

HIGH FIDELITY

AUDIO • VIDEO • TEST REPORTS • MUSIC

10

New Lab Tests

SONY

SL-HF900 Super Beta VCR

TECHNICS

SL-XP7 Portable CD Player

ENERGY

ESM-2 Loudspeaker

SHURE

Ultra 500 Phono Cartridge

PROTON

D-540 Integrated Amplifier

AUDIO CONTROL

Phase Coupled Activator

BARCUS-BERRY

BBE-2002R Signal Processor

SPECTRUM

108A Loudspeaker

GE

Monitor/Receiver

PARADISE
CA-250



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NEW ORLEANS



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HIGH FIDELITY

Volume 36 Number 1 January 1986

AUDIO & VIDEO

16 Currents

Technical Editor David Ranada reports on the Japan Audio Fair.

21 Bits & Pieces

Digital news from the Audio Engineering Society

TEST REPORTS

27 Special Section

28 **Sony** SL-HF900 Super Beta Hi-Fi videocassette recorder

33 **Proton** D-540 integrated amplifier

35 **Energy** ESM-2 loudspeaker

37 **Spectrum** 108A loudspeaker

38 **Technics** SL-XP7 portable Compact Disc player

42 **Barcus-Berry** BBE-2002R signal processor

44 **Shure** Ultra 500 phono cartridge

45 **Parasound** CA-250 integrated amplifier

47 **Audio Control** Phase Coupled Activator

49 **General Electric** 26PM-5881 monitor/receiver

MUSIC

Classical

52 Steven Epstein at Work

by Christopher Greenleaf

The Grammy-winning producer for CBS Masterworks talks about his craft.

55 Notes from Underground

by Michael Gray

Homespun Japanese talent; conductor Takashi Asahina and others on recent recordings

63 Just Desserts

by Robert E. Benson, Irving Kolodin, and Bill Zakariassen

Hungry for more CD mini-reviews? Dig in.

Popular/Backbeat

64 Sheila E. In Romancing the Throne

by Pamela Bloom

Like her mentor, Prince, she's a precocious maverick. She's also got a gift for rhythm.

DEPARTMENTS

3 **Editor's Page** A changing of the guard

4 **Letters**

14 **Crosstalk** Four-channel receivers; "remote" loudspeakers; ionic air purifiers

22 **General Index to Articles 1985**

51 **Medley** Recording American orchestras abroad; musicians protest apartheid in "Sun City"

56 **Classical Reviews**

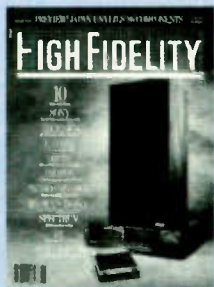
57 **Critics' Choice**

66 **Jazz Reviews**

70 **Popular Reviews**

80 **Advertising Index**

80 **Reader-Action Page**



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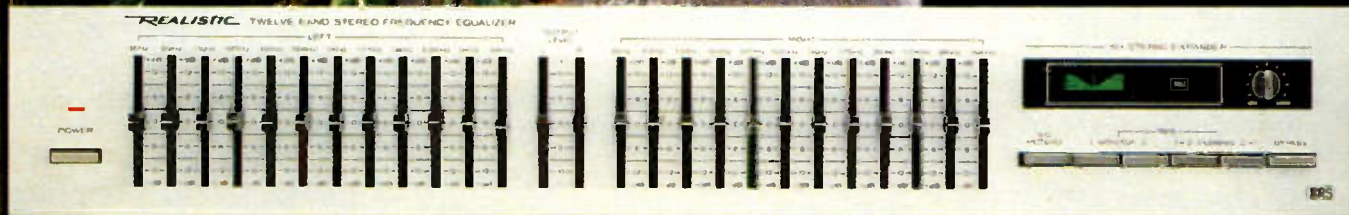
On the Cover: Energy ESM-2 loudspeaker, Sony SL-HF900 Super Beta Hi-Fi videocassette recorder, and Technics SL-XP7 portable Compact Disc player

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PUBLISHER'S EDITOR'S PAGE

by William Tynan



Old faces in new places

This issue kicks off the 35th anniversary year for HIGH FIDELITY—a year in which we have a number of specials and surprises planned. First, though, a quick word on a changing of the guard. As the heading at the top of this column indicates, I'm moving on to the position of publisher/editorial director, following five years of service as editor-in-chief. What exactly will I be doing? Working on those "specials" and "surprises," of course, as well as contributing to "Currents" from time to time.

And so we have a new editor: Michael Riggs. Senior editor since June 1984, Michael has been with HIGH FIDELITY for five years and in charge of the Technical Department for the past three. In addition to his new duties, he will continue his stewardship of that part of the magazine, working in tandem with Technical Editor David Ranada. Michael also will continue to write his "Basically Speaking" column, which resumes next month.

HIGH FIDELITY began in Spring 1951 as a quarterly. A look back to that premiere issue shows how much—and how little—things have changed. A feature article by Paul W. Klipsch explained "How to Get the Best Results with a Klipschorn." Another story, "The Viewer's Amplifier," was subtitled "You Can Improve TV Audio." Talk about the quest for the Holy Grail!

In this month's issue—our annual TEST REPORTS special—you'll find an array of the very latest audio and video components. Among the reports of particular interest are those on Sony's SL-HF900 Super Beta Hi-Fi video-cassette recorder, Technics's SL-XP7 portable Compact Disc player, and Shure's Ultra 500 phono cartridge. You'll also find two noteworthy items from David Ranada: the debut of "Bits & Pieces," his monthly column on digital audio, and a first-hand report in "Currents" on the recent Japan Audio Fair.

Our MUSIC sections include reviews of a variety of Compact Discs, from Mahler symphony to Mellencamp *Scarecrow*. Christopher Greenleaf profiles Grammy-winning producer Steven Epstein in this month's CLASSICAL feature, while Pamela Bloom interviews the not-so-Princely clone Sheila E. in BACKBEAT.

By the way, has anyone spotted the *new* face yet? More on this next month.



Magazine Publishers Association

LETTERS

GRAMMYS GRIPE

Regardless of what may be the editorial thought concerning the Grammys, they are the national awards for the best recordings of the year. Why don't U.S. audio magazines, such as HIGH FIDELITY, cover them?

Ken Bullock

Medicine Hat, Alberta, Canada

The Grammys cover a great deal of music in many general categories—which means that they miss a lot. And even though the Country Music Awards, the Black Music Awards, and the MTV Music Video Awards are more specific, we don't cover them either, for another reason: We'd be too late. We share this problem with our competitors: By the time we could "announce" winners, their names would be old news. We do applaud surprising choices, however. See Francis Davis's profile of Red Rodney and Ira Sullivan ("The Return of Mutt 'n' Jeff," July 1984), whose jazz album Sprint was a Grammy nominee. And in this month's CLASSICAL MUSIC feature, Christopher Greenleaf focuses on CBS's

Steven Epstein, last season's Grammy-winning classical producer.—Ed.

"LADYLAND" CD NOT ELECTRIC

I'm convinced that Compact Discs are superior to other recording formats . . . but I still have some reservations. Recently I bought a copy of the Jimi Hendrix Experience's *Electric Ladyland*. What a disappointment! Background noise in the "quiet" passages is worse than on my LP version. One track is so imprecisely separated from the one before it that when I use the automatic program selector, playback starts at the end of the previous track. Also, as one song ends, my CD player jumps three seconds into the next selection, then counts backward to zero and starts again. Is this shoddy craftsmanship, quick-buck-making, or what? I don't mind paying upward of \$14 for a CD, but I do expect quality for that price.

Marvin Weinberg

Flushing, N.Y.

It sounds like the disc was poorly mastered; it may be defective as well. However,

it is very common for players to cue in a few seconds and count back before starting. This is not indicative of any problem. The additional hiss suggests that a copy of the master tape was used rather than the original.—Ed.

ULTRA CONSERVATIVE?

Michael Riggs seems to be taking a conservative position in his April 1985 "Basically Speaking" column, which is consistent with the stance found elsewhere in HIGH FIDELITY. He claims that double-blind tests have "proved" that good amplifiers with identical frequency responses sound the same when not pushed too hard. Everyone knows that tests can be performed in such a way as to prove almost any claim (and I'm sure that "golden eared" audiophiles are just as guilty of this as are their skeptics). It would be informative to see something about the music, subjects, and incentives used for these experiments. I understand that some early acoustic record players were claimed to sound indistinguishable from the source.

Frequency response and harmonic dis-

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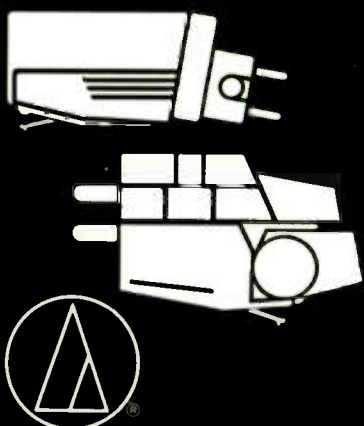
to maintain picture and sound clarity—and to protect your VCR from costly repairs. You can trust Discwasher, leader in the technology of audio and video care.



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tortion don't come close to characterizing an audio signal, particularly when (as in music) the signal is composed of transients, which often will stress an amplifier even when the rest of the music is at normal listening levels. Such transients may be reproduced poorly even by a component that has perfectly flat frequency response. It is ironic that in the same issue of HIGH FIDELITY in which this column appears, a review of a Tandberg power amplifier describes circuitry that improves neither frequency response nor harmonic distortion.

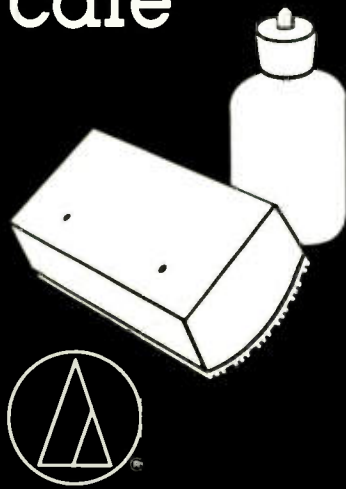
Although many manufacturers claim sonic benefits to their products that seem dubious—especially when viewed in the context of the entire sound-reproduction chain—committing oneself to a claim like that made by Mr. Riggs can be stultifying. As William Tynan says in the "Editor's Page" of the same issue, "time has taught us that only it has the answers."

Ralph Gonzalez
Philadelphia, Pa.

Michael Riggs replies: One must always remain open to new information and be ready to change one's beliefs when com-

elled by the evidence. But a time comes when it is reasonable to assert confidently that some things are so and others are not. Most of us would say, for example, that there are no ghosts—not that there probably are no ghosts or that we're not sure. I think the evidence clearly supports putting mysterious sonic differences between amplifiers in the ghost category. As for those early reports of "perfect" reproduction from acoustic phonographs, I think it is necessary to take them in the context of the times. When recorded sound was new

The last word in record care



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and unfamiliar, the standards of judgment must surely have been different from those a modern audiophile would apply. I suspect that saying a recording of Caruso sounded just like him amounted to little more than a claim that the voice coming out of the horn was distinguishable as his and no one else's.

It is vital that auditions be conducted according to procedures that eliminate any chance of bias, which is why the double-blind method is preferred. Very good tests of this nature have been conducted by a number of parties, with consistently neg-

ative results. See, for example, "The Great Ego Crunchers: Equalized, Double-Blind Tests" in our March 1980 issue. Some years ago, The BAS Speaker ran a compendium of articles recounting experiments of this sort, including one involving a number of "underground" reviewers (who couldn't hear anything either). Copies may still be available from the Boston Audio Society (P.O. Box 7, Kenmore Square Station, Boston, Mass. 02215-0007). Other similar experiments include those of Stanley Lipshitz and John Vanderkooy at the University of Waterloo (Ontario) and those of the Southeastern Michigan Woofer and Tweeter Marching Society (an audiophile club).

Finally, it's important to realize that ordinary audio signals (such as those produced by music) are not as demanding as they sometimes are made out to be. The fastest, most difficult signal any amplifier is likely to encounter is a full-power 20-kHz sine wave—and then only on the test bench. Music, including its transients, is always slower than that, usually by a good margin. And no audio amplifier, unless it is very badly designed, will audibly distort

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

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MUSICAL

ACCURATE

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any musical transient that does not overload it. (Amplifiers often do sound different from one another when they are clipped.) What's praiseworthy about the Tandberg you mention is its ability to deliver large amounts of current into low-impedance and reactive loads without the safety net of conventional protection circuits, which can cause distortion and premature clipping; its high damping factor across the audio band; and so on. But the benefit of these features is that they enable the amplifier to maintain flat response and low distortion under conditions that would make most other models cry "uncle"—not that they make it sound better in less trying (and more typical) circumstances.

