W. Harmon
Coral Gables, Fla.

Not only the lubricant (if any), but also the plasticizer used in your old tapes, may have dried out. At one time there were silicone-based commercial "head lubricants" available in audio shops, but even if you could find some, it probably wouldn't help much. Instead of attempting to salvage the tapes themselves, why not try for a final squeal-free play that will allow you to dub the material onto modern tapes? Try sealing one of your squealing reels in a plastic bag or container with a damp sponge. Allow a day or so for the moisture to penetrate the tape. Upon removal, you might be able to get a squeal-free dub of your treasured "oldie" before the tape has a chance to dry out again.

You can also take a look at Bob Long's two recent Tape Tracks columns on tape squeal (July and October 1988).

System Lisp

I have a high-power integrated amplifier feeding a pair of good-quality, floor-standing speakers. When I play my system at, say, 40 watts' output, some deejays and vocalists sound as if they lisp. Any ideas as to what's going wrong?

Robin Longworth
Flushing, N.Y.

Exaggerated sibilance, or harsh "sss" sounds, can occur for any of a large number of reasons. Since you didn't make it

clear whether your problem occurs only with your tuner or with all program sources, the following list of possible causes (and some cures) covers most possibilities.

Lots of things can go wrong with LPs. Right at the beginning, a fault may occur somewhere in the record-mastering or -pressing stages that will ultimately be heard as a sibilant high-frequency breakup. Sometimes, a cartridge with superior tracking ability can help, if the harshness arises from an inability to track high-velocity, high-frequency recorded material. Other possibilities: The stylus assembly in your phono cartridge may be worn or defective, you may be using too low a tracking force, there may be some fault in the record player's tonearm, or the records you're listening to are excessively worn.

Since you seem to have adequate power, your amplifier isn't likely to be the source of your high-frequency problem except for possible overload of its phono input. A high-output cartridge playing a "hot" record can sound "spitty" or "raspy" when it is fed to a phono input circuit with inadequate dynamic range.

At the speaker end of things, a defective or peaky tweeter, excessive high-frequency boost from your amplifier, or mis-set tweeter-level controls can also cause a spitty quality in the sound. And, finally, with regard to your deejays: Your FM tuner may need alignment, the specific station you listen to may be overmodulating or otherwise putting out a distorted signal, or your reception may be troubled by multipath distortion. Try your records on a friend's system and check his tuner to determine if his deejays are troubled by the same sort of speech impediment.

Old Discs, New Cartridge

If I play records that are in poor condition with a new, expensive cartridge, will they excessively wear the new stylus? I have heard that a bad record can damage a tip with a single play. Is that so?

Peter Simons
Corona, N.Y.

Not likely, unless the record has an excessive amount of highly abrasive grit in its grooves or obviously stylus-threatening defects: cracks, visible pits. In addition to causing an increase in noise, dirt will act as a grinding compound to cause faster wear on your new stylus than would normally occur. However, even if the old records reduce stylus life by a third (an extreme case), I see no reason not to play them—assuming that they are listenable—considering the relative cost of replacing your discs versus that of replacing your stylus. In any case, why not consider making tape copies of your old discs the next time you play them and then store these against the day when you may have to make additional copies.

Over the years, readers have reported (with amazement) that new cartridges have actually cleaned up the sound of their old discs. This sometimes happens because the new stylus may ride on a different portion of the record groove walls, and hence play less, or even none, of the damaged groove area. Today's phono cartridges are also less likely to have peaks and resonances that emphasize noise and distortion.

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

The Brains.

*Carver's new CT-Seven Remote Control
Preamplifier/Tuner with Asymmetrical
Charge Coupled FM Detection and
Sonic Holography.[®]*



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Power and finesse. They've always been important factors in a serious listening system. Now there's a new way to achieve both without overpowering your budget.

Our new CT-Seven preamplifier/tuner combines a Sonic Holography® preamplifier and Asymmetrical Charge-Coupled FM Detection tuner into one convenient component.

It makes beautiful music with our whole line of Magnetic Field Power amplifiers. Including the new M-4.0t with the same transfer function and power output as Bob Carver's \$17,500-pr. ultra-esoteric Silver Seven monoblock amplifiers.

The CT-Seven as an audiophile preamplifier: Like Carver's fine separate preamplifiers, the CT-Seven is designed as a "straight wire with gain," capable of perfectly passing input signals without adding or subtracting any musical nuances.

It includes a meticulously engineered, ultra-low noise phono stage that flawlessly duplicates the theoretical RIAA equalization curve.

The CT-Seven as a complete sound control center: From the comfort of your listening chair you can choose from six sound sources including dual tape monitors, CD input and video/auxiliary inputs (suitable for video sound or DAT). Unlike most remote volume adjustments which use distortion-inducing electronics, the CT-Seven employs a motorized volume control for smooth control and smoother sound quality. Also included are useful 3-band tone controls, mono switch, loudness equalization and a studio-quality headphone amplifier.



The CT-Seven as your passport to musical reality: The CT's Sonic Holography® Generator is capable of redefining your perception of music by recreating the sound stage and 3-dimensional spatial characteristics of a live performance. According to some of America's top reviewers, Sonic Holography® "...seems to open a curtain and reveal a deployment of musical forces extending behind, between and beyond the speakers. The effect strains credibility."

And you can create it from any stereo record, tape CD or even FM broadcast. With your existing speakers. At the touch of a remote button.

The CT-Seven as a high performance quartz synthesized FM tuner: You've simply never heard FM until you've heard it through the Carver Asymmetrical Charge-Coupled FM Detector circuit. Multipath distortion, interference and distant station noise are dramatically reduced. Weak stations emerge into dramatic clarity. Yet stereo separation, space, depth, and ambience were not only retained, but seemingly enhanced by the lack of background noise.

Choose 8 FM and 8 AM presets by remote control. Scan the broadcast band automatically or manually. With the CT-Seven's ACCD circuit on, you'll discover "new" stations which were previously unlistenable!

The CT-Seven's power partners: Only Carver gives you four high power amplifier choices from 140 watts to 375 watts per channel. Each is perfectly matched to the CT-Seven. And each uses Carver's cool-running Magnetic Field Technology which dispenses with bulky power supplies and power-wasting external heat sinks... yet which is so rugged it's used in the world's largest touring professional sound systems.

Choose from the new "modestly-powered" M-0.5t (140 watts per channel RMS 20-20kHz both channels driven into 8 ohms with less than 0.1% THD), the M-1.0t (200 watts/ch. per channel RMS 20-20kHz both channels driven into 8 ohms with less than 0.15% THD), M-500t (250 watts per channel RMS 20-20kHz both channels driven into 8 ohms with less than 0.15% THD), or the new M-4.0t (375 watts per channel RMS 20-20kHz both channels driven into 8 ohms with less than 0.5% THD).

Hear brains and brawn together at your Carver dealer. Switch the CT-Seven and the most expensive tuner in the room to hear Asymmetrical Charge-Coupled FM Detection work its magic. Put on your favorite CD, press the CT-Seven's Sonic Holography® remote button and feel the sound room "disappear." Turn up the volume to live performance levels and discover the impact of true dynamic headroom.

And then get ready for another pleasant experience when you discover what a super value the CT-Seven and Carver power amplifiers are.

CARVER



A Few Lines About IDTV

By David Ranada

Last October's convention of the Society of Motion Picture and Television Engineers (SMPTE) was abuzz with talk and demonstrations of high-definition television (HDTV), which is being touted as the next great leap forward into home video's radiant future. Practically absent, mainly because the SMPTE is a convention for video professionals, was mention of the next best thing to HDTV: improved-definition TV (IDTV). In two important ways, in fact, IDTV is superior to HDTV. First, since IDTV involves progress only in home-receiver technology, it does not have the political and technical mess now accompanying the setting of HDTV broadcast-signal standards (see "Currents," p. 12). Second, talk of IDTV is in the present tense—not in the future-indefinite, like that about HDTV. Indeed, HIGH FIDELITY has given one of its Product of the Year awards for 1988 to a couple of the first IDTV sets on the market (see last month's issue).

The Philips technical paper describing its award-winning IDTV system (published in *IEEE Transactions on Consumer Electronics* for August 1988) lists the picture improvements the system provides: "... elimination of [scan]-line crawl, elimination of line structure visibility, reduction of line flicker, improved vertical sharpness resolution, reduction of hanging dots, reduction of dot crawl, reduction of picture interference, and 'clean up' of weak signals." This is a remarkable list of achievements, but the most impressive aspect of it is that, on the basis of some personal, hands-on experience with the Philips monitors and a visit with Philips engineers in Knoxville, Tennessee, I've found that these claims are true.

IDTV technologies from any company (Philips is one of many working on improved-definition techniques) contain one essential characteristic: noninterlaced (progressive) scanning. An interlaced TV picture is what you are used to, since it has been around since the beginning of broadcast TV. In it, each video frame is split up into two video fields, each containing half the total number of scan lines. The two fields are interlaced; that is, one field is composed of all the odd-numbered scan lines, the other has the even-numbered ones. Interlacing a 525-line, $\frac{1}{60}$ -second picture into two 262.5-line, $\frac{1}{60}$ -second fields prevents flickering, at least for the overall picture.

But on horizontal lines and borders in an image, especially stationary images, interlacing causes the first four problems on Philips's list. Progressive scanning—in which the electron beam generating the picture "progresses" down the screen, displaying every scan line of a frame in sequence—eliminates all these problems. To keep the picture from flickering in this case, twice the number of scan lines are needed to display each $\frac{1}{60}$ -second field and these lines are scanned at twice the normal rate. A total of 262.5 extra lines in each field need to be interpolated in order for each field in a frame to have 525

lines. Philips, in its IDTV sets, uses a new process, the "median filter," for generating the extra scan lines. Each interpolated line is, at any instant, the median value of the scan line immediately above it, the line immediately below it, and the line from the previous field corresponding directly to the interpolated line. (A median value is simply the value in the middle, not the mean or average.)

Watching this system operate shows just what viewers have been missing all these years. The picture is much smoother, more filmlike, than normal (thanks also to the elimination of interference between luminance and chrominance signals that is also part of the Philips IDTV system). Separate scan lines, which are visible from up close on most TV sets, are not visible with IDTV. Sometimes, with parts of the image that are in motion diagonally, distinct scan lines show up as a sort of serrated-edge effect. But I was told that the median filter, at such locations, is providing a picture no worse than a conventional picture, and that the effect merely stood out because the rest of the picture was so smooth. Vertical resolution, too, seemed improved, though a standard wedge-shaped test chart cannot show the full extent of the improvement (because wedges contain diagonal signal components).

Philips is thinking of introducing its IDTV technology into its line of projection-TV sets. I can only hope that they do, on the strength of a display at the SMPTE convention show of just what such a melding of technologies can produce. Perhaps my critical faculties were numbed by my being surrounded by acres of top-quality professional video gear (a friend, Tom, who does work for a cable station in Michigan, said it was as if he had "died and gone to heaven"), but at the convention I came across the best projection monitor I have ever seen. It was a front-projection system made by Ikegami, a professional video-equipment manufacturer noted for its world-class studio cameras and direct-view monitors.

The Ikegami set consists of two units: the TPP-700 front-projection system and the DSC-1050 digital progressive-scan processor that is available as an "accessory." Performing noninterlaced signal conversion and luminance/chroma separation, among other things, the latter unit made the scan lines in the TPP-700's picture invisible, unlike any other front-projection set I've seen. This, together with an absence of the curious texture that "lenticular" rear-projection screens can impose on an image, made the Ikegami picture the smoothest I have encountered from an NTSC-based large-screen system. Even excerpts from that omnipresent video-demo film *Top Gun* took on renewed visual interest. But such picture quality comes at considerable cost—at least compared to consumer-level Philips IDTV sets. Ikegami's front-projection set and progressive-scan processor together retail for around \$46,000. Where is Santa Claus when you need him? □



Taping Off of FM: Why Bother?

By Robert Long

Traditionally, FM has been the Happy Hunting Ground for casual recordists. Because of stringent technical regulations, overmodulation is to broadcasting what "failure to keep right" is to motoring: Whatever else they may do wrong—and I'll get to that shortly—broadcasters don't often overmodulate. So even an electromagnetic duffer can set recording levels easily. Given a knowledge of station practice, tuner behavior, recording-meter and level-control calibration, and tape headroom, perfect level settings are possible without having to monitor the signal at all.

Stations use two basic approaches to prevent overmodulation. The first is to apply some form of peak limiting, possibly in conjunction with some form of compression or equalization. The second is to reduce signal levels and leave greater headroom for the peaks. This is the purist approach, because it avoids falsification either of dynamics or frequency response, but it also can spell disaster for the broadcaster on a practical (read: "monetary") level, since it can limit the broadcaster's ability to generate revenue through commercials or public support. It's a question of dynamic range—particularly in stereo, with its inherently higher noise level. The farther from the transmitter, the weaker the received signal and the higher the noise "floor." At some distance or other (depending on, among other things, the quality of the receiving equipment), listeners are going to get fed up with the noise and tune to other stations.

Compact Discs, with their 90-plus dB of dynamic range, are limiting our tolerance for a medium in which a 50-dB signal-to-noise ratio is the sensitivity reference standard. And this is happening at the very time when the cost of broadcasting is going up and public assistance for noncommercial stations is dwindling. Something has to give, and in many cases it has been sonic fidelity.

But it's not only transient peaks that threaten overloads. Because of the pre-emphasis used in FM broadcasting, high frequencies can overload at least as readily as the midrange, depending on the spectral distribution in the original signal. This means that, if peak limiting alone is applied, the level at which limiting occurs can vary with the musical content. Some FM processors can "fake it" by keeping the problem highs low enough to prevent overmodulation while still maintaining sonic sizzle, but that still leaves the possibility of noise-plagued quiet passages. The way around this is, of course, upward compression: squashing the dynamics so that the quietest sounds are much louder than the noise, but without increasing the loudest sounds. Yet this removes the sonics still farther from their original state. Whither fidelity? Down the tubes, that's whither.

I've read allegations that public broadcasters are better in this respect than their commercial brethren, but I don't believe it. Admittedly, there are a few public (and

commercial) stations that do an exceptional job of walking this particular tightrope, but the vast majority of stations are underfunded and understaffed. Many have only a single qualified engineer, and he or she can't do everything. No matter how many memos get posted about setting the knob on the compressor/limiter, the message simply isn't getting through to most of the on-air "personalities" (a term I use with some reservation here). It doesn't take many hours of listening to most provincial and even some big-city stations to hear what I mean.

The usual symptom in live-concert broadcasts is audience noise that rapidly increases each time the music quiets down. Conversely, if the sound of a soloist suddenly becomes fainter when the full ensemble enters, or if a record click dips the volume of the music momentarily, you're probably being treated to the effects of a dynamic processor. Even if the stylus doesn't remain stuck in the groove while the 'deejay runs out for a beer, you know you're not dealing with a sonic class act.

The one hopeful note in all this is FMX. This system was developed at CBS Technology Center before its disbandment and now is represented by Broadcast Technology Partners of Greenwich, Conn. Simply put, an FMX-encoded broadcast includes a compressed difference-channel signal that, in decoder-equipped tuners, would keep received noise in stereo just about as low as that in mono. Stereo could then be received with a satisfactory dynamic range over a much wider area than is possible with current broadcasts. This would help solve the fiscal problem. The other side of the coin is that FMX reduces the need for fidelity-inhibiting signal processing. (Unfortunately, FMX could also be used simply to expand listening area, without a sonically beneficial removal of dynamic processing.)

FMX has also been hampered by wide (if not always accurate) reporting of difficulties in car reception using an earlier version of the technique. That problem has been solved to everyone's satisfaction, I'm told, though the gossip continues. Even more inhibiting is the fact that only one company—NAD, in the Model 4300 tuner—presently supplies equipment to receive FMX. But the system's backers say they expect this to change soon. By year's end, 100 stations are expected to be on the air with the technique (which leaves the sound unaltered with conventional receiving equipment), and chips now being developed will make the incorporation of FMX into tuners and receivers both simple and fairly inexpensive.

For the sake of FM listeners in general and home recordists in particular, I hope it all happens. I don't know how things are in your part of the world, but I find that I turn to FM as a serious signal source for high-quality listening or recording less and less often. It's getting to be like AM: just a utility that is best left in the background. That's not what FM was for. □

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Ensemble is the first of a new generation of stereo loudspeaker systems. It combines two bass units, two mid- to high-frequency satellite units and something you won't find in any hi-fi store on earth:

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The frequencies completely ignored in the so-called "mini-speakers" now in vogue...

Ensemble provides them. With two dedicated, acoustic-suspension loudspeakers whose jobs are solely to reproduce the bottom two octaves of musical significance.

At a compact 12"x21"x4.5," they're small enough to be placed where they'll produce the best sound, minimizing "standing waves," and without visually overpowering your room.

Beneath the couch, on top of the bookshelf, or under the potted plant... wherever the ear dictates, the eye won't be offended.

As for the other 8 octaves of music.

The rest of the sound spectrum, from a nominal crossover of 140 Hz, is reproduced by a stereo pair of two-way satellite units. Each incorporates a low-frequency driver, crossing over at 1,900 Hz to a direct-radiator tweeter that goes beyond audibility.

They are small enough (4"x5"x8" high) to set the sound stage wherever you want it. Finished in scratch-proof, gunmetal grey Nextel, they will look good for a lifetime.



What Henry Kloss tells his friends:

Every time I came out with a new speaker at AR, KLH, or Advent, my friends would ask me, "Henry, is it worth the extra money for me to trade up?" And every time I would answer, "No, what you've already got is still good enough!"

But today, with the introduction of Ensemble, I tell them, "Perhaps now is the time to give your old speakers to the children!"

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

Test Reports

Since JVC was not known to me as a company deeply involved with concert-hall acoustics, the XP-A1000 Digital Acoustics Processor struck me as an extremely pleasant surprise: In this case, lack of visibility in the field has not precluded a mastery of its principles. And while the modus operand-

system either two or, preferably, four extra speakers and the necessary amplification to drive them. Although the manual is so nonspecific on the crucial topic of speaker placement as not to mention it at all, a picture in the introductory pages shows the auxiliary front speakers placed to the outside of the main pair,

JVC XP-A1000 Digital Acoustics Processor



DAVID A. WAGNER

di of the XP-A1000 does not seem as revolutionary as when the first of the digital hall simulators appeared, the JVC unit incorporates some fascinating new twists into the process and can create acoustical environments of startling realism.

The XP-A1000 is meant to generate a sound field around the listener that attempts to approach the complexity of that experienced in a "live" listening environment, such as a concert hall. To do this, the unit generates simulations of the reflections the sound undergoes in a hall and feeds the synthesized reflections through auxiliary speakers placed around the listening room. The user must add to an already-existing stereo

approximately the same distance away from the listener. The rear auxiliary speakers are about the same distance away from the listener as the front speakers—which implies that the listener will end up sitting close to the middle of the room, if it is rectangular. This is the set-up used for our listening tests. When the full six-speaker configuration is used, the main system speakers receive a signal unaffected by the XP-A1000 except for its overall-level control (which is a motorized multisection potentiometer).

Connections are through standard pin jacks on the rear panel, but there are also provisions for sending a digital bit stream directly into the XP-A1000,

Dimensions: 18¾ by 4¼ inches, front; 13½ inches deep.

Price: \$1,200.

Warranty: "Limited," two years parts and labor.

Manufacturer: Victor Company of Japan, Ltd., Japan.

U.S. Distributor: JVC Company of America, 41 Slater Dr., Elmwood Park, N.J. 07407.

Test Reports

All measurements are for the Movie Theater 5 mode.

Output at Clipping (at 1 kHz)

main channels	6.1 volts
surround channels	4.9 volts
Maximum Input Level (at 1 kHz)	6.5 volts

S/N Ratio (re 0.5 volt; A-weighted)

main channels	103 dB
surround channels	≥ 87 dB

Distortion (THD; 20 Hz to 20 kHz; 2-volt input)

main channels	< 0.01%
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Frequency Response (main channels)

+0, -1/4 dB, 12 Hz to 42 kHz
+0, -3 dB, < 10 Hz to 160 kHz

Channel Separation (main channels; at 1 kHz)

	90 1/2 dB
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Input impedance	47k ohms
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Output impedance	660 ohms
------------------	----------

either via an analog pin-jack link or through a fiber-optic connector. The processor's internal analog-to-digital and digital-to-analog conversions take place only on the surround signals: It cannot substitute for your CD player's own digital-to-analog converters. So even if you take advantage of the XP-A1000's direct digital inputs to bypass an A/D conversion cycle on the surround channels, you must still supply the unit's main input with an analog signal.

Twenty different basic hall-simulation modes are provided with the XP-A1000, and the characteristics of the early reflections for each environment—the reflections' directions, amplitudes, timings, and spectral alterations—are derived from measurements of actual concert halls and other music rooms. As listed in the manual, these include three shoebox-shaped concert halls, three "vineyard-type" halls (which I take to mean fan-shaped multipurpose auditoriums, an architectural genre noted for inferior acoustics), a chamber-music room, an opera house, a Gothic cathedral, a church "with a high ceiling," a jazz club, a disco, a "pavilion" (an octagonal room also with a high ceiling), a stadium, and a hard-floored gymnasium (which, I suppose, is perfect for squeaky-shoed stereo-TV broadcasts of basketball games). Five settings suited for movie-soundtrack enhancement are provided: small, medium, large, and extra-large movie theaters (with seating capacities of 100, 500, 1,000, and 1,500, respectively), as well as a "standard" movie setting that simply delays any surround information while sending it to the rear speakers alone. There is no Dolby Surround decoding logic, nor is there the Dolby-B chip required for accurate decoding of Dolby Stereo movies.

The manual is very tight-lipped over precisely which original spaces are being simulated, even though each is supposed to be a "famous musical performance facility." The only one I can positively identify is that provided by the Symphony Hall 1 setting, which is described as reproducing "the sound field of a Dutch shoe-box type hall, built in 1888, with about 2,200 seats." This hall, undoubtedly the Concertgebouw in Amsterdam (one of the three best-sounding concert halls in the world), is further described as being "famous for its good sound effects." I have a feeling that several of the other venues incorporated into the XP-A1000 are similarly prestigious—the opera house is a traditional tiered-horse-shoe type and "is located in Austria," the "huge" Gothic cathedral is in West Germany—and it is unfortunate that JVC

has not chosen to come forward with their identities. Perhaps, as has happened with similar stored-acoustics devices, permission to reveal the hall names was not granted.

A JVC white paper on the XP-A1000 rightly calls the early reflections it generates "the most important factor in determining the acoustic characteristics of the performance space." But the new processor handles early reflections in two ways subtly different from earlier devices. First of all, the early-reflection patterns stored in the XP-A1000 take into account the distribution of the performing forces. As the white paper points out, the early-reflection pattern of a hall depends on where a sound source is located on the stage, likewise as the sound source varies between a solo instrument and a large orchestra. A control on the front panel (duplicated on the supplied remote handset, as are nearly all the other functions) switches the early-reflection patterns between those suitable for a "point" source (such as a solo instrument) and a "spread" source (like an ensemble or orchestra). It has a discernible effect on the ambience.

The second innovation concerning the generation of early reflections actually takes into account the strong early reflections created by the listening room. The LISTENING ROOM button on the remote, when pushed, provides access to two variable settings, one of which (ROOM SIZE) controls the synthesized early reflections. The three settings of listening-room size (floor area of less than 10 square meters, between 10 and 16 square meters, or greater than 16 square meters) control the loudness of the XP-A1000's early reflections compared to the direct, or main-loudspeaker, sound. If, depending on the selected listening-room size, the early reflections of the room substantially overlap those of the hall being simulated, the generated hall reflections are reduced in level. This is an excellent idea, but most of the settings are for halls substantially larger than a typical home listening room, and in practice the necessary additional processing is minimal.

In addition to critical early reflections, and in contrast with some other units on the market, the XP-A1000 also generates reverberation for each of its settings. Reverberation can be defined as very closely spaced (temporally) reflections that start some time after the main sound (usually several tens of milliseconds) and that come from no particular direction (they are "diffuse"). Reverb also receives some unique treatment in the XP-A1000, the most important as-

pect of which is embodied in the **SOURCE REVERB** control. If the reverberation recorded into the music lasts longer than the reverb time of the selected sound field—and this depends on the setting of **SOURCE REVERB** (which is variable in 0.1-second increments between zero and five seconds)—the processor does not add reverberation. For example, if the recorded music itself has a one-second reverb time, and the chosen sound field has a three-second reverb time, then the **XP-A1000** will let the source reverberation come through alone for one second before adding synthesized reverb. The **LISTENING ROOM REVERB** control acts in a similar fashion, but it has only three settings (0.2, 0.4, and 0.6 seconds) and its effects were not obvious in our New York listening room.

Compared to the effects of the various listening-room settings, **SOURCE REVERB** can have a much more audible influence on the resulting sound quality and realism. Setting this control very low (a short source reverb time) brings the synthesized reverb in at quite a high level—sometimes too high. But a high enough setting of **SOURCE REVERB** will completely turn off the synthesized reverb, leaving only the early reflections. There is no indicator showing when this happens, and the setting of **SOURCE REVERB** at which the synthesized reverb shuts off varies with each hall setting. If you want to listen only to **XP-A1000's** early reflections, therefore, set **SOURCE REVERB** at its maximum of five seconds.

Each of the 20 preprogrammed modes has a number of parameters that can be varied at will, with the results memorized in a register of user settings. For all the hall modes (that is, all modes except the five movie-theater settings), **ROOM SIZE** changes the temporal spacing between the early reflections, **LIVENESS** raises and lowers the level of early reflections compared to the direct sound, **REVERB LEVEL** controls the initial overall level of the added reverberation, **HIGH-FREQUENCY REVERB** controls the reverb time of the high frequencies compared to the mid-frequencies, and a low-pass filter controls the degree of high-frequency attenuation applied to the reflections and reverb. The first four movie-theater settings add a fifth parameter: a delay to the rear channels (variable between 15 and 30 milliseconds) of the L-R difference-signal information. Movie Theater 5 has only this rear delay as a variable parameter.

The few measurements that Diversified Science Laboratories was able to make on the **XP-A1000**—mainly input and output characteristics—show per-

formance that ranges from acceptable (impedance, gain, clipping level) to excellent (noise, main-channel response). But a device such as the **XP-A1000** is best evaluated by listening, and when that is done, the **JVC** processor emerges as, at least, the sonic equal of other stored-acoustics devices, and often it is clearly superior.



The XP-A1000's remote-control unit

I cannot pinpoint the specific features of the **XP-A1000** that materially contribute to its superb sound quality. Surely its control of the interaction of the synthesized reflections and reverb with the listening-room acoustics and the recorded music cannot be ruled out as contributing to the natural and realistic ambience it adds to acoustic music (as opposed to that played on electronic musical instruments). Listened to in isolation—with the main speakers off—the reverb the **XP-A1000** adds can sometimes sound colored, and with long reverb-time settings the ambience takes on a slowly pulsating quality that is distinctly unnatural. But flip the main channels back on and that sense disappears, masked by the primary sound, and only a smooth, evenly distributed, reverberant decay remains. The noise level of the ambience channels is extremely low.

The **XP-A1000** has *not* solved an interesting problem that seems to be inherent to its product category. It was difficult to find unmodified modes suitable for enhancement of pop music and other genres the sonic intention of which is not to sound realistic but only exciting and vivid. I don't know what discos the **JVC** engineers visited, but the "Disco" setting is far tamer than the best disco sound that New York has to offer. I had greater success enhancing disco and other pop music using various modifications of the Movie Theater 1 mode, whose short-delayed early reflections provided vivid-

ness without the intrusion of a concert-hall reality.

The various movie-theater settings worked as advertised and were not as obviously theaterlike as similar settings on competing models. This, however, is an advantage, since I have always had reservations about trying to make the playback of a soundtrack seem as if it were being heard in a real movie theater. Soundtrack mixdown is typically not performed in a theater but in a very "dead" control room; the adjustments made by the mixdown engineer reflect that fact, and playback should be as clear, un-reverbed, and as control-room-like as possible. Many are the times I have experienced the masking or obscuration of crucial lines of film dialogue by the reflections and reverb of a real theater, and I don't want this effect at home. For those interested in a rudimentary form of Dolby Surround, the Movie Theater 5 mode will suffice, but since there is no attempt to perform true Dolby Surround decoding, if you value this above all other functions, you'll find better performance elsewhere.

My experience reviewing digital ambience processors (the A1000 is the fourth unit of its kind I've investigated) has led me to the conclusion that sound quality, at this level of product sophistication, is only half the story. Of equal significance is what is variously called industrial design, human engineering, or ergonomics: whether the controls provided are actually the ones necessary or desirable, and how the device reacts to your attempts to use those facilities. The XP-A1000 has some drawbacks in this area, starting with the instruction manual, which can be thought of mainly as a hookup guide with a few terse comments on what each button does (barely a word on why that button should be pressed or what happens internally when it is). JVC has told me that the manual will soon be either completely revised or supplemented with an additional publication in order to clarify some puzzling aspects of the unit's operating principles.

Like some other reverb devices, the XP-A1000 quite incomprehensibly provides no output-level trim controls. This, then, requires that your auxiliary amplification have volume controls. The XP-A1000 has no internal signal generator to aid in setting relative levels between main and auxiliary speakers or between front and rear auxiliary speakers. Furthermore, it is almost impossible to set front/rear balance when the device is used in its four-speaker mode (in which the front auxiliary signals are fed through the main system speakers). This

is because muting the main speakers and listening only to the ambience—which is helpful in setting relative levels during six-channel operation—also shuts off the front ambience signals during four-channel operation. You are left with only the rear speakers on—a condition useless for level balancing.

I also found the separate level and muting controls for front and rear ambience speakers unwieldy. I would have preferred a front/rear balance adjustment and the ability to mute all the ambience speakers simultaneously for an instantaneous comparison of normal and ambience-enhanced sound. The most annoying aspect of the XP-A1000's "human interface" is its muting of the ambience outputs for one second every time a setting is changed. This probably is to give the processing a chance to "change gears" without generating strange noises (which it manages to do on occasion, anyway), but it precludes ultracritical comparison of modes and settings because even so short a pause exceeds the ear's auditory memory capacity.

These aspects of the XP-A1000 irked me only in comparison to other ambience devices, where these problems don't occur, at least in this combination. But, as happened to me, you'll probably learn to live with these characteristics, however irritating, because the unit more than makes up for them with its sound quality. While I didn't have every other reverb/ambience generator on hand for comparison, the one I did compare the XP-A1000 to nearly always came out second when it came to enhancing acoustic music with a natural and realistic ambience. The preprogrammed modes are cannily chosen so that it is nearly always possible to obtain some enhancement simply by choosing one of them, without having to modify any of its characteristics. The XP-A1000 can make practically any music sound better, but for classical music especially, there is no surer path to sonic bliss.

David Ranada

REPORT POLICY

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

Of any tuner we've tested in years, the ST-G70 Technics contains, hands down, the most comprehensive inventory of features designed to help in receiving "problem" signals. If you like going after distant esoterica, if you must struggle with complex urban multipath, if you like tuning in a weak station that usually is swamped by its neighbors—or if you simply live in a fringe area where weak stations crowd the dial—this is a model you'll want to check out. At the same time, its special features don't intrude on routine use:

alternate channels. A clean, strong signal thus is best reproduced with wide RF and IF bandwidths, and these modes are the default (called "normal" mode) here. A graphic indicator on the left side of the display panel shows the passband in use.

The IF filter reacts quickly and automatically as you tune manually across the dial with the large tuning knob, opening to the wide mode whenever there's a reasonably strong signal with no intruding neighbor. No matter which choice the circuitry makes, however, you can reverse it by pressing the front-pan-

Technics ST-G70 AM/FM Tuner



DAVID A. WAGNER

They are there when you need them, but they automatically do what you would want them to do even if you're not faced by the sort of problems they're designed to solve.

To the best of my recollection, the G70 is the first model we've tested in which you have independent, manual control over both RF (radio frequency) and IF (intermediate frequency) bandwidths. The narrower-bandwidth modes of both RF and IF exclude extraneous sources of interference but do so at some cost in inherent distortion and related characteristics. Limiting the RF bandwidth can reduce problems from overstrong stations that appear at more than one location on the dial and interfere with the station that you want to receive. Limiting the IF bandwidth can get rid of troublesome sidebands of the adjacent or

el IF BAND. Analysis of optimum RF bandwidth takes longer, so the wide mode obtains until you switch it manually (with the RF BAND button) or press another button, AUTO RF. A tap on the latter initiates an analysis of the current tuning and, if an interfering carrier is found, a narrowing of the RF bandwidth. Holding this button in applies the function to each FM station in the preset memories.

The G70 has 39 station memories, selected by using the ten preset buttons (numbered 0 through 9) as a keypad. Single-digit numbers can be entered without a preceding zero. You can program all the addresses automatically: FM stations are entered starting with Preset 1, AM stations start at 21 and overwrite any FM stations that may have been programmed there. (In most areas you prob-

Dimensions: 17 by 3¾ inches (front), 10¼ inches deep plus clearance for controls and connections.

Price: \$450.

Warranty: "Limited," one year parts and labor.

Manufacturer: Matsushita Electric Industrial Co., Ltd., Japan.

U.S. Distributor: Panasonic Co., Division of Matsushita Electric Corporation of America, One Panasonic Way, Secaucus, N.J. 07094.

Test Reports

All data were measured in the normal (wide-bandwidth) modes of both RF and IF unless otherwise specified. "Narrow" denotes measurements made with both RF and IF set to the narrow-bandwidth mode.

ably won't be able to receive more than 20 FM stations, and this range will be blank.)

The presets can be programmed manually, as well. This is preferable if you have an antenna rotator, because the mode settings (of RF and IF band-

measured by DSL) to 40 and 50 dB (about 55 and 64 dBf, respectively, judging from DSL's findings). These settings affect both the thresholds for up/down scan tuning and the automatic preset programming mode.

The last settings of the tuner are retained in memory, even if the power cord is unplugged, for about one week, permitting setup for timed recording. On the back panel there also is a "control input" pin jack that, the manual says, is to be used in conjunction with a timer—presumably one that we were told would be a "possible forthcoming Technics product"—though the usual power-line timer hookup should work equally well.

The antenna connections include lightweight binding posts: one for an AM wire, a pair for 300-ohm FM twin-lead, and a ground with a clamp for the shield of 75-ohm FM coaxial cable, the "hot" conductor of which goes to the nearer 300-ohm binding post. A special socket nearby accepts the plug on a supplied AM loop antenna. You can mount the loop either on the back panel itself or on any surface that will accept the supplied woodscrews.

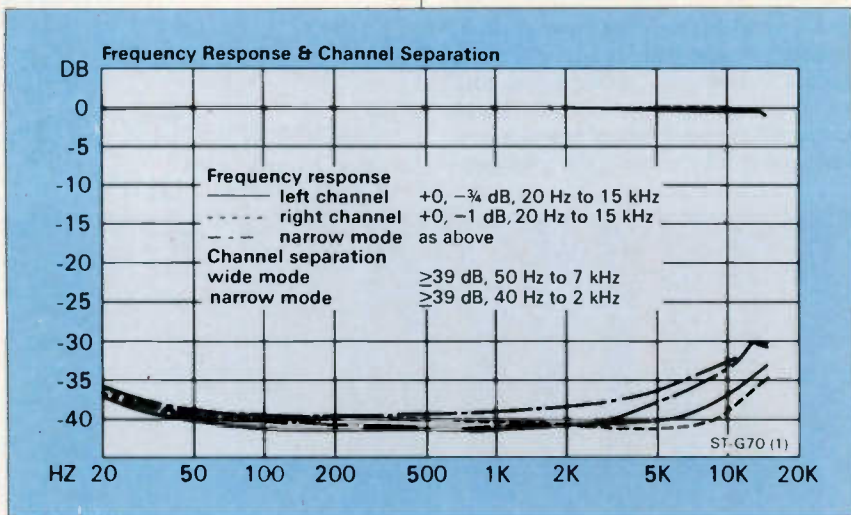
The lab measured the tuner with both



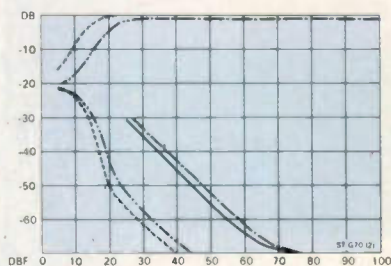
The RF and IF bandwidth indicators (center)

RF and IF switched either to the normal wideband setting or both in the narrow mode. Setting only one of the bandwidths to the narrow mode probably would net performance figures somewhere between the two extremes, though some characteristics measure essentially the same both ways. Frequency response, for instance, is a precise match, and channel separation is very similar. Both are, in fact, excellent.