SERVICE LOST... AND FOUND

As I read the letter in the November 1985 issue from Ted and Sylvia Blishak, "Where's the Service?," I could only think of my own recent experience, which should be titled "No Service."

When my fairly new Dual turntable needed attention, I took it to a local repair center. The counterman pronounced it as no longer a good product—more aptly, "junk." But he said he could repair it.

About two weeks later I was advised that my equipment was ready and working like new. I paid the bill (which came to \$50 plus tax), took the turntable home, and tried it. It was no better than before. Since the shop gave me a warranty on the repairs, I took it back. I was told a slight adjustment would fix the problem. It sure did: It made it worse.

In desperation I called Dual to find out if the company had an authorized repair center in my area. The service representative said he could not find one on the computer but would call back the next day with the address of the nearest one. He never called back.

Several weeks later I wrote a strong letter to Dual, hoping for a reply. None ever came. So I now have a very expensive paperweight.

It's a sad commentary when a manufacturer spends many dollars to advertise a product yet doesn't care about the customer, repeat sales, or reputation.

Alvin F. Shelow
Cherry Hill, N.J.

It is well known that Roy Allison (Allison Acoustics, Inc.) makes superb loudspeakers.

(Continued on page 11)

A slight improvement on perfection.

Technics compact disc players.

Technics compact disc players. And the digital compact disc. Together they've given you what no conventional audio system can: the perfection of musical reality.

So with Technics, what you hear is not just a reproduction of a performance, but a re-creation of it.

But occasionally even the musical perfection of a compact disc can be marred by fingerprints, dust or scratches. So the Technics SL-P2 compact disc player has improvements like an advanced error correction system, designed to compensate for those imperfections. To help ensure that the sound you hear is still completely flawless.

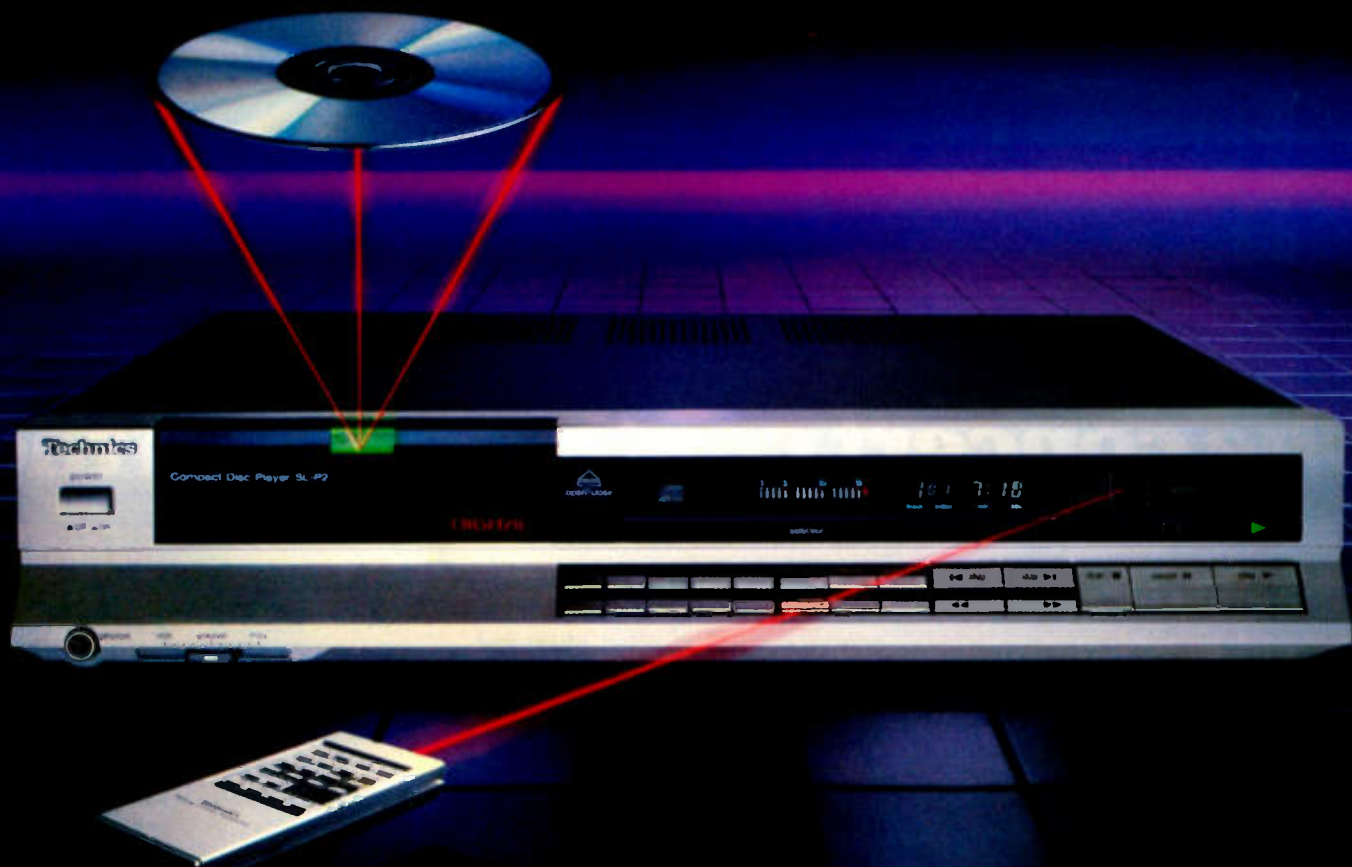
You also get sophisticated, convenient controls. Such as 15-step random access programming so you can play any selection. In any order. And all of this can be controlled from across the room with Technics wireless remote control.

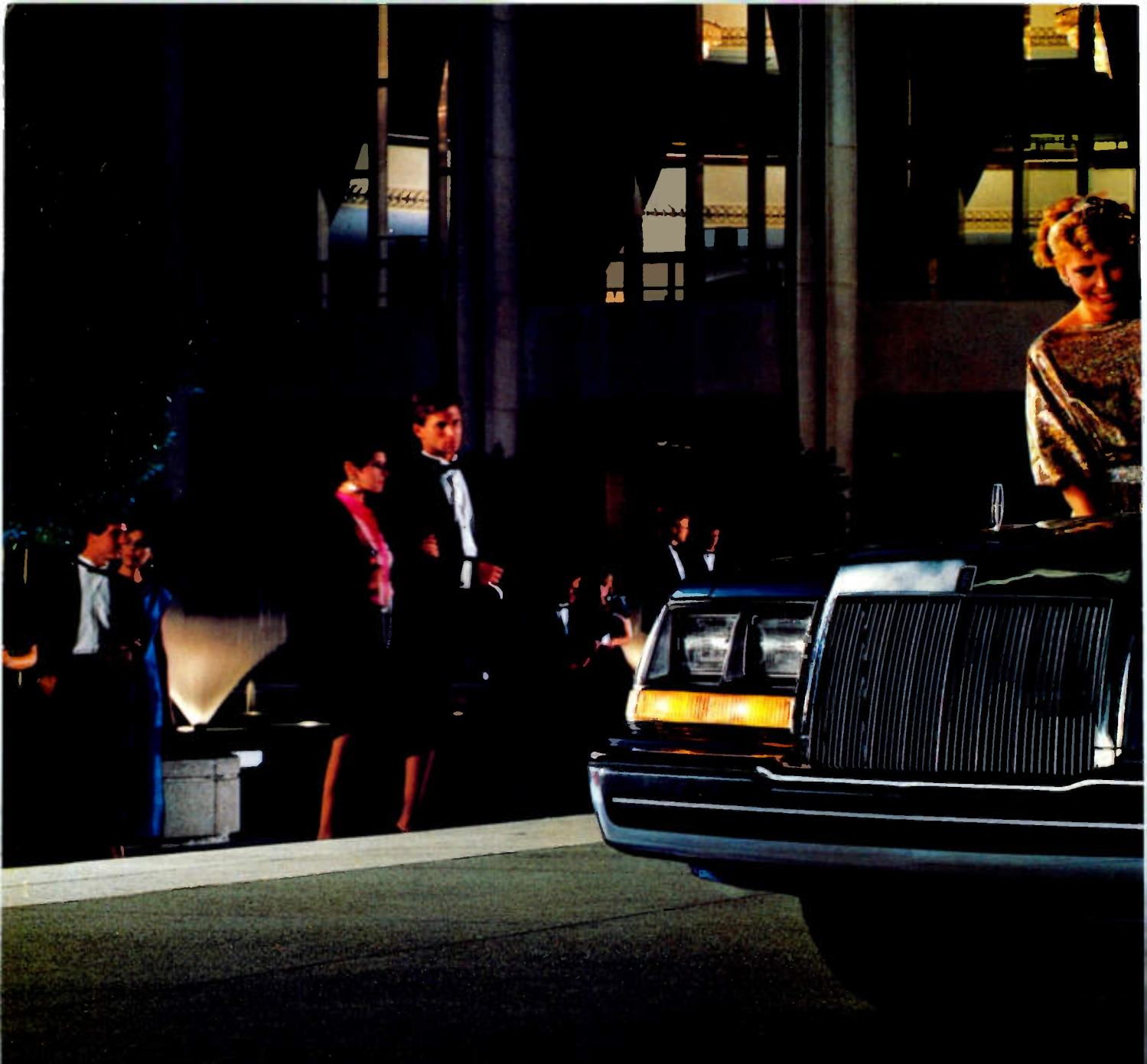
The digital revolution continues at Technics. Perfectly.

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The concert continues with the

Imagine the concert continuing in your car with the ultimate high fidelity music system.

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and you.

JBL, the recognized leader in professional loudspeaker design, has been delivering breathtaking sound in concert halls, theaters and movie houses for over forty years. In fact, today, over 70% of the world's top recording studios use JBL loudspeakers.

Ford expertise in electronics and audio engineering speaks for itself with over 50 years of audio design. In addition, Ford maintains one of the most technically advanced audio



new Ford JBL Audio System.

The 1986 Lincoln Continental is shown at the Los Angeles Music Center, both equipped with JBL loudspeakers.

development and test facilities in the world.

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- 12 speakers strategically located throughout the car that have been adjusted and equalized to the surrounding acoustics.
- 140 watts of total system power* that has been designed with extremely low distortion for comfortable listening even at high volume for long periods of time.

*Supplied by 4 amplifiers, each 35 watts per channel into 4 ohms at 1 KHz with less than .07% total harmonic distortion.

- Advanced audio features including full electronic tuning, Automatic Music Search, Dolby® B and DNR® noise reduction systems and automatic tape equalization.

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- Plus a low frequency control computer for continuous loudness compensation and reduced distortion.

All in all, an amazing audio system. But it's still almost impossible to imagine how good it really sounds until you hear it for yourself.



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NO OTHER HIGH-BIAS CASSETTE CAN MATCH THESE NUMBERS:



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But, number for number, TDK HX-S audio cassettes are number one.

Their exclusive metal particle formulation reproduces a wider dynamic range and higher frequency response. This enables HX-S to capture all the crispness and purity of digital performance on any cassette deck with a Type II (high-bias) switch.

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Additionally, HX-S excels in retention of high frequency MOL, which no other high-bias formulation attains.

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For optimum results with Type II (high-bias) and digitally-sourced recordings, get TDK HX-S. You'll feel more at home with it, wherever you go.

 **TDK**
THE MACHINE FOR YOUR MACHINE.®

(Continued from page 6)

It may not be as well known that he also provides superb after-the-sale service, above and beyond his *full* five-year warranty. During the five years that I have happily owned Allison Four speakers, I have had numerous questions about the speakers and about various aspects of my audio system as they relate to them. And no matter how dumb my question or irrational my concern, I have always received a prompt reply, almost always from Mr. Allison himself. I have also received advice over the telephone, again often from Mr. Allison.

This represents much more than just the individual attention one can receive from a small company interested in doing what is good for business. It also bespeaks the tremendous personal integrity of Mr. Allison, integrity that infuses his products and his company. Such performance should be publicly lauded.

Marc Richman
Silver Spring, Md.