The distortion figures are good, too. As you would expect, they're distinctly better by about 50 percent in the wideband mode, but the alternative is perfectly acceptable. In none of these respects would I expect to hear a difference in ac-



Sensitivity & Quieting



— stereo quieting (noise), wide mode
 - - - mono quieting (noise), wide mode
 - - - stereo quieting (noise), narrow mode
 - - - mono quieting (noise), narrow mode

Stereo sensitivity (for 50-dB noise suppression)

44 3/4 dBf at 98 MHz, with 0.42% THD+N
 (45 3/4 dBf at 90 MHz; 45 3/4 dBf at 106 MHz)

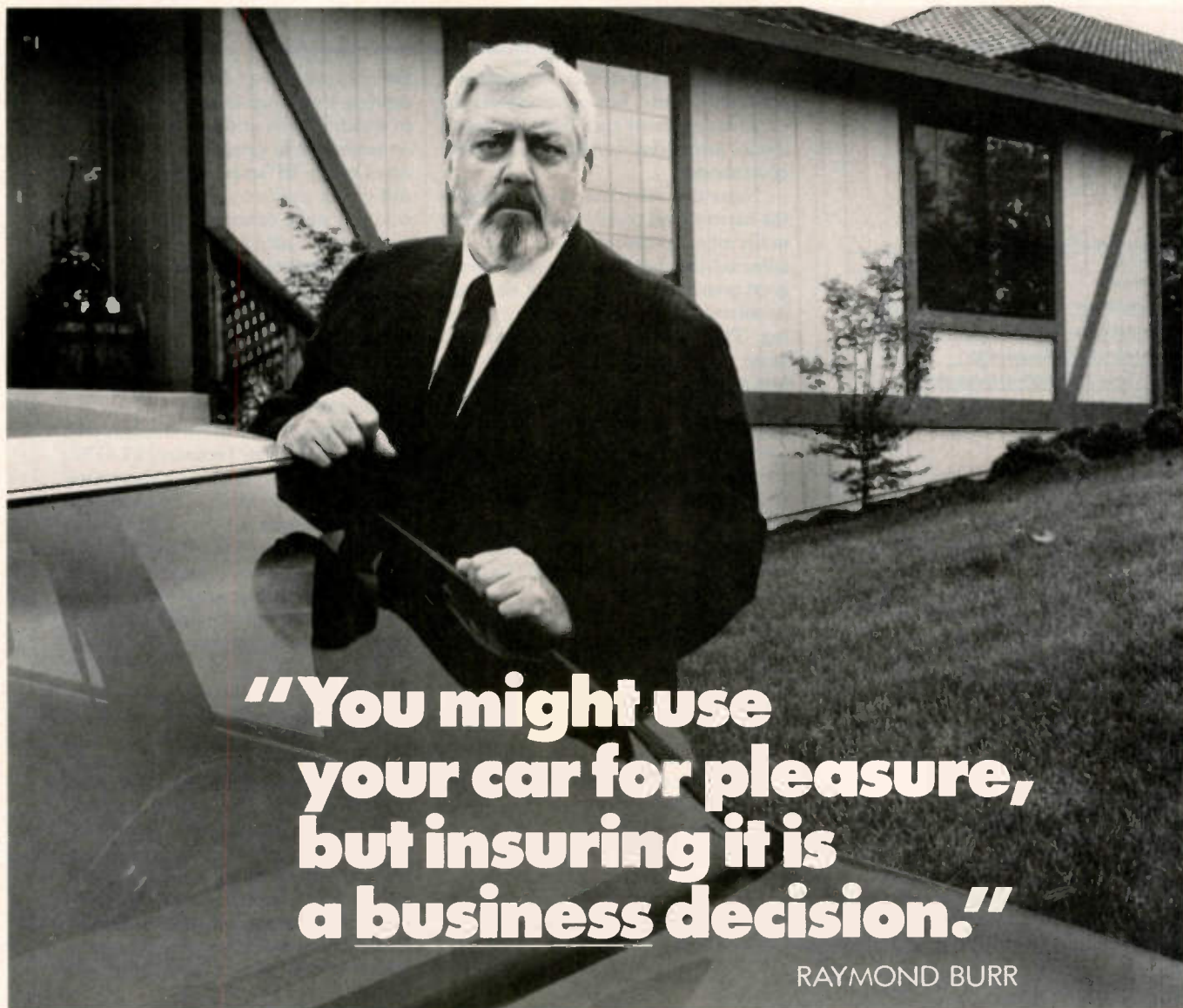
Mono sensitivity (for 50-dB noise suppression)

20 dBf at 98 MHz

Scan threshold	43 dBf	
Stereo threshold	24 3/4 dBf	
Stereo S/N ratio (at 65 dBf)	67 1/4 dB	
Mono S/N ratio (at 65 dBf)	75 3/4 dB	
Capture Ratio	wide	narrow
	2.0 dB	4.5 dB
Selectivity	wide	narrow
alternate-channel	41 1/2 dB	70 dB
adjacent-channel	5 dB	26 1/2 dB
Harmonic Distortion (THD+N)		
wide mode	stereo	mono
at 100 Hz	0.14%	0.12%
at 1 kHz	0.10%	0.06%
at 6 kHz	0.23%	0.07%
narrow mode	stereo	mono
at 100 Hz	0.30%	0.25%
at 1 kHz	0.20%	0.19%
at 6 kHz	0.37%	0.59%
Stereo Pilot Intermodulation		
wide mode	0.07%	
narrow mode	0.13%	

widths, and mono/stereo) are memorized along with the frequency and will therefore be adjusted individually after you have optimized antenna orientation. Manual tuning proceeds by half-channels (0.1 MHz) on FM and full channels (10 kHz) on AM. The rotary control gives you the feeling of analog tuning—right down to the way the quartz phase-lock circuit, acting like an old-fashioned AFC (automatic frequency control), grabs a station and drags it along. In addition to the keypad and manual tuning, there is automatic scan (up or down, depending on the direction of knob rotation), lock (which prevents accidental detuning), and up/down stepping through the presets.

If you do have an antenna rotator, you'll appreciate the numerical signal-strength readout. For all signal strengths up to an actual 27 dBf, it reads "10 dB." From there, it advances in 2-dB increments. Diversified Science Laboratories tracked it to 95 dBf—a very strong signal indeed—and found that over this range it reads between 12 and 16 dB below the true dBf value. Having more than 35 steps in the display's range approximates the behavior of an analog meter, making this feature vastly more useful than the usual LED indicators (which seldom offer more than five steps). The manual (which is well organized but not very clearly written on many points) gives no clue what these "dB" values refer to; but the scan sensitivity is switchable from the normal "30 dB" (43 dBf, as mea-



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your car for pleasure,
but insuring it is
a business decision."**

RAYMOND BURR

Here's why... With the cost of auto insurance, particularly with two or more cars, you must make informed decisions. The right insurance company with the right coverages, with the proper limits at appropriate rates. Those are *business* decisions that require the advice and counsel of an Independent Insurance Agent. We represent several fine companies...not just one...so you choose the right policy at the right price, with the right service. An Independent Agent — always a good *business* decision.



INDEPENDENT INSURANCE AGENTS OF AMERICA
...and the insurance companies they represent

INCORPORATED

Test Reports

Intermodulation Distortion (mono)

wide mode	0.06%
narrow mode	0.13%
AM Suppression	56 3/4 dB
Pilot (19-kHz) Suppression	74 3/4 dB
Subcarrier (38-kHz) Suppression	72 1/2 dB
Output Level (from 100% modulation)	0.68 volt
Output Impedance	1,700 ohms

tual listening. Trying to investigate this point is not easy, however, because the tuner mutes briefly each time you switch mode, preventing instantaneous direct comparisons.

Naturally, selectivity is very good in the narrowband mode, outstandingly so in the adjacent-channel test. In fact, the adjacent-channel figure is surprisingly good even in the normal mode, although its alternate-channel figure isn't inspiring. The narrow mode also increases noise (and output attenuation at very low signal strengths) somewhat, and it therefore degrades sensitivity a little. It's 25 dBf in mono and 47 1/2 dBf in stereo (versus 20 and 44 1/2 dBf, respectively, in the normal mode). This is to be expected; nevertheless, it is surprising that these figures aren't all somewhat better for so sophisticated a tuner. Also a little disappointing in this regard is the capture ratio.

Listening quality is very good, nonetheless. The most intriguing question was, of course, how the RF and IF

switching would each affect audible reception. I was unable to find an instance in which I could unequivocally point to an interference product that was banished by the RF's narrow mode, but the difference made by the IF switching could be quite dramatic. In one case, a station that could be received cleanly in mono, or rather noisily in stereo, with the narrow IF setting was totally inaudible beneath the noise and distortion in the wide mode. A typical tuner, having only what would correspond to the G70's wide mode, would have been unable to receive it at all.

At the top of the list of listeners who stand to profit from Technics's ST-G70's features are what ham- and shortwave-radio lingo calls DXers: listeners with a passion for seeking out weak, faraway stations. The bandwidth switching—particularly, but not exclusively, the IF setting—and the signal-strength display are the stars of this act, and both can be useful to a much wider audience as well.

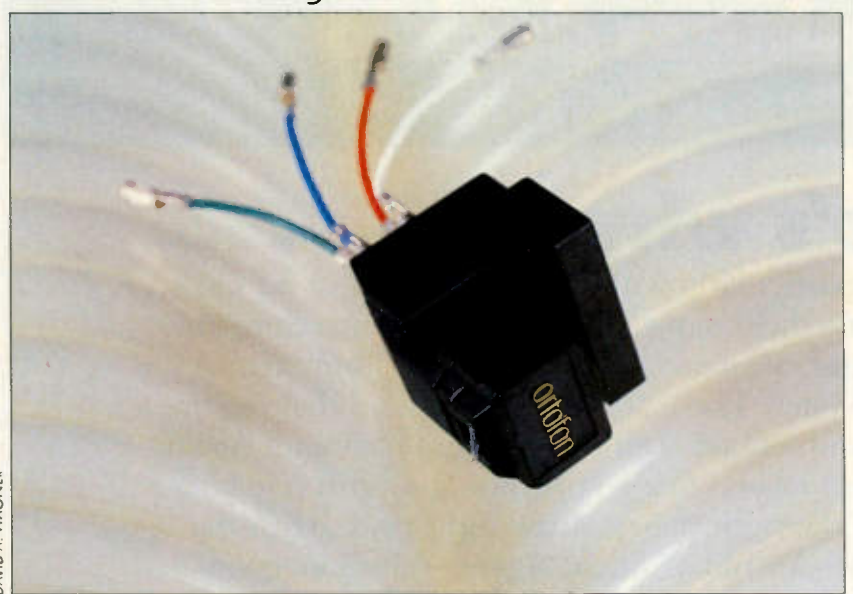
Robert Long

Ortofon 540 Phono Cartridge

Ortofon is the only company I can think of that has been among the top purveyors of all three major types of phono cartridge: moving-coil, moving-iron, and moving-magnet. The

innovations that computer-aided design has provided to the series. Another is a lock controlled by the position of the stylus guard and designed to prevent any unwanted vibration of the stylus assembly while it's playing a record and to allow for easy replacement of the stylus assembly when the time comes. The differences between the six models in the series stem from the design of their styli and the sort of arm they fit.

The least expensive model, the 520, has a traditional elliptical diamond stylus. Next comes the 530 with a Fine Line stylus that is similar in shape but offers a smaller scanning radius to resolve shorter wavelengths—that is, for finer high-frequency resolution, particularly toward the center of an LP. The 540 tested here is fitted with a Fritz Geiger Type II tip that more closely approximates the geometry of a cutting stylus. (Exact replication of the cutting stylus shape would cause the tip to gouge into the groove walls. So, while an exact match is desirable from the viewpoint of theoretical geometry, it would be disastrous from that of disc longevity.) The primary difference between styli is in their tracking specs, which improve progressively up the line. The three models with no suffix are the normal designs for conventional arms. Those with a "P" suffix are P-Mount models that directly plug into mating P-Mount arms. The specs are identical for the two versions of each model except that total weight of the P



Type: Moving-magnet with multiradial diamond stylus.

Price: \$300.

Warranty: "Limited," one year parts and labor.

Manufacturer: Ortofon Manufacturing A/S, Denmark.

U.S. Distributor: Ortofon, Inc., 122 Dupont St., Plainview, N.Y. 11803.

moving-magnet 500 Series is based on the least exotic of these three principles, but it's not stretching a point to say that it delivers anything you might reasonably want from any of them.

According to the company, a new slitted pole pin is the most important of

Are you hearing only 4/5ths of Beethoven's Fifth?

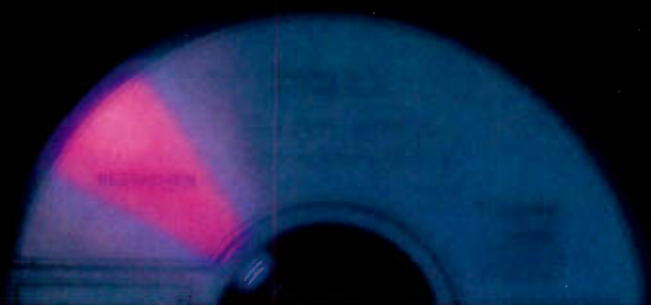


Photo represents sound without Monster Cable's CD SoundRing™



Photo represents sound with Monster Cable's CD SoundRing™

On data pits one millionth of an inch wide, a compact disc stores all the music information that's vital for accurate reproduction of a recording. Due to disc speed fluctuations, and internal and external vibrations, however, a CD player's laser is not able to read every pit.

Which means you're prevented from experiencing all the power, impact, and dynamics of the original performance.



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Mounted on the outer edge of a compact disc, CD SoundRings by Monster Cable® provide rotational stability and reduced disc vibration while it is playing.

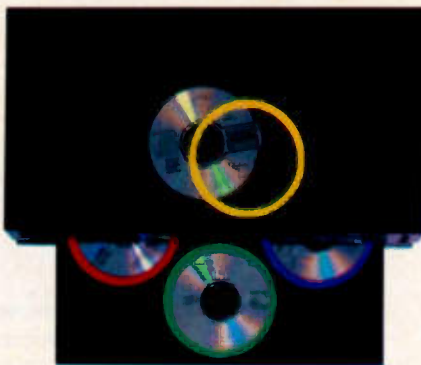
Based on a simple "gyro-stabilizer" principle (much like twirling a rock at the end of a string), CD SoundRings' carefully measured weight reduces laser to disc mistracking caused by disc rotation speed irregularities and vibrations from the player's motor, a poorly aligned spindle—even your speakers.

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Best of all, you'll experience more natural and realistic music production. The gentle plucking of violin strings. A rock solid bass. A feeling of airiness in the vocals. And because there's greater soundstage and imaging, you'll be able to pick out individual instruments—bringing you closer than ever to the original performance.



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Signature _____

Name _____

Address _____

City _____ State _____ Zip _____

Phone (Area Code) _____ Phone _____

*CA & WA add appropriate sales tax.

Berkeley SoundLab

2515 Benvenue Suite 402, Berkeley, CA 94704

Test Reports

versions is one gram heavier (to match the P-Mount standard weight).

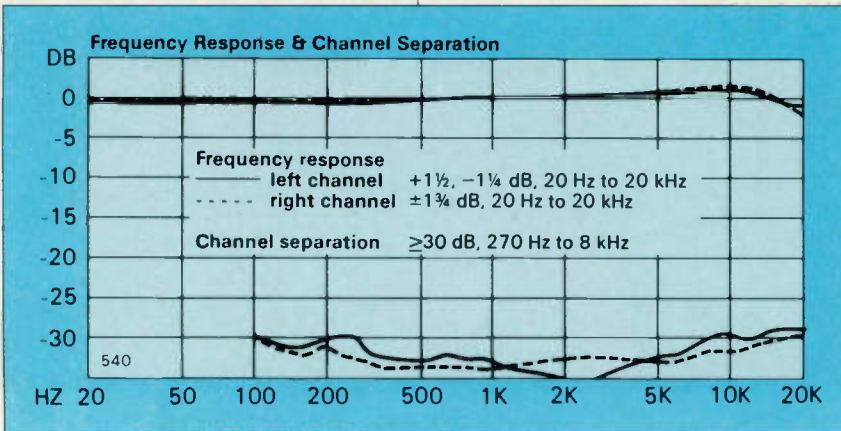
Ortofon specifies no recommended loading for the 500 Series. For bench testing, Diversified Science Laboratories used 47,000 ohms shunted by 250 pico-

measurement standard for some years, frequency response is extremely smooth and quite flat, rising very gradually to about 10 kHz and then gently falling off. Channel separation remains excellent right up to 20 kHz. Ortofon's own curves demonstrating the quality of the slit pole pin show a rise in response at the stylus-tip resonance near 20 kHz. I suspect that the 540's tip resonance actually is beyond 20 kHz and that the rolloff near that frequency is simply a response sag in preparation (so to speak) for the peak to come.

Regardless of what is occurring at the top end, the highs from the 540 sound extremely smooth and natural. Unlike some other models (moving-coil designs, especially, in my experience), there is no hint of the edginess that usually accompanies a tip resonance near the top end of the audio band. In fact, for sheer nonintervention between music and listener, I don't believe I've ever heard a cartridge that could be ranked above this one.

It's not hard to find cartridges that cost considerably more and that have fans who hear "far better" sound from them than from any pickup in the \$300 class. I would not presume to claim that the Ortofon 540 is every bit as good, in all possible respects, as those elite models. But if I were buying for myself a cartridge within this price range, I'd take the 540 without a moment's hesitation.

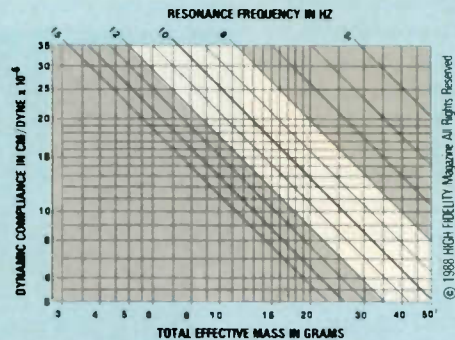
Robert Long ▶



Sensitivity (at 1 kHz)	0.96 mV/cm/sec
Channel Balance	± 0.1 dB
Vertical Tracking Angle	$\approx 22^\circ$
Max. Tracking Level (re RIAA 0 VU; 1.5 grams)	
lateral	$> +18$ dB
vertical	$> +12$ dB
Dynamic Compliance (vertical)	$\approx 23 \times 10^{-9}$ cm/dyne
Recommended Effective Tonearm Mass	
optimum	≈ 4.6 grams
acceptable	≈ 1.2 to ≈ 11 grams
Weight	6.5 grams

farads, and I came pretty close to that (fairly typical) loading for the listening tests. We both used Ortofon's recommended 1.5 grams of tracking force—the top of the recommended range, which runs from 1.0 to 1.5 grams.

The measurements from DSL show that the 540 did indeed successfully track all of the high-velocity bands on the lab's test records. Distortion was notably low by pickup-cartridge norms. With the JVC test disc that has been our



TONEARM/CARTRIDGE MATCHING GRAPH

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

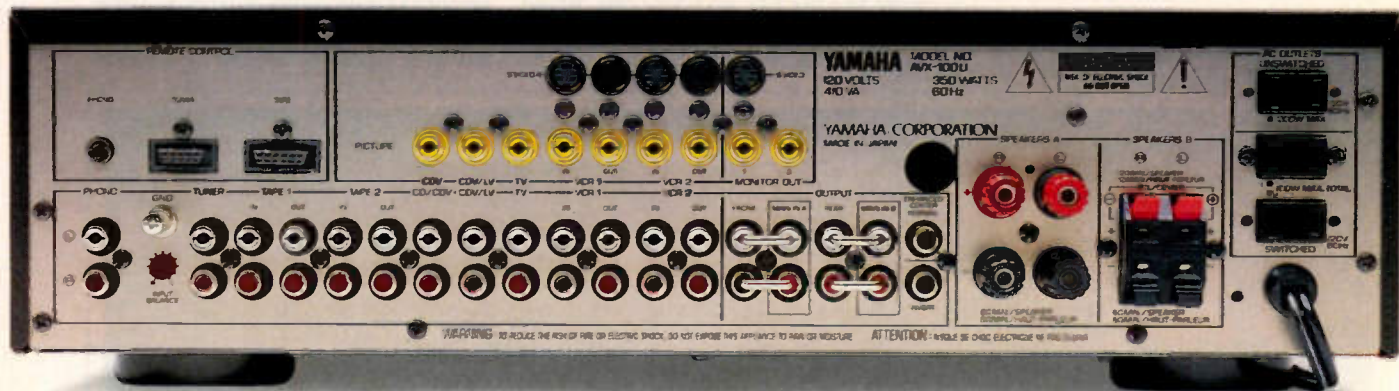
Begin by looking up the weight and dynamic compliance shown in the cartridge report and the effective mass listed in the turntable or tonearm report. Add the weight of the cartridge to the effective mass of the tonearm to get the total effective mass. Then find the point on the graph where the vertical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

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

For tonearms, look up the vertical resonance frequency as measured with the Shure V-15 Type III cartridge. Find the intersection of the diagonal line for that frequency with the horizontal line representing the Shure's dynamic compliance of 22.5×10^9 cm/dyne. Reading down the vertical line on which the point of intersection lies will give you the total effective mass of the arm with the Shure V-15 Type III mounted in it. Then subtract 6.3 grams (the weight of the V-15 Type III) to get the tonearm's effective mass.

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

How to patch things up around the house.



Now's a good time to start thinking about home improvements.

We're referring, of course, to that hodge-podge of switch boxes, enhancers, tuner, amps, VCRs, cassette decks, monitors and speakers you affectionately call your home entertainment center.

Which leads us to the new AVX-100U. An incredibly sophisticated 4-channel A/V control amplifier designed to make you the master of all you see and hear.

AVX-100U features 10 audio and 6 video inputs. So you'll probably run out of shelf space long before you run out of input jacks.

You'll also find either 2 or 4-channel operation. With an additional center channel to keep movie dialogue up front where it belongs.

The AVX-100U also has 8 different surround sound modes to enhance the realism of everything you play. Including Dolby Surround that puts you



CD video player

CD player

right in the middle of the action when watching movies at home.



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Cassette deck

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Another cassette deck



Another video monitor receiver



Speakers



Video recorder



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Even more speakers



Video camcorder



Reel to reel



Turntable

A video enhancer that lets you improve the clarity of any image, regardless of the source you're watching.

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There's even a title generator that lets you add titles to your favorite videos at the push of a button or two.

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No matter how bad a mess you've made of things, he'll have you patched up in no time.



The new Yamaha AVX-100U. The amazing A/V control amplifier.

YAMAHA®

Revox B-226S Compact Disc Player

Examination of the Revox B-226S Compact Disc player suggests almost that it was designed on another planet, it's so far removed from the "demands of the marketplace" as conceived by the bulk of its competitors. In fact, I even use that word "competitors" with a qualm: There simply is nothing quite like the 226 anywhere else. While other companies are racking their brains to come up with new technological fillips

ture-laden audio-video receiver.

"Programming" most other players is rather like sorting the mail: You put one track number into the first program slot, another into the second, and so on. With the 226 you can move the "cursor" (the portion of the display that blinks when you invoke this function) around among the data you've entered and alter specifics at will. The process is one of stringing together a series of commands,



DAVID A. WAGNER

Dimensions: 18¾ by 4½ inches (front), 13¼ inches deep plus clearance for connections.

Price: \$1,895; optional B-208 wireless remote control, \$160.

Warranty: "Limited," two years parts and labor.

Manufacturer: Studer Revox GmbH, West Germany.

U.S. Distributor: Studer Revox America, Inc., 1425 Elm Hill Pike, Nashville, Tenn. 37210.

and added features, as well as cutting production costs (if not quality) to maintain "competitiveness," Revox simply does what it thinks is right without reference to what anyone else is doing.

A glance at the front panel reveals terms like "cursor" and "program step" that give away a central concept of the 226—and, indeed, much of the equipment Revox has offered in recent years. More than almost any other company, it has adopted control approaches derived from the world of computers. If you are uncomfortable with computers, however, you won't necessarily feel awkward with the 226; even without the exhaustive owner's manual, you should find much of the jargon here less abstruse than that used with, say, a glitzy, fea-

rather than just individual numbers, and correcting them if necessary, until you have created a list of instructions for a quasi-organic sequence—a program, in the computer sense of the term.

The capabilities at your command include programming by track number, programming by time address, skipping directly to any track or index number, multispeed scan in either direction (very slowly at first, but almost alarmingly fast if you hold the button in long enough), four-mode time display, repeat ("loop"), and A-B indexing. You can even program pause and power-off into your sequence. The ways in which all of these functions can be combined are too numerous to catalog here.

For some users, I fear, there is one

flaw in all this. If you program contiguous tracks in sequence, the 226 inserts a slight hiatus between them. If the tracks involved all represent separate movements, I doubt that you'll notice the gap, but in continuous music—Wagner operas, for instance—it cannot be ignored. This player is not the most objectionable I've encountered recently in this respect, but it's a glitch I would not have expected from Revox.

Offsetting this, perhaps, is a feature that I dearly love but rarely find: automatic pause at the end of the current track (or program step)—Autostop, as Revox calls it. Apparently Revox agrees with me that you don't always want to be rushed from one piece into the next. Also, a nice prediction of behavior rhythms (mine, at least) is the way the eject works. If you toss in a disc and press PLAY without bothering to close the drawer first, the open/close button can be used to stop play and eject the disc; if you close the drawer first and then press PLAY, the drawer remains locked until the music ends or you press STOP. So, whether you're in a mood for precise organization or are feeling casual, the 226 responds in kind.

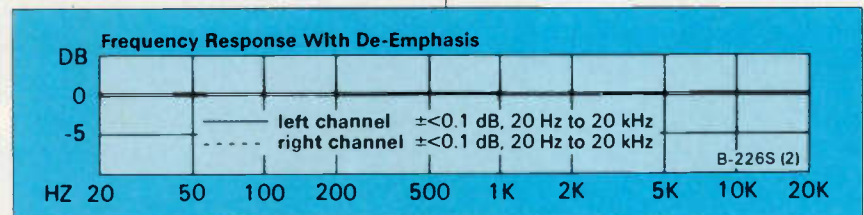
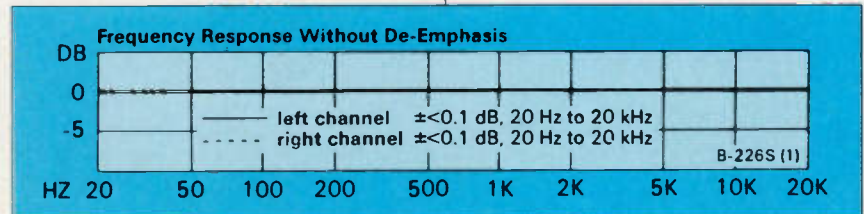
The optional B-208 remote is designed to handle a full Revox system, so it's unnecessarily complicated if you will be using it for the B-226S alone. But it does include the major programming controls. The importance of the display to the programming process inhibits use of the handset from more than a few feet away, because some of the notations are relatively small.

The back panel has three sets of electrical outputs, all pin jacks. One is a fixed-level analog output pair; the output level of a similar pair of jacks can be controlled from the front panel. The final pair are digital outputs, marked 1 and 2. They are designed to feed outboard decoders, subcode decoders, or other digital-audio gear and, since they deliver the entire digital bitstream, let you use the 226 as a CD-ROM drive for a computer. A multipin "serial link" jack can be used in conjunction with an optional timer.

The transport is atypical of recent models in that it needs help to play the small (nominal 3-inch) CD singles; Revox supplies an adapter for that purpose. Unlike most designs, the adapter doesn't attach to the disc. (Unless they are perfectly attached, the snap-on models could cause wobble and, therefore, mistracking or, worse, a loose adapter careening around the inside of your player.) Revox's adapter merely sits in the drawer and supports a 3-inch CD single

until the drive assembly lifts the disc free of it.

In a way, the clearheadedness of this adapter sums up the whole design. Nothing, it seems, has been created without this purpose: to play CDs well. Even the complexities of the programming options reflect this single-mindedness. Internally, the straight 16-bit processing and four-times oversampling may sound a little humdrum these days, but Revox



demonstrates unequivocally that, with careful design, these means can deliver results distinctly better than we often find in the "breakthrough" models that purport to supersede this approach with more bits of resolution or higher oversampling rates.

The data from Diversified Science Laboratories are all very impressive, in fact. In such areas as linearity and de-emphasis, the 226 achieves a degree of precision you'll seldom find elsewhere. Distortion is exceptionally low. The Philips tracking tests posed no problems; those on the Pierre V erany disc occasioned none until the dropouts reached 2 millimeters or larger. You're not likely to find significantly better behavior elsewhere in any single respect and are equally unlikely to find comparable overall performance.

Furthermore, this is one of those players that just seems to have a little extra something in the way it plays CDs. Perhaps I'm being swayed by the lure of the Revox name, but the discs that sometimes can sound a tad edgy here seem to take on a subtle sweetness, while the really dynamic ones seem to have just a little extra punch in the sforzandos. Add in the exceptional control scheme (you don't even have to turn on the 226—as soon as you touch one of its controls, it does that for you), and this ranks as the most impressive CD player I've worked with to date.

Robert Long ▶

All data were obtained using the Sony YEDS-7, CBS CD-1, and Philips 410 055-2 and 410 056-2 test discs.

Channel Separation (at 1 kHz)	115 1/2 dB
Channel Balance (at 1 kHz)	$\pm < 0.1$ dB
S/N Ratio (re 0 dB; A-weighted)	
without de-emphasis	114 dB
with de-emphasis	115 dB
Harmonic Distortion (THD+N; 40 Hz to 20 kHz)	
at 0 dB	$< 0.01\%$
at -24 dB	$\leq 0.028\%$
IM Distortion (70-Hz difference; 300 Hz to 20 kHz)	
0 to -30 dB	$< 0.01\%$
Linearity (at 1 kHz; dithered below -60 dB)	
0 to -70 dB	no measurable error
at -80 dB	-0.3 dB
at -90 dB	-2.3 dB
at -100 dB	-1 dB
Tracking & Error Correction	
maximum signal-layer gap	$> 900 \mu\text{m}$
maximum surface obstruction	$> 800 \mu\text{m}$
simulated-fingerprint test	pass
Maximum Output Level	
fixed line output	2.51 volts
variable line output	2.55 volts
headphone output	6.39 volts
Output Impedance	
line output	220 ohms
headphone output	24 ohms

The RTA Series



RTA 11i

"They provide smooth, fast and incredibly well detailed sound."

“Polk’s RTA Tower Loudspeakers Combine Legendary Polk Performance with Contemporary Style.”

Big speaker performance with an efficient use of space.

RTA 11t

The RTA 11t is the finest conventional (non-SDA) speaker that Polk Audio manufactures. Its extremely high power handling (250 watts) and high efficiency (90dB) provide remarkable dynamic range from both large and small amplifiers. The RTA 11t utilizes the same technologically advanced fluid-coupled subwoofer design found in Polk’s flagship model. Dual 8” sub-bass radiators are coupled to two 6½” mid-bass drivers, resulting in a fast, powerful, deep, and ultra-accurate bass response, without the boomy, undetailed sound of large woofer systems.

RTA 8t

In a slightly smaller package, the RTA 8t offers the same driver complement as the larger, more expensive RTA 11t, and thus shares its benefits of superior imaging, musicality, and detail.

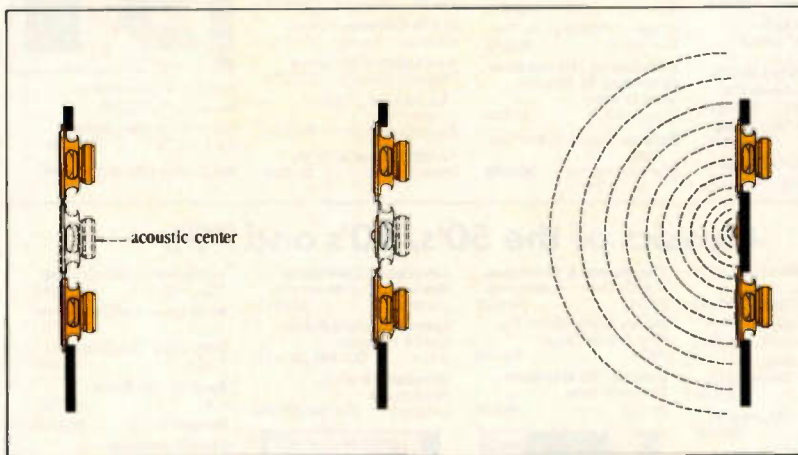
Both Polk RTA series loudspeakers achieve the extremely rare combination of good looks and state-of-the-art performance. The tall, elegantly slender, and deep “tower” design cabinets allow for substantial internal volume for high efficiency and powerful bass, while requiring less than one square foot of floor space. The small baffle surface area around each driver minimizes diffraction (sonic reflections), thereby insuring outstanding imaging and low coloration.

Positioning the 1” silver-coil dome tweeter between the two 6½” trilaminate polymer bass/midrange drivers achieves what is called “coincident radiation.” This means that both the mid- and high-frequencies appear to radiate from the same place on the baffle resulting in perfect blending at the critical crossover point. (See illustration, below).

Polk RTA speakers have an uncanny ability to perfectly reproduce the human voice, pianos, guitars, and every other instrument whose faithful reproduction demands superlative midrange and high-frequency performance. Bass and percussion instruments are accurately reproduced with full visceral power and realism, without the heaviness, boominess, or lack of detail that plague lesser designs.