SPEAKERS CHALLENGED . . . AND MORE

Thanks for your excellent series of articles on loudspeaker technology [June 1985]. It shows that some people are doing something about getting above-average sound out of a speaker. One question, though: Can the Acoustic Research MGC-1 ["Sonic Marvels"] reproduce the tremendous dynamic range of Compact Discs? If the level of this model's three-dimensional realism is true, I can't wait to listen to it with a CD whose left-right separation is prominent, like Dave Grusin's *Night-Lines*. Unfortunately, many speakers sound terrible when asked to reproduce CDs, so buyers would be wise to conduct appropriate listening tests when in the stores—in addition to following the good suggestions offered by Timothy Holl ["Shopping for Speakers"].

On a different matter, why bother with models that are made especially for use with TV monitors ["Video Speaker Buying Guide"]? Placing the speakers right next to the monitor destroys the stereo effect. Setting the speakers eight feet apart does do wonders for the sound, however—and since each is four feet away from the picture tube, the whole idea of building extra magnetic shielding into television speakers seems superfluous. At least JBL agrees with my view. . . .

As for your listing of high-end videocassette recorders ["Top-Flight VCRs," May], I notice a dearth of Hi-Fi models with tuner

circuits that can decode stereo TV signals. Harman Kardon's VCD-1000 and Mitsubishi's HS-400UR are so equipped, but they lack such special effects as frame advance and reverse play. Let's hope that more machines like the excellent JVC HR-D725U—but with the stereo-decoding circuits built in—are introduced soon.

As for CD caddies ["Road Sounds '85," May], I strongly encourage the EIA to come up with a standard design that will not only guard against dust and scratches, but also ward off heat and sunlight and improve the shock protection of the disc. How about it?

Raymond Chuang
Sacramento, Calif.

Although we have not yet formally tested the MGC-1, we are confident that it will have no trouble with Compact Discs. As for video loudspeakers, there are several reasons to consider them. One is that even when you have broadly spaced stereo speakers, it sometimes is useful to have one or two more near the monitor to anchor dialogue. Several of the latest surround-sound decoders have mono center-channel outputs specifically for this purpose, as do the professional Dolby theater decoders

(see "Bringing Home the Movie Experience," July). In addition, some people have video systems in places where widely separated stereo speakers are impractical; the sound will still be more open and realistic than it would be in mono. And if all you want is to get higher fidelity mono sound than the little squawker in your TV set will deliver, a single shielded system is an excellent solution.

Unfortunately, the last generation of Hi-Fi videocassette recorders went into production just before the stereo TV standard was promulgated. But many of the new wave of VCRs include the necessary decoding circuitry.—Ed.

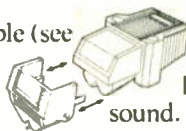
INSTANT REPLAY

In your April 1985 "Currents" is a description of a multisystem (PAL, SECAM, and NTSC) videocassette recorder called the Image Translator from Instant Replay. In the same column of the following issue, you mention that Instant Replay of Waltham, Massachusetts, is the country's largest independent importer of Laserdiscs. Are they the same company? I called Instant Replay in Waltham about the VCR, and they knew nothing about it. Do you have an address or

Stylus wear. By the time you hear it, it's too late.

If you haven't replaced your stylus (needle) in the past year, you may be permanently damaging every record you play.

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Rolling Stone Magazine

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"An amazing experience."

High Fidelity Magazine

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*U.S. Patent Nos. 4,489,432 and 4,497,064. Other Patents Pending. U.S. and foreign.

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MAKING CONTACT

I enjoy listening to my Beta Hi-Fi and TV with my Yamaha stereo system, which consists of a C-70 preamplifier and an M-50 amplifier connected (with Monster Cables) to a pair of NS-1000 loudspeakers. But it bothers me to leave the stereo system on for such long hours. I have an extra Akai amp that I could use to drive the speakers when I don't want to have the whole system playing, but I don't know how to hook it up so that I can go back and forth between amps. Is it dangerous to connect the amplifier inputs to the same source with Y connectors? Is there a speaker switch that can be used to select between two amps? I've been told I could achieve this with two double-pole double-throw switches, but I've also been warned of the dangers.

Asghar Afghani
Lafayette, La.

I don't see what would be "dangerous" about the Y connectors—or about the double-pole switches, as long as they have a high enough rating (if they're designed to switch regular AC power, they should be fine) and are the nonshorting type (so you can't, even instantaneously, dump the output from one amplifier to the other's input terminals). The real danger would come in trying to hook up bridged amplifiers with only one double-pole double-throw switch (or two single-pole switches), requiring you to connect all the "ground" leads together unswitched.

(Actually, a bridged amp has no output ground connection; that's what causes the problem.) But the extra contact resistance (and possibly stray capacitance) of any switching device or Y connector works against the design principles of the Monster Cables, and the thermal shock of on/off cycles is more likely to cause parts deterioration than is the steady heat dissipation of continuous operation. I'd suggest that you stay with the single amp.

FOUR-CHANNEL NOISE

I've had my Technics SA-8000X four-channel receiver for some years, and it has begun making loud crackling noises when I move the volume control. The noise will disappear if I turn the control back and forth or use tuner cleaner on the contacts, but it always comes back the next time I turn on the receiver. What can I do about this? And why have manufacturers stopped making four-channel receivers?

Joseph R. Parella
Jersey City, N.J.

It sounds like you've been taking the right approach. If a solvent won't get rid of the dirt causing the noise, it may be necessary to buy and install a new volume control (or to have this done for you). The reason you can't buy a new four-channel receiver (and may have an awful time just locating the four-channel control for your Technics) is that they just didn't sell.

REMOTE PAST

I recall a speaker that was remote in that it could be plugged into any electrical wall outlet and could receive an audio signal piggybacking on the line frequency. Is there still such a speaker available, or is this all a figment of my imagination?

Terry Hall
Sausalito, Calif.

You aren't crazy (or we both are), for I seem to remember such a device, too, though my memory of it is a little foggy. I'm not even sure that it ever actually came on the market, and to date the evidence (or lack of it) indicates it wasn't an epoch-making success. I can't imagine something like that meeting high fidelity standards, though that's probably because nobody has ever tried. A wireless speaker using FM transmission techniques is made by Nady Systems (1145 65th St., Oakland, Calif. 94608), but I can't tell if this will suit your requirements.

SHOW ME!

What do you think of buying demo equipment? Is there any way to examine the merchandise to make sure it's a good deal?

Javad Saebfar
Union City, Calif.

What you should do depends partly on the store and partly on the equipment. Most strictly electronic components (amps, tuners, etc.) will be okay if they work at all. Try to audition care-

fully, on headphones, listening for noise and distortion. Any component with motors and other moving parts is easier to damage by hard use and would be a riskier purchase. And a store with a loud, hard-sell aura probably is more likely to have harmed it than one that comes on like an audio Brooks Brothers.

EYEING IONS

If I buy one of those ionic air purifiers, will it harm my equipment or tapes in any way? Could it be beneficial to them by providing a pollution-free zone?

David Morin
Forest Hills, N.Y.

The latter seems much more likely, though I'd expect LPs to benefit from your ionic clean-air act even more than tapes or electronic equipment. However, in use, some purifiers seem to become surrounded by a layer of dust and other debris pulled out of the air. This gunk should not be allowed to collect on a turntable. You might also be wary of using such devices in very close proximity (a couple of inches) to a CD player or home computer. The high electrostatic fields they generate can, in principle, damage certain types of digital circuitry, particularly if a spark is ever generated. Then again, I've received no reports of this happening.

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

Absolutely not. There are certain areas in life where you can't skimp on quality.

That's why there's Maxell XLS tape. It's engineered to achieve a lower distortion and wider dynamic range. XLS frequency response extends to the widest possible limits, with greater sensitivity throughout the tonal range.

It helps capture the quality of sound your system was designed to deliver.

Use Maxell XLS for all your taping needs.

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**WOULD YOU BUY
CHEAP PERFUME FOR
YOUR GIRLFRIEND?**



CURRENTS

INNOCENCE ABROAD

To an American brought up on a steady diet of Consumer Electronics Shows and local hi-fi exhibitions, the October Japan Audio Fair has stood as the venerated Mecca, the time and place where new products are not so much displayed as unveiled with a grandeur approaching revelation. But I must report, with the agreement of the half-dozen audio pilgrims who accompanied me and of several others who did time there, that the billing of the show, for 1985, at least, proved to be high-order humbug.

Thanks to the kindness of Denon, our group found its way across the Pacific, and through the various Denon factories and studios, to the Harumi Exhibition grounds in Tokyo, there to feast our eyes and ears on the latest, most wallet-tempting audio componentry. We were little prepared for the overwhelming uniformity of appearance, performance, and features characterizing most of the new products. Neither were we ready for what seemed to be a lack of innovation in design. One han-



PHOTOS BY DAVID FRANADA

PART OF AN AUDIO FAIR DISPLAY SAMPLING THE RANGE OF CD'S AVAILABLE IN JAPAN

kered after the quirks of high-end audio.

For example, most major companies had complete lines of Compact Disc players running from about ¥44,800 to ¥180,000 (\$200-\$820, at ¥220 = \$1.00), or higher. Nearly all of the models had black front panels, drawer loading mechanisms, cueing and programming features that

got more versatile as the price rose, infrared remote controls on the top units in each line, and, of course, practically identical audio specifications. Digital filters, having been found a highly salable feature, seemed to be replacing analog filters in many product lines (Technics, Sony, and

(Continued on page 19)

Tandberg's engineers designed the TCD-3014A to be the most musically accurate cassette deck in the world. It is an intelligent interface between electronics, machine and [32K] automation, devoid of visual distractions and gimmicks that impress the eyes and deceive the ears.

The only thing ostentatious about the TCD-3014A is its performance.

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The first video system I see anything in.

by Ray Charles.

"When the whole world got excited about video systems, I didn't. Because while everybody was going 'ooh' and 'ahh' about the technology, I was going 'ughh' about the sound.

I'm sorry to tell you, most video systems sound pretty sad.

Then the folks at Pioneer asked me to listen to their video system called LaserDisc. And you could see my ears light up. LaserDisc sounds as good as anything I ever heard on my stereo. In fact, I'd buy it for the sound alone.

So I ask about the picture. And the experts tell me it's so good no other video system even comes close.

I'm impressed.

And then they tell me that since nothing touches the discs but a beam of light, they can't wear out the way records or tapes do. I'm even more impressed.

Of course, you may already have a stereo and a VCR, and you're thinking to yourself, 'Why do I need Pioneer LaserDisc?' I promise you, you need it. Because it does what neither of those can do. It puts a great picture and great sound together.

Do me a favor: check it out. I bet you're gonna see things my way."

Model shown. CLD 900. The world's first combination LaserVision and CD player.

Prices start at \$299. Suggested retail price.

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PIONEER
Video for those
who really care about audio.



To hear why Stevie Wonder records on Sony Digital equipment, play him back on a Sony Compact Disc Player.

When it comes to capturing the experience of live music, no audio equipment delivers the performance of digital audio.

That's why for one musician, it's played a critical part in virtually every aspect of the creative process. Stevie Wonder has insisted on this revolutionary digital mastering equipment since 1979. And the name this music industry leader chooses, interestingly enough, is the leader in digital audio. Sony.

Not only has Sony led the way in professional digital recording equipment, we also invented the digital system for playback—the compact disc player. Sony introduced the first home, car and portable CD players. And Sony sells more types of compact disc players than anyone else in the world!

But whichever Sony Compact Disc Player you choose, each allows you to hear everything the artist originally intended.



Shown is the CDP-302, a full-featured, programmable home player that uses Sony's third-generation digital technology.

So why not do what Stevie Wonder does? Play the top-selling compact discs back the same way they were mastered. On Sony Digital equipment.

Once you do, you'll wonder why you listened to anything else.

SONY
THE LEADER IN DIGITAL AUDIO™

(Continued from page 16)

Hitachi, among others); soon the analog vs. digital filter controversy will be moot.

There were a few interesting CD products. Among the four players attracting the most attention were two that HIGH FIDELITY readers already know about from last month's "Currents": Sony's \$300 D-7 "Discman" portable—called in Japan the D-50 MkII and sold there for ¥49,800 (around \$230)—and Pioneer's PD-M6 CD changer, which uses six-disc cartridges. Alpine showed a car CD changer (with most of the works mounted in the trunk), and the fourth novel player was Hitachi's DAD-P100 portable (¥54,800, or approximately \$250), nicknamed the "With Me." Those who were with *me* hoped the nickname would be changed or dropped by the time the unit reached the U.S. It was otherwise rather attractive, measuring 7¾ by 1¾ by 6½ inches, weighing about 2½ pounds with its integral battery pack, and available (at least in Japan) in decorator colors suitable for inclusion in "Miami Vice" and other well-designed TV shows. (Other CD players, VCRs, portables, and even blank tape also received the designer-color treatment; a line of cassette tapes in colored shells from Denon was being marketed in Japan specifically for ten- to eighteen-year-old girls.)

Where was digital-audio tape? Nowhere to be seen! Sony and a couple of others did have invitation-only rooms nearby where prototype digital-audio cassette machines were shown, but there was nothing similar on the show floor. I was told that the Japanese are waiting for the marketplace to settle down before they introduce yet another home entertainment medium. With the international hubbub over CD availability, the class struggle between Beta and VHS, the slow development of the videodisc market, the already confusing introduction of 8mm video, and the lead time for the production of RDAT chips, Japanese companies do not see the next few months as being propitious for digital tape. Perhaps by midyear. . . .

By the time one got beyond the acres of CD players, there was very little of overwhelming interest at the exhibition, which is about one-fifth the size of a Consumer Electronics Show. As might be expected at a CD-slanted event, new analog turntable concepts were practically nonexistent, except for a couple of units from Kenwood. Apparently Kenwood's engineers have decided that turntable-spindle



A MOCK-UP OF MARANTZ'S DPM-7 DIGITAL-SIGNAL-PROCESSING INTEGRATED AMPLIFIER

wobble (astronomers and gyroscope-makers call it precession) is an important source of wow and flutter. Their solution is a special spindle design in the KP-880DII and KP-770D Dynamic Center Lock direct-drive units. Little in cassette deck technology was introduced, though several new dubbing models had recording capability on both transports. Receivers have never been popular in Japan, and there were few new ones seen, though audio/video units were heavily promoted. There will probably be more receiver introductions aimed at the U.S. market at this month's Consumer Electronics Show.

Although this was primarily an audio exposition, videodiscs, always more popular in Japan than elsewhere, made a strong showing, with traditionally non-videodisc companies (like Yamaha and Teac) promoting Laservision players, and others (Matsushita, JVC) pushing the VHD system. Many Hi-Fi VCRs and video surround-sound processors were on display, as were 8mm VCRs with companded digital-audio recording capability. And there was a demonstration room housing two projection televisions and four direct-view (picture-tube) sets, all showing spectacular wide-screen, high-definition TV pictures. You'd never imagine that television could look so good; it was better, in some ways, than 35mm and 70mm film (less flicker with moving objects on a large screen). News from the high-definition TV front indicates that there will be one worldwide standard for its signals, making the medium ideal for video-based cultural exchange programs (if and when HDTV ever hits the marketplace).

Perhaps because of the lack of innovation elsewhere, one component stood out as being almost visionary. Not yet a product, it hadn't even advanced to the preproduction stage. All that was shown was a front panel with various indicator lights on a chassis devoid of any circuitry except for the indicators' power supply. But what was described—in a Japanese-only data

sheet—was the first glimpse of home audio's future: the Marantz DPM-7 *digital signal processing* integrated amplifier.

Marantz, at least in Japan, is an arm of Philips and the lucky beneficiary of much of that company's most advanced technology. The DPM-7's share consists of five Acoustic Signal Processor integrated circuits. Operating directly on the digital output of a CD player or DAT deck, or on the converted-to-digital outputs of any analog audio component, the chips are programmed to simultaneously perform four main tasks. These are graphic equalization (± 12 dB in 2-dB steps over octave bands, with four EQ memories), reverberation synthesis (with controllable reverb time, "depth," and hall absorption), compression or expansion (with three selectable "release" times), and control of an octave-band spectrum analyzer display (with an unusually wide dynamic range of 72 dB). The unit contains 16-bit analog-to-digital converters that sample at 44.1 kHz to obtain a digital bit stream from analog input signals; reversion from digital to analog takes place at the last practical moment—just before the volume control feeding the 100-watt-per-channel power-amplifier section. The price, ¥350,000 (\$1,590), is steep only if you ignore what these functions performed with equivalent quality would cost if purchased in individual components (a good, professional-quality digital reverberator alone costs well over \$1,000). To me, this one product—the first offering sophisticated digital signal manipulation to the home consumer—saved the 1985 Audio Fair from being just another ho-hum show. The future has arrived. I hope it works.

(The Japanese proclivity for using 800- or 8,000-yen figures is equivalent to our 95 or 99 dollars or cents; "less than ¥10,000" means ¥9,800, much as "less than \$100" means \$99.95. Also, a price mentioned here is the Japanese list price for that specific model number. Not all of the products will be released in the U.S.; they will certainly

cost more here and may come under different designations.) *David Ranada*

VIDEOPRINT YOUR CHILDREN

Recent publicity surrounding lost, missing, and stolen children has prompted many parents to take precautions to protect their offspring. One simple, inexpensive step is videoprinting. A videoprint is nothing more than a brief home video recording in which your child speaks, moves, and allows the viewer to see any distinguishing features.

Making a videoprint requires a VCR—virtually any one will suffice—plus sever-

al minutes' worth of video tape, a video camera, and a microphone. One of the new camcorders is ideal for the job. If you don't own a camera or a mike, your local video specialist should have them for rental at nominal cost. (A one-night rental of a color camera normally runs between \$30 and \$45, and it's money well spent.) You can simply record a few minutes at the end of a videocassette that also contains other programming, though most parents prefer to keep videoprints on a separate tape, which they store in a safe location.

You don't have to be a professional camera person, and your child doesn't have to be a Gary Coleman, to create a use-

ful tape. Simply set up your camera and recorder in the living room or in some other convenient, well-lit spot where you and your child have room to move.

Start by showing the full image of your child from head to toe. Then zoom in on the face. Ask your child to give his or her name, address, telephone number, and school in a normal speaking voice. Any distinguishing traits—a birthmark or physical characteristic, for example—should be shown in a close-up. Have your child turn around slowly and walk back and forth ten paces or so, allowing a viewer to see how he or she walks.

That's all there is to it. Three to five minutes' worth of tape per child is plenty. Simply repeat the process for each child. Before you put the equipment away, however, screen the tape on a TV set. View it as a stranger might. Be sure the answer is yes to questions such as: Is the child immediately recognizable? Is he or she in focus? Is the lighting sufficient to show his or her features and expressions? Is the voice properly recorded so that a stranger knows what the child sounds like? Does the walk show identifying characteristics of body carriage? Reshoot any unsatisfactory segments.

Odds are you will never need to use the videoprint. But if you do, law enforcement officials can copy it easily and send it to the appropriate agencies throughout the country. Because children grow and change rapidly, it's a good idea to make a new videoprint every year. You might even get hooked on shooting home videos.

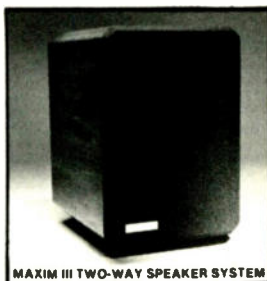
Robert Angus

"... the most successful design of all"

J. Gordon Holt *Stereophile* July, 1985.

Mr. Holt elaborates further: "of all the speakers in this price class that I have heard, I would say that Siefert's Maxim is probably the most successful design of all...The system is beautifully balanced and almost perfectly neutral....the low end from these is just amazing!...these little speakers will play LOUD! Unlike most small systems...they have the most accurate middle range I have heard from any speaker...the high end sounds as if it goes out almost indefinitely... I would gladly take this high end in preference to that of most over-\$2000 speaker systems I have auditioned in recent years...The Maxim reproduce massed violin sound superbly—with not a trace of steeliness, yet with all the resinous sheen of the real thing...I have never heard strings on good CDs sound more natural...the imaging and soundstage presentation from these are excellent. They do not sound small...It can make most audiophiles (and practically all music lovers) quite happy for an indefinite period of time. Recommended."

Siefert Research, dedicated to excellence in sound, is a pioneering designer and manufacturer of minimum-group-delay and low-intermodulation-distortion speaker systems.



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HIGH FIDELITY

by David Ranada



Digital News from the AES

Thrice yearly, the Audio Engineering Society holds a convention where the latest professional audio products are displayed and the newest technical developments are described. The final session for 1985 was held in New York—at the same time, unfortunately, as the Japan Audio Fair (see “Currents” in this issue). Having gone to the fair, I got back only in time for the last day of the AES convention. But I still learned much, principally from the collection of technical papers presented at the event.

Among them were the usual shots of abstruse esoterica stemming from unexpected sources, such as “On the Properties of the Twiddle Factor and Their Applications to the DFT,” originating from the Technical University of Denmark; “A Flexible Method for Synchronizing Parameter Updates for Real-Time Audio Signal Processors,” given by James Moorer of Lucasfilm; and “Anatomy of a Digital Filter,” from the Creighton University Cardiac Center (an organization that *should* know about anatomy). Complementing these arcane technological tongue twisters were papers about products (more accurately, parts of products-to-be) that point directly down the road that audio is taking: toward almost complete digitalization.

For example, Matsushita engineers finally described

their digital output-filter integrated circuit for Compact Disc players—presumably, the next crop from Technics. (For you techno-jargon addicts, the device is a CMOS two-times oversampling, 96-tap FIR realization of a Chebyshev equiripple filter.) Similar devices already are used in players made by Philips/Magnavox, Sony, Yamaha, and NEC, among others. Still, the specs of the Matsushita chip are an impressive reminder of the audio quality achievable with digital signal processing. The deviation from flat response in the audible band, to take just one example, is said to be only ± 0.01 dB—performance difficult even to measure. Phase response is linear, as it is for all such circuits. The chip measures about $\frac{1}{4}$ -inch square, contains the equivalent of 29,000 transistors, and consumes just 50 thousandths of a watt. Matsushita also reported on its player-on-a-chip circuit, a single IC containing most of the decoding and motor-speed control for a CD deck. It is equivalent to about 40,000 transistors and constitutes a hefty challenge to those positing the superiority of discrete-transistor audio circuits.

More details were divulged concerning the two recording media of the near future: the now standardized rotary-head digital-audio tape (RDAT) format and a recordable Compact Disc. A paper from Mitsubishi revealed that the rapid-access cueing system for RDAT can search at 200 times normal playing

speed. Since the maximum playing time of an RDAT tape is two hours (this with a cassette about half the size of an ordinary analog cassette), finding a selection takes at most 36 seconds. This is approximately twice as fast as an analog deck can fast-forward through only one side of a C-90. Like Compact Discs, the RDAT recordings can hold subcodes in addition to the digital-audio signal. The data rate of the RDAT subcodes is, at 273,000 bits per second, about 4.6 times that of the CD system. A two-hour RDAT cassette can hold 245.7 million bytes (equivalent to as many printed characters) in the subcodes alone (two hours of RDAT audio data consist of 1.3824 billion bytes). The Mitsubishi engineers mentioned in passing, but with all the foreboding resonance of another impending revolution in data storage, that they “expect that the RDAT [format] will be used not only for audio signal recording, but also for data recording with a large-size memory (DAT-RAM).” That should spark the interest of the computer industry.

The computer biz already is excited by the possibilities of optical data storage, as exemplified in an apparently ready-to-produce recordable CD system—described in another Matsushita paper. (Engineering work seems to be revealed in bursts: Matsushita dominates at one conference, Sony at another, Philips in between.) The system employs a

combination of magnetic and optical (laser) techniques to record as much as an hour of digital audio, using the standard CD encoding format. Special blank discs are “pre-tracked” and “pre-indexed” to ease the burdens on the recorder’s scanning and cueing systems. Each disc’s embedded active recording layer is composed of a thin film of iron, terbium, germanium, and gadolinium. (How they dream up these weird combinations, I’ll never understand; there seems to be an important function to be found for every chemical element, no matter how rare.)

The system is quite complex, especially the optics. Indeed, the Matsushita prototype contains two optical arrangements analogous to an erase head and a combination record/play head in a cassette deck, and the record/play optics must handle the two very different physical processes used in recording (magnetic-domain reversal) and playback (the Kerr effect). When and if the system comes out, it is *not* going to be a loss leader at the local stereo discounter. The recorder and blank discs will be fairly expensive, more than an RDAT machine and its tapes. And where are they going to dig up all that gadolinium?