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THE PRINCIPLES OF COINCIDENT RADIATION



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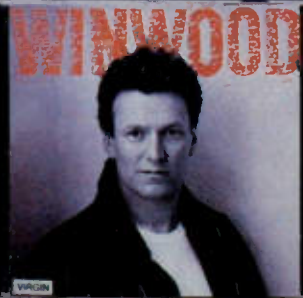
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Tracy Chapman.
(Elektra) 369892



Steve Winwood—Roll With It.
(Virgin) 371211

Little Feat—Let It Roll
(Warner Bros.) 373720

Kronos Quartet
(Nonesuch) 373993

Mieczyslaw Horowitz—
Mozart/Chopin/Schumann
(Nonesuch) 373902

Wynton Marsalis—Portrait
of Wynton Marsalis
(CBS Master) 373555

Ozzy Osbourne—No Rest
For The Wicked
(Epic) 373308

Olivia Newton John—The
Rumour (MCA) 373035

Various Artists—Folkways/
A Tribute To Woody Guthrie
(Columbia) 372995

Sugar Cubes—Life's Too
Good (Elektra) 372896

Big Audio Dynamite—
Tighten Up, Vol. '88
(Columbia) 372672

Emanuel Ax—Chopin: 4
Scherzos, Mazurkas
(CBS Master) 372466

Gerald Schwarz, Cornet—
Bach: Brandenburg
Concertos/Suite In B Minor/
Ransom Wilson, Flute/L.A.
Chamber Orchestra
(Angel) 372367-392365

The Psychedelic Furs—All
of This and Nothing
(Columbia) 372136

Willie Nelson—What A
Wonderful World
(Columbia) 372128

Richard Marx (EMI) 369611

Luther Vandross—Any
Love (Epic) 373399

Bob James—The Scarlati
Dialogues
(CBS Masterworks) 369835

John Williams—The
Baroque Album
(CBS Masterworks) 369769

Claude Bolling—Piano
Bolling's Greatest Hits
(CBS) 369751

Patti Smith Group—
Dream Of Life
(Arista) 370478

Michael Crawford—Songs
From Stage & Screen
(Columbia) 370411

Hank Williams, Jr.—Wild
Streak (Warner Bros./
Curb) 370320

Wynton Marsalis Quartet
—Live At Blues Alley
(Columbia) 370080-390088

Sergiu Comissiona—
Schumann: Symphony No. 1
In B Flat "Spring" Op. 38
& No. 1 In D Minor Op. 120
Houston Symphony
(Pro Arte) 369850

Schumann-Cello
Concerto.—Yo-Yo Ma;
Davis, Bavarian Radio Sym.
Orch.
(CBS Masterworks) 369843

Johnny Mathis—Once In A
White (Columbia) 368639

Georgia Satellites—Open
All Night (Elektra) 368480

Joan Jett And The
Blackhearts
—Up Your Alley
(CBS Associated/Blackheart)
368340

Basia—Time And Tides
(Epic) 368043

REO Speedwagon—
Greatest Hits (Epic) 367872

The Best of Eric Carmen
(Arista) 367599

Brahms—Double Concerto.
Isaac Stern, Yo-Yo Ma;
Abbado, Chicago Sym.
(CBS Master) 367250

Dwight Yoakam—Buenas
Noches From A Lonely
Room (Reprise) 372078

Talking Heads—Naked
(Fly/Sire) 369397

Michael Feinstein—
Remember: Michael
Feinstein Sings Irving Berlin
(Elektra) 369322

Prince—Love Sexy
(Paisley Park) 369124

Ziggy Marley & The
Melody Makers—
Conscious Party
(Virgin) 369512

Peter Cetera—One More
Story
(Full Moon/Warner Bros.)
368811

Europe—Out of This World
(Epic) 370403

George Benson—Twice
The Love (Epic) 373399

Mendelssohn—Violin
Concerto; Saint-Saens:
Intr. & Rondo Capriccioso;
Massenet: Meditation.
Nadja Salerno-Sonnenberg
(Angel) 366872

Brian Wilson (Sire/Reprise)
(Sire) 366427

Midnight Oil—Diesel And
Dust (Columbia) 366153

Billy Ocean—Tear Down
These Walls
(Jive/Arista) 365825

Beethoven—Symphony
No. 9, Norrington, The
London Classical Players
(Angel) 365619

Keith Sweat—Make It Last
Forever (Elektra) 365544

George Harrison—Cloud
Nine (Dark Horse) 365494

Vladimir Feltsman—
American "Live" Debut
(CBS Master)
365254-395251

James Taylor—Never Die
Young (Columbia) 365189

Taylor Dayne—Tell It To My
Heart (Arista) 364711

Daryl Hall & John Oates—
ooh yeah! (Arista) 365775

Metallica—And Justice For
All (Elektra) 372805

Wynton Marsalis—
Baroque Music For
Trumpets.
(CBS Master) 364695

Foreigner—Inside
Information (Atlantic) 364018

Madonna—You Can Dance
(Sire) 362657

Linda Ronstadt—
Canciones De Mi Padre
(Asylum) 362640

Andres Segovia
Collection, Vol. 1 Music
By Bach
(MCA Classics) 362293

George Michael—Faith
(Columbia) 362228

Belinda Carlisle—Heaven
On Earth
(MCA) 362129

Michael Jackson—Bad
(Epic) 362079

Sting—... Nothing Like The
Sun (A&M) 361675

Introducing The Hardline
According To Terence
Trent D'Arby
(Columbia) 361618

Poison—Open Up And Say
... Ahh!
(Capitol/Enigma) 368688

Kenny G—Silhouette
(Arista) 371559

Guns N' Roses—Appetite
For Destruction
(Geffen) 359984

Various Artists—World's
Greatest Overtures Strauss/
Suppe/Brahms/Beethoven/
Wagner/Tchaikovsky
(Pro Arte) 361279

Yes—Big Generator
(ATCO) 361170

Claudio Abbado—
Tchaikovsky: Symphony
No. 6 Chicago Symphony
Orchestra
(CBS Master) 361022

Bruce Springsteen—
Tunnel Of Love
(Columbia) 360115

Billy Idol—Vital Idol
(Chrysalis) 360107

Debbie Gibson—Out Of
The Blue (Atlantic) 359927

Kiri Te Kanawa—Sings
Gershwin (Angel) 359745

Aerosmith—Permanent
Vacation (Geffen) 359075

"La Bamba", Orig.
Soundtrack
(Slash/Warner Bros.) 357939

10,000 Maniacs—In My
Tribe (Elektra) 361600

The Movies Go To The Opera
—Various Artists. (Angel
Studio) 372342

Robert Palmer—Heavy
Nova. (EMI) 370395

Elton John—Reg Strikes
Back (MCA)

INXS—Kick (Atlantic) 361519



Gold & Platinum Vol. IV
—Various Artists.
(Real Gone) 369413

Bob James—Ivory Coast
(Warner Bros.) 372789

UB40 (A&M) 372730

Branford Marsalis—
Random Abstract
(Columbia) 371849

Grover Washington, Jr.—
Then and Now
(Columbia) 371476

Yehudi Menuhin—Handel:
Orchestral Suites Royal
Philharmonic Orch.
(MCA Classics/RPO) 371005

Spyro Gyra—Rites of
Summer (MCA) 370767

Randy Travis—Old 8 x 10
(Warner Bros.) 370643

Pat Benatar—Wide Awake
In Dreamland
(Chrysalis) 370528

Classics of the 50's, 60's and 70's

Grateful Dead—Europe 72
(Warner Bros.)
370064-390062

Bob Dylan—Blonde On
Blonde (Columbia) 369942

Jerry Lee Lewis—18
Original Sun Greatest Hits
(Rhino) 369108

The Turtles—20 Greatest
Hits (Rhino) 369090

Best of Ritchie Valens
(Rhino) 369082

Dion and The Belmonts—
Their Best (Laurie) 369074

The Drifters—Golden Hits
(Atlantic) 365841

Traffic—John Barleycorn
Must Die (Island) 364935

Supertramp—Classics Vol.
9 (A&M) 364471

Jimi Hendrix—The Cry Of
Love (Reprise) 363556

Stevie Wonder—
Innervisions (Tama) 362368

The Who—Who's Next
(MCA) 357277

Yes—Fragile
(Atlantic) 351957

Aretha Franklin—30
Greatest Hits (Atlantic)
350793-390799

The Mamas & The Papas
—16 Of Their Greatest Hits
(MCA) 348623

Buddy Holly—From The
Orig. Master Tapes
(MCA) 348110

Best Of The Monkees—
Then And Now
(Arista) 346536



The Best of The Doors.
(Elektra) 35716-397612

Diana Ross & The
Supremes—25th
Anniversary Album
(Motown) 345454-395459

Chuck Berry—The Great
Twenty-Eight
(Chess) 343657-393652

The Byrds—Greatest Hits
(Columbia) 342501

A Decade Of
Steely Dan (MCA) 341073

Best Of Kansas*
(CBS Assoc.) 327742

Motown's 25 #1 Hits
(Motown) 319996-399998

Creedence Clearwater
Revival—20 Greatest Hits
(Fantasy) 308049

Lynyrd Skynyrd Band—
Gold & Platinum
(MCA) 307447-397448

Woodstock—Orig.
Soundtrack
(Atlantic) 291864-391862



Beach Boys—Made In
The U.S.A. (Capitol)
346445

Led Zeppelin—Houses Of
The Holy (Atlantic) 293597

Emerson, Lake & Palmer
—Brain Salad Surgery
(Atlantic) 291526

Led Zeppelin IV
(Atlantic) 291435

America—Greatest Hits
(Warner Bros.) 291385

James Taylor's—Greatest
Hits (Warner Bros.) 291302

The Steve Miller Band—
Greatest Hits 1974-78
(Capitol) 290171



The Movies Go To The Opera
—Various Artists. (Angel
Studio) 372342



Robert Palmer—Heavy
Nova. (EMI) 370395

Elton John—Reg Strikes
Back (MCA)

INXS—Kick (Atlantic) 361519

Linda Ronstadt—Greatest
Hits (Asylum) 286740

Meat Loaf—Bat Out Of Hell
(Epic) 279133

Billy Joel—The Stranger
(Columbia) 277491

Best Of The Band
(Capitol) 269365

Boston (Epic) 269209

Peter Frampton—
Frampton Comes Alive!
(A&M) 262311-392316

Chicago* IX—Greatest Hits
(Columbia) 260638

Bruce Springsteen—Born
To Run (Columbia) 257279

Cat Stevens—Greatest Hits
(A&M) 256560

Jim Croce—Photographs &
Memories: His Greatest
Hits (Saga) 246868

Santana—Greatest Hits
(Columbia) 244459

Janis Joplin—Greatest
Hits (Columbia) 231670

Simon & Garfunkel—
Greatest Hits
(Columbia) 219477

Blood, Sweat & Tears—
Greatest Hits
(Columbia) 214650

Sly & The Family Stone's
—Greatest Hits
(Epic) 196246

Bob Dylan—Greatest Hits
(Columbia) 138586



Huey Lewis & The News—*Small World*. (Chrysalis) 371419



Cocktail—Original Soundtrack. (Elektra) 373779



Luciano Pavarotti—Pavarotti In Concert. (CBS Master) 373548



Van Halen—OU812. (Warner Bros.) 369371



Bobby McFerrin—Simple Pleasures. (EMI) 369306

David Sanborn—Close Up (Warner Bros.) 370304
Tchakovsky Waltzes—Comissiona, Houston Sym. (Pro Arte) 357871
Beethoven—Piano Conc. No. 5, Perahla, Haitink, Concertgebouw Orch. (CBS Masters.) 357657
Grateful Dead—In The Dark (Arista) 357087
Heart—Bad Animals (Capitol) 356667
Best Of Earth, Wind & Fire—Vol. I (Columbia/Arc) 290916

Sade—Stronger Than Pride (Epic) 368027
Gloria Estefan & Miami Sound Machine—Let It Loose (Epic) 356279
Vladimir Horowitz, Piano—Favorite Encores (CBS Masterworks) 355164
Fleetwood Mac—Tango In The Night (Warner Bros.) 354902
U2—The Joshua Tree (Island) 354449
Suzanne Vega—Solitude Standing (A&M) 356287

Julio Iglesias—Non-Stop (Columbia) 367094
Pachelbel Canon—Other Digital Delights, Davis, Toronto Chamber Orch. (Fantare) 348649
The Police—Every Breath You Take... The Singles (A&M) 348318
Huey Lewis And The News—Fore! (Chrysalis) 347955
Enoch Light & The Light Brigade—The Big Bands Of The Thirties (Project 3) 341263

Robert Plant—Now and Zen (Es Paranza) 366716
Best Of The Kinks—1977-1986 (Arista) 345314
Anita Baker—Rapture (Elektra) 344622
Copland—Rodeo, Billy The Kid, Slatkin, St. Louis Sym. (Angel) 344184
Vivaldi—The 4 Seasons, Maazel, Members Of The French Nat'l Orch. (CBS Masters.) 343715
Tchaikovsky—Eugene Onegin, Seiji Ozawa, Berlin Phil. (Angel) 343244
Barbra Streisand—The Broadway Album (Columbia) 342097
Andreas Vollenweider—Down To The Moon (CBS) 346643
Barry Manilow—Greatest Hits (Arista) 288670

Carly Simon—Greatest Hits Live (Arista) 365874
The Cars—Greatest Hits (Elektra) 339903
Gershwin—Rhapsody In Blue, etc. Tilson Thomas, L.A. Philharmonic (CBS Masters.) 339226
Mozart—Symphony No. 40 In G Minor, Kubelik, Bavarian Radio Sym. (CBS Master) 339044
Sting—The Dream Of The Blue Turtles (A&M) 336669
Billy Joel—Greatest Hits Vols. 1 & 2 (Columbia) 336396-396390
Dire Straits—Brothers In Arms (Warner Bros.) 336222
Carpenters—Yesterday Once More (A&M) 334607-394601
Whitney Houston (Arista) 334391

Whitney Houston—Whitney (Arista) 356154
Air Supply—Greatest Hits (Arista) 321307
Elton John—Greatest Hits (MCA) 319541
Michael Jackson—Thriller (Epic) 318089
Squeeze—Singles—45's And Under (A&M) 317974
Stevie Wonder—Orig. Musiquarium I—Greatest Hits (Arista) 314997-394999
Neil Diamond—12 Greatest Hits, Vol. II (Columbia) 314443
Best Of Blondie (Chrysalis) 311811
Boyz Scaggs—Hits! (Columbia) 306571
Linda Ronstadt—Round Midnight with Nelson Riddle And His Orch. (Asylum) 348987-398982

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Sansui RZ-5000 AM/FM Audio- Video Receiver

The RZ-5000 is one of a series of audio-video receivers announced by Sansui last spring. Each of them tends to follow what has become the norm for such products: connections and switching for both audio and composite-video sources (albeit, for only a minimum number of the latter, by audio-only receiver standards), an AM/FM tuner section, and a power amp with a more-than-minimal rating. Here, there are a number of unusual details to spice up the formula.

FM tuning is either "automatic" (bi-

assign a four-character alphanumeric label to each preset, using the tuning controls to step through the 47 available characters.

The supplied RS-1080 wireless remote control, which is powered by two AA cells, duplicates the numeric keypad and the basic functions of the receiver, and includes a *full* mute (that is, not a 20-dB attenuator) that is not on the front panel. It also includes controls for a CD player, tape deck, and equalizer (presumably for that built into the flagship of the series, the RZ-7000). Pushing the re-



DAVID A. WAGNER

Dimensions: 17 by 5 inches (front), 12 inches deep plus clearance for controls and connections.

AC Convenience Outlets: Two switched (100 watts max. total).

Price: \$460.

Warranty: "Limited," two years parts and labor.

Manufacturer: Sansui Electric Company, Ltd., Japan.

U.S. Distributor: Sansui Electronics Corp., 1250 Valley Brook Ave., Lyndhurst, N.J. 07071.

directional muted scan in the stereo mode, the default to which the tuner automatically reverts whenever you give it the opportunity) or manual (in mono, without interstation muting). AM tuning is similar except for the absence of stereo and the muting defeat. Manual stepping is by half-channels (0.1 MHz) in the FM band, full channels (10 kHz) in AM. There are 30 presets, assignable to FM or AM stations in any mix; a preset scan permits a quick review of your choices. The numerical keypad area used for the presets also can be used to tune directly by frequency. If you want, you can

the remote's volume buttons causes not only the front-panel volume knob to rotate, but blinks the knob's red indexing LED and fires a beeper at the same time. In fact, invoking just about any function on the receiver, even from the front panel, produces a confirming beep.

The input options include: phono (for fixed-coil and high-output moving-coil models); CD (used by Diversified Science Laboratories as the aux input for measurement purposes); an audio tape loop; a VCR loop (VCR 1); and inputs for a second video source (VCR 2). You can dub from VCR 2 to either VCR 1 or



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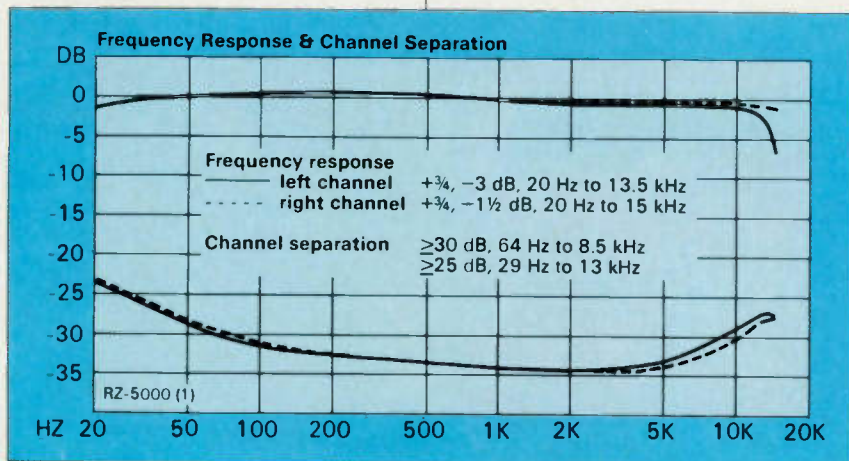
So match your tape to the other components in your system and use only XLII-S from Maxell. Anything less is just kid stuff.



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The Tape That Delivers
Higher Performance.

Test Reports

FM Tuner Section



Stereo sensitivity (for 50-dB noise suppression)

40 dBf at 98 MHz, with 0.68% THD+N
(39 3/4 dBf at 90 MHz; 39 dBf at 106 MHz)

Mono sensitivity (for 50-dB noise suppression)

15 dBf at 98 MHz

Scan threshold 30 1/2 dBf

Stereo threshold 21 1/2 dBf

Stereo S/N ratio (at 65 dBf) 69 1/2 dB

Mono S/N ratio (at 65 dBf) 76 1/2 dB

Capture Ratio 1.4 dB

Selectivity

alternate-channel 62 1/2 dB

adjacent-channel 7 dB

Harmonic Distortion (THD+N)

at 100 Hz stereo 0.52% mono 0.13%

at 1 kHz 0.32% 0.08%

at 6 kHz 0.46% 0.18%

Stereo Pilot Intermodulation 0.32%

Intermodulation Distortion (mono) 0.04%

AM Suppression 62 3/4 dB

Pilot (19-kHz) Suppression 49 1/2 dB

Subcarrier (38-kHz) Suppression 93 1/4 dB

Amplifier Section

Rated Power (8 ohms) 17.8 dBW (60 watts)/channel

Output at Clipping (at 1 kHz; both channels driven)

8-ohm load 19.0 dBW (80 watts)/channel

4-ohm load 20.6 dBW (115 watts)/channel

Dynamic Power (at 1 kHz)

8-ohm load 20.2 dBW

4-ohm load 21.6 dBW

2-ohm load 22.8 dBW

Dynamic Headroom (re rated power; 8-ohm load) +2.4 dB

Harmonic Distortion (THD; 20 Hz to 20 kHz)

at 17.8 dBW (60 watts) <= 0.019%

at 0 dBW (1 watt) < 0.01%

Frequency Response

+ 3/4, -1 1/2 dB, < 10 Hz to 20 kHz

+ 3/4, -3 dB, < 10 Hz to 135 kHz

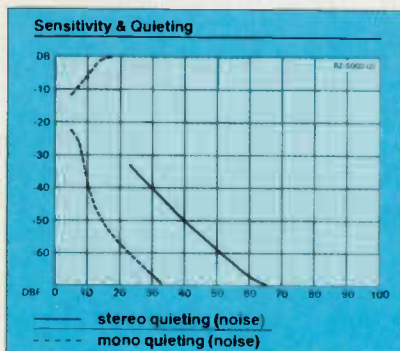
the audio recorder and to the latter from either video source. There are pre/main jumpers allowing the insertion of a signal processor between these two sections.

equipped with antenna rotators.

In other respects, performance is generally as good as you might expect in an audio-only model with this power rating, although stereo sensitivity, channel separation, and capture ratio are not quite up to that mark. Nor is frequency response, though the midbass rise and most of the treble attenuation visible in the response traces must be charged



The RZ-5000's remote includes a full mute.



On the front panel is a headphone jack. The two speaker pairs for which there are connections and switching are wired in series—an expedient to prevent excessively low impedance loading that you rarely find in audio-only receivers these days.

The back panel is well laid out, but the antenna and speaker terminals are of a lightweight latching design. I found it difficult to get good, solid connections with them. All wires must be bared, including any 75-ohm coaxial antenna lead you might use. Heavy 14-gauge speaker wire barely fits through the insertion holes. An AM loopstick antenna is supplied, but—presumably because of the difficulty in getting good connections—I found it ineffective on my test sample, though it worked normally on a second sample.

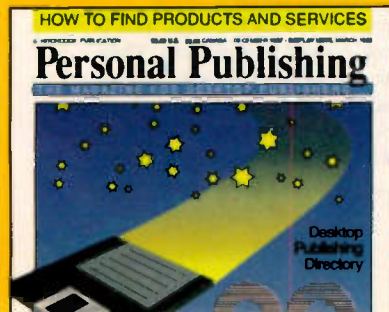
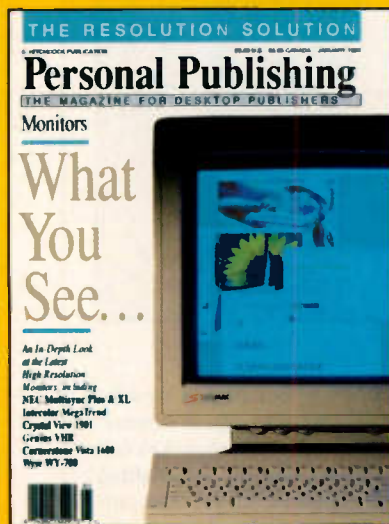
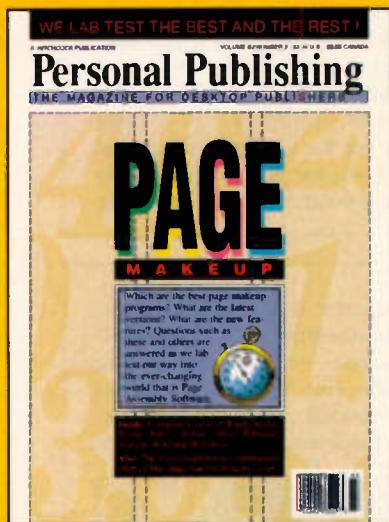
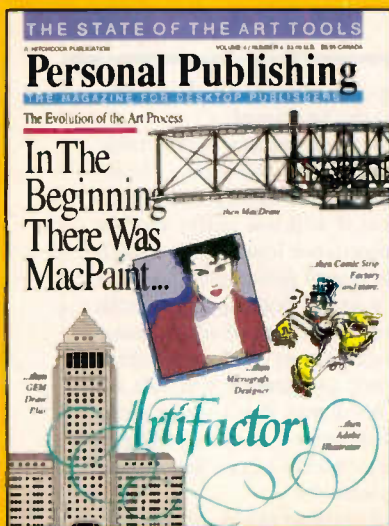
The FM section is a bit above average for an audio-video receiver, particularly in one respect: the signal-strength indicator. Its six elements light at thresholds spaced an average of about 5 dB apart and reaching from 17 1/2 to 44 1/4 dBf in DSL's measurements. This indicator action can be of material aid to users

against the preamp, rather than the tuner itself: All signal sources show similar characteristics up to 10 kHz. The rolloff above that frequency (and, in particular, the curious disparity between channels near 15 kHz) is peculiar to the FM section, however.

The nondefeatable tone controls have center detents to which they were set for these measurements. While their action otherwise is not especially symmetrical or predictable, in their primary ranges they provide increments of cut and boost that are much more regular than those of some other receivers in this price range. The BASS has maximum effect of about ± 8 dB in the region around 50 Hz. The TREBLE has a similar range at 20 kHz.

The loudness-compensation function is handled in an unusually complex way. There is a knob plus a "bass-boost" button. The former is used to tailor loudness compensation to the setting of your volume control, as dictated by your listening room, speakers, and taste. This is, in fact, the only right way to do it, because a full-volume setting and the necessary compensation at lower listening levels can vary widely from one installation to another. Depending on the setting, the compensation can apply a boost of as much as 10-dB in the deep bass, though the whole bass region is elevated somewhat relative to response at 1 or 2 kHz; the extreme treble also is boosted, but not as sharply and not at all for modest degrees of compensation. Pushing BASS

(Continued on page 42)



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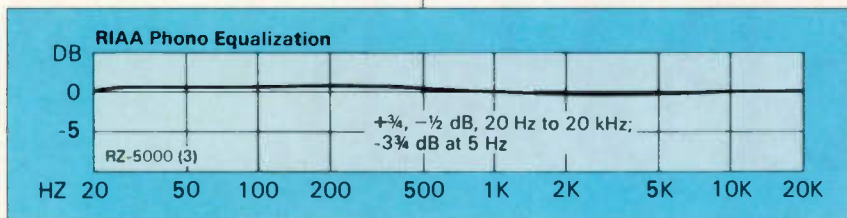
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Test Reports

(Continued from page 38)

BOOST moves the bass inflection points up by about three octaves, so that the bass boost extends to above 1 kHz and, at maximum compensation, leaves the re-



Sensitivity & Noise (re 0 dBW; A-weighting)

	sensitivity	S/N ratio
aux input	30 mV	83 dB
phono input	0.34 mV	75 dB
Phono Overload (1-kHz clipping)	160 mV	
Input Impedance		
aux input	22k ohms	
phono input	50k ohms, 225 pF	
Output Impedance (to tape)	690 ohms	
Damping Factor (at 50 Hz; re 8 ohms)	50	
Channel Separation (at 1 kHz)	55 3/4 dB	

sponse with a minimum at about 3 kHz.

The phono section is better than average in that it does not significantly compromise the response it inherits from the overall design—though again, that isn't as flat as you might expect in a modern receiver. Even at 5 Hz, response bears up well: too well, if your arm and pickup suffer from warptitis. Since there is no high-pass, or "rumble," filter, either switchable or fixed, choice of your rec-

ord-playing equipment (and care in record storage) can be critical.

The power section has comfortable headroom above its 60-watt spec. The increasing power with falling impedance suggests that it will not suffer unduly from low-impedance loads, even though the cautious rate of power increase (and the use of a series hookup when both pairs of speakers are turned on) indicates that the power supply and output transistors are not overgenerous in this respect. In other words, don't worry about it, but don't expect it to achieve prodigies either. There's plenty of oomph for reasonable applications.

The slight rise in the midbass does give the receiver a slightly chesty, robust quality (unless my aural judgment is being colored by the figures—which isn't impossible), but it's both subtle and pleasant. More to the point, the RZ-5000's level of performance is in some ways above par for a moderately priced audio-video receiver, and it does include some unusual features. *Robert Long*

AudioSource SS Two Dolby Surround Decoder

All measurements are for the Dolby Surround mode.

Processor Section

Output at Overload (3% THD at 1 kHz)

main channels	3.2 volts
surround channels	2.4 volts
Maximum Input Level (at 1 kHz)	4.4 volts

S/N Ratio (re 0.5 volt; A-weighted)

main channels	88 1/2 dB
surround channels	78 3/4 dB

Distortion (THD; 20 Hz to 20 kHz; 1-volt input)

main channels	≤ 0.27%
surround channels	≤ 0.48%

Frequency Response

main channels	+0, -1/4 dB, 21 Hz to 52 kHz
	+0, -3 dB, < 10 Hz to 170 kHz
surround channels	+0, -1 dB, 50 Hz to 3.4 kHz
	+0, -3 dB, 26 Hz to 6.5 kHz

Channel Separation (main channels; at 1 kHz)

	63 3/4 dB
--	-----------

Input Impedance

	16k ohms
--	----------

Output Impedance

main channels	285 ohms
surround channel	1,250 ohms

Power Amplifier Section

Output at Clipping (at 1 kHz; 8-ohm load)

	9.4 dBW (8.7 watts) /channel
--	------------------------------

S/N Ratio (re 0 dBW; A-weighted)

	53 1/2 dB
--	-----------

Distortion (THD at 1 kHz)

at 0 dBW (1 watt)	0.05%
-------------------	-------

*From 20 Hz to 6kHz

The AudioSource SS Two provides the essential ingredients of Dolby Surround decoding at an attractive price: a channel-differencing circuit to derive the surround information from the main stereo channels, a surround-channel delay circuit (a 2,048-stage bucket-brigade chip), a low-pass filter for the surround signal, and a Dolby B chip for correct noise-reduction decoding of the surround information.

You also get some extras: a low-power amplifier for the rear-channel speakers (there are also line-level surround outputs), 100-Hz and 10-kHz "Boost" switches, "Hall" and "Matrix" modes for enhancing music, and a wireless remote control that duplicates all the front-panel functions (including volume and front/rear fade) except for two level-calibration controls. The Matrix mode generates a pseudo-stereo signal from mono inputs, and Hall uses the delay line to create an adjustable reverberation effect. The SS Two isn't a logic-type decoder (one containing signal-steering circuits), so don't expect terrific separation between either the main channels and the surround or center channels. In fact, the center and subwoofer outputs that you're likely to find on more expensive units are not on the unit at all—this is pretty much a bare-bones system.

Nonetheless, on Diversified Science Laboratories' test bench, the SS Two fared rather well (all tests were run in the Dolby Surround mode). Since the five-

segment indicator that warns of potential overload monitors only the channel-difference signal—the one that will be fed to the delay line—left- or right-channel input overload can sneak by undetected. But the level at which input clip-



The SS Two's remote-control unit

ping occurs (4.4 volts) should be adequate for any common signal source. The output clipping level is also okay (albeit not generous), and the A-weighted noise figures measured to the line outputs are quite respectable in both the front and surround channels.

Inspecting the rest of the data, you'll find nice, low, output impedances. They are lower on the front channels than on the surround, but since there are no high frequencies in the surround signal, a high output impedance here will not lead

to a deleterious high-end rolloff, even if long cables are used. Input impedance is adequately high, there's a prodigious amount of gain, and the frequency response of both front and surround outputs is, by and large, beyond reproach. The distortion performance, while nothing to write home about, is livable. In fact, the only important respect in which the SS Two missed its published specs was in amplifier power, which is claimed to be 30 watts per channel. DSL mea-

as 13 to 30 milliseconds), it would be nice to have an indication of how much delay you are getting as you change the setting.

Given the low output power and the rather high residual noise in the power-amp section, you might be tempted to use the line outputs for the surround signal to feed a separate power amp and speakers. However, doing so loses you the facilities of the two boost switches. The approximately 6-dB boosts they cre-



DAVID A. WAGNER

sured less than 9 watts per channel at clipping. Then again, I'm not sure how AudioSource obtained its power rating, since the specification is given without reference to load impedance, frequency range, or distortion. As longtime readers of this magazine will realize, the same amplifier can produce such disparate measurements, depending on the rating method used.

The AudioSource SS Two is, to me, a rather quirky piece of equipment in some ways. For example, input-level and -balance controls would be easier to use than the independent left and right calibration controls that are provided. As it is, you have to rebalance the system if you change the setting of either level control. And though I like the idea of variable delay (DSL measured the range

ate at the stated frequencies are available only when using the SS Two's internal power amp. Finally, both on the test bench and in the listening room, the SS Two's electronic fader and volume controls were hard to use. As you press the up or down buttons for these functions, nothing happens for a while—and then the changes occur hot and heavy. It's therefore difficult to set levels with precision on this processor.

But now we've come around full circle. The SS Two is, after all, a budget decoder that cannot fairly be expected to work with the finesse of more elaborate and expensive units. And it does perform its essential function—Dolby Surround decoding—quite well for a basic processor. So, on balance, the AudioSource SS Two is a bargain. *Edward J. Foster* ▶

Dimensions: 16½ by 2½ inches (front), 9¼ inches deep plus clearance for connections.

Price: \$250.

Warranty: "Limited," one year parts and labor.

Manufacturer: Made In Taiwan for AudioSource, 1327 N. Carolan Ave., Burlingame, Calif. 94010.

Mordaunt-Short MS-10 Series 2 Loudspeaker

Mordaunt-Short, which has been around for more than twenty years, has established an enviable place for itself among the pantheon of fine British speaker makers. If the company never has clamored quite as insistently for a hearing on these shores as have a few of its compatriots, neither has it earned the reputation for overcommercialization that attends on broad success. Call it a sleeper or a cult brand if you will, Mordaunt-Short is a purveyor

of vinyl laminate that simulates black ash. Connections are made to banana-plug jacks recessed into the back panel; mating color-coded plugs that accept bared wires to about 14-gauge are supplied with the speakers, which are packed in matched pairs.

The crossover network includes what Mordaunt-Short call Positec: an overload-protection feature based on a polymeric resistor that remains essentially transparent to the signal at normal oper-



DAVID A. WAGNER

Dimensions: 7 $\frac{3}{4}$ by 11 inches (front), 7 inches deep.

Price: \$229 per pair.

Warranty: "Full," five years parts and labor.

Manufacturer: Mordaunt-Short, England.

U.S. Distributor: Teamco, Inc., Suite 1430, 1225 17th St., Denver, Colo. 80202.

of goodies, like the MS-10, that all too often go unnoticed.

The MS-10 is a two-way system consisting of a $\frac{1}{2}$ -inch dome/cone ferrofluid-cooled tweeter and a $5\frac{1}{4}$ -inch paper-cone woofer with a vinyl surround and dust cap. Crossover between the drivers, judging from the near-field measurements by Diversified Science Laboratories, occurs at about 3.5 kHz, though the specs list a 5-kHz "integration frequency." The woofer enclosure is vented to the back panel via a duct.

Stretch fabric mounted on a pressboard frame make up the removable grille. No extraordinary measures appear to have been taken to avoid diffraction. The sides, top, and bottom of the enclosure are covered with a wood-grain

ating temperatures but increases in resistance as temperatures rise significantly above that range. When this happens, it reduces current flow through the speaker until normal temperatures have been attained once again.

This worthwhile feature posed some problems to the lab, which, in its tests, normally jacks up the level by regular increments until the speaker cries uncle (via sharply rising distortion in the steady-state tests or an altered scope waveform during pulse testing). With the MS-10, the onset of overdrive is much more gradual, and it is evidenced more by a reduction in sensitivity caused by the Positec system than by distortion as such. For example, the distortion test at "95 dB SPL" was, as usual, conducted

SOUNDING OFF

The advent of the Compact Disc has put a lot of pressure on independent audiophile labels, whose first claim to fame is sonic quality. One of the most successful of these small labels is San Francisco-based Reference Recordings. But the label's success with sound and music critics did not come overnight. Reference Recordings was formed in 1976 by John Tamblын Henderson, Jr. (photo left). After obtaining a degree in music history from the University of Georgia, Henderson acted as music director for a San Francisco classical FM station. Later, he operated a retail record store and, at the same time, wrote for some audiophile publications, including one called *Sound Advice* (now defunct), whose owner, Ed Wodenjak, started Crystal Clear Records, a maker of direct-to-disc recordings of popular music.

Henderson decided to use the direct-to-disc technique for classical music. His first effort, a recording of duets for guitar and other instruments entitled *Guitar And . . .*, was not a success. "We pressed 500 copies just for the musicians and our own amusement, but it was never released to the public," Henderson recalls. "It's very rare. If you find a copy of RR-1, my suggestion is to keep it, but don't play it." The next three recordings didn't fare much better. "One of the pieces was a percussion number for nine bass drums," says Henderson. "It was almost impossible to cut a playable record. Those three [recordings] are now out of print. There were never more than 5,000 copies each."

The turnaround for Reference Recordings came once Keith Johnson (photo right) became the company's recording engineer. One of the audio industry's grand eccentrics, Johnson uses his own, handmade tape recorder and microphones. His recordings have been acclaimed for their natural sound quality.

GB: How did Keith Johnson get involved in the company?

TH: I met Keith through musician friends for whom he was doing some recording. Keith had also engineered some recordings for the Klavier label in Los Angeles.

GB: What are your and Keith Johnson's respective responsibilities in the company?

TH: He handles the technical aspects of a recording session. He's also involved in the LP-mastering process, because we have to take his tape machine when we make masters. That machine is what you call a one-man dog: Nobody else touches it. . . . I do everything else.

Keith's tape recorder is something of a legend. He literally built it from scratch. He built a three-channel tube machine in the late Fifties when he was a student at Stanford, then a smaller solid-state machine in the mid-Sixties. It has been refined and



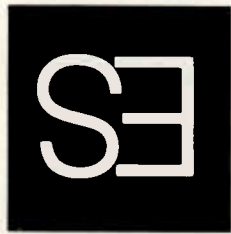
An Interview with J. Tamblын Henderson Of Reference Recordings

By Gordon Brockhouse

modified over the years, but essentially it's the same machine he built in the mid-Sixties using a transport of his own design. People always come up and ask, "Is that an old . . . ?" It isn't. It's an old Keith Johnson.

The transport is quite unusual. He calls it a "near-closed-loop transport." The capstan is at the top of the tape path, with the record head on one side of the capstan and the playback head on the other. The machine also uses an unusual equalization system that gives a better signal-to-noise ratio than the standard EQ curve. The machine makes tapes that cannot be played on any other machine. He also uses something called the focused-gap recording technique. There's a beamed-RF bias—sort of a record head within a record head. There's no way to buy that sort of thing, so he had to build it himself. Keith's general attitude is: If you can buy it, it's no good. ▶

After inventing
the Digital
Compact Disc
we weren't about
to entrust its
reproduction to
anyone else.