I’ll have more news on the AES convention in next month’s column. ●

GENERAL INDEX TO ARTICLES 1985

Compiled by Ken Richardson and A. Heather Wood

AUDIO & VIDEO

Car Stereo

- Car Stereo '86. (Summer Consumer Electronics Show.) Jay C. Taylor. Oct.
Compact Discs Take the Helm. Robert Angus. The Autophile, Jan.
Easy Does It. (Installation basics.) Jay C. Taylor. Mar.
Ford/JBL Car Stereo System: A Better Idea. William Tynan. Currents, Oct.
Get Ready for the "Digital Ready" Speakers. Jay C. Taylor and William Tynan. Currents, Nov.
Getting Serious About Sound. Jay C. Taylor. The Autophile, Feb.
Keeping the Bad Guys at Bay. (Anti-theft devices.) Jay C. Taylor. The Autophile, June.
Nemesis Known as Noise. Jay C. Taylor. The Autophile, Apr.
Ragtop Tunes. (Installations in convertibles.) Jay C. Taylor. July.
Road Sounds '85. (Winter Consumer Electronics Show.) Jay C. Taylor. May.
Sound Advice for Trip-Takers. Jay C. Taylor. The Autophile, Sept.
Which Features Are Most Useful? Jay C. Taylor. The Autophile, Nov.

Compact Disc

- CD Availability: The Line Forms to the Right. Robert Angus. Currents, June.
CDs: Report from Japan. Theodore W. Libbey, Jr. Currents, Nov.
Plain & Fancy. (Buying guide to players.) Robert Long, Sandra C. Foster, and Andrea K. Otañez. Oct.
Systems & Solutions: Taping from CDs. Michael Riggs. Currents, Mar.

Electronics

- Making the Case for Tone Controls. Michael Riggs. Basically Speaking, Mar.
Theory vs. Practice. Michael Riggs. Basically Speaking, Oct.

Loudspeakers

- HF Puts the Bose AWMS Through Its Paces. Peter Dobbin. June.
Polk's Super SDA: The Signature Reference. William Tynan. Currents, Aug.
Question of Size. Michael Riggs. Basically Speaking, Nov.
Shopping for Speakers. Timothy Holl. June.
Sonic Marvels. (Innovations from Acoustic Research, Bose, and DBX.) Peter W. Mitchell. June.
Strictly Speaking. (British manufacturers B&W and Celestion.) Michael Riggs. Nov.
What You Can Hear: Loudspeakers. Michael Riggs. Basically Speaking, June.

Record-Playing Equipment

- Systems & Solutions: Keeping the Warps Away. Robert Long. Currents, Apr.
What You Can Hear: Vibration. Michael Riggs. Basically Speaking, July.

Tape

- 30 Tape Tests. Robert Long. Aug.
DAT Standard Announced. David Ranada. Currents, Oct.
Is Automatic Better? (Microprocessor-equipped cassette decks.) Edward J. Foster. Feb.
New Tape Accessories. Robert Long. Currents, Oct.
Systems & Solutions: Audio Cassettes: Is Newer Better? Robert Long. Currents, June.
Tape Format Face-off. (Audio cassette,

open-reel, PCM, Hi-Fi VCR.) E. Brad Meyer. Oct.

- Understanding Noise Reduction. Michael Riggs. Basically Speaking, Aug.

Video

- 8mm Delight. (Sony's CCD-V8 camcorder.) Robert Angus. Aug.
Bringing Home the Movie Experience. (Surround-sound decoders.) Dawn Gordon. June.
CES Video Picture. (Winter Consumer Electronics Show.) Robert Angus. Currents, Apr.
High-Tech TV. (Buying guide to monitor/receivers.) Frank Lovece and Peter Dobbin. Mar.
Horizontal Resolution. Michael Riggs. Basically Speaking, Jan.
Make Way for Kodavision. (Kodak's 8mm camcorder.) Robert Angus. Feb.
New Sound in Laserdiscs: Is It Better than Before? E. Brad Meyer. Currents, May.
Super Beta: How Does It Work? Peter W. Mitchell. Nov.
Tokyo Tryout. (Panasonic's Omnimovie camcorder.) Robert Angus. July.
Top-Flight VCRs. (Buying guide to Hi-Fi models.) Frank Lovece and Peter Dobbin. May.
Ultimate Portables. (Buying guide to camcorders and cameras.) Frank Lovece and Peter Dobbin. Feb.
Video Helter Skelter. (Summer Consumer Electronics Show.) Robert Angus, Michael Riggs, and William Tynan. Currents, Sept.
Video Speaker Buying Guide. Frank Lovece and Peter Dobbin. June.

Miscellaneous

- Armchair Audio. (Remote control.) Paul Terry Shea. Mar.
Completing the Link. (Audio-video receivers and control centers.) Peter W. Mitchell. May.
Form + Function. (Housing your equipment.) Peter Dobbin. Feb.
Making Sense of Distortion. Michael Riggs. Basically Speaking, Feb.
More on What You Can Hear. Michael Riggs. Basically Speaking, May.
New-Tech Quandary: What Should You Buy Now? E. Brad Meyer. Dec.
SCES. (Summer Consumer Electronics Show.) Robert Long, Michael Riggs, and Richard Warren. Sept.
Sophisticated Sounds. (Winter Consumer Electronics Show.) Peter Dobbin, Robert Long, and E. Brad Meyer. Apr.
Systems & Solutions: What to Do 'til the Repairman Comes. Robert Long. Currents, Mar.
Systems & Solutions: When Your Equipment Needs Repair. Robert Long. Currents, June.
What You Can (and Can't) Hear. Michael Riggs. Basically Speaking, Apr.

TEST REPORTS: Audio

Amplifiers (Power and Integrated)

- Kinergetics KBA-100 power. July.
Pioneer A-88X integrated. Dec.
Rotel RA-840BX integrated. Oct.
Tandberg TPA-3006A power. Apr.

Cassette Decks

- Kenwood KX-780. Aug.
Nakamichi BX-300. Feb.
Onkyo TA-2090. Feb.

(Continued on page 75)

PERREAUX'S HIGH TRADE-IN VALUE

an interview with Anthony Federici Marketing Director of Perreux International

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

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

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

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

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

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

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

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

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

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

"THE 80% TRADE IN VALUE OF MY PERREAUX AMPLIFIERS CAME AS NO SURPRISE. QUALITY IS ALWAYS A WISE INVESTMENT."

M. RECAREY JR.
CHAIRMAN OF THE BOARD
INTERNATIONAL MEDICAL CENTERS



SERIES 2 HOME INSTALLATION

WHEN MR. RECAREY CONTACTED US AT INFINITE AUDIO SYSTEMS, HE REQUIRED THE HIGHEST QUALITY AUDIO COMPONENTS FOR HIS CHALLENGING CUSTOM PROJECTS.

WE RESPONDED WITH PERREAUX — BECAUSE AT INFINITE AUDIO SYSTEMS OUR DEMANDING CLIENTEL DEFINES QUALITY AS PERFORMANCE, RELIABILITY AND CRAFTSMANSHIP.

THAT'S WHY WE CAN OFFER OUR ORIGINAL PERREAUX CLIENTS 80% OF THEIR SERIES 2 PURCHASE PRICE TOWARDS PERREAUX'S NEW SERIES 3 COMPONENTS.* AT INFINITE AUDIO SYSTEMS OUR CLIENTS DON'T BUY STEREOS, THEY INVEST IN AUDIO.

PERREAUX NOW OFFERS THE CHOICE OF THREE DISTINCT AUDIO COMPONENT SERIES. EACH IS A PRECISELY ENGINEERED SOLUTION TO A SPECIFIC SET OF REQUIREMENTS AND WANTS.

THE SERIES 3 FURTHER ADVANCES PERREAUX'S POSITION AS INDUSTRY LEADER IN QUALITY, TECHNOLOGY AND DESIGN.

THE SERIES 2 HAS RECEIVED SUCH WORLD ACCLAIM THAT IT CAN JUSTLY BE TERMED A CLASSIC.

THE SERIES 1 INTRODUCES HANDCRAFTED PERREAUX QUALITY AT THE SURPRISINGLY REASONABLE INVESTMENT PRICE OF UNDER \$2,000 FOR TUNER, PREAMPLIFIER, AND POWER AMPLIFIER.



SERIES 2 YACHT INSTALLATION

INFINITE AUDIO SYSTEMS — 305-445-7313
DESIGN AND INSTALLATION FOR SOUTH FLORIDA

*AT PARTICIPATING DEALERS UP TO 80% OF ORIGINAL AMPLIFIER PURCHASE PRICE AND 70% OF ORIGINAL PREAMPLIFIER PURCHASE PRICE WILL BE OFFERED FOR TRADE UP OF SERIES 2 TOWARD SERIES 3. FOR FULL DETAILS CONTACT YOUR PERREAUX DEALER OR PERREAUX INTERNATIONAL AT 1 800 TECPORT OR 516 683-3000.

"Who else would help you save money for college and give you an education at the same time?"

SP4 Ivan Torres, Rocket Launch Systems

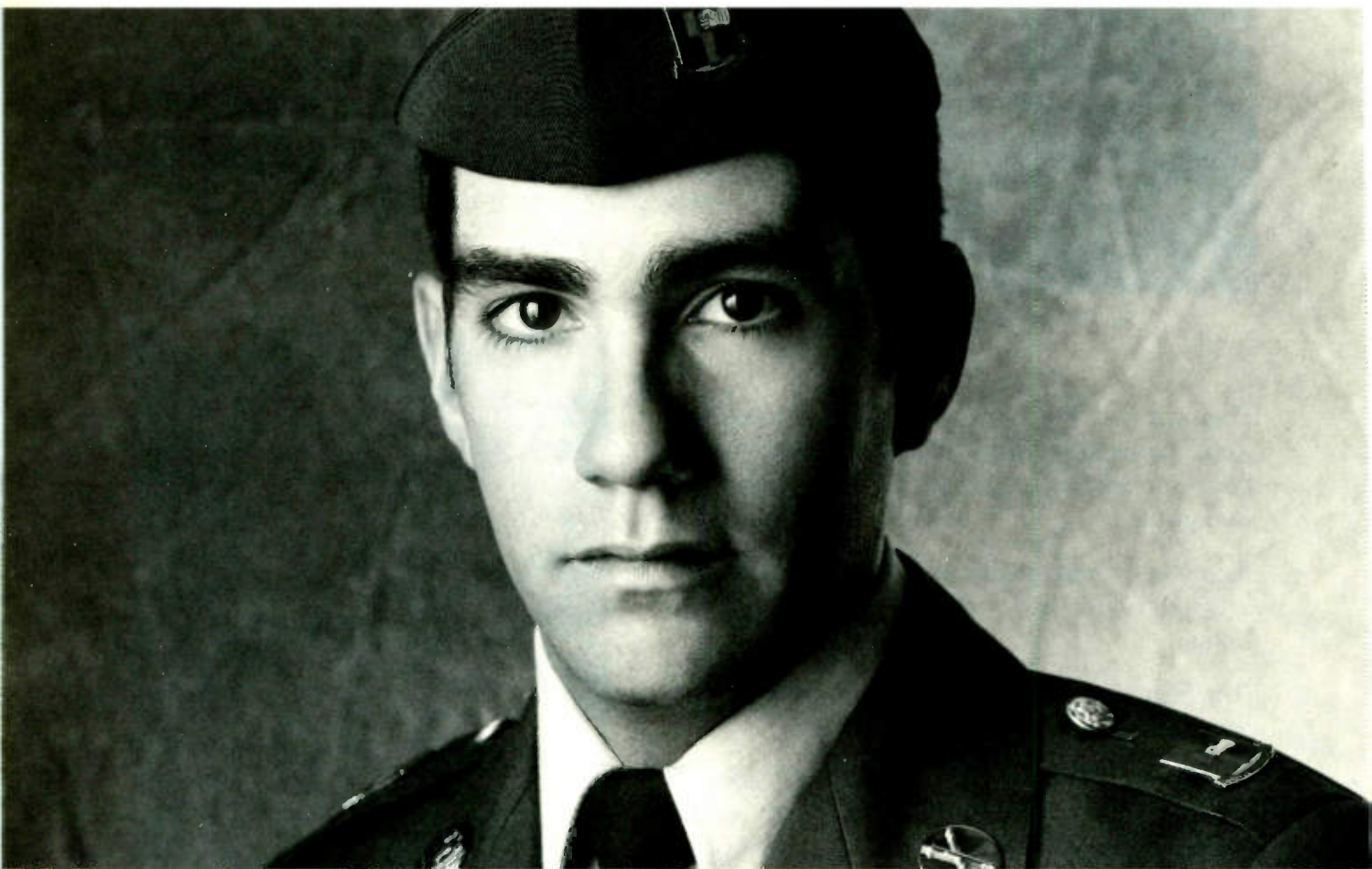
"I always figured on going to college. What I wasn't sure about was how to pay for it. So I checked out the Army. It turned out they could help me a lot, with money for school. And with my future.

"See, I wanted to learn about high-tech computers; they sent me to school. When we go to the field and I do my job, the whole mission gets off. And that's a real good feeling.

"But the Army teaches you other things, too... how to work with the soldier next to you. How to get a job done right. You learn to care more about people, too. Really, being in the Army teaches you about life."

With the New GI Bill Plus the New Army College Fund, you can earn over \$25,000 for college. While you learn things no one can put a price on. Just ask Ivan Torres. To learn more about the Army's educational opportunities, see your local Army Recruiter. Or call toll free 1-800-USA-ARMY.

**ARMY.
BE ALL YOU CAN BE.**





**NEC's digital
experience here...**

**brings you a better
digital experience here.**



• When you put a satellite in orbit, you want every possible assurance that it will perform. That's why corporations and governments all over the world ask NEC to build their satellites.

Even if you don't launch objects into outer space, it's comforting to know that NEC puts much of our satellite PCM digital technology into our Compact Disc players for the home.

While most high fidelity companies have only two or three years of experience with PCM digital audio, NEC has been at it since 1965. So it comes as no surprise that other manufacturers are now imitating the digital filtration and high-speed switching our CD players have had from the beginning. And it's no surprise that independent critics in America, Europe and Japan have awarded NEC's players top ratings.

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

NEC

We bring high technology home.

We're not playing video games.

If your video viewing goes beyond games and cartoons, you should know that Yamaha has entered the field. With equipment that, like our legendary audio components, is anything but entry level.

The YM-950 25" monitor/receiver features built-in MTS (Multichannel TV Sound) and SAP (Separate Audio Program) circuitry, plus full stereo capability and 134 channels of cable input.

Its 100° black cross-matrix picture tube and advanced design comb filter give you a sharp, high contrast, high resolution picture.

The six-head YV-1000 VHS Hi-Fi video deck is the first of the new generation of VHS machines. With its advanced HQ circuitry, it provides 20% greater picture definition over previous VHS decks. Along with improved brightness and color signal, and reduced video noise. Even in the extended play mode.

And because the circuitry is VHS Hi-Fi, the same high tracking speed that's used to record the video is used to record the audio. So the YV-1000 has a frequency response from 20Hz to 20kHz, dynamic range of 80dB, channel separation of 60dB and virtually unmeasurable wow and flutter. For hi-fi sound that's measurably better than any you've heard.

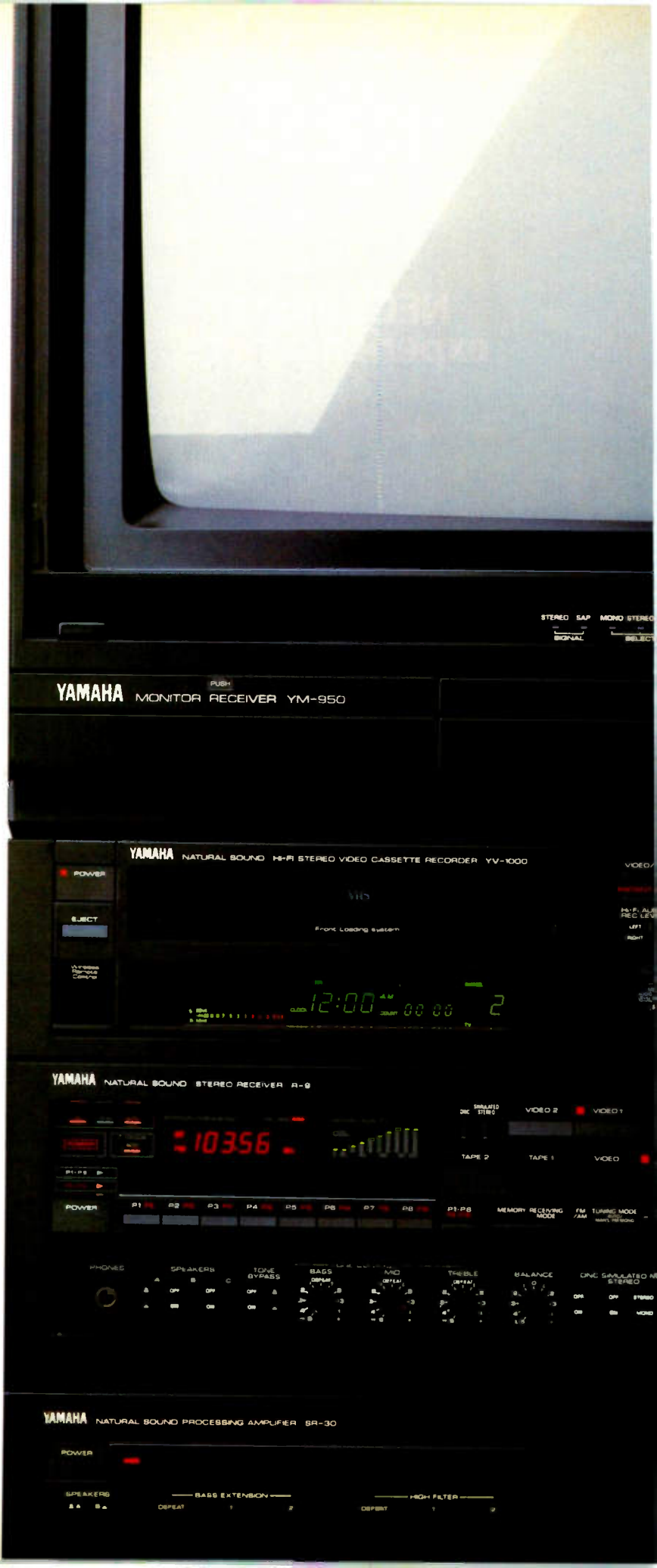
Connected to a pair of rear speakers, the 30-watt-per-channel SR-30 Surround Sound amplifier brings full movie theater sound into your home.

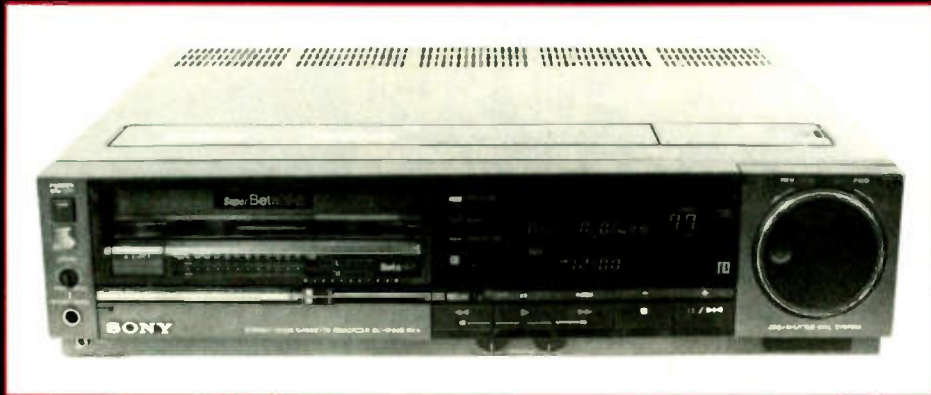
And the R-9 receiver with remote control and 125 watts per channel* gives you the power and connections to integrate your video components with your audio system.

Of course, you can use Yamaha video equipment to play games. We just wanted you to know that we weren't.

*125 watts RMS per channel, both channels driven into 8 ohms, from 20 to 20,000 Hz, at no more than 0.015% Total Harmonic Distortion.

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





SUPER BETA IS HERE, PROMISING MUCH-IMPROVED PICTURE QUALITY. BUT JUST HOW GOOD IS IT? HF TESTS THE CREAM OF THE INITIAL CROP, SONY'S SUPER BETA HI-FI SL-HP900, WITH GRATIFYING RESULTS.

Test Reports

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.



ENERGY ESM-2 LOUDSPEAKER



GENERAL ELECTRIC 26PM-5881 MONITOR/RECEIVER



SHURE ULTRA 500 PHONO CARTRIDGE



TECHNICS SL-XP7 PORTABLE CD PLAYER



SPECTRUM 108A LOUDSPEAKER



BARCUS-BERRY BBE-2002R SIGNAL PROCESSOR



PARASOUND CA-250 INTEGRATED AMPLIFIER

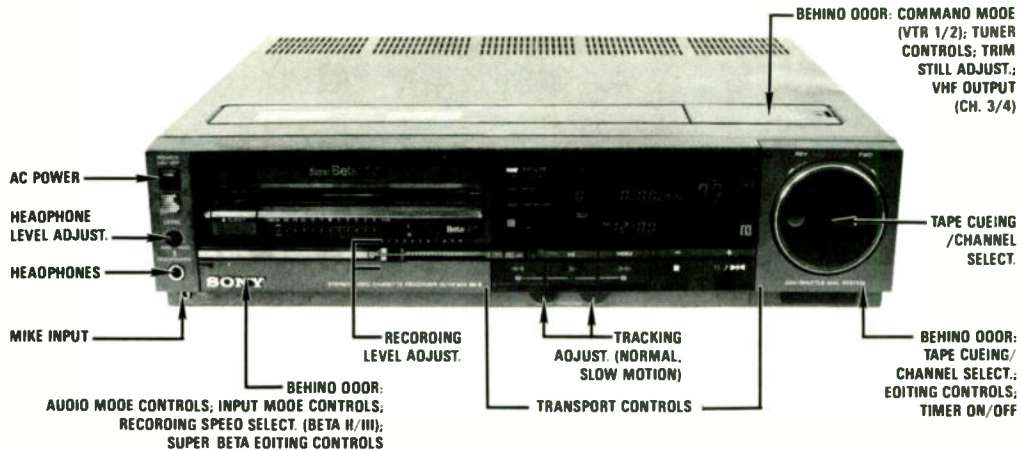


PROTON D-540 INTEGRATED AMPLIFIER



AUDIO CONTROL PHASE COUPLED ACTIVATOR

Sony SL-HF900 Super Beta VCR



DIMENSIONS: 17 BY 4 $\frac{1}{4}$ INCHES (FRONT), 14 $\frac{1}{2}$ INCHES DEEP PLUS CLEARANCE FOR CONTROLS AND CONNECTIONS. **AC CONVENIENCE OUTLETS:** ONE UNSWITCHED (400 WATTS MAX.). **PRICE:** \$1,500. **WARRANTY:** "LIMITED," ONE YEAR PARTS, 90 DAYS LABOR. **MANUFACTURER:** SONY CORP., JAPAN; **U.S. DISTRIBUTOR:** SONY CORPORATION OF AMERICA, SONY DR., PARK RIDGE, N.J. 07656.

Sony invented the consumer videocassette recorder, and though in recent years its Beta format has been losing ground to the rival VHS system, it has remained the leader in technological innovation. Each time there have been improvements to VCR performance, Sony has beaten its large and numerous VHS competitors to the draw—in special effects, in Hi-Fi recording, and now with the high-resolution Super Beta format. The company's SL-HF900 is the current high-water mark in Beta technology: Super Beta video, Hi-Fi audio, and a host of special features make it an outstanding defender of the faith.

In theory (see accompanying article), Super Beta should provide better picture detail than conventional Beta recording. And Diversified Science Laboratories' tests bear out that expectation—especially at the Beta II speed. In theory, Beta Hi-Fi audio recording should approach the sound quality of the Compact Disc. And DSL's measurements verify that claim as well. Plus you get such Sony novelties as a "Jog Dial" and "Shuttle Ring" that serve a triple purpose: variable-speed slow motion (forward or reverse), high-speed channel tuning, and clock/programmer setting.

The SL-HF900's tuner covers standard VHF broadcast channels (2 through 13), UHF Channels 14 through 69, and as many as 125 cable channels. A single F connector serves as the only RF input, so if you have separate VHF and UHF antennas, you will need to combine their outputs with a splitter/mixer before connection to the Sony deck. The SL-HF900 also has RF input and output F connectors for tying in a decoder for pay-TV channels.