The New Sony ES Series: Superior Audio Components To Which We Proudly Entrust The Reproduction Of Digital Sound.

As the inventor of the Compact Disc format, Sony continues to expand the limits of digital reproduction. Yet, while proudly leading this revolution, the Sony ES engineers have been equally conscientious about designing analog components that fully realize the potential of the digital era. This uncompromising commitment defines the entire ES Series.



The CDP-707ESD:
Simply stated...“the reference against which to judge”
others.—*Len Feldman, Audio Magazine.*

Historically, Sony ES Compact Disc players have been the benchmark for advancing the state-of-the-art. The CDP-707ESD is no exception. As the world's first CD player to incorporate dual 18 bit linear D/A converters, along with a proprietary 8X oversampling digital filter, it brings the listener closer to the theoretical limits of Compact Disc performance. This advanced technology provides greater low level signal resolution and improved linearity, for more faithful reproduction of musical depth and detail.

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in a fully integrated design.

Traditionally, few receivers have offered the performance necessary to meet the demands of digital sources. These demands on receiver technology come at a time when the requirements for total audio and video integration have created more compromises than ever before.

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Finally, a level of performance never before
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For more information on where you can audition the full line of Sony ES components, call 201-930-7156.



SONY

THE LEADER IN DIGITAL AUDIO™

For a record company to deal with someone like Keith is unwise from a business point of view. We have this one analog tape recorder; and that's the only one there is.

GB: *So if it breaks, you can't get access to your master tape libraries.*

TH: That's right. But we think that Keith's machine is superior to any other analog machine. Some of the drawbacks of commercial-studio analog recorders don't apply in our case. We get less noise as a rule. We don't use any kind of noise reduction because we don't like the side effects.

GB: *What, specifically?*

TH: I don't have any direct experience with those systems, but Keith does, and he doesn't like them. His machine has very little noise, and the tape we use has an acceptable noise level. It seems you can have either the lowest possible noise or the best possible retention of the recorded signal. As a record label, we have to be concerned with retaining the signal. We have masters that have deteriorated badly—to the degree that we can't remaster them. They've simply died.

Keith discovered this phenomenon quite early in his career. But it was pooh-pooed by the tape companies. It's only been widely acknowledged quite recently. We've settled on a professional tape by TDK that, unfortunately, has been discontinued. It's causing us some grief. Now we have to find another tape. This particular tape has long-term retention of the information. The quietest tape we've found is Ampex Grand Master. When you make a recording with that tape on Keith's machine, its quietness, transparency, and lucidity are breathtaking. Still, six months later, it's not worth listening to.

GB: *Too bad you don't have two machines.*

TH: It is. But we're getting another.

GB: *I notice you're using digital recorders on recent CD releases.*

TH: At all of our sessions in the past few years, we've run Keith's machine and a digital machine from the same microphone feed. We make LPs from an analog master and CDs from digital master.

GB: *Why not produce CDs from the*

analog master, if you believe it's superior?

TH: Because of commercial concerns. There are many people who will not buy a CD if it isn't made from a digital master. Using two different master tapes means I have to edit everything twice. Digital editing is a major expense.

GB: *How do the two master tapes compare? Are they different?*

TH: Sure they're different. The tapes made on Keith's machine have superior resolution, better low-level detail, greater high-frequency extension, more transparency and spatial information—all things where digital recording still has difficulties. Digital has its well-known virtues (like very low noise, great dynamic range), except that it can't really resolve the lowest level of information. *[A properly dithered digital recorder can audibly resolve signals that are more than 100 dB beneath maximum recording level.—Ed.]*

I'm not saying that Keith's is a perfect system. We can hear the microphone signal, and we can hear what the analog machine does to that signal. There is some veiling, some loss of transparency, some addition of noise. But if we have to choose between the analog and digital master, both of us would rather hear the analog tape.

GB: *Would the merits of the analog master be lost in a transfer to the CD medium? Would there be a difference between an AAD and the DDD discs you actually market?*

TH: Some of our CDs are made from analog masters recorded before we started using a digital recorder. The transfer from an analog master is, to my ear, superior to a digital master. However, the buying public says, "Oh, there's hiss. Horrible, horrible. I won't buy it." So, for that reason, we've decided to make CDs from digital masters.

GB: *What do you think about the long-term future of the LP?*

TH: The general public is in love with CDs, especially in the classical market. I predict, as prices come down, it will take over even the popular end of the market.

However, there does seem a small group of serious audiophiles who find the sound of CDs unsatisfying. They tend to be people who have invested a great deal of money in their turntables, tonearms, cartridges, and preamplifiers. They still prefer the sound of a well-made analog record played on a system capable of extracting the niceties that we are able to get onto an LP. As long as those people with excellent turntable systems are around, there will be a small market for good LPs. Anybody who goes into a record store knows how the LP sections are shrinking. It's just a matter of time before they'll be gone altogether. We at Reference Recordings hope to be one of the last, if not *the* last, source of quality analog LPs. We have no plans to cut back our LP line.

As time goes on, I expect that we'll do most of our LP business by mail order to customers. Audio stores, as opposed to record stores, seem to be holding on to LPs a little more. People buying turntables, cartridges, and arms obviously need new records to play on them. But record stores do not want our LPs because they cost too much. They're roughly the same price as CDs. In *their* view, nobody in his right mind would pay that much money for an LP.

GB: *What are your relative sales in LPs and CDs now?*

TH: That's an interesting question. Our LP sales are better than any other record label in the United States. Going on stories I hear from other labels, their LP sales are 10 percent and down. In any event, we are happy to say that we're doing 40 to 50 percent of our business with LPs, depending on the title.

GB: *By units or dollars?*

TH: I'm talking about units. We are of course planning to release all new projects on LP. We're also hoping to reissue classic recordings of the past in the LP format.

GB: *Have you had discussions with the copyright holders?*

TH: We're in conversation with one major maker of classic analog recordings, and it looks encouraging. They are not saying no. We'll announce the

label as soon as something is firm.

GB: *What about the possibility of companies like yours getting access to recording sessions conducted by majors who just want to release CDs?*

TH: I would love very much to do that. I know that Wilson Audio approached one or more major labels and was told, "No way." However, I'm not going to let the idea die. There is bound to be at least one label that would be interested. I intend to pursue the idea of having us at recording sessions, preferably with our own miking. Part of the unique qualities of our recordings have to do with Keith Johnson's microphones and the way they're used.

GB: *Can we talk more about that? How do you get the results you get?*

TH: I can only talk in general terms, because every situation we come up against is different. Halls vary, performing forces vary, the kind of music varies.

GB: *Can you explain how you made a specific recording?*

TH: Let's take Copland's *Appalachian Spring Suite* [on RR-22CD], which we did in the chamber version for 13 instruments. In this particular case we used a pair of spaced omnis. The group of 13 players was set up in a semicircle with the piano behind the winds, the high strings on the left, and the low strings on the right. We used a pair of spaced omnis about 12 feet high and 15 feet apart as the primary pickup.

We like the sound of spaced omnis for their spatial and imaging characteristics. If the circumstances are very good, you can get a good sound with just a pair of spaced omnis. But more often, the sound tends to break apart into two areas around the loudspeakers. So we like to use a pair of close-spaced cardioids for center pickup to give more solidity to the middle of the ensemble. In addition, Keith often uses a pair of microphones out in the hall to give more of the specific hall's character. We always use stereo pairs. We mix the sound from the three pairs by ear in the control room, not by any kind of theory.

GB: *How long does it usually take to*

get the sound you want?

TH: We would always like to have more time than we have. Recording sessions are very high tension situations. Usually, we have three to four hours for a session. You're lucky if you can get the musicians ahead of time to rehearse, so you can work on your miking. With the *Appalachian Spring* recording, we were not able to. So the musicians arrived, and we were frantically putting things in place, then dashing to the control room to see what we had gotten, then back onstage to move things around. In this session, we had to throw things together in less than an hour.

GB: *Theoretically, if there's a niche for a company like Reference Recordings, it ought to be to record obscure-repertoire classical music, or minority-appeal music of other types. One would think that the major labels, with all their resources, should be able to produce better-sounding recordings.*

TH: I can only hypothesize. I know that no other label would deal with an eccentric such as Keith Johnson, with his oddball tape machine. That simply isn't the way they do business. Every piece of equipment he uses he designs and builds himself. These microphones are each one-of-a-kind. He aligns each before every recording session, and major labels simply cannot do that.

GB: *How, generally, have people been exposed to your recordings? Where do they first hear about you?*

TH: We've had extraordinarily good luck with reviews on our recordings. It's good to see that our recordings are getting some attention for their musical merits. And we are getting quite a bit of radio exposure, particularly on our jazz titles.

GB: *What's been your most satisfying session artistically, and your most satisfying sonically?*

TH: It's difficult to say—I don't want to insult any of our artists. It was especially satisfying to work with Minoru Nojima, a Japanese pianist of prodigious musical gifts. We were fortunate to get Nojima to record for us [Liszt on RR-25CD]. He has refused to work with Japanese labels,

who have been after him for many years. He made some recordings early in his career and did not like the way they turned out, and so he had shied away from recording. I'm especially pleased with the artistic merits of that recording. We plan to do some more work with him this fall. I'm looking for concerto opportunities; but orchestras are a problem.

It's also difficult to say which is the most satisfying recording sonically. One of my goals in life is to make a recording I'm happy with. We're getting better. I'm largely pleased with what we're doing, but there are always aspects that bother me. The recording that bothers me least would probably be the Gershwin songs recording with Marni Nixon and Lincoln Mayorga [RR-19CD]. It's a convincing illusion of a singer and pianist performing in a real hall.

GB: *If you could go back in time and re-do a specific recording, what would that be?*

TH: I would do them all. The one I like the least is called *Your Friendly Neighborhood Big Band* [LP: RR-14]. We walked into that one thinking we could capture the sound of a 20-piece jazz band with our symphonic miking approach. If we could do that one again, we would use studio technique with many more microphones. You can't go to a live jazz performance expecting to hear real instruments. What you hear is a lousy PA system. Jazz players seem to have become so accustomed to amplification that they can no longer listen to one another. Recording producers and engineers now have to balance these ensembles electronically.

GB: *You said you'd like to do some concerto recordings, but that there are problems.*

TH: Paying for orchestras is a large problem. The American musicians' union seems to have as one of its primary goals the prevention of American orchestras' being recorded. Even for major labels, the expenses are simply unworkable. You will notice that fewer and fewer American orchestras have recording contracts. Even major orchestras like the Boston and Chicago are not exclusive

with one label. Conductors tend to have label affiliations, but not orchestras. For a small label like us, which cannot hope to sell as many copies, it's difficult to justify the expense of an orchestra. For a single three-hour session for a symphony orchestra, whether it's the Philadelphia Orchestra or the Podunk Philharmonic, union rates are the same: around \$30,000 for *one* session—and you need at least two sessions. You have to sell a lot of records to break even. It's an unworkable situation for labels like us.

Some orchestras will help fund a session in exchange for a royalty on sales. Sometimes they get their money back and sometimes they don't. We are looking into those prospects. However, the orchestras that have those monies tend to want to be on major labels. Sonic concerns are secondary to them, if they're any con-

cern at all. They are doing this for commercial purposes and the publicity attached to it. It makes more sense for them to be on CBS Masterworks than on Reference Recordings. We are of course pursuing every possible avenue of symphonic music.

GB: *As a record-company executive, where do you stand on the whole DAT/copyright issue?*

TH: I think the DAT issue has been highly overpublicized. It seems foolish to think that anyone would spend \$2,000-plus for a DAT and upwards of \$12 to \$15 for blank tape in order to copy a CD. I wouldn't do that, and I don't know of anyone who would. The whole thing has been blown out of proportion.

GB: *That being the case, why has the recording lobby blown it out of proportion?*

TH: I have no idea. They must be neurotic on the subject. The whole notion

that DAT is capable of making a perfect replication of a recording is also stupid.

I would be happy if DAT went away. I'd rather not produce recordings in another format. We have so many dollars to work with. I'd rather put that money into new projects. However, we are in the record business; and we are planning to do a sampler DAT to see what the response is. I don't know at this stage if the DAT medium is going to be a viable playback format. It seems to me that its strength is its recording capability.

GB: *Is the prospect of recordable CD worrisome to you at all?*

TH: No.

GB: *So, for your company, the home-taping issue is a non-issue.*

TH: Exactly. I think people are interested in our recordings for their sonic qualities—and they'll want the originals. □

Top Reference Recordings

Although I haven't heard all of Reference Recordings' releases, the best overall introduction to the label I've found so far is the Copland recording referred to by Henderson (RR-22CD). For sheer sonic variety within the single-composer format, this disc can't be beat. Here, engineer Keith Johnson has had to cope with a full orchestra, a chamber ensemble, and—most problematic of all—orchestra plus vocal soloist (a difficult balance to achieve and one that is too often decided quite grossly in favor of the singer). Johnson succeeds admirably throughout.

More in the line of traditional large-orchestra sonic spectaculars is a recording of Respighi's *Vetrata di chiesa* (*Church Windows*), quite the best-sounding version of this technicoloristically orchestrated work (RR-15CD). Also recommendable is a more familiar showpiece, Berlioz's *Symphonie fantastique* (so far available only on two 45-rpm LPs, RR-11). Both the Respighi and

Berlioz recordings put the orchestra in a somewhat mid-distant perspective. To my tastes, the image is just a tad too faraway, but neither recording can be faulted for the excessive reverberation and boomy orchestral sound conveyed by recordings on some other so-called audiophile labels. Indeed, the bass lines in both these recordings are especially clear and natural.

Perhaps too clean and natural is Minoru Nojima's Liszt piano recital (RR-25CD). This disc portrays the instrument from rather nearby, so close that you can often hear the rapping of the Nojima's fingernails on the keys (from the left channel). This can get irritating in the manner of Glenn Gould's humming, but does not detract from the overall sound quality, which is as good a recording of a piano as I've ever heard. Engineer Johnson has managed to create a believable sonic image of a grand piano without its spreading from speaker to speaker

and being so distant that musical details are lost in the ambient wash.

Also up-close and personal is one of the best solo harpsichord recordings: Albert Fuller's quirky yet stylish performances of Rameau solo pieces on RR-27CD. You should be warned, however, that the recorded level on this disc, compared to that on the others in this roundup, is extremely high. The elegant solution to this is, of course, simply to turn the volume down by about 10 dB.

No roundup of Reference Recordings productions would be complete without a mention of the album *Dáfos* (RR-12CD), which consists of performances on a variety of exotic percussion instruments. Even though the CD is mastered from an analog tape, it has a dynamic range and sense of acoustic space unusual in recordings made by either analog or digital methods. For its sonic virtues, it deserves its status as the label's best-selling recording. *David Ranada*

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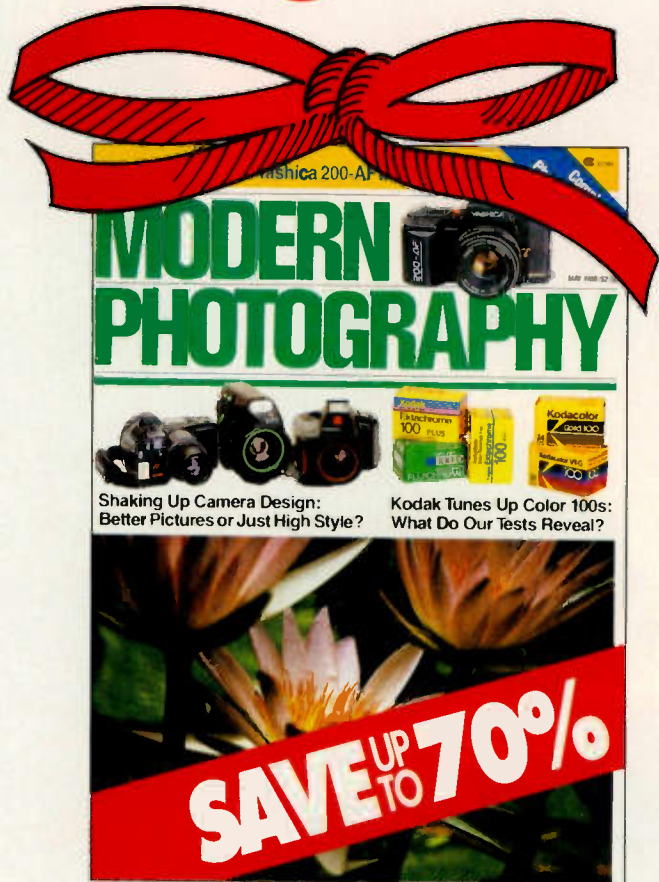
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with an input 10 dB above that required for a sound pressure level of 85 dB. The actual output, however, was closer to 92 dB SPL. And because of this behavior, the lab omitted its usual "100 dB" test. All this means, however, is that the MS-10, like other small speakers, is best suited for moderate listening levels and fairly small rooms. Like its competitors, it loses some listening quality if pushed too hard. Unlike most others, the loss is in dynamic punch more than in distortion, which averaged only about 1 percent over most of the range in the "95-dB" test—very good for a model of this size.

DSL measured the speaker on a 21-inch stand with its back 3 inches out from the wall. The curves show exceptionally close tracking between on- and off-axis curves, bespeaking excellent dispersion characteristics. There is the usual dip in the floor-reflection range around 300 Hz—here, perhaps, a little more clearly etched in our curves than usual. Aside from this artifact of room placement and the steep rolloff below about 60 Hz typical of vented speakers of this size, the curves fit within a fairly narrow window: +4½ to -3 dB on-axis.

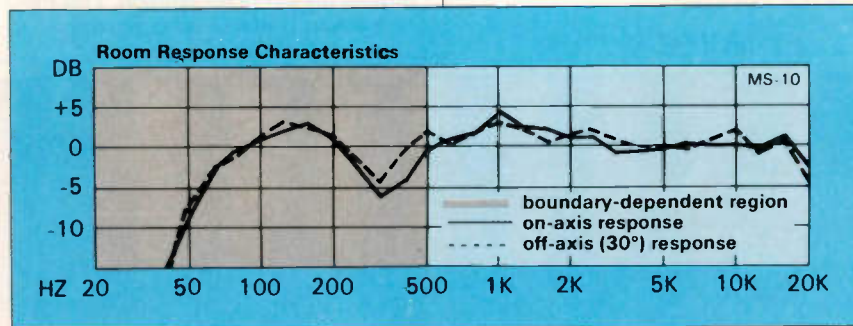
Impedance varies relatively little across the frequency band. The twin bass-resonance peaks characteristic of vented systems fall at about 40 and 100 Hz and rise no higher than 15 ohms. The highest peak is just over 16 ohms, in the crossover region. The lowest minimum is a broad midbass trough that reaches to 6.7 ohms. The manufacturer's 8-ohm nominal rating thus is spot-on, though our music-band average is a little higher. But no matter how you look at it, the MS-10 should be an easy load for any amplifier to drive—and will remain so, even if you drive parallel pairs of them.

The sound is as appealing as I've ever heard from a speaker of these dimensions. It is smooth and "round." Only when I switch back and forth between this pair and my reference speakers—which are many times the size and cost—am I forcibly reminded how tiny the Mordaunt-Shorts are. The comparison shows the MS-10 to be more forward and, thus, a little "shallower," but it's astonishing how small the difference is and how little the obviously restricted deep-bass response of the smaller model matters in some music.

I even used the MS-10s far out into the room: a placement that is encouraged by the owner's manual ("try for a minimum of at least . . . 14 inches") but will probably prove impractical in most installations, where DSL's three-inch distance may be taken as the norm. The sense of solidity remained remarkable,

considering that my reference speakers deliver about two more octaves of bass. The MS-10's imaging is excellent, and coloration is essentially absent by the standards of its class. You can hear some unevenness in scales and other low-treble musical passagework, but this minor roughness (which seems to fall toward the upper end of the woofer range) does not translate into significant alteration of vocal quality, for instance.

Reviewing this tiniest of Mordaunt-



Short speakers is rather like observing a pair of pearl earrings from among the Crown Jewels. While the effect is admittedly far grander elsewhere, the workmanship and quality are all there, in miniature. In short, I don't see how you could go wrong with the MS-10 if you're looking for a very compact speaker to use in, say, a den, bedroom, or dorm room. For an imported model, the price is modest; and the sound is exceptional by any yardstick.

Robert Long ▶

Sensitivity (at 1 meter, 2.8-volt pink noise)

86 1/2 dB SPL

Average Impedance (250 Hz to 6 kHz) 11.2 ohms

ABOUT THE dBW

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

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

Pioneer DEH-66
Car Stereo
Receiver/
CD Player

To be quite honest, I had misgivings the first time I looked at the DEH-66's front panel. Anything this sleek and stylish had to be a pain to operate because of the multiple duties each of the controls would have to perform, right? No way. While you may have to keep the manual around for the esoteric functions that you will seldom need—like changing the anti-theft entry code—ordinary operations with the DEH-66 quickly become as automatic as turning the key in the ignition. This Pioneer model is not alone in proving how

panel choose such functions as preset scan; best-station memory (the six strongest stations are automatically memorized on one FM band); local-seek sensitivity (which provides two settings for AM and four for FM, in addition to the normal DX mode); FM mode (stereo/mono); manual tuning (automatic seek is the default); and balance/fader/loudness-compensation adjustment modes.

At the other end, visually balancing the volume and other controls, are the CD eject and stop/play buttons and one to turn on the tuner—turn-on being



DAVID A. WAGNER

Dimensions: DIN standard; for front or rear mount.

Connections: Plug-in harness includes bared wires for ignition, battery, and lighting, flat female for antenna/accessories control, and spade-lug ground; standard coaxial female for antenna input; female pin connectors for line output; round male and female for speakers.

Fuses: 6-amp in ignition line, 3-amp in battery line, 0.5-amp in control line.

Price: \$800.

Warranty: "Limited," one year parts and labor.

Manufacturer: Pioneer Electronic Corp., Japan.

U.S. Distributor: Pioneer Electronics (USA), Inc., P.O. Box 1760, Long Beach, Calif. 90801.

remarkably ergonomics have improved in car stereo equipment since we started testing it almost six years ago, but it does so with a special flair.

Volume is controlled by a pair of large buttons, treble and bass by a pair of rockers nearby. Balance and fader—which normally are set-and-forget adjustments—use the volume buttons in conjunction with an adjustment-mode stepper. The bevy of round buttons is for tuning (the pair of buttons connected by what might be called an "isthmus"), station presets, and radio-band (AM/FM-1/FM-2/FM-3) selection. There are six presets, so you can memorize 6 AM and 18 FM frequencies. Unobtrusive additional buttons along the bottom of the

automatic when you insert a Compact Disc. When you're playing a CD, the radio preset buttons double as controls for the functions I don't normally bother with in a moving car: fast scan in both directions, track skip (using the tuning buttons, making this relatively useful function the easiest to operate), ten-second track sampling, repeat of the current track, random play, and elapsed/remaining time display.

The measurements from Diversified Science Laboratories show the CD response to be very flat, with a very slight ripple on the top end and a slight rolloff in the ultrabass, but nothing that could be considered a significant imperfection. The player passed the Philips tracking

Nothing comes remotely close.



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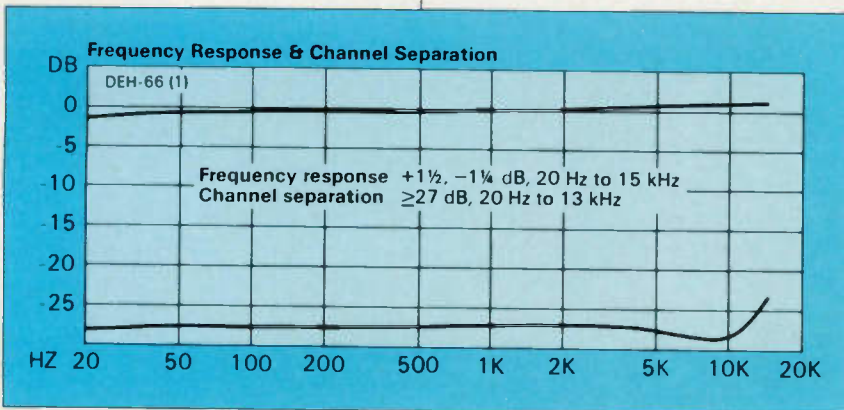
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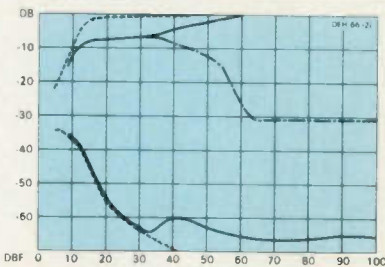
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Test Reports

FM Tuner Section



Sensitivity & Quietening



— stereo quieting (noise) & output
- - - mono quieting (noise) & output
- - - channel separation at 1 kHz

Stereo sensitivity (for 50-dB noise suppression) see text

Mono sensitivity (for 50-dB noise suppression) 17 $\frac{3}{4}$ dB at 98 MHz

Stereo S/N ratio (at 65 dBf) 66 $\frac{1}{4}$ dB

Mono S/N ratio (at 65 dBf) 72 $\frac{1}{4}$ dB

Capture Ratio 4.6 dB

Selectivity (alternate-channel) 70 dB

AM Suppression 76 dB

Harmonic Distortion (THD+N)

	stereo	mono
at 100 Hz	1.1%	0.39%
at 1 kHz	1.2%	0.23%
at 6 kHz	1.6%	0.14%

tests without difficulty; on the Pierre V erany disc, it started balking only when the flaws built into the test tracks reached 1.5 mm—a major crater by CD-

The DEH-66's FM frequency response has a slightly rising characteristic. Though response is only about 1/2 dB higher at 10 kHz than it is at 100 Hz, this was enough to subtly exaggerate the rather hard sound inherent in the test-car setup. (The CD response, which if anything tilts in the opposite direction, sounded merely bright and lively in comparison.) But correcting for such effects is just what tone controls are for. In other respects, the FM tuner is representative of its type and generally comparable to the performance of home units.

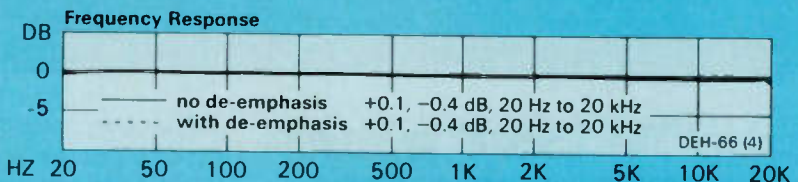
Band limiting helps the AM section sound clean: As the graph shows, the bass is strongly rolled off, and there is essentially no response above 4 kHz. The fact that it does hold up well to 4 kHz, however, gives it more sonic life than some competing AM sections can claim. In all respects, the AM part of the design is distinctly above average. The adjustable local-scan sensitivity is a nice touch, too, though it isn't as versatile as that of the FM section. As delivered, AM tuning steps in 10-kHz increments, FM by 0.2 MHz—that is, full channels in both bands, by U.S. standards. There is an option for changing to 9 kHz on AM and 0.05 MHz on FM, should you want to use the receiver in a locality where these standards apply.

The built-in stereo amplifier is rated at 20 watts per side according to Japanese industry standards, but only 10 per side on the more conservative basis of essentially full bandwidth (50 Hz to 15 kHz) and 5-percent harmonic distortion into 4-ohm loads. The lab, measuring at

pit standards. On the road, it mistracked once near the beginning of the test but never did so again, despite some additional miles of testing to see whether it would.

In the fading/multipath test of the FM-tuner section, the characteristic "spitting" noises are very muted, thanks to the way output level and channel separation are juggled. The worst effect I encountered was a few moments of rapidly fluctuating output, but even that was relatively mild. As usually is the case, the channel blending necessary to achieve such good results prevents any meaningful stereo sensitivity rating. By the time the signal is weak enough to reduce the signal-to-noise ratio to 50 dB, stereo is long since being received in name only.

Compact Disc Section



Channel Separation (at 1 kHz) 106 $\frac{1}{4}$ dB

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

without de-emphasis 85 dB

with de-emphasis 88 $\frac{1}{4}$ dB

Harmonic Distortion (THD+N; 40 Hz to 20 kHz)

at 0 dB $\leq 0.038\%$

at -24 dB $\leq 0.049\%$

Linearity (at 1 kHz) no measurable error to -80 dB

Tracking & Error-Correction

maximum signal-layer gap $> 900 \mu\text{m}$

maximum surface obstruction $> 800 \mu\text{m}$

simulated-fingerprint test pass

AM Tuner Section

Frequency Response

$+0$, -3 dB, 275 Hz to 3.7 kHz

Sensitivity 3.5 μV

Selectivity 49 $\frac{1}{2}$ dB

AVC Range 68 $\frac{3}{4}$ dB

Preamp/Amplifier Section

Bass Control ± 10 dB at 100 Hz

Treble Control $+10 \frac{1}{2}$, -10 dB at 10 kHz

Line Output Impedance 960 ohms

Maximum Line Output Level

from FM (100% modulation) 1.57 volts

from CD (0 dB) 2.18 volts

Output (per channel into 4 ohms; at 3% THD+N)

at 1 kHz 11.5 watts (10.6 dBW)/channel

1 kHz, got a figure a little above the latter rating. (Moral: Be sure you know *how* the ratings are made before comparing them.) In four-speaker setups, this amp powers the front speakers, and the back side of the fader is intended to control the input to an accessory amp via the DEH-66's line outputs.

Playing CDs, with their potentially enormous dynamic range, in a moving automobile, with its wind noise, rattles, and whatnot, may seem like sonic overkill. Admittedly, the pianissimos of uncompressed symphonic recordings do tend to become inaudible unless you're

playing the music loud enough to threaten the car's chassis welds. My answer is to play chamber music instead. No other signal source except DAT can match the sound quality of the CD; you'll hear the difference very clearly, even at paralegal speeds. This model, which at its introduction was billed as "the industry's first true one-piece high-powered car CD/tuner," makes the joys of CDs conveniently available. You have to give up a built-in cassette transport, but, given the sound quality and ease of use of the DEH-66, that is a tradeoff I welcome.

Robert Long

This brawny new amplifier is something of a cross between two previous Hafler products: the DH-500 (test report, July 1982) and the XL-280 (test report, April 1987). Its physical design and power capability mirror that of the DH-500, with a few noteworthy improvements. Like the earlier (and still available) model, the XL-600 sports handles and a faceplate notched for mounting in a standard EIA rack panel, and it uses a multispeed fan to assure adequate cooling of its output transistors. However, the front panel has been redesigned for a more elegant, less industrial appearance and, to minimize noise, the fan speed is now continuously variable (depending on the temperature inside the case) instead of having only three speeds. The fan is still pretty loud at full tilt, but under normal operating conditions it is very quiet, although not quite inaudible, from a distance of a few feet or so.

Other changes are more substantial. Where the DH-500 uses 12 MOS FET (metal-oxide semiconductor field-effect transistor) output devices, the XL-600 uses 16, for higher current and power capability. And the XL-600 simplifies the procedure for converting the amplifier to bridged mono operation. You simply change the position of a back-panel switch and make the appropriate alterations to the input and output connections. Hafler rates the amp at 900 watts in this configuration, and though we did not test it in bridged mode, our stereo measurements give no cause for doubt.

The actual amplifier circuitry in the XL-600 resembles that of the XL-280. In particular, it provides for execution of Hafler's Excelinear procedure, which enables you to adjust the amplifier for minimum distortion when driving your loudspeakers. The process is more cumbersome with the XL-600, however, since you must open up the amplifier to get to the adjustments—something

Hafler recommends be done only by a technician, because of the electrical-shock hazard. Frankly, we consider this adjustment for compulsives only, given that the XL-600's distortion is so low anyway that you wouldn't actually be able to hear the difference on music.

The main advantage of using MOS



DAVID A. WAGNER

Hafler XL-600 Power Amplifier

FETs as amplifier output devices is that they are not subject to a self-destructive process known as thermal runaway, which can occur in ordinary bipolar transistors when they heat up from delivering large amounts of current to the load. Consequently, a MOS FET amp can be designed without the complex and sometimes problematic protection circuits normally necessary in audio am-

Dimensions: 19 by 7 inches (front panel), 12¾ inches deep plus clearance for connections and rack handles.

Price: Assembled, \$1,195; kit, not yet available.

Warranty: "Limited," three years parts and labor.

Manufacturer: Hafler, Division of Rockford Corp., 613 South Rockford Dr., Tempe, Ariz. 85281.

Test Reports

Rated Power

8-ohm load	24.8 dBW (305 watts)/channel
4-ohm load	26.5 dBW (450 watts)/channel

Output at Clipping (at 1 kHz; both channels driven)

8-ohm load	25.7 dBW (370 watts)/channel
4-ohm load	27.4 dBW (550 watts)/channel

Dynamic Power (at 1 kHz)

8-ohm load	26.6 dBW
4-ohm load	28.8 dBW
2-ohm load	30.5 dBW

Dynamic Headroom (re rated power)

8-ohm load	1.8 dB
4-ohm load	2.3 dB

Harmonic Distortion (THD; 20 Hz to 20 kHz)

at 24.8 dBW (305 watts)	≤ 0.053%
at 0 dBW (1 watt)	< 0.01%

Frequency Response

	±0 dB, < 10 Hz to 26 kHz
	+2 3/4, -3 dB, < 10 Hz to 725 kHz

S/N Ratio (re 0 dBW; A-weighted)

	92 dB
--	-------

Sensitivity (re 0 dBW)

	142 mV
--	--------

Input Impedance

	36k ohms
--	----------

Damping Factor (at 50 Hz; re 8 ohms)

	120
--	-----

Channel Separation (at 1 kHz)

	75 1/2 dB
--	-----------

plifiers. The XL-600 does have a thermal breaker that will automatically trigger an output relay to disconnect the amplifier from the load if it simply begins to overheat. This relay also will trip if there is excessive DC at the output, and it comes on for several seconds whenever you power up the amplifier to prevent turn-on thumps from getting through to your speakers. There are back-panel fuses in the speaker lines, as well, but these are strictly to protect the loudspeakers. Internal fuses on the AC line and the power-supply rails will shut down the amplifier if there is a serious malfunction.

I was a little surprised to find a relatively skinny power cord with a two-prong plug on such a powerhouse amplifier, but both are adequate. Diversified Science Laboratories noted in its report that the power switch tends to crackle a bit if the amp is turned on at a crest in the AC line voltage. Although I did not notice this, DSL's experience suggests that a hefty switch might be in order as insurance against premature failure. Speaker connections are to hefty, color-coded five-way binding posts that can accept anything from bared wire to spade lugs to banana plugs; the inputs are gold-plated RCA pin jacks.

The lab data indicate nothing less than spectacular performance. The XL-600 can pump out more than half a kilowatt continuously into 8 ohms, and on the pulsed signals of the dynamic-power

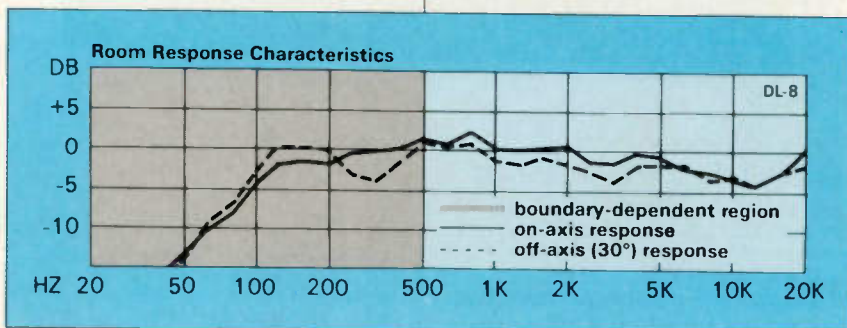
test its output reached 460 watts into 8 ohms, 760 watts into 4 ohms, and a whopping 1,120 watts into 2 ohms. Distortion remains well below the threshold of audibility from low levels all the way up to rated output, and noise is very low. Damping factor (which reflects the amplifier's output impedance) is high not only at low frequencies, but at high frequencies as well—better than 60 at 20 kHz—where it usually is quite a bit lower. This is not a big deal in most installations, but it will help maintain flat treble response into speakers whose impedances drop very low at high frequencies, as is the case with many electrostatics.