The tuner's performance is very good. Video response holds up to the color-burst frequency (3.58 MHz), for a potential resolution of almost 300 lines if the tuner is connected directly to a good monitor. Luminance (brightness) level is almost exactly on target, and though the chroma level (which determines color saturation) is lower than average, it is uniform across the spectrum and can be corrected perfectly. Chroma phase accuracy (hue) is almost perfect, and it, too, is easily corrected. Gray-scale linearity (the accuracy with which changes in luminance are depicted) is well within acceptable bounds, and chroma differential phase (the degree to which hues vary with changes in brightness) is very low. Although chroma differential gain seems quite high, the error is confined entirely to

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.

the brightest picture level and is unlikely to be noticeable on typical program material.

The tuner's audio section is "MTS ready," meaning that it will decode stereo broadcasts if they are available in your area. The mode switch lies beneath a cover on the deck's top surface—an unfortunate location if you intend to stack equipment on the VCR and if you find some channels in your area too weak to receive well in stereo.

If you've elected to record the main channels of a stereo broadcast in Beta Hi-Fi, you can record its Separate Audio Program (if any) on the tape's mono edge track by setting the "normal audio" switch (behind the front-panel flip-down door) to SAP. If you do not record the SAP, the SL-HF900 will put a mono mix of the main audio channels on the edge track. The setting of a monitor switch, also behind the flip-down door, determines what you listen to—both in playback and during recording. You have a choice of the Beta Hi-Fi channels, the edge track, or a mix of the two.

The tuner's audio response is almost ruler flat from 50 Hz to 10 kHz and down 3 dB at 36 Hz and 12.5 kHz. The horizontal-scan whistle is well suppressed, and the signal-to-noise ratio is the best we can recall measuring on a TV tuner—not only under normal conditions but even with the special patterns DSL uses in its tests. Output impedance is somewhat higher than average but should not be of concern in normal hookups, and output level should be adequate.

There are three tuning methods: direct access by channel number (from a ten-key pad on the remote control), scanning through the tuner's memory (via up/down buttons on the front panel or the remote), and spinning through the channels with the Jog Dial. In any event, the channel number that you've tuned in appears in the display, along with the CATV legend if you've set the tuner to the cable mode.

Channels are added or erased from memory by tuning to the desired channel with the Jog Dial and pressing ADD or ERASE under the top lid. The Jog Dial also is used to set the SL-HF900's clock and its 8-event/21-day programmer. Rotating the Jog Dial clockwise advances the time; counterclockwise backs it up. The programmer is both

easy to use and versatile, enabling you to record from a channel at the same time every day during the week or at the same time and day of the week each week. Both clock and programmer are backed up by an internal rechargeable battery that maintains the VCR's memory through power outages of as long as ten minutes. The SL-HF900 also has a "quick timer" that will automatically shut off a recording you've started manually at any 30-minute interval, up to five hours in the future.

The SL-HF900 records at Beta II and Beta III speeds in either the Super Beta or conventional Beta mode and will reproduce tapes in the original Beta I format as well. Maximum recording time in the Beta III mode with an L-830 cassette is five hours. Sony advises that Super Beta be turned off if you are making a tape specifically to play on a conventional Beta-format deck (see accompanying article).

A three-position input selector determines whether you are recording audio and video from the built-in tuner, video from the tuner and audio from the line inputs (when recording a simulcast program, for example), or video and audio from the line inputs. A three-position multiplex (MPX) switch—the first we've seen on a VCR—enables you to switch in a stereo-pilot filter when recording from FM. The third position (PCM) is specifically for recording digital audio from a PCM processor.

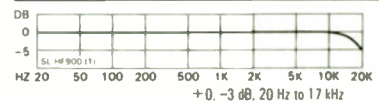
The recording level in the Beta Hi-Fi mode is adjusted via dual sliders with a center detent that is the recommended setting when recording a TV broadcast. The performance is nearly flawless. Response is flat from below 20 Hz to 10 kHz and less than 3 dB down at 17 kHz at DSL's standard test level (20 dB below the 3-percent distortion level). There is no trace of noise-reduction "tracking" error from -10 dB to -40 dB, and high-frequency overload due to pre-emphasis does not show up until our -10 dB level, which on this deck corresponds to a meter reading of 0 dB.

The meters are peak-responding—with a sufficient decay time for the eye to follow—and free of overshoot. As long as you keep the peak levels to meter zero, distortion will be well under 1 percent even at 10 kHz and less than 1/4 percent to beyond 5 kHz. And you'll have better than 80 dB dynamic range

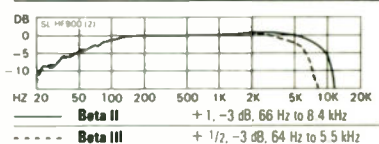
VCR SECTION

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

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



STANDARD RECORD/PLAY RESPONSE (-20 dB)



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

	standard	Beta Hi-Fi
Beta II	48 1/2 dB	93 dB
Beta III	47 1/4 dB	92 dB

INDICATOR CALIBRATION (315 Hz; Beta Hi-Fi)

for 0-dB input	> +5 dB
for -10-dB input	0 dB

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

	standard	Beta Hi-Fi
Beta II	≤ 4.9%	≤ 0.20%
Beta III	≤ 5.5%	≤ 0.20%

CHANNEL SEPARATION (315 Hz; Beta Hi-Fi)

	79 dB
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INDICATOR "BALLISTICS"

Response time	2.8 msec
Decay time	≈ 450 msec
Overshoot	0 dB

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

	standard	Beta Hi-Fi
Beta II	± 0.09%	± < 0.01%
Beta III	± 0.13%	± < 0.01%

SENSITIVITY (for 0-dB output; 315 Hz)

	micro	line
Beta Hi-Fi	see text	2,040 mV*
standard	0.07 mV	3,400 mV

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

Beta Hi-Fi	2.0 volts
standard	0.49 volt

AUDIO INPUT IMPEDANCE (Beta Hi-Fi)

line input	52k ohms
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VIDEO RECORD/PLAY RESPONSE

	Beta II	Beta III
at 500 kHz	+ 1/4 dB	+ 1/4 dB
at 1.5 MHz	-1 dB	-2 1/4 dB
at 2.0 MHz	-4 dB	-8 1/2 dB
at 3.0 MHz	-17 1/2 dB	-23 1/2 dB
at 3.58 MHz	-27 dB	-21 dB
at 4.2 MHz	-15 1/2 dB	-16 1/2 dB

*With the recording level control at its detent position, sensitivity is 685 mV with the control turned all the way up.

SHARPNESS CONTROL RANGE

at 500 kHz	+ 1, -3/4 dB
at 1.5 MHz	+ 2 1/4, -7 1/2 dB
at 2.0 MHz	+ 3 1/4, -11 3/4 dB
at 3.0 MHz	+ 4 3/4, -7 1/2 dB
3.58 to 4.2 MHz	no measurable effect

LUMINANCE LEVEL	6% low
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GRAY-SCALE NONLINEARITY (worst case)

Beta II	≈ 5%
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Beta III	≈ 8%
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CHROMA LEVEL	≈ 4 1/2 dB low
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CHROMA DIFFERENTIAL GAIN	none
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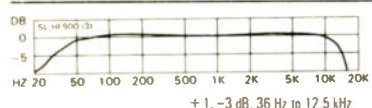
CHROMA DIFFERENTIAL PHASE	≈ ± 5°
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MEDIAN CHROMA PHASE ERROR	-4°
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TV TUNER SECTION

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

AUDIO FREQUENCY RESPONSE (mono)



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

best case (no color or luminance)	53 1/2 dB
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worst case (crosshatch pattern)	45 dB
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RESIDUAL HORIZONTAL-SCAN COMPONENT (15.7 kHz)

	-58 dB
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AUDIO OUTPUT LEVEL (100% modulation)	0.39 volt
--------------------------------------	-----------

AUDIO OUTPUT IMPEDANCE	3,300 ohms
------------------------	------------

VIDEO FREQUENCY RESPONSE

at 500 kHz	+ 1/4 dB
------------	----------

at 1.5 MHz	+ 3/4 dB
------------	----------

at 2.0 MHz	+ 1/4 dB
------------	----------

at 3.0 MHz	-2 1/4 dB
------------	-----------

at 3.58 MHz	-5 dB
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at 4.2 MHz	-18 dB
------------	--------

LUMINANCE LEVEL	6% high
-----------------	---------

GRAY-SCALE NONLINEARITY (worst case)	≈ 14%
--------------------------------------	-------

CHROMA DIFFERENTIAL GAIN	≈ 35%
--------------------------	-------

CHROMA DIFFERENTIAL PHASE	≈ ± 5°
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CHROMA ERROR

	level	phase
red	-5 1/4 dB	+ 3°
magenta	-5 1/4 dB	+ 3°
blue	-5 1/4 dB	+ 2°
cyan	-5 1/4 dB	+ 6°
green	-5 1/4 dB	+ 4°
yellow	-5 1/4 dB	+ 6°
median error	-5 1/4 dB	+ 4°
uncorrectable error	none	± 2°

at your disposal, since DSL measured an A-weighted noise level from 92 to 93 dB below the midrange 3-percent distortion point. Channel separation is excellent, wow and flutter are below our reporting limits at both speeds in Beta Hi-Fi, and input and output characteristics are fine for mating with any stereo system.

Even the edge-track audio performance is far better than we've come to expect from the average VCR. Although recording level is set automatically, the "knee" of the limiting curve is at such a high input level that the ALC serves mainly to prevent gross overload. When recording off the air, there's little additional compression.

Response at 10 dB below the knee is within 1 dB from 100 Hz to 6.5 kHz at the Beta II speed and down only 3 dB at 6.5 kHz at the slower speed. Flutter is remarkably low, and A-weighted noise is about 48 dB below reference level, which isn't bad at all for VCR edge-track recording. Distortion, measured at the knee, ranges from 1 to 5 percent and is caused as much by the ALC action as by the recording process itself.

DSL measured video-recording performance in the Super Beta mode using "High Grade" tape with the detail switch in its "high" position. (Sony recommends the "normal" position if you're not using a high-grade tape.) Video response is down only 4 dB at 2 MHz at the standard recording speed (Beta II)—the flattest we've measured to date. Even this small loss can be restored by advancing the SHARPNESS, albeit at some increase in video noise. The SHARPNESS has maximum effect in the region between 2 and 3 MHz—just where the response of the deck is falling off—so it's uncommonly helpful in correcting the losses in the video recording process if you're willing to put up with a little more "snow."

Video response at the slower speed is quite respectable (-8 1/2 dB at 2 MHz), though no match for that at Beta II. And as usual, chroma noise is greater at the slower speed as well. Luminance level is close to the mark at both recording speeds. Although the gray-scale linearity is a tad worse at Beta III than at Beta II, there's nothing to complain about in that regard in either case. Chroma level is lower than standard, but color accuracy can be

brought on target with just a slight touch-up in chroma phase and a more substantial one in chroma gain. Chroma differential gain and phase are low enough to be substantially masked by the residual chroma noise.

The SL-HF900 is loaded with special video features. If you press PLAY and REWIND simultaneously, the tape spools back to the beginning and automatically replays. Pressing X2 doubles the playback speed—with double-speed sound as well if the audio was recorded in Beta Hi-Fi. Pressing FAST FORWARD or REWIND during playback gives you a high-speed search (Betascan), albeit without sound. Or you can view the picture momentarily (Beta Skipscan) by pressing FAST FORWARD or REWIND while fast-winding.

The SL-HF900 has a real-time tape counter—calibrated in hours, minutes, and seconds—which automatically resets when a new cassette is inserted or which can be reset manually at any point. Pressing TAPE RETURN rewinds (or advances) the tape to the counter-zero point, and if you want to view the tape from that point, pushing PLAY after TAPE RETURN will fast-wind the tape to counter zero and begin playback.

Each time a new recording is started, the SL-HF900 puts an index mark on the tape, and you can go back and record additional marks at any point in a program—even on a cassette with the safety tab removed—by pressing the index button where you want them placed. Except for those laid down at the start of a recording, index marks also can be erased—selectively or in toto.

You can scan a tape for the marks by pressing INDEX once and then either of the fast-wind controls. The deck will advance or rewind the tape to the next mark, play back approximately ten seconds of program, and then go to the next mark. When you find the program you want, just press PLAY. If you know how many index marks ahead of or behind the desired program the tape is, you can skip to it directly by repeatedly pressing INDEX until the appropriate number appears in the display. Then press the fast-wind button that will get you moving in the right direction.