The XL-600's frequency response is dead flat across the audio band. Although it rises to a small peak in the extreme ultrasonic range (sometimes a warning flag of instability), neither we nor the lab noted any tendency to oscillation or other untoward behavior.

Amplifiers have always been what Hafler does best; the XL-600 merely drives that point home. Its superb performance and, for the power delivered, reasonable price make it a very attractive product in its class. In keeping with company tradition, Hafler probably will make the XL-600 available in kit form, at a somewhat lower price. I would be inclined to wait for that version, myself (Hafler's amp kits come with prewired circuit boards and usually are fairly easy to build), but if soldering isn't your bag, this one will do nicely. *Michael Riggs*

Celestion DL-8 Series Two Loudspeaker

This is the second-generation version of what was, at the time of its introduction, my very favorite Celestion loudspeaker: the DL-8. And it does not disappoint.



Sensitivity (at 1 meter; 2.8-volt pink noise)

89 1/2 dB SPL

Average Impedance (250 Hz to 6 kHz)

16.3 ohms

The DL-8 Series Two is an acoustic suspension system built around an 8-inch woofer and a 1-inch dome tweeter, with the crossover at approximately 3.5 kHz. Celestion is unusual in that it makes all the drivers for its high fidelity loudspeakers. The design of these drivers

is, in fact, the central element in the design of the speakers. Celestion was the first manufacturer to use laser interferometry to examine in detail exactly how speaker diaphragms behave at various frequencies and drive levels. It has used the information obtained by this means to build drivers that behave as nearly as possible like ideal "perfect pistons" over as wide a range of operating conditions as possible.

The first dramatic result of this labor was the copper-dome tweeter used in the original SL-6. The DL-8 Series Two's tweeter is a variation on that theme, with an aluminum diaphragm that affords greater sensitivity and more extended treble response. It is mounted on the midline of the front baffle, above the carefully formed plastic-cone woofer. To minimize cabinet resonance, Celestion uses a figure-eight arrangement of internal braces.

The speaker is available in a black or simulated-walnut vinyl finish. A black stretch-cloth grille mounts to the front

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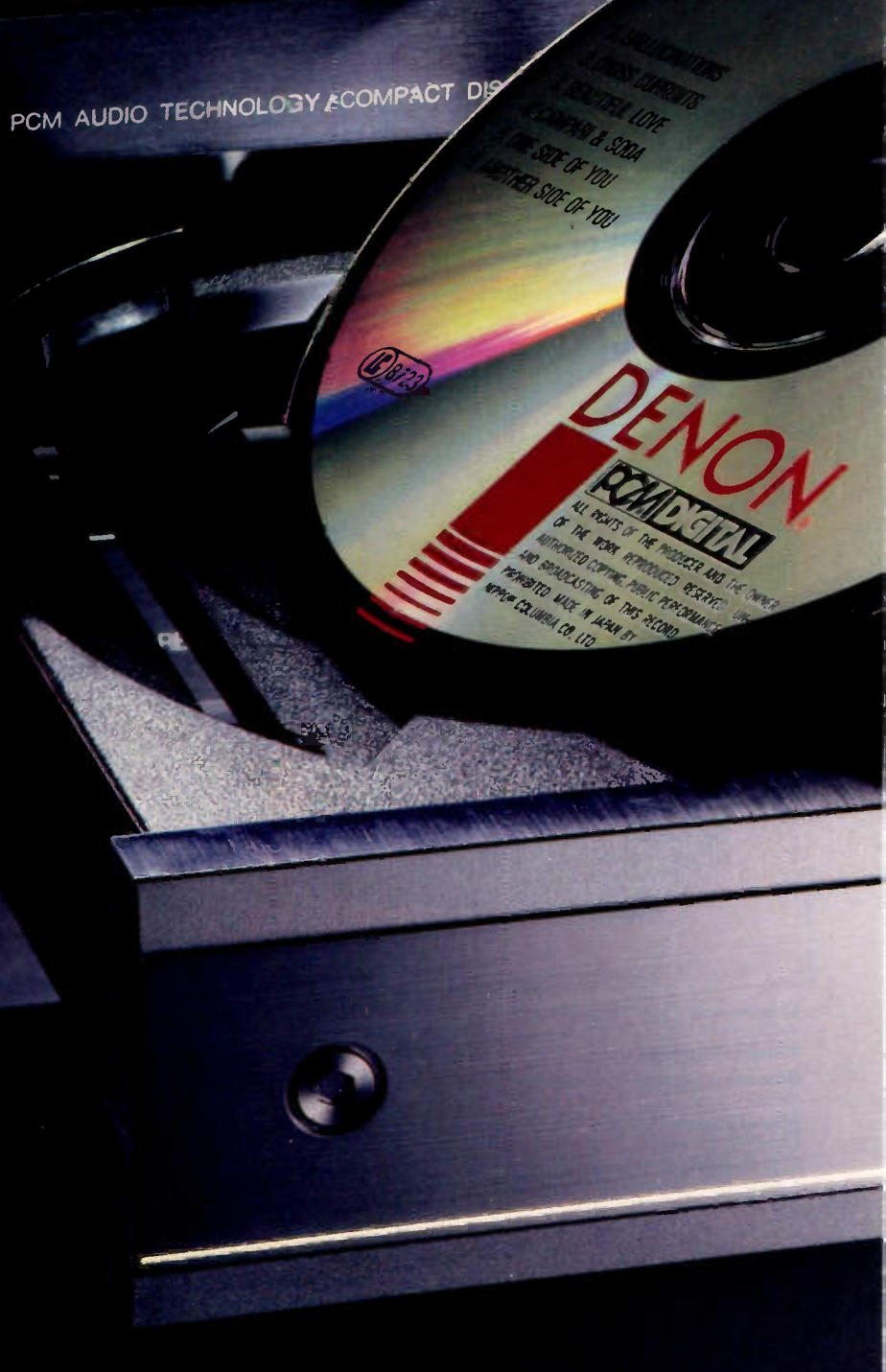


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DESIGN INTEGRITY



Test Reports

baffle, completing the compact and attractive package. Amplifier connections are to special screw terminals recessed at an angle into the back of the speaker. They accept bared wire or even banana plugs—a very nice system that I'd like to see more of.

Celestion recommends that the DL-8s be placed on stands at least 18 inches

er handling that range is elevated to the ear level of a seated listener. The cause is interference between the direct output from the driver and energy reflected off the floor. Celestion seems to have compensated for this effect, as it is only mildly apparent off-axis and not at all on-axis. There is a small rise between about 400 and 800 Hz and a dip in the upper treble, centered at about 12 kHz, but these are very minor deviations.

Power-handling ability is very good for a speaker of such modest dimensions. In Diversified Science Laboratories' 300-Hz pulse test, the DL-8 accepted the drive amplifier's full output, equivalent to 28.1 dBW (648 watts) peak into 8 ohms, delivering a calculated peak sound pressure level of more than 117 dB at one meter. Distortion is well contained at moderate drive levels, hanging around 1/2 percent or less over most of the range between 100 Hz and 10 kHz (the upper limit of our distortion testing) at 85 and 90 dB SPL. The distortion data do spike up a bit between 4 and 6 kHz, but we were not aware of it when listening. Distortion overall climbs as the drive is increased, and at 100 dB SPL (our highest test level), it varies between 1/2 and 3/4 percent from 100 Hz up.

Sensitivity is about average by current standards (perhaps just a shade to the low side). Impedance is relatively high for a modern loudspeaker, with peaks of 28.4 ohms at 68 Hz (the system resonance) and 27.7 ohms at 1.7 kHz. The lowest impedance is 6.3 ohms at 20 kHz, with other dips to 6.5 ohms at 200 Hz and 7.6 ohms at 4.5 kHz. Consequently, the DL-8 Series Two should be an easy load for any good amplifier, and in most cases you could run another pair of speakers in parallel without concern.

As a music reproducer, the DL-8 is simply first-rate. Tonal balance is smooth and pleasing, the only noteworthy coloration being a very slightly "cupped" or "closed" quality on some vocals. The speaker also renders the sound of violins, for example, a little darker than do models with flatter treble response. One would be hard put to say which is more "correct," however, or even preferable. The deepest bass is missing, but this is hardly surprising for a loudspeaker of the DL-8's size. Stereo imaging is excellent. A few much more expensive systems deliver a greater sense of openness and depth, but the Celestion certainly is at least equal in this regard to anything else that I know of in its price class. If you're looking for a fairly compact, high-performance loudspeaker, the DL-8 Series Two deserves to be well up on your list.

Michael Riggs



DAVID A. WAGNER

Dimensions: 11 by 19 3/4 inches (front), 10 1/4 inches deep.

Price: \$549 per pair.

Warranty: "Limited," five years parts and labor.

Manufacturer: Celestion International, Ltd., England.

U.S. Distributor: Celestion Industries, Inc., Kuniholm Dr., Box 521, Holliston, Mass. 01746.

away from the nearest wall, and we followed those directions for both our lab and listening tests. As you can see from the response curves, this placement extracts some penalty in deep-bass output. Pushing the speakers back against a wall extends the bass response down almost an octave. This makes the overall response slightly rougher, but the effect on sound quality actually is rather small, so you may prefer such a placement if you find the speakers lacking at the bottom. For the most part, I was quite pleased to leave them out from the wall.

Response above 125 Hz is remarkably smooth—within about $\pm 2\frac{1}{2}$ dB from 125 Hz up on-axis and nearly as good off-axis. Most speakers exhibit a response dip around 300 Hz when the driv-

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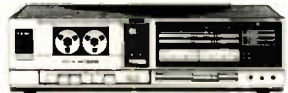
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**Edited by Ted Libbey
and Ken Richardson**

Watch on the Elbe

We've got trouble, right here in River City: New York, which has two rivers and lots of classical record labels, is about to lose its biggest label to Hamburg, which has only one river and one very important label. There's more. The man who will head the label new to Hamburg is the man who used to be in charge of A&R at the old one. Confused? They're not confused in Tokyo, where all of this got started.

By the time you read this, Günther Breest, who presided over Deutsche Grammophon's classical operation for the better part of a decade, will have left the yellow label to become managing director of CBS Masterworks. As a part of the deal, the Masterworks division will move its headquarters from New York to Hamburg, although CBS Records Inc. says that "a major CBS Masterworks staff and office" will be maintained in New York.

It has been a year since CBS sold its record operation to the Japanese electronics giant Sony. Since then, a lot of people at Masterworks have been waiting for the other shoe to drop. Now it has. Breest comes to Masterworks with the reputation of having made Deutsche Grammophon the preeminent classical label in the world today. He has taken big chances and reaped big rewards. But, to borrow the parlance of umpiring, he's missed as many calls as he's made.

Sony's strategy in wooing Breest away from DG (but not Hamburg) is clear in both its positive and negative aspects. Breest is a proven winner, even if his strengths, from this vantage point at least, appear to be more in the realm of artist relations and production than in management. That's the positive side. The negative side, to no one's surprise, is preemptive: By taking Breest away from DG, Sony hopes to deal a serious blow to the competition. Animals do it, nations at war do it, and big corporations do it. When you're serious, aim for the head.

Sony's long-range goal, obviously, is to lure artists and projects away from DG. It was elegantly put by Norio Ohga, chairman of CBS Records Inc., in the press release announcing the shakeup. Ohga allowed that the appointment of Breest and the transfer of operations to Hamburg "will enable us to capitalize on the tremendous opportunities that now exist to expand our artist roster and enhance our repertoire with the finest possible performances." For the code words "finest possible," simply substitute the letters DG, and you get the picture.

But it may not be as easy for Breest to induce artists to switch as Sony seems to think. And reports are already circulating that Breest has been unable to persuade some of DG's technical and production types to defect. "One man does not a label make," is the way one highly placed Polygram official put it.

Ted Libbey

A Visit from St. Hank

It's a week before Christmas, and all through the loo I'm retching o'er "Greensleeves," perhaps you are too. These saccharine carols keep filling the air And turning the season to one of despair. But there's holiday music in jazz and in rock, So you don't have to listen to all of this schlock. *A Collection* (from Prestige), if jazz be your yen, Joins *God Rest Ye* (from CBS) *Merry Jazzmen*. Nearly all of these versions are played with true guts: Messrs. Gordon & Blythe can sure roast those chestnuts. If you drown out the themes that they must improvise, You may find your Yule tol'rance beginning to rise. There are also some discs that will be all the rage With the partisans of mellow jazz and new age: *A Winter's Solstice*, from the Windham Hill sleigh, Has carols included to give it away. For Rhino-sold rock: *Christmas Rock* on EP. (It comes on green wax in the shape of a tree.) CBS: Fishbone says, *It's a Wonderful Life*. (It's another EP, where both wit, funk are rife.) Want more? All three discs of the *Midnight Christ-mess* Join *Ze Records Christmas* as some of the best: If you can't understand mutant-crazed caterwaul, Then these albums don't sound like Yule albums at all! The songs are all fresh, and no standard is heard, And in most of the lyrics, 'mas be but a word. *Very Special* (A&M) *Christmas* rocks rev'rently, But then all of the profits are marked "charity." "Christmas Carol" (Tom Lehrer's one) and more fun bits Are on Rhino's Demented *Christmas Novelty Hits*. (And Scrooge Brothers *Christmasland* sure will appall, As sophomoric humor clears air and the hall.) From Rhino again, *Christmas Gift* does collect All Spector—though all sung with too much respect. *Have a Merry Chess Christmas* is so full of soul— From the people who really made up rock 'n' roll, With neat stuff by Moonglows, O'Jays, and Berry— This disc could go far to make Scrooge, um, merry. Atlantic's *Soul Christmas* has much the same thing, With songs from guys like e-Ben-E-zer (burp!) King. And for more, *Christmas Time Again* has some fine trax: Albert King, Rufus Thomas, great artists from Stax. One more Rhino, *Cool Yule*, will help boomers get down, With some tunes from Surfari, as well as James Brown. And so all of the discs in this haphazard lot Will turn cold days of winter into something quite hot. I could go on like this 'til the New Year's sixth day But my poetic license Ken's just grabbed away.

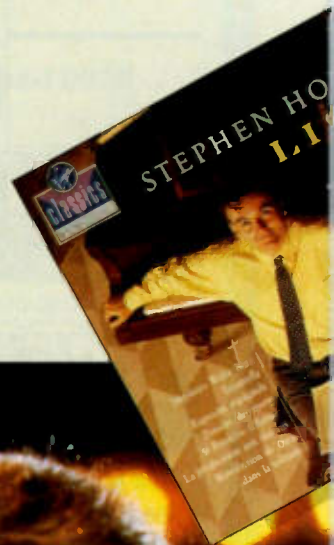
Mr. Hank Bordowitz is the guy you've just read. Merry Christmas to all, and to all a good—Ed.

Brave NEW LABEL

The launching of a new label devoted to the classics is always cause for celebration, even amid the upsurge in classical music sales occasioned by the Compact Disc revolution. Unlike the established labels, which can subsidize their new releases by repackaging their back catalogs on CD, a newcomer must start from scratch. Every release in a record company's early days should, in theory, have the potential to produce a decent return. Faced with selecting repertory to achieve this end, new labels often opt for one, or both, of the following strategies: making yet another recording of a tried-and-true standard or staking one's claim to a unique market niche for obscure works. Between these two extremes lie various alternatives, including creative couplings, little-known works by popular composers, and recitals by up-and-coming artists.

Virgin Classics's managing director, Simon Foster, formerly of EMI, certainly knows his options. The first 15 releases on this new English label—available on both CD and cassette—reflect a combination of astute marketing instincts and uncompromising artistic integrity, and this surely augurs success. Of course, not everything is equally recommendable, but the overall level of accomplishment leaves no doubt that a vital new voice in classical music has arrived, and music lovers on both sides of the Atlantic shall be the richer for it.

Of the five discs that contain orchestral music, only one represents the "war-horse" approach suggested above: Jukka-Pekka Saraste conducting the Scottish Chamber Orchestra in Mozart's Symphonies Nos. 32, K. 318; 35, K. 385 (*Haffner*); and 36, K. 425 (*Linz*). This is also the least desirable offering in the label's entire debut release. The Scottish Chamber Orchestra is not a first-rank ensemble, and the conductor—a young Finn whose name will be new to many—is being more logically and successfully introduced by RCA, in a Sibelius cycle with the Finnish Radio Symphony. Saraste's Mozart lacks punch, and the brass and timpani parts are seriously underplayed and underrecorded. There is simply too much competition in this repertory for this new entrant to earn a recommendation (CD: VC 7 90702-2; playing time: 68:58).



An auspicious debut
for England's Virgin Classics
BY DAVID HURWITZ



At first glance, American conductor Andrew Litton's recording of Mahler's First Symphony with the Royal Philharmonic Orchestra seems to suffer from some of the same liabilities as Saraste's Mozart. Even though it's a very creditable performance—well played and beautifully recorded—it faces stiff competition from veterans such as Bernard Haitink (Philips), Riccardo Muti (Angel EMI), Jascha Horenstein (Unicorn-Kanchana), and James Levine (RCA), among others. But here is where intelligent marketing comes to the rescue: Virgin has coupled the symphony with the thematically related *Songs of a Wayfarer*, excellently sung by mezzo-soprano Ann Murray. Not only does this make for better value than any other performance of the First on CD, these performances offer an ideal introduction to the composer's sound world and to the fascinating interrelationships between his songs and symphonies. A release such as this, which is certainly greater than the sum of its parts, can be warmly recommended (VC 7 90703-2; 70:59).

No self-respecting English record company should neglect its country's diverse selection of contemporary music, and Virgin doesn't disappoint. In fact, it must have been something of a coup for the label to persuade Sir Michael Tippett, England's greatest living composer, to conduct his own Concerto for Double String Orchestra and *Fantasia concertante on a Theme of Corelli*. Both works are among his most popular and attractive. The wild, bluesy *Songs for Dov*, memorably sung by tenor Nigel Robson, is a substantial bonus that also reveals the composer's most characteristic mode of address: the human voice. All three pieces on this disc are authoritatively performed by the Scottish Chamber Orchestra (which fares far better than it did in the Mozart), aided no doubt by the composer's relaxed but always buoyant tempos (VC 7 90701-2; 70:55).

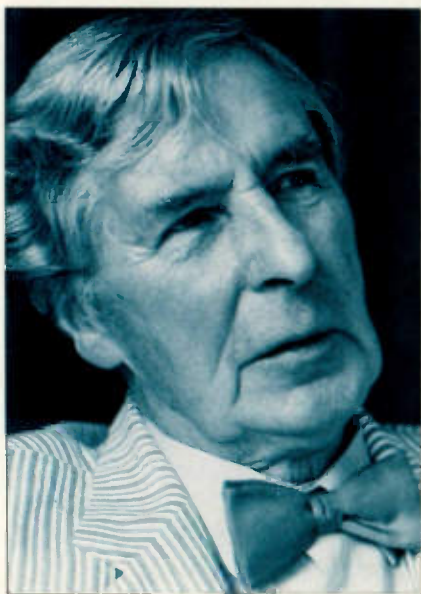
A superb account of Walton's First by Leonard Slatkin (left) and the London Philharmonic is among the highlights of the first release. Above, Virgin's distinctive covers speak for themselves.

Like Tippett, Gerald Finzi was above all a composer of vocal music, but the resemblance ends there. Finzi's restrained eloquence makes him a sort of English Fauré, and like the French master, his music has gained popularity thanks largely to recordings. Two of Finzi's loveliest works, *Dies natalis* and *Farewell to Arms*, both for tenor and string orchestra, are very well performed by Martyn Hill and the City of London Sinfonia conducted by Richard Hickox. The balance between soloist and orchestra is especially natural, as it is in the companion piece here, Finzi's Concerto for Clarinet and Strings, in C minor, Op. 31. Clarinetist Michael Collins does full justice to one of the most moving and lyrical works ever written for the instrument (VC 7 90718-2; 61:04).

William Walton's splendid First Symphony has had no completely satisfactory recorded performance since André Previn's 1960s RCA version with the London Symphony Orchestra. Virgin has remedied this situation, enlisting Leonard Slatkin, who not only plays the pants off the piece but also urges the London Philharmonic on to feats of precision not often achieved in their recent work. The strings earn special praise for handling Walton's tricky syncopations with astonishing power and unanimity. Slatkin treats Walton's early *Portsmouth Point* overture with similar tautness. Virgin's sound is excellent, though the timpani and percussion exchanges at the end of the symphony would have benefited from more definition. This is a major release that deserves the highest possible rating (VC 7 90715-2; 49:55). ▷

Pianist Stephen Hough has been gaining recognition since his 1987 Chandos recording of two Hummel piano concertos, which won one of *Gramophone* magazine's annual awards (one of the few, in this observer's estimation, that was well deserved). Virgin has taken the hint and has given the young virtuoso a solo turn in an all-Liszt recital. This extensive selection includes early, flashy items like the *Mephisto Waltz* No. 1, the "Tarantella" from *Venezia e Napoli* (a three-part supplement to *Années de pèlerinage, deuxième année*), and *Rhapsodie espagnole*, but focuses on the later, more austere pieces. Indeed, Hough's control and insight into *Pensées des morts* and *Bénédiction de Dieu dans la solitude*, from *Harmonies poétiques et religieuses*, and *St. François d'Assise: la prédication aux oiseaux*, from *Légendes*, are second to none, whereas his treatment of the showier works might seem a bit lightweight to some. His technique and commitment are never in doubt, however, and the album cover, which features a Mephistophelian Hough comfortably crucified on his piano, aptly sums up the character of the entire recital (VC 7 90700-2; 75:24).

Orchestral, chamber, and vocal music are well represented by the likes of Sir Michael Tippett (below), Domus (center), and Linda Hirst (bottom right).



MIKE EVANS

The Borodin String Quartet has long had a reputation as the finest ensemble of its kind in the Soviet Union. A new Western recording by the group of Beethoven's quartets in C and in F minor (Op. 59, No. 3, and Op. 95) might be counted an event, but unfortunately the results are disappointing: The interpretations are prosaic, and they suffer from an aging Valentin Berlinsky's creaky cello playing. In this instance, the superior accounts offered by such groups as the Talich, Vegh, and Smetana quartets make it pointless to settle for second best (VC 7 90713-2; 53:29). Much better, and an excellent value, too, is Domus's recording of Brahms's First and Third piano quartets, two works that are difficult to perform well. These four young artists elegantly clarify the composer's thick textures and still provide a gutsy attack when necessary. Virgin deserves credit for making these rewarding but still too-little-known pieces available (VC 7 90709-2; 76:25).

Two releases mark Virgin's entry into the often controversial, frequently out of tune, but always interesting world of original-instrument ensembles, and both are great successes. Fretwork, an English early-music consort, plays viol music from the late Tudor and early Stuart periods. William Byrd, William Lawes, Orlando Gibbons, Anthony Holborne, John Dowland, John Bull, and Alfonso Ferrabosco are all represented on a disc entitled *Heart's Ease*. It's lovely music for quiet listening (VC 7 90706-2; 59:17).

Sir Charles Mackerras's reading of Schubert's Ninth Symphony (dubbed the *Great*), with the Orchestra of the Age of Enlightenment, is one of the outstanding events in the brief history of original-instrument recordings. This is the symphony in which writing for brass instruments—trombones in particular—comes of age, and no other recorded performance has ever made more of Schubert's glorious scoring. Mackerras intelligently opts for a large orchestra, with four horns and three trumpets, so that the piece loses none of its grandeur.

Indeed, the wind and brass detail moves the sound of the symphony into the world of Bruckner and makes light of the fact that the conductor observes all of the repeats. Best of all, Mackerras's interpretation ranks among the finest available, regardless of instrumental choice; it is lean, exciting, carefully inflected, and never rushed. A genuine revelation (VC 7 90708-2; 59:30).

Most labels see fit to offer some crossover material, or at least to package some repertory groupings as classical "easy listening," and Virgin's two compilations are better than most. *French Impressions* features cellist Paul Tortelier conducting the English Chamber Orchestra in an assortment of tidbits including Debussy's *Prélude à l'après-midi d'un faune*, two of Satie's *Gymnopédies* (arranged for orchestra by Debussy), Massenet's *Méditation* from *Thaïs*, and other goodies by Fauré, Saint-Saëns, Pierné, and Tortelier himself. It's all very well done, charming and unpretentious (VC 7 90707-2; 54:18).

Fans of American "Irish tenor" Robert White will certainly enjoy a new collection of Irish songs, billed somewhat surprisingly as favorites of the late Princess Grace of Monaco. Apparently, the Princess collected song manuscripts and other items from the



MARTIN BECKETT



Emerald Isle and housed her collection in an Irish museum in Monaco. Though all 19 of the pieces recorded here come from her collection, most of them—including "Danny Boy," "MacNamara's Band," "Molly Malone," "My Wild Irish Rose," and "I'll Take You Home Again, Kathleen"—will be familiar to aficionados. Robin Stapleton conducts the Monte Carlo Philharmonic Orchestra in accompaniments that add to the pleasure (VC 7 90705-2; 57:33).

Virgin's three vocal-music offerings run the gamut of marketing options, and once again it is the daring and unusual that earn the highest praise. At the other end of the spectrum, though, is the label's disc of Joseph Canteloube's *Chants d'Auvergne*. No one needs still another version of these songs, and although Arleen Augér sings well (who doesn't, in this music?) and Yan Pascal Tortelier does a

fine job leading the English Chamber Orchestra, the scant playing time and absence of filler material take this account out of the running with virtually all other releases. Definitely one of Virgin's few lapses in judgment (VC 7 90714-2; 49:20).

Much more interesting is English mezzo-soprano Linda Hirst's recital of music written for Cathy Berberian (Mrs. Luciano Berio), titled *Songs Cathy Sang*. Diego Masson leads Hirst and the London Sinfonietta in Berio's colorful folk-song arrangements, and Hirst does a solo stint in John Cage's *Aria*, Henri Pousseur's *Phonèmes pour Cathy*, Berio's *Sequenza III*, and Berberian's own *Stripsody*—a hilarious blend of comic-strip noises. The presence of an audience adds to the fun in these last four works, and the disc makes a loving tribute to a unique artist, as well as a treat for fans of the avant-garde. Virgin's courage is to be commended, as is Hirst's vocalism (VC 7 90704-2; 58:23).

Last, but certainly not least, Virgin has made the first recording of Benjamin Britten's operetta-cum-musical *Paul Bunyan*. [For more on Bunyan, see Dec. 1988's "Great Britten," by Terry Teachout.—Ed.] This work, the greatest of Britten's "American" period, has until now seemed nearly as mythical as its subject. W. H. Auden's libretto is great fun, but the music is what counts, and it's sensational. Think of a sort of English Kurt Weill and you'll have a good idea of Britten's concept, although the imaginative handling of the chorus is uniquely his own. Folk ballads, strophic songs, and ensemble numbers abound in masterful array.

This two-disc set is a major addition to the Britten discography, and unlike the other Virgin releases, it is also available on LP. Philip Brunelle leads the Plymouth Music Series of Minnesota in a performance that is about as perfect as can be imagined (VC 7 90710-2; 112:40). This group has performed American premieres of countless vocal works, and one hopes that Virgin will continue the association. How about a recording of *The Voyage of Edgar Allan Poe*, by Dominick Argento—a Minnesotan and America's answer to Benjamin Britten?

Virgin Classics has made a stunning debut. In the months ahead, there will be additional releases arriving on our shores, and with luck, the label will become a major force in classical music. One important caution: Virgin should make every effort to record a diverse and international range of artists and repertoire. For a new label planning its first batch of recordings, it is good economic and artistic practice to stay fairly close to home and tailor to the local audience. But now Virgin needs to look further. There are too many great composers and great performers the world over for a record company with such promise to develop an island mentality. □



CHRISTOPHER DAVIES



MINI-REVIEWS OF THE LATEST COMPACT DISCS

By Robert E. Benson, Thomas Hathaway, David Hurwitz, Paul Moor,
Christopher Rothko, Terry Teachout, and James Wierzbicki

ELGAR, VAUGHAN WILLIAMS STRING MUSIC: ORPHEUS

This fetching collection brings together five 20th-century gems from the glorious English tradition of string music that stretches all the way back to the 16th-century string consorts: Elgar's *Introduction and Allegro*, Serenade in E minor, and *Elegy*, and Vaughan Williams's *Fantasia on a Theme by Thomas Tallis* and *Fantasia on Greensleeves*. Although the Orpheus Chamber Orchestra works without a conductor, these young virtuosos display exemplary musical unity and produce waves of rich, burnished string tone in solidly musical interpretations. Deutsche Grammophon has provided a recording of matching quality. Playing time: 49:23. (DG 419 191-2.) P.M.

HONEGGER WORKS: I MUSICI DE MONTRÉAL

It's a mystery why a chamber orchestra in so French a city as Montreal would give itself so Italian a name as I Musici—the name is not entirely Italian, though, for what might have been I Musici di Montréal is in fact I Musici de Montréal. What's not a mystery—not, at least, to anyone who has spent time with its recordings—is the ensemble's extraordinarily high quality. Formed by Yuli Turovsky just four years ago, and completely independent of Charles Dutoit's well-known Montreal Symphony Orchestra, the group already plays with a precision that rivals that of its famous namesake in Rome, and these days it's even arguable that the Canadians generate the smoother, more finely balanced sound.

I Musici de Montréal's twelfth disc on the Chandos label features splendid performances of works by Arthur Honegger. The conductor's wife, Eleanor, and Suzanne Careau are the violin and viola soloists, respectively, in the *Prélude, arioso et fugue sur le nom de BACH* (1936) that forms the centerpiece of this album; flutist Timothy Hutchins and English horn player Pierre-Vincent Plante augment the orchestra's 18-member string body in the *Concerto da camera* (1949); and James Thompson is the trumpeter who adds the touch of sonic brilliance to the glorious finale of the Symphony No. 2 (1941). Playing time: 51:51. (Chandos CHAN 8632. Distributed by Koch Import Service.) J.W.

SIBELIUS ORCHESTRAL WORKS: HALLÉ, BARBIROLI

Sir John Barbirolli's 1966 recording of Sibelius orchestral music sounds outstandingly real and honest on this CD reissue. True, the Hallé Orchestra was never world-class, but the sound it makes here is absolutely right for the music. The slightly thin strings—which almost never get a tune, anyway—permit Sibelius's characteristic wind writing to penetrate without strain, and the brass put an appropriately ferocious edge on their tone in *Finlandia* and *Pohjola's Daughter*. This kind of pungency and commitment stand in stark contrast to the smooth, generalized blandness that typifies the recent Sibelius recordings by Simon Rattle and the City of Birmingham Symphony for this label.

Interpretively, Barbirolli directs classic performances that have been equaled but never bettered. It's hard to imagine the *Karelia* Suite sounding more gutsy and joyous, *Pohjola's Daughter* more graphically adventurous, or *Lemminkäinen's Return* more exciting. *Finlandia* has an indisputable virility, while *Valse triste* conveys wistfulness without becoming lachrymose. For newcomers to Sibelius's music, there is no finer introduction available, and veteran listeners will derive equal satisfaction. Playing time: 50:20. (Angel EMI CDM 69205.) D.H.

BLOCH SYMPHONY: SLOVAK, GUNZENHAUSER

Ernest Bloch's provenance turned him into a cosmopolite of rare coloration. Born in Geneva in 1880, he studied under Eugène Ysaÿe in Brussels (and under Ysaÿe's pupil François Rasse, who was also a student of César Franck). In Frankfurt, his teacher was Iwan Knorr, who also taught Hans Pfitzner, Cyril Scott, and Ernst Toch. Bloch himself subsequently taught at New York's Mannes School, served as the first director of the Cleveland Institute of Music, and later, after retiring from his professorship at the University of California, settled in Agate Beach, Oregon. By the time he died, in 1959, the world had come to know him primarily for a handful of enduring works, including his powerful *Schelomo* rhapsody for cello and orchestra and his endearing first Concerto grosso for strings plus piano obbligato.

Bloch composed the Symphony in C sharp minor at the age of twenty-three.

The world since then has passed it by, but the mature composer, according to the accompanying notes, "was to point out that the symphony contains the roots of what he was to become," and that makes it of interest to sincere Bloch admirers. Richard Strauss's influence dominates, but one also hears foreshadowings of Mahler—whose music, at that time, Bloch had not yet discovered. The Slovak Philharmonic, founded in Bratislava in 1949, traditionally has ranked second to the glorious old Czech Philharmonic, but here its efforts truly pay off; it does indeed sound like a first-rate band. American conductor Stephen Gunzenhauser directs a thoroughly able performance. Playing time 48:45. (Marco Polo 8.223103. Distributed by Harmonia Mundi, U.S.A.) P.M.

BACH ORGAN CONCERTOS: PRESTON

Bach transcribed a large number of concerti grossi for solo keyboard during his career, scrupulously following the original in his arrangements. While the success of these transcriptions is mixed, it is the five surviving organ concertos (B.W.V. 592–596) that are the most convincing, perhaps because of the considerable orchestral palette available on the organ. Three of the five are based on works by Vivaldi and are, for this listener, particularly interesting. The D minor Concerto is the most dramatic, with a mysterious, hushed opening and many contrasts of mood. The A minor seems especially at home on the organ and is a fine concerto in its own right. Simon Preston gives lively performances, and his light touch and spry rhythm bring the works closer to Vivaldi than to the characteristic grandeur of Bach's organ writing. Preston plays a beautifully voiced modern instrument by the Danish builder Marcussen. Unfortunately, Deutsche Grammophon has managed to submerge the lower registers in an echoing smear without capturing any sense of church ambience. Playing time: 56:15. (DG 423 087-2.) C.R.

HAYDN "SEVEN LAST WORDS": HUNGARIAN STATE, FERENCSEK

Hard as it may be to believe, Haydn's *The Seven Last Words of Christ* was quite possibly his most popular work during his lifetime. The composer himself thought highly enough of it to create three ver-

sions: the original, orchestral work, heard here; an oratorio; and a string quartet. He also permitted his publisher to come out with a solo keyboard version. The Hungarian conductor János Ferencsik made this moving piece something of a specialty; his performance of the oratorio is available on another Hungaroton Compact Disc (HCD 12119), though Haydn's orchestral conception remains the preferred way to experience the work. Although the sequence of eight slow movements followed by a brief concluding "earthquake" may be trying to modern ears, it's not necessary to listen to the whole work at one sitting. But it is certainly worth tackling at some point, since this piece contains some of the most emotional music written during the Classical era. Ferencsik and the Hungarian State Orchestra play with eloquence and conviction, and the sound is fine. This is much more than a mere musical curiosity, even if it is unlikely to ever become truly popular. Playing time: 65:19. (Hungaroton HCD 12358. Distributed by Qualiton Imports, Ltd.) *D.H.*

SCHUBERT STRING QUARTETS: NUOVO QUARTETTO

Now that the Quartetto Italiano no longer exists, one wishes that the presence of its violist, Piero Farulli, in the Nuovo Quartetto were enough to turn that group into something as good, by way of compensation. Unfortunately, the new ensemble plays without the Italiano's tone, blend, or refined musical taste. Its account of Schubert's Quartet in A minor, D. 804, is coarse-sounding and discontinuous for much of the time, its treatment of the Andante precious. As for the Quartet in E flat, D. 87, the Nuovo's rough performance does not make this early work interesting to hear. Playing time: 66:25. (Denon CO 1849.) *T.H.*

BACH "WELL-TEMPERED CLAVIER": JARRETT

ECM, the jazz label whose artists include Gary Burton, Ralph Towner, John Abercrombie, and Keith Jarrett, has gotten into the classical-music business of late, releasing assorted recordings by Gidon Kremer and friends, the Hilliard Ensemble's noteworthy account of Tallis's *Lamentations of Jeremiah*, and a first-rate collection of Hindemith's viola sonatas played by Kim Kashkashian.

Now ECM mastermind and producer Manfred Eicher has lured Jarrett into the studio for an all-classical production that is about as ambitious as you can get: Book One of Bach's *The Well-Tempered Clavier*. Jarrett, chiefly known for his youthful collaborations with Charles Lloyd and Miles Davis and for his marathon solo piano concerts, plays all 24 preludes and fugues perfectly straight on this record-

ing—no rhythm section, no improvisation, no synthesizers. If it strikes you as immodest for Jarrett to have made his classical recording debut with *The Well-Tempered Clavier*, you're absolutely right: Compared to the great keyboard masters who have taken on this towering work, Jarrett inevitably comes off sounding rather bland. His smooth playing is somewhat underarticulated and, surprisingly, more than a little bit sober-sided. Even among jazz musicians, ECM could probably have come up with a more interesting *WTC*. (George Shearing, for instance, is a marvelous Bach player.) The digital sound is tubby. Playing time: 105:43. (ECM 835 246-2.) *T.T.*

HAYDN "PARIS" SYMPHONIES: BERLIN PHILHARMONIC, KARAJAN

Herbert von Karajan's excellent readings of Haydn's six "Paris" Symphonies (Nos. 82–87) with the Berlin Philharmonic came as something of a surprise, as this is an area of the repertory not usually associated with this conductor. The Paris orchestra for which Haydn wrote these splendid works was one of Europe's largest, and Karajan certainly gives the music the grand treatment. It's a positive tonic after so many performances by wimpy original-instrument groups. These are big pieces, and should sound it. The moderate tempos and rhythmic solidity of these performances make it easy to hear foreshadowings of Beethoven in these symphonies, and the stately minuet tempos Karajan adopts are far more suitable here than in his more recent, unhappy versions of Haydn's "London" Symphonies. Don't miss this one. Playing time: 156:29. (Deutsche Grammophon 419 741-2.) *D.H.*

BACH, HANDEL WORKS: CONCERTGEBOUW, BEINUM

Considering how dynamic conductor Eduard van Beinum was in most repertory, it is surprising that his Bach is so sedate. In 1955, Epic issued all four of the Bach orchestral suites on a monophonic two-LP set; the readings were musically solid, if a bit slow. The Second Suite, featuring Hubert Barwahser as the expert flute soloist, has now reappeared on CD, along with Beinum's 1958 recording of Handel's *Water Music* Suite. For those who enjoy a large orchestral treatment, Beinum's is glorious and affectionately phrased. It is a delight to hear the distinctive sound of the Amsterdam Concertgebouw winds and brass in this music.

The *Water Music* Suite is also one of the most successfully engineered recordings ever made in the Concertgebouw; it wonderfully captures the hall's spacious quality but has none of the muddiness that mars many later Concertgebouw recordings. Although an error in the CD booklet

indicates that the Handel, like the Bach, is a mono recording, Philips advises that it is in fact stereo and will be labeled correctly as such in future pressings. The Handel's former, stereo incarnations are an Epic LP (BC 1016), a Philips Festivo LP (6570 171), and an Epic quarter-track tape version (EC 803). While some directionality can be perceived on the CD reissue, much of the ambience and resonance that made the original recording so pleasurable have been lost—perhaps as a result of the No Noise processing applied during remastering. If you are fortunate to own a copy of Beinum's *Water Music* Suite in any of its stereo releases, treasure it, as its sound quality will surpass the sonics on this disappointing CD. Playing time: 68:44. (Philips 420 857-2.) *R.E.B.*

VAN WASSENAER CONCERTOS: AMSTERDAM BAROQUE, KOOPMAN

The six *Concerti armonici* are hardly unfamiliar works, having masqueraded for centuries as the creations of Giovanni Pergolesi. This new recording by Ton Koopman and his Amsterdam Baroque Orchestra is the first to restore the works to their probable author, Count Unico Wilhelm van Wassenaer. It is easy to see why these concertos—sunny, buoyant, and thoroughly Italianate—were attributed to a Mediterranean master rather than to a Dutch nobleman. By the same token, their remarkable consistency and sophistication of argument make one wonder if they could really have been written by an amateur. No matter, these works are delicacies of the late Baroque, which receive spirited performances here. Best of all, Koopman and his players are not afraid to relax and indulge in the sweetness of the music. The recording has an excellent sense of space, but the bass is a bit muddy. Playing time: 58:12. (RCA Erato ECD 75395.) *C.R.*

VAUGHAN WILLIAMS, WARLOCK VOCAL WORKS: PARTRIDGE

Tenor Ian Partridge's surpassingly lovely recordings of Ralph Vaughan Williams's *On Wenlock Edge* and Peter Warlock's *The Curlew*—two of the most striking 20th-century works for voice and chamber ensemble—have been recoupled on a single midprice CD together with Partridge's equally accomplished performance of Vaughan Williams's *Ten Blake Songs*, for voice and oboe. The Music Group of London supplies polished accompaniments, with the late Janet Craxton playing oboe in the *Blake Songs* and English horn in *The Curlew*. Anyone interested in English vocal music should snap up this disc. Complete texts and superb liner notes by Michael Kennedy, a biographer of Vaughan Williams, Elgar, and Britten. Playing time: 61:54. (Angel EMI CDM 69170.) *T.T.*



LAUTERWASSER

MAHLER

from a Master

MAHLER: Symphony No. 2, in C minor ("Resurrection").

① *Hendricks, Ludwig; Westminster Choir, New York Philharmonic, Bernstein. Hanno Rinke, prod. Deutsche Grammophon 423 395-2 (D, 2). ◉ (2). ☐ (2).*

MAHLER: Symphony No. 4, in G.

① *Wittek; Amsterdam Concertgebouw Orchestra, Bernstein. Hanno Rinke, prod. Deutsche Grammophon 423 607-2 (D). ◉ ☐*

MAHLER: Symphony No. 5, in C sharp minor.

① *New Philharmonia Orchestra, Barbirolli. Ronald Kinloch Anderson, prod. Angel EMI CDM 69186 (A).*

MAHLER: Symphony No. 5, in C sharp minor.

① *Vienna Philharmonic, Bernstein. Hanno Rinke, prod. Deutsche Grammophon 423 608-2 (D). ◉ ☐*

Leonard Bernstein's Mahler remains in a class of its own. Although these releases

represent his second—and, in the case of Symphony No. 2, his third—recorded thoughts on the music, they are no less noteworthy. Even now, when Mahler cycles practically leap off the shelves, Bernstein's interpretations, especially these new ones, command attention; doubtless they will serve as reference editions for generations of music lovers. To understand why, one need only compare this new Fifth with EMI's midprice CD reissue of John Barbirolli's famous New Philharmonia version of 1969.

Captured in absolutely magnificent sound, Sir John's account of the Fifth remains a very great one. Yet it belongs to a pre-Bernstein school of interpretation, one in which Mahler's uniqueness is minimized through strong emphasis on the elements he had in common with other important figures in the German symphonic tradition. For example, Barbirolli, along with Mahler's disciples Bruno Walter and

Otto Klemperer, rarely makes a point of the music's almost schizoid contrasts. All three regularly ignore the many tempo changes Mahler demands. Consequently, though just ten seconds separate Bernstein and Barbirolli in their transits of the Fifth's stormy second movement, the latter conductor appears to move at half the pace simply because he takes both lyrical and agitated sections at virtually the same speed. Such consistency may indeed pay great dividends in Beethoven, Brahms, and Bruckner, but it is only part of the story in Mahler. That doesn't mean that the older generation didn't turn in the occasional excellent performance: Barbirolli, for one, often did. But it does mean that the readings of that earlier era were seldom *idiomatic*.

Bernstein's new Fifth is thus important for reasons that are totally independent of Deutsche Grammophon's superb sonics and the Vienna Philharmonic's resplendent

dent playing. The Fifth was one of the first Mahler symphonies Bernstein recorded; in hindsight, his view of the work at that time lacked maturity. Moreover, that recording was compromised by dated sound and by some very scruffy playing from the New York Philharmonic. But unlike Barbirolli, Walter, and Klemperer, who championed only a few select works, Bernstein was among the first to see Mahler whole. Having his latest thoughts on the Fifth so eloquently committed to disc is like finding a chapter that has long been missing from a great novel. Now the elements are all there: The Funeral March is moving and intense; the second movement has a bitterly visionary quality to it; the scherzo is a totally Viennese whirl (not too fast, as Mahler demands); the songful Adagio unfolds gracefully (not too slowly); and the finale goes as if self-propelled.

Barbirolli's Mahler vindicates his rather personal sense of the score, and it's an excellent supplementary version. Bernstein takes matters one step further, with an understanding of the music so complete and inevitable that what emerges isn't so much Bernstein's Mahler as it could be Mahler's Mahler. The same holds true for the conductor's new account of the *Resurrection* Symphony, a work he has recorded twice previously but never this successfully. Bernstein has always responded to the music's drama and grandeur. However, the 15 years since his last recording have tempered the frenzy somewhat, allowing him to bring to this reading the architectural strength that had been the only significant element missing from his previous encounters with this vast musical fresco. This may be the lengthiest *Resurrection* ever preserved for posterity, but such is Bernstein's control of tension and momentum that it never sounds slow. Moreover, the Westminster Choir, Barbara Hendricks, Christa Ludwig, and above all the New York Philharmonic give Bernstein the all-out support his interpretation requires.

If further proof of Bernstein's achievement is necessary, one need only compare this recording of the Second to Simon Rattle's, recently released by EMI, in which a struggling City of Birmingham Symphony Orchestra tries vainly to match the mindless grandiosity of the conductor's conception. Rattle's willful interpretation is a virtual caricature of how one might, if one did not know better, imagine a typical Bernstein performance would sound. Hearing the two side by side only confirms

Bernstein's selfless devotion to the spirit of the music through adherence to the letter of the score. (Rattle's all-English production recently received *Gramophone* magazine's award for "Best Orchestral Recording"—an act of provincialism and bias sadly characteristic of that periodical.) DG's sound, bold and clear, easily surpasses the diffuse and cavernous acoustic that EMI afforded Rattle (which *Gramophone*, yielding to a curious urge to forfeit its respectability, went so far as to recognize with its "Engineering and Sound" award). Here at last is a recording of the Second Symphony that deserves the term "definitive." It's not just a performance, it's an event.

Bernstein's new account of the Fourth Symphony will occasion some controversy, especially in the context of what this performance *isn't*—namely, eccentric (except in the matter of the vocalist) or in any way distorted. For the first three movements, Bernstein conducts as charming and as breezy a Fourth as one can find in the catalog. The first movement, featuring the extraordinary Concertgebouw woodwinds, possesses all the freshness and inevitability that distinguishes the other readings in this cycle. The scherzo flows smoothly into the trios, in which the slight ritards and portamentos, whether written in or not, sound perfectly idiomatic. In the poignant Adagio, usually a prime candidate for the anything-you-can-play-I-can-play-slower sweepstakes, Bernstein chooses a tempo faster than usual and makes the movement a truly seamless arch. This is quite possibly the finest recorded performance of this movement yet to come our way.

In the finale, Bernstein does something surprising: He opts for a boy soprano, one Helmut Wittek, who sings with enchantingly artless abandon. Several factors argue in favor of this approach, although the success of the result will always remain a matter of personal taste. There is little doubt that Mahler would have used children's voices if possible—not only in the Fourth, but perhaps in *Das Klagende Lied* as well. Practical musician that he was, however, he must have felt that the absence of reliable soloists would certainly stand in the way of performances of the symphony, or at least seriously impede the presentation of an already difficult score. However quiet and unassuming, this *Wunderhorn* setting is still a finale, the culmination of an entire work. In addition, it is also (as was typical of Mahler's

way of working) the source from which the three preceding movements had sprung. To ensure that it was taken seriously, Mahler decided in favor of assigning the solo part to a full-grown woman, but left a caution in the score that she should sing in "a simple, childlike manner, *without parody*." For me, the tone of the boy soprano brings Mahler's delicate orchestral imagery even more vividly to life.

A final consideration applies not only to this new Fourth but to Bernstein's Mahler *in toto*. Toward the end of his life, Mahler is known to have said to his associates, "If, after my death, something doesn't sound right, then change it. You have not only the right but the duty to do so." Advice not to be taken lightly, certainly, but if anyone has earned the right to exercise this duty in fulfillment of Mahler's intentions, that person is Leonard Bernstein.

Playing times: 93:28 (DG 423 395-2); 57:07 (DG 423 607-2); 74:17 (Angel EMI CDM 69186); 75:00 (DG 423 608-2).

David Hurwitz

BACH, C.P.E.: St. Mark Passion.

Laki, Kunz, Schreier, Schmidt, Backes, Keitz, Wagner; Gächinger Kantorei, Stuttgart Bach Collegium, Rilling. CBS Masterworks M2K 42511 (D, 2).

When one thinks of Passions, Johann Sebastian Bach's towering archetypes immediately come to mind. Bach's second son, Carl Philipp Emanuel, was clearly interested in the genre as well. He composed no fewer than 21 known Passions, most of which have been lost; this one, based on the gospel of St. Mark, is among the survivors and is recorded here for the first time, thanks to Helmuth Rilling.

Those expecting the imposing weight and complexity of the father's great *St. Matthew* and *St. John* masterpieces may be disappointed in the work of the son. The younger Bach's textures and harmonic structure are much simpler, his style more direct, and the writing ultimately less ecclesiastical in tone. What this setting lacks is the tremendous pathos and unbridled emotion of its texts. Angry words are often accompanied by polite string motifs, while deep mourning is set sweetly in major keys. Drama is certainly not wanting, but the music seems almost more operatic than sacred. The work's joyous opening is also a bit of a shock. Perhaps the style should be praised for being less fussy in its word painting, less adamant in its rhetorical gestures, but for me it too often strikes an empty chord. ▶

Despite these reservations, one encounters a good deal of fine music here. The orchestral writing is of a very high order, and many of the arias are attractively shaped. The alto's lovely "Wo ist das Kreuz?" is perhaps the finest example, and a clear exception to my characterization of the score as a whole. This aria is beautifully shaded by Ursula Kunz, who is among the more distinguished in a lineup of soloists not particularly suited to the music. The Evangelist, Peter Schreier, is a touch too emphatic in recitative (he handles his arias better), and soprano Krisztina Laki's voice sounds too large and has too wide a vibrato. Bass Andreas Schmidt, as Jesus, is perhaps the most successful, but none of these singers has a voice that is really scaled for stylish Baroque performance. Rilling paces the work effectively and keeps the chorus well under control, but his string players are not of the highest caliber. The recorded sound is rather small and glaring. Playing time: 122:04.

Christopher Rothko

BACH, J. C.: Quintets (3); Sestetto in C, for Oboe, Two Horns, Violin, Cello, and Keyboard.

English Concert. Andreas Holschneider, prod. Deutsche Grammophon 423 385-2 (D).

Quintets: in D, for flute, oboe, violin, cello, and keyboard, Op. 22, No. 1; in D, for flute, oboe, violin, viola, and continuo, Op. 11, No. 6; in C, for flute, oboe, violin, viola, and continuo, Op. 11, No. 1.

On this disc, instrumentalists from the English Concert bring us a very fine collection of chamber works for winds and strings by Johann Christian Bach. Possessing a certain simplicity of sound, bordering on naiveté, that was common to the early Classical style, the pieces are light-hearted but by no means slight. It is primarily the scoring that elevates these works from the merely pleasant to the profound. To take the Quintet, Op. 22, No. 1, as perhaps the finest example, one finds the oboe and cello almost melting together, the flute singing brightly above them. The harpsichord frequently steps out from its continuo role to punctuate the line of action, while the strings alternately throb in support or jauntily trade lines with the winds. The effect is so brilliant that it readily, and happily, calls attention to itself, making many a similar work from the period seem a mere wash of sound by comparison.

Bach's music is aided by some exemplary musicianship here. The readings are sprightly but never rushed, and show an excellent sense of ensemble among the players. The sound is quite clear in the three quintets, but a little woolly in the sextet. A winner! Playing time: 68:58.

Christopher Rothko

BARTÓK: Bluebeard's Castle, Op. 11.

Martón, Ramey; Women of the Hungarian Radio and Television Chorus, Hungarian State Orchestra, Fischer. Jenő Simon and Georges Kadar, prods. CBS Masterworks MK 44523 (D). □ □

On Béla Bartók's first trip to Paris, a local acquaintance offered to send him to various musical luminaries but failed to mention Claude Debussy, whom the young Magyar provincial said he admired most of all. When his exasperated host asked whether he preferred insults from Debussy to cordial hospitality from all the oth-



Samuel Ramey

ers, Bartók answered without hesitation that he would prefer to endure insults from Debussy.

That admiration for the composer of *Pelléas et Mélisande* radiates from Bartók's only opera, which he finished at the age of thirty; its setting evokes, as does the music itself, Act III, Scene 2, of *Pelléas*, where Golaud takes his younger brother on that ominous visit to the castle's subterranean vaults. Only occasionally does any recognizably Hungarian music manifest itself here, but throughout the score one has the intense pleasure of hearing a young genius feel his way toward becoming one of the greatest composers in history. Time after time, his inspired orchestration and harmonic invention jolt you into sitting up and taking notice.

In only a few years, Eva Martón has established herself as one of today's leading dramatic sopranos. The occasional slightly hard edge to her voice has put me off a bit in other recordings, but as Judith here she seems ideal. Samuel Ramey, a Kansas boy, sings Hungarian with conviction and

emotional nuance; from the vocal standpoint, I have never heard this exceptionally gifted bass sing more magnificently. The orchestra sounds like a first-rate ensemble, and conductor Adám Fischer infuses the many-colored score with passion and brilliance. Of the various recordings of this work to come to my attention, none has ever even approached this one.

I have only two quibbles. The libretto provides Béla Bálazs's original Hungarian (sung here), but instead of supplying literal translations in English, French, and German, it has unnecessarily straitjacketed all three versions into the trochaic tetrameter of the original. That not only circumscribes the translations' accuracy, it also makes the English version seem to have Hiawatha's tomtom in the background. Also, it really seems little enough to expect annotator David Johnson (or his CBS editor) to know the difference between "grizzly" and "grisly." On balance, however, the impressive success of this CBS/Hungaroton coproduction leaves me hoping that many more will follow. Playing time: 62:04.

Paul Moor

BARTÓK: Concerto for Orchestra (piano transcription); Dance Suite (piano transcription); Petite Suite.

Sándor. Georges Kadar, prod. CBS Masterworks MK 44526 (D). □ □

Composers have usually made piano transcriptions of their orchestral works for the most elemental of motivations, such as the indispensability of food, clothing, and shelter. Leonard Pennario once made an interesting specialty of playing the difficult, virtually unknown piano version of *La Valse* that Ravel transcribed; other pianists have found similar curiosities in hidden corners of the repertory, and the advent of Compact Discs has brought an avalanche of recordings of them.

You might bridle at the very notion of a transcription for piano of Béla Bartók's superb *Concerto for Orchestra*, a work that more than almost any other I know exploits the individual technical and coloristic resources of each instrumental group in the modern symphony orchestra. I can only say that even after having heard every performance I could get to of that masterpiece—starting with Serge Koussevitzky's introduction of it to New York in 1944—I find György Sándor's recording a genuine revelation.

The piano version owes its existence to a Ballet Theatre project that never materialized; for rehearsals, Bartók prepared a piano score during the last ten days of January 1944. That version turned up again only in 1985, among papers passed on to the composer's son Peter, and he turned it over to Sándor to prepare it for performance and publication. Bartók himself called bars 482 to 555 in the finale "im-

possible to transcribe adequately for one piano," but unless you unfairly compare Sándor's performance with the orchestral score itself, you will hardly find it wanting.

The pianist plays it not only with his wonted virtuosity and expertise but also with a clarity that particularly illuminates harmonies and voice-leavings usually overlaid by the orchestral texture. Sándor is certainly the man for the job: He premiered the Third Piano Concerto with Eugene Ormandy and the Philadelphia Orchestra (and made the first recording with the same forces) as well as gave the first public performance of one of the shorter works heard here, the piano version of the *Dance Suite*. From a composer of Bartók's genius, you welcome every possible addition to the catalog of his works that you can get. Playing time: 54:24. *Paul Moor*

BRITTEN: Folksong Arrangements (19).

Brightman, Parsons. John Fraser, prod. Angel EMI CDC 49510 (D).
Early One Morning; Come You Not from Newcastle?; Sweet Polly Oliver; The Trees They Grow So High; The Ash Grove; O Waly, Waly; How Sweet the Answer; The Ploughboy; Voici le printemps; The Last Rose of Summer; La Belle est au jardin d'amour; Fileuse; Dear Harp of My Country!; Little Sir William; O Can Ye Sew Cushions?; Oft in the Stilly Night; Quand j'étais chez mon père; There's None to Soothe; Oliver Cromwell.

Benjamin Britten did not regard folksongs exclusively as traditional songs by forgotten, anonymous writers and composers. These 19, for example, include three from the volume of Thomas Moore's Irish songs that Britten arranged. By the time he died, in 1976, he had published seven volumes of "folksong" arrangements, totaling 51 songs. Many of them show—in miniature, unpretentiously but unmistakably—that only a genius could have created them, and a few can rank with the finest of art songs from any country.

Sarah Brightman's high-handed, narcissistic treatment of them here comes as a considerable disappointment. A singer with a light soubrette's voice, she initially attracted attention in the original production of Andrew Lloyd Webber's *Cats*. As long as she sticks to the score and to singing *mezza-voce*, she brings off this material quite well; unfortunately, she has no compunction about altering both text and music, particularly tempo indications, on the apparent assumption that she knows better than Britten did. Pianist Geoffrey Parsons plays as well as ever, but I doubt that he felt comfortable going along with many of Brightman's unmusicianly whims.

Peter Pears and Britten himself recorded a total of 22 of Britten's little folksong gems. I have 17 on London's LP 411 8021, four of them duplications with the nine on

Decca's (10-inch) LP LW 5122; both justify a search, if you feel about these pieces as I do. With the current CD wave of Britten revivals, Decca/London ought to look into them. Playing time: 52:52.

Paul Moor

BRUCKNER: Symphony No. 8, in C minor.

North German Radio Symphony Orchestra, Wand. Gerhard Arnoldi, prod. Angel EMI/Deutsche Harmonia Mundi CDCB 49718 (D, 2).

This is one of the major releases of the decade. Not only does it rank among the finest recordings ever of Bruckner's Eighth

Symphony, but as a performance it stands virtually unparalleled as a testimony to the conductorial art of Günter Wand. Wand's earlier Bruckner Eighth, with the Cologne Radio Symphony (still available on Angel EMI/Deutsche Harmonia Mundi CDCB 47749), was a magnificent, no-nonsense version of great architectural strength. On top of this foundation, Wand now adds a totally natural flexibility of pulse allied to a near-miraculous understanding of the work's dialectic.

The precise nature of Wand's achievement can be neatly summarized through a

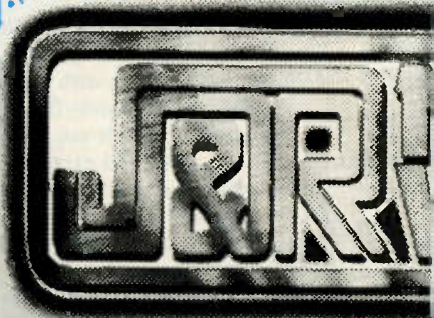
(Continued on page 68)

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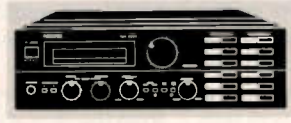
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(Continued from page 65)

brief look at his treatment of a passage from the scherzo. After the first big climax, the development begins with a series of episodes underpinned by two-note timpani taps, themselves reminders of the motif that began the movement. Rather than treating them as mere accompaniment, Wand has his timpanist play each of his entrances slightly louder. This in turn produces an increasingly urgent orchestral response, until the strings tumble themselves into the next passage, urged on by the conductor's all but imperceptible quickening of tempo. What distinguishes this reading from the competition is the way Wand conveys a true sense of drama, of cause and effect, action and reaction. Though only one small moment, it is typical of Wand's entire interpretation. The net result is that, huge as it is, Bruckner's Eighth has never sounded so lucid, nor has the emotional and musical development of each passage in the score been rendered with such utter clarity.

No doubt the circumstances that surrounded this recording contributed to its success. It was captured live in Lübeck Cathedral, as the culmination of the 1987 Schleswig-Holstein Music Festival. The spacious acoustic benefits the music immeasurably, and the sound is superb, barring an edit or two (the recording was pieced together from two different performances). The North German Radio Symphony, which Wand has shaped into a remarkably responsive ensemble during the six years he has been at its helm, plays magnificently—its sound is absolutely right for this music. Playing time: 86:25.

David Hurwitz

DVOŘÁK: Symphonic Poems (5).

① *Czech Philharmonic Orchestra, Gregor. Supraphon CO 2196/7 (D, 2). (Distributed by Denon.)*

The Water Goblin, Op. 107; The Noon Witch, Op. 108; The Golden Spinning Wheel, Op. 109; The Wood Dove, Op. 110; Heroic Song, Op. 111.

DVOŘÁK: Symphonic Poems (5);

Symphonic Variations, Op. 78.

① *Slovak Philharmonic Orchestra, Košler. Opus 9150 1996/7 (A, 2). (Distributed by Koch Import Service.)*

Symphonic Poems: The Water Goblin, Op. 107; The Noon Witch, Op. 108; The Golden Spinning Wheel, Op. 109; The Wood Dove, Op. 110; Heroic Song, Op. 111.

Dvořák's late symphonic poems are, all five of them, masterpieces of melody and orchestration. Anyone who loves the symphonies, the overtures, and the *Slavonic Dances* (who doesn't?) should get hold of one of these fine sets. Both make available domestically for the first time in many years the composer's last work in the me-

dium, *Heroic Song*. Rumor has it—no doubt motivated by the title, and in the absence of any tradition of performance—that this piece is a bombastic exercise in orchestral futility. It is not. *Heroic Song* is a vital and confident assertion of Dvořák's unflagging inspiration and compositional vigor.

Though all five symphonic poems date from the turn of the century, it was becoming clear as early as the composition of the Eighth Symphony in 1889 that the Czech composer's continued artistic growth demanded expression outside the Classical forms. The music that he created around four folk ballads and one abstract program of his own gave Dvořák the opportunity to push his formal and orchestral mastery to new heights. The symphonic poems are full of innovative scoring for harp, exotic percussion, and bass clarinet—all instruments foreign to the Brahmsian tradition that Dvořák adhered to in his late symphonies. Though the symphonic poems have often been compared to Liszt's similar efforts, there isn't anything by the Hungarian composer that even approaches Dvořák's achievement here. Janáček, rightly enough, loved these pieces, and it was none other than Gustav Mahler who, in December 1898, led the Vienna Philharmonic in the world premiere of *Heroic Song*.

These two sets compete indirectly with recordings by Rafael Kubelík, Neeme Järvi, and István Kertész; but their readings were coupled to various symphonies, and in many cases currently languish in discographic oblivion. It therefore makes sense to acquire a complete set (*Heroic Song* is unobtainable otherwise). It's a pity, really, that these two sets had to arrive at once, for there is much to enjoy in Bohumil Gregor's performances, not least the playing of the Czech Philharmonic. Zdeněk Košler's interpretations are slightly the better of the two, however; his readings are much more flexible in rhythm and tempo than Gregor's very straight ac-

counts, and although the Czech Philharmonic is superior to Košler's band, he gets the Slovaks to play with greater conviction and bite. Opus's analog recording has more spaciousness than Supraphon's digital effort, with deeper and richer bass.

The Opus package includes a splendid version of the marvelous *Symphonic Variations*, another underappreciated work. Because Košler's interpretations are truly distinguished, this set deserves the first recommendation if you have room for just one collection of these pieces. Playing times: 105:54 (Supraphon CD 2196/7); 127:00 (Opus 9150 1996/7).

David Hurwitz

FASCH: Various Works.

① *Schreier*, Ihlet, Wilket, Ginzelt, Baert, Güttler; Halle Madrigalistsf, Virtuosi Saxoniae, Güttler. Bernd Runge, prod. Capriccio 10 218/9 (D, 2). (Distributed by Delta Music, Inc.)*

Beständigkeit bleibt mein Vergnügen (cantata for tenor and basso continuo); Concerto in B flat for Chalumeau (clarinet), Strings, Two Oboes, Bassoon, and Basso continuo; Concerto in D for Triple Ensemble; Concerto in D for Trumpet, Two Oboes, Strings, and Basso continuo; Mass in D; Overture (Suite) in D minor; Overture (Suite) in B flat for Double Orchestra; Sonata in C minor for Oboe, Violin, and Basso continuo.*

This remarkable two-CD set celebrates the music of Johann Friedrich Fasch. During his own era he enjoyed vast celebrity, but his lifespan (1688–1758) coincided disadvantageously with that of Johann Sebastian Bach (1685–1750), who of course outshone not only Fasch but almost everybody else in sight. Ludwig Güttler, conceivably today's greatest virtuoso of the brassy little Baroque trumpet, and his superb Dresden chamber orchestra, the Virtuosi Saxoniae, have seized the occasion of the Fasch tercentenary to rescue a sampling of eight of his most important works from the dust of archives in Dresden, Darmstadt, Sonderhausen, Berlin, and Halle. Today only two of these works—the Sonata for Oboe, Violin, and Basso continuo and the Trumpet Concerto—remain in print.

Leading musicologists have not stinted in praising Fasch's works, but most performers have thus far dragged their feet. At the beginning of this century, Hugo Riemann (whose *Musiklexikon* remains a standard musicological work today in German-speaking Europe) opined that Fasch "will one day unavoidably be considered one of the finest contemporaries of J. S. Bach, not merely as a superb representative of the style which Bach led to the heights of perfection, but rather, and at the same time, one of the most important inventors of the new mode of writing which,

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(A) Analog original (D) Digital original

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beginning with Haydn and Mozart, fully superseded the old. Fasch was one of the innovators who put instrumental music on a fully independent footing and replaced fugal writing with modern theme-oriented composition." Georg Philipp Telemann, whom Fasch once called "my most honored and dearest friend," mounted performances of a complete cycle of Fasch's church cantatas in Hamburg. Bach himself esteemed Fasch highly, and almost certainly made (from an original organ trio) the version recorded here of the Sonata for Oboe, Violin, and Basso continuo; the Bach-Werke-Verzeichnis recognizes it as B.W.V. 585. And yet, during three decades of living in Germany and attending innumerable concerts in both East and West, I never once encountered Fasch's name. *Sic transit gloria mundi!*

Fasch apparently came from humble



Peter Schreier

origins; his talent got him accepted as a resident pupil by the choir school of St. Thomas's Church in Leipzig during Johann Kuhnau's tenure as Cantor, but he received no regular lessons in composition or the playing of instruments because he "was not able to pay for the instruction." In 1722, he himself applied for the Cantorship, but the judges passed him over—in favor of Bach. He also missed out on two other posts due to his lack of qualification to teach Latin. Those sorts of things seemed more or less the story of his life.

Fasch's music certainly merits rediscovery, especially in performances as superior as these (I admit I found Güttler's tempos in the first overture on the sedate, almost portly, side, but that proved a tem-

porary aberrance). Peter Schreier—a Dresdner, like all the other artists here—ranks among the finest and most musically tenors in the world today. The brief bass solo part in the little Mass (a *missa brevis* consisting of only a *Kyrie* and a *Gloria*) brings us none other than Olaf Baer, to my mind the greatest new lieder singer to appear on the scene in years. If you don't yet know his superb Angel EMI recordings of songs by Schumann (CDC 47397), Schubert (CDC 47947), and Wolf (CDC 49054) with Geoffrey Parsons, you have missed something very special. [See *feature review*, May 1988—Ed.]

Among the fine print of Manfred Fechner's ample, first-rate leaflet, you can read: "Recording: VEB Deutsche Schallplatten, Berlin/DDR." VEB stands for Volkseigener Betrieb ("The People's Own Enterprise"), Schallplatten means recordings, and DDR stands for the German Democratic Republic. *Capriccio* has by now brought us a list of such offerings lengthy enough to justify the conclusion that, in the recording field, German musicology, whether East or West, remains perhaps the finest in the world. These recordings can hold their own even with the celebrated Archiv series put out in West Germany by Deutsche Grammophon. Playing time: 117:09. *Paul Moor*

GLASS: *Powaqqatsi*.

● *Various artists; Hispanic Young People's Chorus, instrumental ensemble, percussion ensemble, Riesman. Kurt Munkacs, prod. Nonesuch 79192 (D).* ◻ ◻

In 1983, Godfrey Reggio's film *Koyaanisqatsi* was released, and it provoked either puzzled incomprehension or cultish devotion. Lacking in plot, actors, and dialogue, *Koyaanisqatsi* portrayed in vivid terms the dislocation of man from his environment. In the Hopi language the title translates as "life out of balance," and Reggio's vision of mankind tottering at the edge of ecological and sociological suicide was enhanced by vast, panoramic aerial views and dramatic, sped-up and slow-motion photography.

The indication of technology already apparent in *Koyaanisqatsi* comes to the fore in *Powaqqatsi*, although the sequel takes a far broader global perspective. *Powaqqatsi* means "a way of life that consumes the life forces of other beings in order to further its own life," and here the allusion is to Western society and technology, and to the havoc they wreak upon traditional cultures and landscapes worldwide.

Thus it is not surprising that Philip Glass's soundtrack for *Powaqqatsi* also takes a broader, cross-cultural view. Just as Reggio's camera travels the globe, providing us with panoramas of cultural and environmental degradation, so too Glass's

score embraces the sounds of African, Asian, and South American musics. A battery of non-Western instruments, especially percussion, is combined with Western orchestra and electronics. Even "ambient sounds," such as the call to prayer of an Egyptian *muezzin* and a Hispanic children's chorus, are incorporated into the sonic mélange.

The result, one cannot help but admit, is seductive to the point of intoxication. Instead of colliding uneasily, Glass's Western and non-Western, acoustic and electronic, instrumental and vocal forces are cleverly integrated. The extraordinary range of timbres builds up gradually; texture and color slowly thicken while rhythm and harmony remain unchanged. Perhaps it is the very simplicity of the long pedal points and percussive rhythmic ostinatos that enables this dazzling orchestral canvas to unfurl so effortlessly.

Still, one must also admit to having doubts. Certainly Glass knows as much about non-Western music as any Western composer. Yet one cannot help but feel a bit uneasy with his clever, all too superficial appropriation of alien instrumental sounds. What the 19th century called *chinoiserie*—which amounts to employing exoticism for its own sake—is by definition somewhat dishonest as a musical technique: It finds the Western composer raiding the coffers of non-Western traditions and creating something imitative rather than innovative.

So I remain unmoved when I hear Glass's strings mimicking the melodic arabesques of the Middle East, or his percussionists chugging away at African polyrhythms. The most fascinating aspect of this composer's work has always been the influence of non-Western *structure* (primarily the additive rhythms of Indian music), not sound. But it is only when these expanding and contracting rhythmic patterns are clothed in Glass's familiar complement of Western instruments and electronics that one recognizes an intellectually honest and fruitful way of dealing with Eastern and other influences. In fact, the finest portions of *Powaqqatsi* are those in which the overt exoticism disappears, and Glass is freed to explore the intricacies of non-Western structure rather than the superficialities of esoteric sounds.

It seems unnecessary to remark at length on the performers, who were overdubbed in the studio and sound rhythmically precise but emotionally constrained. Only the Hispanic Young People's Chorus succeeds in remaining uninhibited in this high-tech environment. Perhaps the cool performances and strident sonics may be considered as an inadvertent—if appropriately *Powaqqatsi*-an—comment on the corrosive side effects of technology. Playing time: 73:50. *K. Robert Schwarz* ▶

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HERBERT: Concertos for Cello and Orchestra: No. 1, in D, Op. 8; No. 2, in E minor, Op. 30; Five Pieces for Cello and Strings (arr. Dennison).

Harrell; Academy of St. Martin-in-the-Fields, Marriner. Chris Hazell, prod. London 417 672-2 (D). ☉

Five Pieces: Yesterthoughts; Pensée amoureuse; Punchinello; Ghazel; The Mountain Brook.

Sam Dennison, who orchestrated the Five Pieces heard here and who helped cellist



Lynn Harrell

Lynn Harrell construct the cadenza for the first of the concertos, exaggerates rather a lot when, in his liner-note essay, he concludes that "truly, Victor Herbert was a giant." Herbert's abilities as a virtuoso cellist and as conductor of the Pittsburgh Symphony Orchestra (from 1898 to 1904) were indeed significant, and doubtless his role in the formation of the American Society of Composers, Authors and Publishers (ASCAP) in 1913 will sanctify him as far as this country's music business is concerned. But it is Herbert as a composer that Dennison is discussing. For Dennison, the "mountains of hummable tunes" that Herbert contributed to the operetta repertory are nothing when measured against, for example, the two cello concertos; right away, the reader senses that something is amiss when Dennison bases

his claim for the virtues of Concerto No. 1 (1884) primarily on the argument that it is a work "more exciting" and "more warmly romantic" than comparable concertos by German cellist/composer Georg Goltermann (1824-1898).

It is true that Herbert's name remains almost a household word, while Goltermann's is embellished with a single paragraph in *The New Grove Dictionary of Music and Musicians*. Herbert's fame, however, justifiably has far more to do with *Babes in Toyland*, *Naughty Marietta*, and the forty or so other operettas he wrote between 1896 and 1924 than with the handful of "serious" compositions he produced prior to the turn of the century.

Of these early efforts, clearly the most substantial is the 1894 Cello Concerto No. 2, a work whose uninhibited lyric qualities served as an inspiration for Dvořák's Cello Concerto in B minor, Op. 104, of the following year. But in Herbert's two concertos, unfortunately, the lyrical qualities tend to burn out after a mere statement or two of a theme. Developmental passages are generally blustery and lacking in direction and focus, and major sections within movements seem disjunct, each of them arrived at after transitions that are the musical equivalents of treading water.

Both works contain melodies—especially in their middle movements—that are exquisite. These soaring, singing lines command the listener's attention in much the same way as do the tunes of Herbert's operettas and the bonbons that comprise the *Five Pieces*. It is only after hearing what comes next—after hearing how musical ideas that seem perfect for miniature forms are distorted by being stretched beyond their means—that the disappointment begins. Be that as it may, there is no disappointment to be had from these performances; Harrell's sensitive, often rapturous playing and the Academy's plush accompaniments make the paydirt material sound even richer than it is, and their handling of the other stuff is at least consistently animated. Playing time: 66:52.

James Wierzbicki

ROREM: String Symphony*; Sunday Morning; Eaglest.

Atlanta Symphony Orchestra, Shaw*, Laneé. Robert Woods, prod. New World NW 353-2 (D). ☉

Ned Rorem makes his long-overdue debut on CD with three orchestral works performed by the Atlanta Symphony. The *String Symphony* is conducted by Robert Shaw, one of Rorem's favored interpreters. Rorem describes the titles of the five movements ("Waltz," "Berceuse," "Scherzo," "Nocturne," and "Rondo") as "Chopinesque," but the more proximate musical inspiration would seem to be the strongly colored string writing of Britten's

Frank Bridge Variations and Les Illuminations. Whatever the source, Rorem has passed it through the filter of his own highly characteristic style, and the result is a memorable work that will prove an invaluable addition to the string-orchestra repertory. As for the performance, Rorem recalled last year in *The Nantucket Diary* (North Point Press) that "Shaw led the world premiere of my *String Symphony* in such a way that, although future performances by others may be different and even as good as, none will ever be better than." Enough said.

Sunday Morning, composed in 1977 for Eugene Ormandy and the Philadelphia Orchestra, is a more ambitious production, a "non-literal, dreamlike recollection," says Rorem in the album's liner notes, of Wallace Stevens's 1915 poem "Sunday Morning." In this work Rorem reveals himself to be not merely a gifted melodist but an extremely distinctive creator of orchestral combinations. The 1958 *Eagles*, an "instrumental interpretation" of a poem by Walt Whitman, provides further proof that Rorem, known chiefly for his songs and choral music, is in fact a first-class orchestral composer. These last two works are effectively conducted by Louis Lane, who served with Shaw as one of the Cleveland Orchestra's associate conductors under George Szell.

Ned Rorem has been turning out an endless stream of song cycles, acerbic essays, and gossipy diaries ever since the mid-1940s. Always accessible, always tonal, his music was given short shrift during the long, ruthless reign of the academic serialists. Now that these unappealing composers have at last fallen out of post-modern favor, Rorem has emerged at the age of 65 as quite possibly the best composer we have. "The Red Queen said you've got to run fast to stay in one place," says Rorem. "I stayed in one place. Now it's clear I've run fast." This outstanding CD, like *Settling the Score*, his latest collection of essays on music (Harcourt Brace Jovanovich), is a worthy reminder of just how fast Rorem has run. Playing time: 51:18.

Terry Teachout

SCARLATTI, A.: *Dixit Dominus*.

VIVALDI: *Gloria*, in D, R.V. 589.

Argenta, Attroi, Denley, Stafford, Varcoe: *English Concert Choir, English Concert, Pinnock. Andreas Holschneider, prod. Deutsche Grammophon 423 386-2 (D)*.

Vivaldi's famous *Gloria* combines his accomplished vocal writing and his familiar concerto style into an exciting and inspirational package. In performing it, Trevor Pinnock and the English Concert seem most at home in the secular elements of the piece, presenting readings that will set the feet tapping but not necessarily move

the soul. The orchestra is perky and vigorous, but the choir, for all its precision, seems rather reserved and lacks the least bit of emotional involvement. There are fine solo and obbligato contributions, however—most notably, soprano Nancy Argenta's and oboist David Reichenberg's ravishing account of the "*Domine Deus, Rex coelesti*." Despite these reservations, this is still one of the best *Glorias* on disc.

I wish I could say that I found Alessandro Scarlatti's *Dixit Dominus* a more inspired piece. The writing is simply not very dynamic, with rather static choruses and conventionally shaped solo movements. In this case, the performers are not particularly helpful, either, the choir proving somewhat less steady than in the Vivaldi and the male soloists lacking distinction. Engaging orchestral parts and fine string playing prove to be the primary virtues of this offering. The sound in both works is full and detailed but has little sense of depth. Playing time: 52:32.

Christopher Rothko

WAGNER: *Orchestral Excerpts from "Der Ring des Nibelungen"* (arr. Maazel).

Berlin Philharmonic, Maazel. James Mallinson, prod. Telarc CD 80154 (D). Suites from Wagner's music dramas are nothing new; Stokowski arranged and recorded such sequences more than half a century ago. This new release from Telarc, its first recording with the Berlin Philharmonic, offers Lorin Maazel's selection of excerpts from the four music dramas that comprise *Der Ring des Nibelungen*, presented chronologically (with one exception) and including many of the major orchestral interludes. Unfortunately, the

performances are surprisingly tame. Maazel has conducted the *Ring* often in the past, at Bayreuth and elsewhere. I hope those performances were more impressive than the prosaic Wagner he gives us here, which, except for "Wotan's Farewell," has little drive or tension.

On most excerpts recordings, the "Entrance of the Gods into Valhalla" from *Das Rheingold* begins as it does in the opera, with Donner's gathering of the mists and his thunderbolt, followed by the "entrance" music as the gods slowly walk along a rainbow bridge into their castle. In Maazel's suite the sequence is botched: An excerpt from the "entrance" music appears on band 2—before the "hammering" music of the underground Nibelungs (from earlier in the opera)—after which one hears Donner's gathering of the mists (band 4) and the thunderbolt (band 5). This is followed immediately by music from *Die Walküre*.

Those expecting the sonic grandeur brought to the final pages of *Das Rheingold* by Georg Solti—in his complete *Ring* recording, made more than two decades ago—will not find it replicated in Maazel's treatment. This episode aside, however, Telarc's sound is excellent, surpassing most of Deutsche Grammophon's digital recordings made with the same orchestra in the same hall (the Philharmonie in Berlin). But superior performances of Wagner can be had on many other CDs, conducted by Furtwängler, Toscanini, Karajan, Klemperer, Szell, and Solti (though one should avoid Solti's digital *Ring* excerpts disc with the Vienna Philharmonic, London 410 137-2). Playing time: 69:40.

Robert E. Benson

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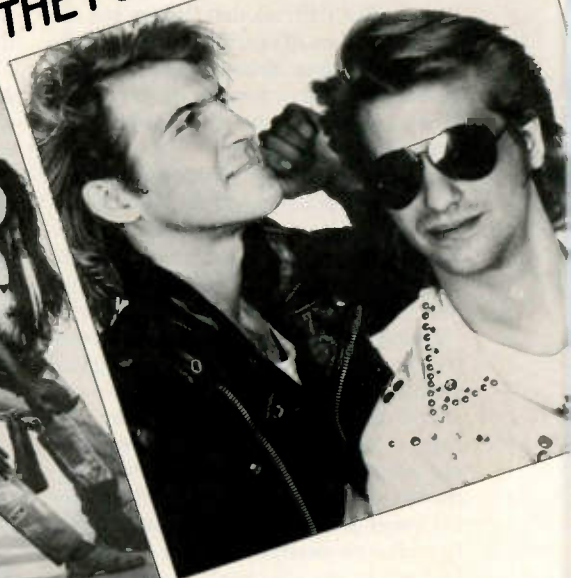
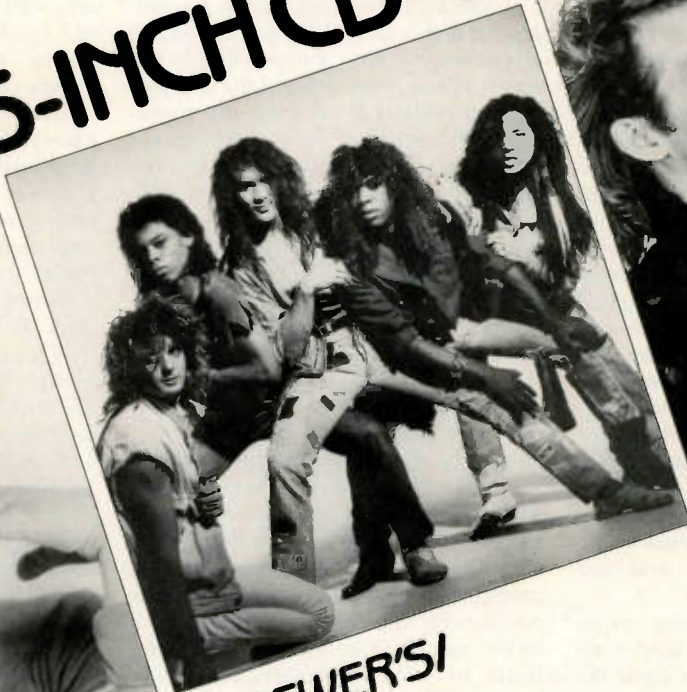
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THE 5-INCH CD-V

ARE WE SEEING
AND HEARING
THE FUTURE?



A VIEWER'S/
LISTENER'S
GUIDE.

On a mid-October visit to the Rockefeller Center flagship of the Sam Goody record stores, they weren't easy to find. "They used to be over here," puzzled Clerk No. 1, "but it looks like somebody moved them." We consult Clerk No. 2, who responds, "They're over there," pointing to a pillar on which hang prominent displays of artists like Johnny Mathis and Bing Crosby. High above them, two unmarked racks are jammed with almost 40 copies of 5-inch Compact Disc Videos. In a tight-for-space marketplace, the CD-V appeared to be getting no respect.

If Sam Goody isn't certain the CD-V is a happening thing, little wonder that John and Jane Doe are skeptical, too. But a handful of record companies, led vigorously by Polygram, are determined to change that: As I write this, the launch of the 5-inch CD-V includes 34 titles from Polygram-related labels, seven from the Warner/Elektra/Atlantic axis, and one from Enigma. And by the time

you read this, dozens more titles are expected.

Much has been written in *HIGH FIDELITY* about the nature of CD-V. To recap, the 5-inch Compact Disc Video is exactly the marriage its name implies: a music video (with Laserdisc-quality picture and digital soundtrack) wedded to a Compact Disc (usually holding four tracks, with a maximum playing time of about 20 minutes). The disc itself is colored gold to distinguish it from the silver CD. Otherwise, the 5-inch CD-V resembles its progenitor exactly—and you *can* play the audio-only tracks of a CD-V on your CD player. Pop one in, and the display will show the number of audio-only tracks and their total playing time, simply failing to recognize the audio and video content of the videoclip. To hear and see that, you must have CD-V hardware—which is mainly appearing as part of the so-called combi-players, machines that accommodate not just 5-inch CD-Vs but also 8-inch and 12-inch CD-Vs and Laserdiscs,

Some of the best (above, from left): Elektra's Anita Baker, Polygram's Dan Reed Network and Men Without Hats

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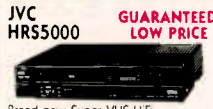
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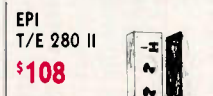
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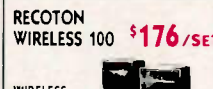


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THE 5-INCH CD-V

as well as 3-inch and 5-inch CDs.

As for the supply of CD-V software, many companies are still waiting and seeing. Indeed, you can't even buy one of the best CD-Vs I've seen and heard, Lyle Lovett's *She's No Lady*, because it's a promotional item distributed by MCA in an effort to test the critical and industrial waters. There are, however, 42 titles in the stores so far, all reviewed here.

We begin with the seven titles from Warner Communications, as they point up several peculiarities of the 5-inch CD-V format. Donald Fagen's **New Frontier** (Warner Bros. 25679-2), taken from 1982's *The Nightfly*, is the CD-V with the oldest material. No doubt Warner Bros. chose this release because it felt the classic upscaleness of the music and the cleverness of the video—which mixes computer

graphics, animation, and live action in a humorous Party During Nuclear War-time—would sell well on CD-V. But this is also the CD-V with the shortest audio-only program, "Maxine" and a repeat of "New Frontier" clocking in at a mere 8:21. The material on Randy Newman's **I Love L.A.** (Warner Bros. 25680-2) is more recent but not current, illustrating that CD-Vs have been in the works for some time and that, in many cases, the releases available today have had to draw from whatever was current at the time the titles were planned. The fact that Newman's CD-V comes from 1983's *Trouble in Paradise* is not itself a condemnation; the facts that the material is relatively poor, the three audio tracks ("I Love L.A.," "I'm Different," "Miami") add up to only 10:16, and the video is cute just the first time around, however, are enough to make it of low priority.

The third CD-V from the Warner Bros. family, Madonna's **Papa Don't Preach** (Sire 25681-2), has a better title videoclip (almost ruined by our her-

oine's incongruous skindancing to the choruses) and a longer audio-only playing time (14:46). Yet, more than ten minutes of that time is consumed by not one but two versions of "Papa Don't Preach"—meaning that the song appears a total of three times (broken up by "Pretender" from *Like a Virgin*). The same strategy is followed by another Warner Communications company, Atlantic, on its two CD-Vs. Of the four selections each on LeVert's **Casanova** (Atlantic 81830-2) and Madame X's **Just That Type of Girl** (81831-2), three are repeats: the title video, an audio-only version of that title song, and an extended-mix audio version of the song. The fourth track (LeVert's "Throwdown," Madame X's "Flirt") accounts for only five minutes of the audio-only time.

This strategy is misguided. The format is CD-V, not EP-V. Various mixes of the same song should be collected on easily affordable vinyl, not relatively expensive digital disc. Even a little repetition is questionable: Why, after all, does nearly every single CD-V under review here repeat its

12-INCHERS: Compact Disc Videos or Videodiscs?

The CD-V story does not begin and end with 5-inch discs. Also available are 12-inch titles, and on the horizon are 8-inch CD-Vs. Sound familiar? It should: Pioneer and a few other companies have been selling 8-inch and 12-inch optical discs for years. Why then are Polygram's long-form titles called CD-Vs and not simply videodiscs? No doubt the company wishes the "CD" connection to bring success to a format that has had a difficult time competing with videocassettes.

This promotes confusion, though. "CD" hardly connotes the largeness of a 12-inch CD-V. Furthermore, "CD-V" is a good distinguishing name for the 5-inch product alone, as it accommodates just a five-minute videoclip and a 20-minute audio-only program, whereas the 12-inch disc holds as much as 90 minutes of simultaneous audio and video. Finally, there's the false implication that Polygram's 12-inch CD-V is somehow inherently different from Pioneer's 12-inch Laserdisc. True, you'll hear only an analog soundtrack if you play the digital CD-V in an old analog Laserdisc player, but otherwise the "two" 12-inch formats are identical. The question now is whether Pioneer will yield to the new nomenclature and dub its own 12-inch discs CD-Vs.

Meanwhile, Polygram is pushing the CD-V designation on four 12-

inchers as of press time—and like the company's 5-inchers, these titles vary widely in quality. Sadly, the worst is Rush's **Grace Under Pressure Tour** (Polygram Music Video CDV 080 103-1), a 70-minute program filmed in Toronto in 1984. When the band made the transition from concert hall to sports arena in the early '80s, it lost a lot of its onstage power and precision, so for the most part the music here has only serviceable sound. Of no assistance are David Mallet's cut-crazy direction (14 shots during Neil Peart's climax to "Tom Sawyer" alone, few of them on the drummer himself) and the blinding reds, whites, and blues that often wash out the picture. The full-length version of the videoclip to "The Big Money" closes the show, but the version on Rush's 5-inch CD-V has much crisper sound and is only 80 seconds shorter.

Eurythmics Live (080 221-1) is a more vital concert recording than the live portion of the Rush 12-inch—yet at times the sound is so clean it's a wonder that this 90-minute program was indeed taped onstage in Sydney in 1987. As for the actual performances, there are some synthy dead spots, but many of the songs ("Here Comes the Rain Again," "Would I Lie to You?," "Missionary Man") are full of energy, fed by some eye-opening guitar work from David A. Stewart and insistent

drumming by Clem Burke, still heir to Keith Moon. Geoff Wonfor directs with an admirably steady hand, and picture quality is rich and accurate.

For a discussion of Bon Jovi's excellent *Slippery When Wet: The Videos*, see the other sidebar, "Bon Fire." For an even hotter time, stay right here for Kiss: **Exposed** (080 101-1). A great deal of the music on this 90-minute program can't touch Bon Jovi's brand of metal, but *Exposed* will keep you entertained with seven videoclips, eight live segments from the band's archives (including an amazingly raw "Deuce" in a tiny San Francisco club way back in 1975), and the running gag of "interviewer" Mark Blankfield getting the lowdown from Paul Stanley and Gene Simmons—a gag that, in a nice twist, turns quite serious during the program's second half. Women, of course, are all over the place, barely clothed most of the time, bare (above the waist) a fleeting moment or two of the time—no worse, honestly, than the sex in the average British TV import. And whereas the male chauvinism of a band like Scorpions takes the form of crudely offensive images, Kiss's fascination with women usually comes across as flattery or self-parody. At any rate, we'd all be better off getting *Exposed* than munching popcorn to the latest teenage slashfest. K.R.

title video in the audio-only program? "So that people without CD-V hardware can for the time being play all of the music on their CD players." Well, sure, but it seems dumb that a new format attempting to sell the *combined* benefits of state-of-the-art audio and video cheapens the value of that video—and wastes one of its audio-only tracks—by adhering to this repetition.

If there had been more communication among the Warner divisions, results might have been better: Elektra, the third Warnerite, is the one and only CD-V company giving us no repetition whatsoever. Anita Baker's **Sweet Love** (Elektra 64001-2) has the title video joined by the audio-only tracks "Caught Up in the Rapture," "Same Ole Love," and "No One in the World." Similarly, the Cure's **Just Like Heaven** (64002-2) supplements its title video with the audio "Catch," "Hot Hot Hot!!!," and "Why Can't I Be You." If Baker is your cup of tea, you'll surely appreciate her video, a Quiet Storm re-shooting of the Police's "Wrapped Around Your Finger." Her movements may be awkward, but she's the epitome of grace next to the lobotomized Cure.

Then again, what Warner Communications does or doesn't do with its CD-Vs may not matter: The real test will be the success or failure of CD-Vs from various labels associated with Polygram, the format's cheerleader. And as might be expected from a line numbering more than 30 titles, Polygram's CD-Vs can represent the format at its dullest and its riveting best. The most striking thing about Polygram's line is that 24 of the 34 titles offer either some sort of white metal or some sort of black funk. The presumption, then, is that most of Polygram's CD-Vs are aimed largely at white and black teenagers—a curious demographic for the new format. Are young buyers likely to want a combi-player that lists anywhere from \$750 to \$1,300? True, many young listeners have written this magazine about their new-found CD joys. Polygram is hoping the glitter of compact, high-tech audio and video will likewise lure their money.

Unfortunately, much of Polygram's metal is terrible. I refer specifically to Cinderella, Kingdom Come, and Scorpions, who together account for seven of the company's 16 metal CD-Vs. From Cinderella we get **Nobody's Fool** (Mercury 870 704-2), with audio-only tracks "In from the Outside," "Push, Push," and "Nothin' for Nothin'" (and of course "Nobody's Fool," as all Polygram CD-Vs repeat the title video); **Somebody Save Me** (870 705-2), with "Hell on Wheels," "Back Home Again," and "Once Around the Ride"; and **Gypsy Road** (870 725-2), with "Second Wind," "Fire and Ice," and "Long Cold Winter." This is bad video-and music-making on every level—and

lead singer Tom Keifer has got to go. For that matter, so does lead singer Lenny Wolf of Kingdom Come, who offer **Get It On** (Polydor 870 720-2), with "17," "Pushin' Hard," and "The Shuffle"; and **What Love Can Be** (870 723-2), with

"The Shuffle," "Living Out of Touch," and "Loving You." All I can add about this rip-off band is a quote from Mr. Wolf himself: "I'm in this for the money."

The Kingdom Come CD-Vs also point up a format problem that you may already

Bon Fire

When I first saw Jon Bongiovi in a small Asbury Park club in 1980, he had straight, short hair neatly parted down the middle, wore pressed jeans and a plain shirt, and sang fair originals for a run-of-the-mill Jersey bar band called the Rest. Another nondescript rocker I figured I'd never hear from again.

So much for that prediction. Jon Bongiovi became the moussed Jon Bon Jovi and, with the new band he built and gave his new surname, sold a good number of copies of *Bon Jovi* (1984) and *7800° Fahrenheit* (1985). Still, this wasn't monumental music—so when *Slippery When Wet* first crossed my desk in late 1986, all I could do was say "yawn, another Bon Jovi record" and file it away somewhere.

Which kept my clairvoyance average at a rock-bottom .000, for *Slippery When Wet* proceeded to sell 13 million copies, making Bon Jovi one of the world's most popular bands. Crucial to that success was the heavy rotation of various videoclips, three of which you can now buy on 5-inch CD-V: **Livin' on a Prayer** (Mercury 870 701-2), **Never Say Goodbye** (870 702-2), and **Wanted Dead or Alive** (870 721-2). Like I once did, you may scoff at Bon Jovi, but these clips are undeniable sensations. Wayne Isham, who directs all three, blends road-is-heaven/road-is-hell scenes and performance footage with the skill of an auteur. No stupid concepts here, just plenty of *Hard Day's Night* hysteria, not to mention that inescapably infectious music.

Polygram has made these 5-inchers even more attractive by adding rare tracks. *Livin' on a Prayer*, besides offering the audio-only "Let It Rock" and "Wild in the Streets," includes the European B-side "Borderline." *Never Say Goodbye*, along with "Social Disease" and "Raise Your Hands," provides the non-LP "Edge of a Broken Heart." Best, however, is *Wanted Dead or Alive*. Though this second-batch Polygram CD-V seems to have a shoddily assembled audio program—"I'd Die for You" joined only by a repeat of the previous CD-V's "Never Say Goodbye" and two repeats of "Wanted"—

the last version of the title song is a marvelous six-minute acoustic take, itself well worth the CD-V's price.

But if it's videos you really want, you can get the three above plus those for "Wild in the Streets," "You Give Love a Bad Name," and a live "Livin' on a Prayer," together with behind-the-scenes material, on a 12-inch CD-V, **Slippery When Wet: The Videos** (Polygram Music Video CDV 080 297-1). Compared with its videocassette counterpart (440 041 521-3), this CD-V has a clearer picture and a better-balanced, hiss-free soundtrack—no surprise. Another comparison did yield unexpected results, though: The three 5-inch CD-Vs have even sharper pictures than that of the 12-inch, and they not only pump out the music at a higher volume but also lend somewhat more definition to that sound.

All this technology got you dizzy? How about a listen to a good ol' LP—namely, Bon Jovi's fresh studio album, **New Jersey** (Mercury 836 345-1). The first ten minutes are absolutely thrilling: "Lay Your Hands on Me" proves the band *can* play undiluted metal, and "Bad Medicine" proves it can add some of that mean streak to its pop sense. The rest of the LP isn't as compelling, but this is a solid record made under impossible follow-up circumstances.

In the end, Bon Jovi is successful because the bandmembers see themselves as just five more fans. (It was fans, after all, who helped choose the tracks for the *Slippery When Wet* and *New Jersey* LPs and who shot the current video for "Bad Medicine.") Faced with such Jovial good times coming from both speaker and screen, even the most cynical critic should find himself wanting to leave the garret and join the party. Jon Bon Jovi is at his most eloquent when he closes the *Slippery* video collection with the following thanks to fans: "You kept coming back for more and telling the critics and all the authority whoever-they-are-out-there . . . [thumbs in ears, fingers up and waving] . . . no." To which I can only respond, "Touché." K.R.

have noticed. *Get It On* is from Polygram's first batch of CD-Vs, *What Love Can Be* is from the second. Somewhere in between, the company got a bit lazy—or at least a bit too money-conscious—because *What Love Can Be* not only repeats its title video in audio-only form but also repeats an audio track, "The Shuffle," from the other CD-V. This practice, which shows up on a few more second-batch Polygrams, is inexcusable.

Also inexcusable is the sexploitation on two CD-Vs from Scorpions: **Big City Nights** (Mercury 870 716-2), with "Can't Live Without You," "Loving You Sunday Morning," and "Blackout," all from *World Wide Live*; and **Rhythm of Love** (870 727-2), with "We Let It Rock . . . You Let It Roll," "Every Minute Every Day," and "Don't Stop at the Top." Now believe me, friends, I'm no prude, but the strutting, posturing, leathered, neglected women of these two videoclips show the T&A mindset of some metal taken to ugly extremes. After all, what are we to think of a video that expresses the "rhythm of love" by showing denizens of a futuristic planet of women gyrating and unzipping before said planet is blown to smithereens?

Thankfully, metal *does* get better than this. Up next are Yngwie J. Malmsteen's **Heaven Tonight** (Polydor 870 731-2), with "Riot in the Dungeons," "Faster Than the Speed of Light," and "Krakatau"; and L.A. Guns' **Sex Action** (Vertigo 870 728-2), with "Hollywood Tease," "Shoot for Thrills," and "Down in the City." Malmsteen is a speedster under the Curse of Eddie Van Halen, but at least he and his band, Rising Force, slow down for some effective power chords in "Krakatau." And the sex action of L.A. Guns is full of good humor, the title video parodying scandal sheets and porno flicks. Some of Polygram's best metal, surprisingly, comes from none other than Kiss, whose three CD-Vs are **Crazy Crazy Nights** (Mercury 870 709-2), with "No, No, No," "When Your Walls Come Down," and "Thief in the Night"; **Tears Are Falling** (870 710-2), with "Anyway You Slice It," "Who Wants to Be Lonely," and "Secretly Cruel"; and **Turn On the Night** (870 724-2), with "Hell or High Water," "I'll Fight Hell to Hold You," and—here comes that second-batch double repetition again—"When Your Walls Come Down." Though *Tears* and *Turn* are weak, *Crazy* is fun, mostly because Ron Nevison's audio production is focused tight on economical chords. But this is just a peck; for a much longer Kiss, see the "12-Inchers" sidebar.

Polygram's strongest metal CD-Vs aren't really metal in the strictest sense of the genre. Rush's **The Big Money** (Mercury 870 717-2), whose additional audio tracks are "Marathon" and a live "Red Sector A," has traces of the band's metal beginnings but is more concerned with progressive virtuosity. Trouble is, this material is from Rush's weakest period, not from the current rebound *Hold Your Fire*. The title video grows well, though, with an especially hyper Geddy Lee charging the band through computer graphics. Rush, too, is on 12-inch CD-V—as is Bon Jovi, whose three 5-inch CD-Vs may be very poppy metal but are nevertheless the best representations of the overall genre on the new format (see the "Bon Fire" sidebar).

If you're still hungry for metal, leave Polygram for a moment and turn to the sole Enigma CD-V, Hurricane's **I'm On to You** (Enigma 72300-2). There's too much repetition here—the title video is repeated in two audio-only versions—but we do get a previously unreleased instrumental version of "Baby Snakes" along with an earlier LP track, "The Girls Are Out Tonight." Furthermore, the title song is a gem, complete with muscular vocals, a thoughtful guitar solo, and an irresistible "naaaa na-na na na na" chorus.

Meanwhile, Polygram's funk-style CD-Vs, like its metal titles, are a mixed bag. At the bottom are Tony! Toni! Toné!'s **Little Walter** (Wing 870 732-2) and Vanessa Williams's **The Right Stuff** (870 733-2). The problem is not with the videos—even though TTT's fine a cappella start gives way to the insult of a human having to drum-synch to a drum machine, and even though Williams's behavior in negligee, then see-through tights, then push-up top will do little to reform the reputation of the ousted Miss America. The problem is with the audio-only portions of these second-batch Polygrams, which offer *nothing but* remixes of the title songs.

Things seem a lot more promising after hearing the title song of Angela Winbush's **Angel** (Mercury 870 700-2), which presents the singer as a more lusty Anita Baker. But the fact that Winbush's gospel yearnings are belied by the video's image of her singing from a silky bed should be a warning, because "Run to Me" and "Sensual Lover" fill what remains of the CD-V's audio-only portion with nothing more than sensual slop. Then again, that warning is subtle compared with the dead giveaway in **Wipeout!** (Tin Pan Apple/Polydor 870 706-2) that the Fat Boys are fast becoming one-joke idiots. Audio raps (all hotter) are "Crushin'," "Hell, No!," and "Protect Yourself/My Nuts."

Kool and the Gang demonstrate that video can turn a rather plain song into very pleasant entertainment in **Stone Love** (Mercury 870 711-2). Black-and-

white scenes of New York mixed with color footage of the band performing in a loft lend great joy to the title track. This CD-V is also strengthened by the convincing soul of the audio-only "Forever," though both "Dance Champion" and the "Club Remix" of "Stone Love" are losers. If you want to make your feet really happy, cue up Cameo's **Word Up!** (Atlanta Artists 870 703-2), whose title videoclip is propelled by a tireless beat and that wonderful wiry vocal. The audio "Urban Warrior," "Fast, Fierce, and Funny," and "Groove with You" tend to drag, but who cares when the title material is so great? Much the same is true for Cameo's other CD-V, **Candy** (870 722-2), whose video contrasts the group's bad-boy image in "Word Up!" with multiple decked-out Cameos prancing around New York—helping you forget that the audio portion of this second-batch Polygram offers the unremarkable "She's Mine" and "Aphrodisiac" plus two repeats of "Candy."

The unquestionable winner in this category, however, is the Dan Reed Network's **Get to You** (Mercury 870 730-2), full of hard funk, not junk. Metal guitars sound equally at home on "Forgot to Make Her Mine," "Resurrect," and "I'm Only Human," but the slap of "Get to You" is best—and if we're gonna see sex in a video, at least the sight here of a young lady preparing for sleep is *sexy*.

Polygram's remaining CD-Vs fall into an even broader category of miscellaneous pop. From Britain we have Level 42's **Something About You** (Polydor 870 712-2) and two entries from the Moody Blues, **Your Wildest Dreams** (Polydor 870 713-2) and **I Know You're Out There Somewhere** (Polydor/Threshold 870 726-2). The longing melody of "Something About You" is small consolation for a wasted audio portion that again gives us nearly 20 minutes of nothing but title-song remixes. The first of the two Moody Blues CD-Vs has the catchy title song that even Greil Marcus raved about and the lost-girlfriend video that masterfully tugs at the hearts of the *Big Chill* generation, but the three audio tracks ("Talkin' Talkin'," "It May Be a Fire," "Rock 'n' Roll Over You") don't offer much except some nice guitar from Justin Hayward at the end of the second. Hayward also plays well on the other CD-V's seven-minute "Deep." "Miracle" and "Vintage Wine," though, take a distant back seat to "I Know You're Out There Somewhere," a musical and visual sequel to "Your Wildest Dreams."

From Canada we have **Pop Goes the World** (Mercury 870 718-2), a CD-V masterpiece by Men Without Hats. The videoclip is a charmer, and its perky pop (heard also in the audio-only track "Jenny Wore Black") won't leave the brain. For balance, there are the power ballads "Lose

My Way" and "The End (of the World)," though "The End" should be at the end of this CD-V, as it is on the LP.

Back in the U.S.A., miscellaneous pop takes the form of the Robert Cray Band's **Right Next Door (Because of Me)** (Hightone 870 714-2) and **Smoking Gun** (Mercury 870 715-2). That's right, I said pop, not blues, for there's a lot more George Benson than B.B. King in this material, especially when Cray spends most of the "Right Next Door" video posing pensively in an empty room. Furthermore, the music written by producer Dennis Walker—"Right Next Door" and "Foul Play" on the first CD-V, "Fantasized" on the second—is ultra-smooth, with only a hot fading solo on that last track giving evidence of Cray's chops. Cray can write this easy stuff, too—hear the other audio tracks on the second CD-V, "More Than I Can Stand" and the previously unissued "Divided Heart"—but he does bring off a cool little solo and two longer, jittery runs, respectively, on his own "I Wonder" and his collaboration "New Blood," both on the first CD-V. Deeper in the heartland live the Rainmakers, whose basic guitar rock is illustrated in the standard performance video **Downstream** (Mercury 870 719-2). Audio cuts include "Drinkin' on the Job," "Big Fat Blonde," and the previously unissued "Carpenter's Son."

If the Rainmakers strike you as apprentice John Cougar Mellencamps, then by all means go straight to the master, who has three CD-Vs: **Lonely Ol' Night** (Riva 870 708-2), **Paper in Fire** (Mercury 870 707-2), and **Check It Out** (Mercury 870 729-2). The first is flawless, with the title video's excellent black-and-white footage of small-town life joined by the rock-steady audio-only tracks "The Kind of Fella I Am," "Minutes to Memories," and "You've Got to Stand for Something." The second CD-V shows Mellencamp, like so many other successful white rockers before him, striving to Get Black: The stirring videoclip of "Paper in Fire" is a mite heavy-handed when it ends with the color-footage Mellencamp becoming one of the black-and-white stills reserved for his black onlookers, and the audio covers of "Under the Boardwalk" and "Cold Sweat" are credible and less credible. But this CD-V also has the gorgeous acoustic ballad "Never Too Old," which like "Under the Boardwalk" and "Cold Sweat" was previously available only as a B-side. Therein lies the true strength of this title: It provides something that fans will want and collectors will need. Mellencamp's third CD-V—a second-batch Polygram—attempts the same by including a live "Check It Out" but in so doing leaves us with three appearances of that song, counting the video and its audio-only repeat. That live track is fine, though, as are

"Cherry Bomb" and another collector's item, "Shama Lama Ding Dong."

If we could cross Anita Baker with John Cougar Mellencamp—that is, if we could make a 5-inch CD-V whose title videoclip is not repeated in the audio-only program, a CD-V whose audio-only tracks include material previously unavailable on LP or CD or CD-3—we'd have the ideal product. Granted, the kind of hit-and-miss releases we've seen so far are to be expected from companies struggling with a format still in its infancy. But

remember the questions asked by our editorial last October: "How many people want to pay seven to ten dollars for half-a-CD's worth of music plus a short video? Is that lone video such a strong attraction that someone would choose a CD-V over a less expensive 3-inch CD containing perhaps as much music or a standard CD costing a few dollars more but delivering twice to three times the playing time?" No one need worry if the vision of the companies proves to be as sharp as the picture created by their shiny new offspring. □



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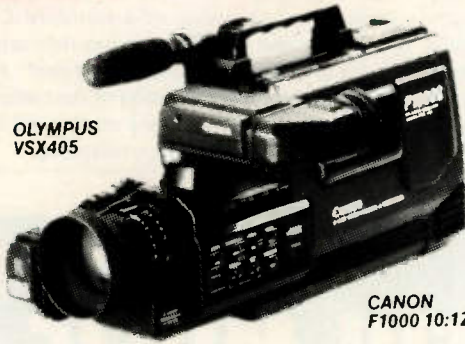
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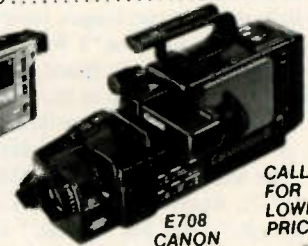
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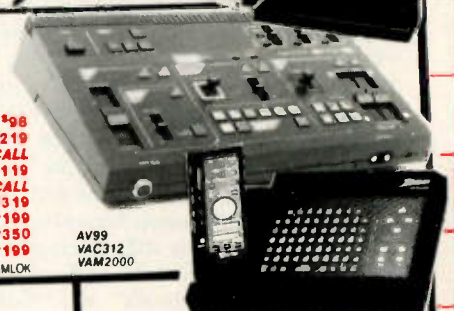
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Commencing the Complete Commodore

Historic jazz on 23 LPs. (And a side-look at a few CDs.)

Just as New Orleans was the cradle of jazz," Milt Gabler once said with pardonable exaggeration, "Commodore Records was the iron lung." He should know. A short, rotund man now in his seventies, Gabler started the Commodore label in the late 1930s toward the tail end of the swing era, when the music industry's interest in the hot jazz he loved had nearly disappeared. Gabler turned his father's 42nd Street store (it sold radios, among other things) into the Commodore Music Shop, the country's most important source of jazz 78s and a meeting ground for fans and musicians. One of those musicians was rhythm guitarist Eddie Condon, whose boundless energy and propagandistic fervor matched Gabler's own. In 1938, Gabler opened another store, on 52nd Street (soon to be dubbed Swing Street), and produced his first records, by Condon's Windy City Seven.

The timing of the first session, one day after Benny Goodman's famous Carnegie Hall concert, now seems fortuitous: Goodman proved that there was a market for both big-band swing and small-band jazz. But Gabler had in

fact been preparing for this step for almost a decade. He was a jazz enthusiast from his teens, when he heard Ted Lewis and Louis Armstrong and listened nightly to the broadcasts of the Duke Ellington band from the Cotton Club. Even before going into the studios, Gabler had started his own reissue program, leasing from major companies unused and virtually unwanted masters of '20s and '30s jazz records (his first project involved the Vocalion sessions by the Jimmy McPartland Wolverines), pressing 300 copies of each and selling them in his store. These were in fact the first jazz reissues. Gabler would later publish in this country Charles Delaunay's early jazz reference book *Hot Discography* (which Gabler has referred to as *Discography in America*), further helping to make collectors out of casual fans.

Gabler's most important work, however, began in the studios in 1938: In succeeding years, this small-businessman recorded Billie Holiday, Lester Young, Coleman Hawkins, Jess Stacy, Willie "The Lion" Smith, Fats Waller, and hundreds of other irreplaceable jazz musicians, preferring

By Michael Ullman

ILLUSTRATION BY ROBERT RIZZO

them to play the best standards of the '20s and '30s (though his heart was in Dixie-land). Gabler also recorded swing musicians in small-band contexts. (He may have admired vocalists, too—he talks about Louis Armstrong and Bing Crosby—but his only significant vocal recordings are by Lee Wiley and Billie Holiday.) Some Commodore sessions—among them Holiday's "Fine and Mellow," Young's "I Want a Little Girl," Hawkins's "I Can't Believe That You're in Love with Me" and "My Ideal," and Condon's "You're Some Pretty Doll" and "Embraceable You"—are as good as any jazz. Now, those numbers and all other Commodore sessions from 1938 to 1943, including 67 tracks never before released, have been issued by Mosaic Records—on vinyl only—in a massive 23-LP boxed set under the name *The Complete Commodore Jazz Recordings, Vol. 1* (Mosaic MR 23-123; 197 Strawberry Hill Ave., Stamford, Conn. 06902). (Volumes 2 and 3 are scheduled to appear in June 1989 and June 1990.) At the same time, some of Gabler's masterpieces are being reissued on Compact Disc in a more modest series of "Commodore Jazz Classics" distributed by Pair Records (87 Essex St., Hackensack, N.J. 07601).

The Mosaic box includes a 64-page



book with a complete discography, a long and informative interview with Gabler, and provocative notes by Dan Morgenstern. I don't always agree with Morgenstern: He believes that tenor saxophonist Bud Freeman would have received more credit if he had been black, but I feel that Freeman would have received more credit if he had chosen his notes more creatively. Morgenstern is rarely technical, which is a good thing: Comparing Stacy's "Ec-Stacy" with Hoagy Carmichael's "Washboard Blues," he says the latter "isn't a plain blues," when it isn't a blues at all. Meanwhile, the Pair CDs present other problems: Personnel listings are obscure, and in one case—for the Condon session that produced "California Here I Come"—they are inaccurate. And though the CD sound is acceptable, some filtering of high frequencies takes away a little of the airiness I hear on the Mosaic LPs.

The Mosaic book also offers many photographs: of the paunchy and balding Gabler pulling out a Victor 78 at his 52nd Street store or introducing Condon and friends at one of the jam sessions he ran at Jimmy Ryan's, of a serene Jack Teagarden blowing his trombone at a 1938 session, of a chubby Billie Holiday looking joyously self-involved at the April 1939 date for "Strange Fruit." My favorite photo was shot at Jimmy Ryan's: It shows cornetist Bobby Hackett, pianist Joe Sullivan, and trumpeter Marty Marsala, all on stage, laughing hysterically at something the eccentric, intense clarinetist Pee Wee Russell must have been playing.

They should have taken him more seriously. Russell is featured in Commodore sessions led by Condon, whose dates form the core of the Mosaic collection, as well as by Freeman and by trombonist George Brunies (not to mention the single date here Russell himself leads)—and he usually steals the show. Russell had a peculiar hollow tone and a variety of manners: At times he seems to root around in a phrase, searching for the right note the way a fussy old woman might look for a pin in her pocketbook. When he was excited, he'd pick widely spaced notes, playing with an aggressive squawk that must have come from the '20s clarinetist Frank Teschemacher. Russell had a curmudgeonly growl and a lazy, fluid melodic style, all sighs and delicate invention, making his solo on the 1938 "Embraceable You" one of the exquisite moments in jazz: After a

gracefully tumbling solo by Teagarden, Russell enters with a casual phrase so arresting that it would soon be made into a standard itself. He barely refers to George Gershwin's original, ending with a sinking trill that flutters anxiously downward like a bird caught in a chimney.

Russell brings out the best in his accompanists—specifically, pianists Jess Stacy (on "Meet Me Tonight in Dreamland") and Fats Waller (whose delicate introduction to "You're Some Pretty Doll" and arpeggios behind Russell's solo show the serious, even romantic, musician behind the clowning Waller persona). Though Russell's own ensemble work is less dependable, he's magnificent (as are Hackett and Teagarden) in the last chorus of the original take of "Meet Me Tonight in Dreamland," an ensemble chorus that Richard M. Sudhalter—in his notes to the Pair CD of Condon and Freeman bands, *Jammin' at Commodore* (Commodore CCD 7007), where the song also turns up—unaccountably finds cluttered. Sometimes Russell fails. He sounds virtually paralyzed on "Peg o' My Heart"—which is on the CD *Jazz in New York* (CCD 7009), featuring bands led by Hackett, Miff Mole, and Muggsy Spanier—but then he had to follow a devastatingly sentimental solo by Mole. (It should be noted, however, that this CD includes some of Mole's best recordings, where he plays with an elegant tone, is right on pitch, and has complete control of his technique. Only his slightly square rhythm, as we hear on "Angry," keeps him from being another Teagarden.)

Many great sessions came to Gabler because of his reputation and daring. Holiday was unable to get Columbia to record the anguished protest song "Strange Fruit," so she approached Gabler, who recorded it and then asked her for a blues—which turned into "Fine and Mellow." Not as elegantly accompanied as the Columbia Holiday, the Commodore Holiday is nevertheless underrated. Some of the bloom on her voice is gone, but the bitter-sweet expressiveness of the mature artist can be heard on "Yesterdays." The original masters of all her Commodore sessions, including the 1944 dates not yet reissued by Mosaic, are on the Pair CD *Billie Holiday* (Commodore CCD 7001).

Producer John Hammond brought Gabler three gems in 1938: recordings of Count Basie sidemen he had made for Vocalion, which rejected them. Gabler agreed to buy the masters on the condition that he be allowed to make new recordings of the group with the addition of Lester Young. And since Gabler had heard Young's clarinet on Basie's "Blue and Sentimental," he insisted that Young play that instrument as well as tenor saxophone. This enlarged group recorded five

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numbers, and it's an indication of the steadiness of the rhythm section, anchored by drummer Jo Jones, that the two takes of each tune are never more than two seconds apart in length. All the takes are on the Mosaic collection, and all are invaluable. Young introduces the master take of "I Want a Little Girl" wistfully on clarinet: His tone is all gentle yearning. After trumpeter Buck Clayton plays the melody with direct, unaffected eloquence, Young comes back and creates a subdued, subtle, singing statement that seems both worldly wise and nakedly hopeful. In the original take, Clayton returns to sum up optimistically. The other pieces by the Kansas City Six, as this group was dubbed, are almost this stirring.

That rhythm section—the Basic rhythm section minus the leader—was the best in the business, and Jones makes the ricky-ticky sound of the Condon drummers, even that of Dave Tough and George Wettling, seem somewhat archaic. At his best, Tough was a steady, inventive, active drummer who seemed to base much of his style on Baby Dodds behind King Oliver and Louis Armstrong. Tough was undependable as a person, though, as we can hear on a session led by Bud Freeman on July 12, 1938. Tough apparently showed up drunk, and though he plays well on the two takes of "Tappin' the Commodore Till," he starts to fall apart when the band moves on to "Memories of You." On the second take of that track, he is silent until the middle of altoist Dave Matthews's solo, when he slaps at the drums thunderously as if in protest, and then subsides until the ending. After that, trumpeter (and former drummer) Marty Marsala, who happened to be visiting the sessions, takes over on drums, giving a good Tough imitation.

Gabler must have been a patient man. When he offered Jess Stacy a solo date in April 1938, the pianist showed up unprepared; Gabler dubbed the two disorganized improvisations that resulted "Ramblin'" and "Complainin'." When Gabler tried him again in June 1939, Stacy produced a little masterpiece, "Ec-Stacy," which has his characteristic drive: When things are going well, Stacy always sounds like he's playing "The World Is Waiting for the Sunrise." The solo is full of his devices, like the tremolo he produces with the middle fingers of his right hand, sounding like a pocketful of spare change.

Gabler was lucky with pianists. On this first Mosaic volume, we have an entire session by Teddy Wilson, pieces that he played in a simplified style to be used as instructional records. One could also learn from the decorativeness of Willie Smith's solo session and from the utterly relaxed New Orleans beat of Jelly Roll Morton, who made the classic "Mamie's Blues" in

December 1939 and his last recordings, all here, the next January. The young Joe Bushkin appears on several sessions (he gets better month by month) as does a more progressive musician, Mel Powell, who leads a date with his boss Benny Goodman as sideman and who is also heard on four previously unissued solos, including two takes of "Hallelujah."

Then there is the greatest swing pianist of them all, Art Tatum, who appears, uncharacteristically, in an all-star gathering organized by Leonard Feather and led by tenor saxophonist Coleman Hawkins. Tatum plays splendid introductions to the various takes of "Esquire Bounce." He also backs up Hawkins with unusual restraint on "My Ideal," following Hawkins's solo with a less adorned chorus than usual; on the original take, Tatum prods the tenorist to a restless final statement. An earlier Hawkins session resulted in a well-known masterpiece, "I Can't Believe That You're in Love with Me," with definitive, contrasting solos by both Hawkins and alto saxophonist Benny Carter. Again the great Sid Catlett is the drummer, but the number is stolen by Carter, whose lazily descending phrases are repeated until they seem to overlap, like waves moving in with the gathering tide.

Gabler would continue to record the great swing tenorists: Four of the Pair CDs are dedicated to *Giants of the Tenor Sax*, namely Lester "Prez" Young and *Friends* (Commodore CCD 7002), *Coleman Hawkins/Frank Wess* (CCD 7003), *Chu Berry/Lucky Thompson* (CCD 7004), and *Ben Webster/Don Byas* (CCD 7005). Thompson, Webster, and Byas (plus Wess) will appear in subsequent Mosaic volumes. The current one, meanwhile, has many other interesting dates, from a sextet set led by clarinetist Edmond Hall to a session recorded in New Orleans by the traditional band of trumpeter Bunk Johnson.

Every one of these recordings is a reflection of producer Milt Gabler, who says in his notes to the Pair CDs, "All people hear music, some people listen to it. There is a difference. I prefer to listen." Mosaic's astonishing *Vol. 1*, whose additional takes give us some insight into the way Gabler judged the music he was capturing for posterity, demonstrates emphatically what a difference a man with strong taste and profound convictions can make. It's not only what Gabler listened to that is important: It's what he imagined as well. If he had done nothing more than record Lester Young on clarinet, he would have earned an honorable place in jazz history. □

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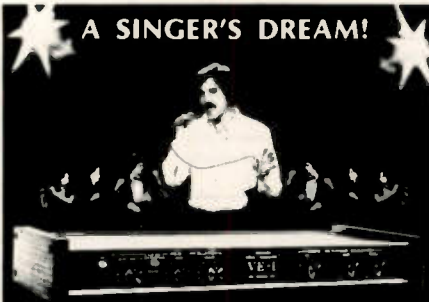
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AUDIO AND VIDEO

Car Stereo

- Armed and Safe: Security Systems.* Christopher J. Esse. The Autophile. Aug.
- Autosound Products of the Year.* Christopher J. Esse. The Autophile. Dec.
- Car Stereo of the Future.* Michael Riggs. Front Lines. May.
- Car Stereo Tunes Up* (1988 Winter Consumer Electronics Show). Jay C. Taylor. May.
- Component Speakers.* Christopher J. Esse. The Autophile. Jan.
- The New Stuff Is Here* (1988 Summer Consumer Electronics Show). Christopher J. Esse. The Autophile. Sept.
- Pioneer CD Changer System.* Christopher J. Esse. The Autophile. May.
- Power Choices* (outboard amplifiers). Jay C. Taylor. March.
- Preparing for a New Season* (power ratings, faders, outboard amps, subwoofers, and dual-azimuth adjustment). Christopher J. Esse. The Autophile. June.
- Sony's New CD Changer.* Christopher J. Esse. The Autophile. April.
- Supporting Cast* (Alpine 7385 autoreverse cassette/tuner, Alpine 5902 CD player, and Precision Power amps). Christopher J. Esse. The Autophile. June.
- Technics Car CD Changer.* Christopher J. Esse. The Autophile. March.
- Test Drive: Blaupunkt PSA-108.* Christopher J. Esse. The Autophile. Feb.
- Test Drive: Blaupunkt System.* Christopher J. Esse. The Autophile. Nov.
- Test Drive: Kenwood System.* Christopher J. Esse. The Autophile. Oct.
- Test Drive: MB Quart Speakers.* Christopher J. Esse. The Autophile. July.

Compact Disc/Digital Audio

- Are Filter Phase Shifts Audible?* David Ranada. Oct.
- Bouncing Bits: Graphics on CD.* David Ranada. Bits & Pieces. April.
- Digital Update '88* (digital audio at Winter Consumer Electronics Show). E. Brad Meyer. April.
- Golden Rulers* (primer on specs and performance of DACs). David Ranada. May.
- The Overselling of Oversampling* (the truth behind digital filters). David Ranada. Oct.
- Sonic Solutions' Digital Denoising.* David Ranada. Bits & Pieces. Aug.
- The Two-Bit Difference* (18-bit DAC ICs). David Ranada. Bits & Pieces. Jan.
- Understanding Our Linearity Tests.* David Ranada. Bits & Pieces. Dec.

Loudspeakers

- Blazing Tweeters: What Loudspeaker Power Ratings Really Mean.* Larry Klein. June.
- Caged Sound* (relationship between speakers, rooms, and listeners). Floyd E. Toole. March.
- Canadian Loudspeakers.* Gordon Brockhouse. Nov.
- Loudspeaker Design Trends* (1988 Winter Consumer Electronics Show). E. Brad Meyer. June.
- New Ideas from the North* (Canada's NRC Athena Project). Gordon Brockhouse. Nov.

- The Politics of Loudspeakers* (national research on loudspeakers and HDTV). Michael Riggs. Front Lines. Nov.
- Recoton W-100 Wireless Loudspeaker System.* Christopher J. Esse. User's Report. Sept.

Tape

- Analyzers: Show and Tell.* Robert Long. Tape Tracks. March.
- And What Tape Do You Use?* Robert Long. Tape Tracks. May.
- A Biased View of UnEQalization.* Robert Long. Tape Tracks. Aug.
- Copy Code Capers* (CBS's Copy Code anti-taping system). David Ranada. Feb.
- Copy Code Kaput.* Michael Riggs. Front Lines. May.
- La commedia è finita: The Undoing of CBS's Copy Code Anti-taping System.* David Ranada. Aug.
- Finding the Killer Chord* (Copy Code listening tests). David Ranada. Aug.
- A Matter of Squealing Tape.* Robert Long. Tape Tracks. July.
- Putting DAT in Its Place.* Robert Long. Tape Tracks. June.
- Sony, CBS, and Copy Code.* Michael Riggs. Front Lines. Feb.
- Two Sad Stories* (history of Ampex). Robert Long. Tape Tracks. Oct.
- Two Wrongs Don't (Always) ...* (nonstandard recording techniques). Robert Long. Tape Tracks. Nov.
- Using a Portable DAT Recorder.* David Ranada. Bits & Pieces. May.

Video

- Camera's Eye: Pixilated Pixels.* David Ranada. Scan Lines. March.
- Clearing the Picture* (high-performance TV). Carleton Sarver. Nov.
- The Disc vs. Tape Dilemma* (laser videodiscs). Marc F. Wielage. Nov.
- "Don't Sit So Close to the TV!"* David Ranada. Scan Lines. June.
- Getting to Know Camcorders.* Marc F. Wielage and Rod Woodcock. Nov.
- Inside Super VHS.* Marc F. Wielage. Nov.
- Keeping VHS and VHS Hi-Fi On-Track.* David Ranada. Scan Lines. Oct.
- Living in a Video World.* Christopher J. Esse. Nov.
- Making It Look Good* (home video postproduction equipment). Marc F. Wielage. Nov.
- New Hope for HDTV?* Michael Riggs. Front Lines. Jan.
- A Progressive Viewpoint* (improved-definition TV). Carleton Sarver. Nov.
- A Second Look at CD-V.* Michael Riggs. Front Lines. Oct.
- The Story of S, or Chroma Phobia.* David Ranada. Scan Lines. July.
- VHS vs. 8mm Camcorders.* Robert Long. Tape Tracks. Feb.
- Video in Limbo* (1988 Winter Consumer Electronics Show). Gordon Brockhouse. April.
- Whither Regular VHS?* Marc F. Wielage. Nov.

Miscellaneous

- All About Noise Reduction.* Mark Davis. Feb.
- Analog and Digital Technologies Coexist in High-End*

- Audio.* Gordon Brockhouse. Sept.
- Are We Overamplified?* Michael Riggs. Front Lines. July.
- Audio Fetishes: True-Life Tales of Strange Audio Beliefs.* Ken Kantor. Oct.
- Brave New (Digital) World* (1988 Winter Consumer Electronics Show). Michael Riggs. Front Lines. April.
- Bright Lights, Big City* (JVC's audio division, Tokyo). Michael Riggs. Front Lines. Aug.
- Gizmo Madness* (1988 Winter Consumer Electronics Show). Michael Riggs. Front Lines. Mar.
- Golden Ears* (hearing loss). Theodore W. Libbey, Jr. Medley. July.
- Hallmarks of Quality: Lexicon [CP-1] vs. Yamaha [DSP-3000].* David Ranada. Sept.
- Hearing Protection.* Elliott H. Berger. July.
- Heed the Noise.* Ken Richardson. Medley. July.
- How to Buy an Audio System.* Christopher J. Esse. Dec.
- How to Read Our Tuner Curves.* Robert Long. Aug.
- John Bowers, 1922-1987* (obituary). Michael Riggs. Front Lines. June.
- Lazy Days in Chicago* (1988 Summer Consumer Electronics Show). Michael Riggs. Front Lines. Sept.
- Product of the Year Awards.* David Ranada. Dec.
- Silk Purses and Old Standards* (making the best of existing audio and video standards). Michael Riggs. Front Lines. Dec.
- Something Old, Something New* (quadriphonics and peak power ratings). Robert Long. Sept.
- Unsound Sound: Overexposure Can Impair Your Hearing.* David M. Lipscomb. July.
- What's Your Fetish?* (contest). Michael Riggs. Oct.

TEST REPORTS: Audio

Amplifiers (Power and Integrated)

- Kenwood KA-3300D, integrated. Jan.
- NEC A-910, integrated. May.
- Onkyo A-8190, audio-video integrated. Feb.
- Pioneer A-91D, integrated. March.
- Proton AA-1150, power. Aug.
- Revox B-250, integrated. July.

Cassette Decks

- Akai GX-52. Aug.
- Nakamichi CR-3A. Feb.
- Sony TC-RX80ES bidirectional. Aug.
- Technics RS-B905. Feb.
- Yamaha KX-1200U. Feb.

Compact Disc Players

- Audio Dynamics CD-2000E. Dec.
- Cambridge Audio CD-2. Oct.
- Harman Kardon HD-800. Sept.
- Luxman D-117. April.
- Mitsubishi DP-311R. Jan.
- NEC CD-810. Jan.
- Onkyo DX-G10. March.
- Pioneer PD-91. June.
- Sony CDP-C70 changer. July.
- Sony CDP-507ESD. Oct.
- Technics SL-P990. Aug.
- Yamaha CDV-1000 CD/videodisc player. May.
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Cambridge SoundWorks Ensemble. Nov.
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DCM Time Frame TF-1000. March.
Design Acoustics PS-103. June.
Energy ESM-1 Mk. II. June.
Magnat MSP-60. Jan.
MB Quart 220. June.
Mirage M-1. Dec.
NHT Model II. Nov.
Ohm Sound Cylinder. May.
Pinnacle PN-6+. Nov.
Snell Type C/II. Nov.

Phono Cartridges

Shure VST-III. July.

Receivers

NAD 7600 AM/FM. April.
Realistic AV-900 AM/FM/TV audio-video. Sept.
Sony STR-GX10ES AM/FM audio-video. June.
Vector Research VRX-5200R AM/FM audio-video. Oct.
Yamaha RX-1100U AM/FM audio-video. Jan.

Surround Sound

Aphex ESP-7000 decoder. April.
Fosgate DSM-3602 processor. Jan.
Lexicon CP-1 digital audio environment processor. Sept.
NEC PLD-910 processor. Oct.
Radio Shack Archer amplifier. March.
Shure HTS-5200 processor. Feb.
Yamaha DSP-3000 & DSR-100PRO digital processors. July

Tuners

Harman Kardon TU-920 AM/FM tuner. March.
Tandberg TPT-3031A tuner. Dec.

Miscellaneous

Panasonic RF-HX7 FM radio-headphones. Jan.

TEST REPORTS: Video

JVC HR-S8000U Super VHS Hi-Fi VCR. Dec.
Mitsubishi HS-423UR S-VHS Hi-Fi VCR. April.
NEC DS-8000U S-VHS Hi-Fi VCR. Aug.
Pioneer CLD-3030 Laserdisc/CD-V player. Dec.
Sony EV-S1 portable 8mm VCR. Jan.

TEST REPORTS: Car Stereo

Altec Lansing ALA-435 power amplifier. Jan.
Audiovox HCC-2500 receiver/cassette deck. Dec.
Eclipse ECE-101 receiver/cassette deck. Oct.
Kenwood KRC-858 receiver/cassette deck. May.
Phase Linear PLT-150 power amplifier. March.
Soundstream D-100 power amplifier. May.

ULTRA HIGH FIDELITY

Interviews

Manfred Breunig of Magnum Dynalab. Gordon Brockhouse. July.
Bob Carver of Carver Corporation. Gordon Brockhouse. Oct.
Stan Curtis of Cambridge Audio. Gordon Brockhouse. April.
John Eargle of Delos International. David Ranada. Sept.
David Fletcher of Sumiko, Inc. Gordon Brockhouse. May.
Richard Larson of Audio Research. Gordon Brockhouse. Feb.
Noel Lee of Monster Cable. Gordon Brockhouse. Aug.
Christopher Russell of Bryston, Ltd. Gordon Brockhouse. Jan.

Ivor Tiefenbrun of Linn Products. Gordon Brockhouse. Dec.
James Winey of Magnepan, Inc. Gordon Brockhouse. June.

Features

Analog and Digital Technologies Coexist in High-End Audio. Gordon Brockhouse. Sept.
Telarc's Top Twenty (a CD hall of fame). David Ranada. March.

MUSIC

Compact Disc Articles

All CDs Great and Small (pop CD-3s; jazz and rock recordings on Atlantic, GRP, Pro Jazz, and Enigma labels; and reissues of Frank Zappa). Various writers. Oct.
CD: Casualties of More. Jon Trzcinski. Medley. April.
Centennial: Irving Berlin on Compact Disc. Terry Teachout. Sept.
Coming Down Fast (The Beatles on CD: Magical Mystery Tour, Yellow Submarine, The Beatles, Let It Be, and Abbey Road). Various writers. Feb.
From Haydn to Crumb, via Joplin (nine Nonesuch reissues). K. Robert Schwarz. March.
Gaining CD, Losing 45. Meredith J. Tupper. Medley. Oct.
Gil Evans: The Legacy on CD. Terry Teachout. July.
Great Britten (new CD releases of Benjamin Britten music). Terry Teachout. Dec.
Open Sesame (Angel EMI's midprice series). David Hurwitz. May.
Promising Signs (some of upcoming season's classical CDs). Theodore W. Libbey, Jr. Medley. Sept.
Taking Gershwin Seriously. Terry Teachout; Michael Ullman. July.
Victor Victorious (first midprice opera CDs from RCA). Thor Eckert, Jr. Oct.
We Gotta Get You a CD Player (reissues of Todd Rundgren and Brian Eno; jazz recordings on Fantasy and Polygram labels; and greatest hits from seven Sixties pop groups). Various writers. April.
The World on Compact Disc (survey of international folk and pop). Joe Blum. Nov.

Featured Reviews: Classical

Adams: Nixon in China. Sylvan, Maddalena, Hammons, Page, et al.; Orchestra of St. Luke's, De Waart. James Wierzbicki. Dec.
Beethoven: Quintet for Piano, Oboe, Clarinet, Horn, and Bassoon, in E flat, Op. 16. Levine, Ensemble Wien-Berlin. Thomas Hathaway. Oct.
Beethoven: Symphonies: No. 2, in D, Op. 36; No. 8, in F, Op. 93. London Classical Players, Norrington. K. Robert Schwarz. June.
Beethoven: Symphony No. 9, in D minor, Op. 125. Kenny, Walker, Power, Salomaa; London Classical Players, Schütz Choir of London, Norrington. K. Robert Schwarz. June.
Bell, Joshua: Works for Violin and Piano. Bell, Sanders. K. Robert Schwarz. Aug.
Bruch: Concerto for Violin and Orchestra in G minor, Op. 26. Bell; Academy of St. Martin-in-the-Fields, Marriner. K. Robert Schwarz. Aug.
Gershwin: Of Thee I Sing: Let 'em Eat Cake. McGovern, Kert, Gilford; Orchestra of St. Luke's, New York Choral Artists, Thomas. Paul Kresh. April.
Glass: Akhnaten. Various artists; Stuttgart State Opera Orchestra and Chorus, Davies. James Wierzbicki. July.
Hindemith: Mathis der Maler (symphony); Trauermusik*. Symphonic Metamorphosis on Themes of Carl Maria von Weber. Walther*. San Francisco Symphony, Blomstedt. David Hurwitz. Nov.
Mahler: Symphonies: No. 6, in A minor; No. 7, in E minor; No. 9, in D; No. 10, in F sharp (Adagio). Frankfurt Radio Symphony Orchestra, Inbal. David Hurwitz. Jan.
Massenet: Méditation from "Thaïs." Salerno-Sonnenberg; New York Chamber Symphony, Schwarz. K. Robert Schwarz. Aug.
Mendelssohn: Concerto for Violin and Orchestra in E minor, Op. 64. Bell; Academy of St. Martin-in-

the-Fields, Marriner. K. Robert Schwarz. Aug.
Mendelssohn: Concerto for Violin and Orchestra in E minor, Op. 64 (Salerno-Sonnenberg): See *Masse-ner Méditation*, above.
Mozart: Quintet for Piano, Oboe, Clarinet, Horn, and Bassoon, in E flat, K. 452: See *Beethoven Quintet*, above.
Rodgers and Hammerstein: *Carousel*. Various artists; Royal Philharmonia Orchestra, Gemignani. Paul Kresh. Feb.
Saint-Saëns: *Havanaise*, Op. 83; *Introduction and Ron-do capriccioso*, Op. 28 (Salerno-Sonnenberg): See *Masse-ner Méditation*, above.
Schubert: *Die schöne Müllerin*. D. 795. Baer, Parsons. Paul Moor. May.
Schumann: *Dichterliebe*, Op. 48; *Liederkreis*, Op. 39. Baer, Parsons. Paul Moor. May.
Wolf: *Mörke-Lieder* (24). Baer, Parsons. Paul Moor. May.

Featured Reviews: Popular/Jazz

Byrd, Donald: *Harlem Blues*. Jon W. Poses. Aug.
Clapton, Eric: *Crossroads*. Richard C. Walls. July.
Coleman, Ornette. *Virgin Beauty*. Richard C. Walls. Dec.
Herman, Woody: *Woody's Gold Star*. Michael Ullman. March.
Jackson, Ronald Shannon: *Texas*. Chuck Eddy. Dec.
Jethro Tull: *Crest of a Knave*. Andrew Nash. Jan.
Pink Floyd: *A Momentary Lapse of Reason*. Andrew Nash. Jan.
Wild Seeds: *Mud, Lies & Shame*. John Morthland. June.
Williams, James: *Magical Trio I*. Jon W. Poses. Aug.

Music and Musicians

A Champion of Songs (Susannah McCorkle). Francis Davis. July.
Digital but Residential (The Residents). Hank Bordowitz. Medley. Aug.

Fame's Catching Up with Alfred Brendel. Scott Cantrell. May.
Fans, Critics, and Elliott (guitarist/songwriter Elliott Murphy). Mark Rosenblatt. Medley. March.
He's the Real Thing (Robert Shaw). Theodore W. Libbey, Jr. Medley. May.
Jazz: Cradles Will Fall (status of jazz in Kansas City and St. Louis). Jonathan W. Poses. Medley. May.
On the Trail of the Blues. Leslie Berman. Aug.
Rebuilding in Baltimore (David Zinman and the Baltimore Symphony). Randy Banner. Dec.
Rock 'n' Soul, Parts 1 and 2 (Hall and Oates, onstage and backstage). Pamela Bloom. Medley. Nov., Dec.
So Long, Irving Berlin (Berlin vs. rock). Stan Goldstein. Medley. Sept.
Soviet Spectacular ("Making Music Together" festival, Boston). Theodore W. Libbey, Jr. Medley. March.
Sumer Is Icumen In (Europe's summer festivals, 1988). Theodore W. Libbey, Jr. June.
Virgin's Birth (new Virgin Classics label; new piano competition). Theodore W. Libbey, Jr. Medley. Nov.

Records and Recording

Black Albums: Across the Lines. Richard C. Walls. Sept.
Déjà Wave (punk and new-wave LP and video collec-tions). Ken Richardson. Sept.
The Fall and Rise of RCA Red Seal. David Rubin. Part I: Feb.; Part II: March.
Fred Gaisberg: An American Original. Robert Long. April.
The French Grapevine (new recordings of Rossini's *Ar-mida* and Enescu's *Oedipe*). Theodore W. Libbey, Jr. Medley. Oct.
Good Things Come in Small Packages (preview of clas-sical records, 1988-89). Sept.
Invasion of the Mini-reviews (33 reviews of popular and

jazz CDs, LPs, and videos). Various writers. May.
Laurels at La Grande Motte: The 21st Annual Interna-tional Record Critics Awards. Theodore W. Libbey, Jr. Nov.
San Francisco's Sonic Boom (San Francisco Symphony records on London label). Paul Moor. June.
Taking Gershwin Seriously (performances and record-ings of both his classical and popular music). Terry Teachout; Michael Ullman. July.
Virgin's Birth (debut of Virgin Classics label). Theo-dore W. Libbey, Jr. Medley. Nov.
Walter Legge: The Doyen of Record Producers. Robert Long. Aug.

Video

Classical CD Video: Polygram Takes the Plunge. Thor Eckert, Jr. Nov.
The Video Picture (increase in Americans' home view-ing, and some new releases). Theodore W. Libbey, Jr. Medley. June.

Miscellaneous

Deaths in the Family (obituaries of Irving Kolodin and Robert D. Darrell). Theodore W. Libbey, Jr. Medley. Aug.
Future Perfect (feeding audio signals directly to the brain). Andy Andrews III. Medley. June.
Leave My DAT Alone. Carl Valle. Medley. Feb.
Longing for the South (1988 MIDE M Show). Theo-dore W. Libbey, Jr. Medley. Feb.
MIDEM Well Met (1988 MIDE M Show). Patricia Reilly. Medley. April.
More Music, More Often (MUSICAL AMERICA's acqui-sition of OPUS magazine). Michael Riggs. Front Lines. June.
Playing the Game (baseball season's end, classical mu-sic season's beginning). Theodore W. Libbey, Jr. Medley. Dec.
You Can Look It Up! (guide to rock reference books). David Browne. March. □

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(Continued from page 13)

Yet More Tape

Just when you thought you had the TDK cassette lineup memorized, the company up and improves and repackages every one of its formulations—and introduces two new tapes to boot. Of the new formulations, AR and AR-X (both Type 1s), only

the first incorporates TDK's new "non-porous" ultrafine ferric particles. Because the crystalline structure of these particles does not have pores (which are formed during the dehydration step of gamma ferric-oxide particle manufacturing), the magnetic energy of each particle is larger. The increased magnetic efficiency and higher packing density of the NP ferric

particles gives the AR formulation the same low-frequency maximum output level (MOL) as TDK's top metal tape (the reformulated MA-X). A new HP-AR anti-resonance mechanism houses the tape, which is available in 60-, 90-, and 100-minute lengths.

Replacing the AD-X formulation, AR-X uses a dual layer of ultrafine cobalt-doped ferric particles to create a tape that TDK maintains has the greatest dynamic range of all of its Type-1 formulations. With a bias-noise level of -56 dB, AR-X is 1/2 dB quieter than its predecessor, and its +6-dB 315-Hz MOL compares favorably with that of metal tape. While AR-X also has the HP-AR shell, it is available only in 60- and 90-minute lengths.

For those of you who, like us, get totally confused by the rampant proliferation of tape formulations (a malady not exclusive to TDK), here is a list of all nine of TDK's cassette tapes, as of this writing, and in order of ascending price within each tape type. Type 1: D, AD, AR, AR-X. Type 2: SD, SA, SA-X. Type 4: MA, MA-X. In the product revamping, SA has received new 76- and 100-minute lengths, while MA has gotten a 110-minute size. C-46s have also been added to the SA, SD, SA-X, and MA-X formulations. *TDK Electronics Corp., 12 Harbor Park Dr., Port Washington, N.Y., 11050.*

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Designed "to bring high quality sound reproduction into rooms where a full-sized home audio system would not be appropriate," Nakamichi's AMS RS-1 Auxiliary Music System (\$299) consists of a remote-controllable 14-watt (11-dBW) receiver and a pair of two-way bass reflex speakers. The AMS receiver has a digital-synthesis AM/FM tuner with 12 presets and auto/manual tuning, tone and balance controls, and a display that doubles as a digital clock. The front panel has a mini-plug headphone jack and a similar auxiliary input jack for hooking up a CD player or tape machine. The aux jack is duplicated with pin-jack connectors on the rear panel, which also contains the receiver's pre-out/main-in connectors. There is an AC convenience outlet but no provisions for phono signals (remember those black vinyl discs?). A remote infrared handset is provided that will also control the transport functions of Nakamichi's upcoming CP-1 combination CD/cassette player. The speakers have removable grilles and come with cables. *Nakamichi America Corp., 19701 South Vermont Ave., Torrance, Calif. 90502*

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