When a tape is playing, PAUSE freezes the current frame. You can



BEYOND CONVENTIONAL A/V CONTROL

Onkyo's new TX-RV47 receiver permits the total integration of today's audio and video technologies into one control center. It combines the sonic qualities our audio products are known for with exciting, new features certain to please the most discriminating videophile.

For outstanding video sound, nothing competes with the TX-RV47. For the first time, a true theater experience is possible to achieve at home. Dynamic Bass and Stereo Image Expanders boost low end response and greatly increase sound field spatiality. Monophonic video sound can be dramatically improved with our Simulated Stereo control. Finally, an innovative 4-Channel Matrix Circuit, which when used with two additional rear speakers, effects a "surround sound" experience from any stereo video soundtrack.

Onkyo's acknowledged leadership in amplifier design forms the foundation of the TX-RV47. It features True Low Impedance Drive Capability and Delta Power, insuring maximum dynamic range from any source. Superb FM performance and tuning convenience are Onkyo hallmarks that are also standard.

The TX-RV47 offers full input selectivity. There are 8 in all, allowing connection of 2 stereo VCRs, cable TV/FM, additional audio/video source, and full complement of audio products, all controlled by a full function wireless remote.

The TX-RV47 goes beyond conventional audio/video control to reach a new level in media system performance. Discover the audible—and affordable (under \$500)—difference today at your Onkyo dealer.

Artistry in Sound

ONKYO®

200 Williams Drive, Ramsey, N.J. 07446

INSIDE SUPER BETA

The Beta format has always had a theoretical edge over VHS because it uses a larger-diameter head drum to record on the tape. In both systems, the drum rotates at 1,800 rpm to synchronize with the video frame rate of the NTSC broadcast system (30 frames per second times 60 seconds per minute equals 1,800 rpm). The larger the drum's diameter, the larger its circumference and therefore the faster the speed at which the heads mounted on it scan the tape. This so-called "writing speed" is exactly analogous to "tape speed" in a linear audio recording system. The faster the writing speed, the higher the frequency that can be recorded.

In a consumer videocassette recorder, luminance (black and white) information frequency-modulates a high-frequency carrier. The chrominance signal (the color information) modulates a relatively low-frequency carrier. And when Hi-Fi recording is used, the left and right audio channels modulate carriers that are sandwiched in between. To keep them all apart, certain compromises must be made. For the most part, this comes down to limiting the luminance bandwidth so that the sidebands that are produced by the FM recording technique do not interfere with the chroma and Hi-Fi audio, and vice versa.

In the regular Beta system, the chroma carrier is at 688 kHz and the luminance information modulates a 4.2-MHz carrier from 4.8 MHz (full white) to 3.6 MHz (the "blacker than black" video sync signal). As the carrier deviates over this 1.2-MHz range, representing the various shades of gray, it generates sidebands that extend lower and higher in frequency. It is, in fact, these "sidebands" that convey all picture detail, and the finer the detail that is desired, the farther from the carrier (the lower and higher in frequency) the sidebands lie.

A 2-MHz video signal (corresponding to a picture resolution of about 160

lines) is conveyed by sidebands 2 MHz above and below the carrier frequency, i.e., by sidebands at approximately 2.2 and 6.2 MHz; a 3-MHz signal (240-line resolution) is conveyed by sidebands 3 MHz above and below the carrier, at 1.2 and 7.2 MHz. The upper sidebands usually are not resolved by the playback head, so the system relies mainly on the lower sideband. Beta Hi-Fi VCRs work essentially the same way, except that their luminance carrier is shifted up 400 kHz (0.4 MHz) to make room for the FM audio signals.

When an attempt is made to record too much detail, the lower sideband interferes with the chrominance and Hi-Fi audio information. That, in a nutshell, is why consumer VCRs do not provide the full horizontal resolution of which the NTSC system is capable.

Super Beta increases resolution by moving the luminance carrier up 800 kHz (or 400 kHz in Hi-Fi decks). The chroma and Beta Hi-Fi audio carriers stay the same, and the maximum deviation of the luminance carrier remains 1.2 MHz. (In Super Beta, full white corresponds to 5.6 MHz, while the sync tip lies at 4.4 MHz.) Consequently, there is more "room" between the luminance carrier and the chroma and Beta Hi-Fi carriers for the sidebands that correspond to picture detail.

Obviously, this is a change in the Beta standard, which may mean that a conventional Beta VCR will have some trouble playing Super Beta tapes, either because its luminance demodulator cannot "find" and lock onto the higher-frequency carrier or because its playback heads are not capable of resolving the higher-frequency information. We don't know. It is possible that some decks will have difficulty and others not, or even that all of them will work fine. But Super Beta VCRs, such as the Sony SL-HF900, definitely are compatible with the standard Beta format. *Edward J. Foster*

then scan forward or back, frame by frame, by rotating the Jog Dial. The faster you twirl the dial, the faster the frames move by. Very neat! The Jog Dial is accessible from either side of a door on the front panel. Opening this door reveals yet another special-effect control, called the Shuttle Ring, around the Jog Dial. This spring-loaded ring can be twisted clockwise or counterclockwise to provide variable-speed playback—in either direction—at from one-fifth normal speed to double speed.

Many of the deck's special features can be operated from its remote con-

trol, along with volume adjustment and the standard transport functions. It can even be used to adjust the volume and activate the on-screen displays of certain Sony TVs; if you don't want the VCR remote to control the TV, you can set a switch to prevent it from doing so.

Finally, the SL-HF900 has the most extensive editing features that we can recall seeing. There's a switch that modifies the deck's playback circuitry to produce copies with better definition than is possible with the standard setting, plus video and audio insert buttons behind the Jog Dial door and a nif-

ty way of dovetailing one recording with another. With the SL-HF900 serving as the deck on which you make the copy, you use the PAUSE and the Jog Dial to advance the tape to the point at which you want your insertion to end. Then you reset the counter and back the tape up with the Jog Dial or Shuttle Ring to the point at which you wish the insertion to start. When the scene you want to insert begins, you press PAUSE and the SL-HF900 commences recording, stopping when it reaches the counter-zero point.

And if you are copying from the SL-HF900 to certain other Sony VCRs, you can preset the system so that, with a push of a button, the desired (and only the desired) part of a tape will be played by the SL-HF900 and recorded on the other deck. With this feature, you can assemble a program in just about any way you like.

The real proof of the pudding is in the performance, which is simply the finest we've seen from a VCR. The SL-HF900's tuner is sensitive, quiet, and produces excellent color. On the one strong stereo TV station we pick up in our fringe area, reception was good and separation was subjectively excellent.

Sony packs a short demo cassette with the unit, recorded at the Beta II speed in Super Beta with Beta Hi-Fi sound, and it's a real zinger. The colors are gorgeous, definition is superb, and the sound is truly high fidelity. And the tapes we recorded ourselves were almost as good.

The SL-HF900's SHARPNESS can be used effectively to snap up detail, and with a high-quality tape, there's less increase in snow than we've seen with run-of-the-mill VCR sharpness controls. Basic video performance in Beta II is better than in Beta III (as DSL's tests suggest it should be), but even at the slower speed, picture rendition is comparable to that of many other VCRs at standard speed. And at the higher speed, it is noticeably better. The special effects are great at both speeds: Even with freeze frame, there's rarely a noise bar in the viewing area.

The SL-HF900 is a superb deck in every regard, with performance that sets new standards for consumer videocassette recorders. If you're sold on the Beta format, we don't know how you could do better. ●

TRIAD

harman/kardon

JBL





Creating the perfect theater environment in your home

You've been wanting to see that film for a while now. At first, the lines at the theater were simply way too long. Then, somehow, when those crowds finally dwindled a bit, you just didn't have a free moment to get there. And, when at last you found yourself with some extra time on your hands and could catch it, it just wasn't around anymore.

Well, cheer up. Take two on the aisle...As near or far from the screen as you like. Munch that popcorn and listen to that magical theater sound...The quality of sound you know from years of movie-going experience could only be created in a theater environment. Until now. High-end component and speaker manufacturers have taken technology so far that it's virtually impossible to tell the difference between the ambience created in a theater or concert hall and your home. With the proper electronic entertainment equipment, the breath-taking sound of the theater is effortlessly transported home.



CD491 Cassette Deck



VCD-1000 VHS Hi-Fi



VM-100 Monitor



HD500
Compact Disc Player



hk690i Receiver



VHS HI-FI: THE PERFECT AUDIO/VIDEO LINK

VHS Hi-Fi takes state-of-the-art video technology and enhances it with the most up-to-date audio advancements. VHS Hi-Fi is simply the only answer for viewers striving for sonic realism and excitement. And, the VHS Hi-Fi medium can play back any conventional VHS tape, or can be used to record up to eight hours of music.

With the VCD-1000 VHS Hi-Fi, Harman Kardon takes the VHS Hi-Fi concept and refines it even further, delivering sound quality comparable only to the finest digital sources.

For precise Noise Reduction system tracking, Harman Kardon engineers incorporated custom-designed discrete filters that take effect beyond the audible frequency range in the VCD-1000. To further ensure precise tracking of the noise reduction system, Harman Kardon incorporates subsonic filters throughout the audio section of the VCD-1000.

Harman Kardon employs linear phase filters and wideband differential amplifiers in their important FM conversion section. Harman Kardon applied their renowned amplifier design philosophies to the VCD-1000 to yield reduced dynamic distortions. Specifications of the VCD-1000 include a Frequency Response of 20-20,000Hz, ± 3 dB (Hi-Fi); Dynamic Range: > 80 dB (Hi-Fi) and Wow-and-Flutter: (WRMS) 0.005%. Additionally, a Frequency Response data sheet is included in each VCD-1000: This confirms the ultra-wideband response of each individual unit and is signed by the technician who performed the test.

The video section of the VCD-1000 offers a built-in, 105 channel cable-ready stereo TV tuner which utilizes the Zenith/dbx tuning system. The unit's audio tuning section also has Multi-Channel Sound (MCS) capability. Harman Kardon utilized the highest quality, precision Ferrite video heads and incorporated a rigid, die-cast aluminum transport for smooth operation. Laser-trimmed hybrid circuitry yields improved picture quality. The VCD-1000 offers a host of special features including 4 event/14 day programming and a wireless infra-red remote control that duplicates all the front panel control functions and contains presets for 16 TV channels.

THE VM-100 VIDEO MONITOR FOR DYNAMIC PICTURE QUALITY

Harman Kardon's VM-100 video monitor combines exceptional linearity and superb transient response to deliver a picture that can only complement the high fidelity sound. Teaming the VCD-1000 with the VM-100, a 25" diagonal, high resolution monitor, further enhances the theater-at-home environment. The VM-100 employs sophisticated contrast and brightness stabilization circuitry to continuously maintain a well-balanced picture. The VM-100 utilizes three design features to greatly reduce a phenomenon known as Dynamic Geometric Distortion: A Distortion Cancelling transformer that pre-compensates the video signal to correct distortion; a modulated deflection circuit power supply that limits inaccuracies in scanning; and a regulated high voltage power supply that maintains constant local brightness regardless of overall picture intensity. Additionally, the VM-100 employs a sophisticated transient re-shaping circuit that restores much of the video signal's transient response, resulting in the significant improvement of sharp vertical picture details.

JBL SETS THE STAGE AT HOME

Even the most sophisticated high fidelity components will sound inferior if played through unexceptional speakers.

For over forty years, JBL loudspeakers have been the choice, not only of state-of-the-art motion picture theaters throughout the country, but of nearly 70 percent of the world's recording studios, many renowned concert halls, virtually all touring rock superstars and major rock events, including the recent Live Aid in America. In creating the perfect theater environment at home, the choice of professionals is the best one. And, with either JBL's top-of-the-line Ti series, JBL's new "L" series (where every speaker in the line has a direct twin the JBL Professional line) or the affordable TLX series, every speaker choice turns your living room into a theater experience.

HARMAN KARDON AMPLIFIERS & RECEIVERS: SONICALLY SUPERIOR

To power your specially created home entertainment audio/video system, Harman Kardon's superior line of receivers or amplifiers are the perfect choice. All utilize advanced technologies including High instantaneous Current Capability, Ultrawidebandwidth, Low Negative Feedback and Discrete Components for the most startling sound available.

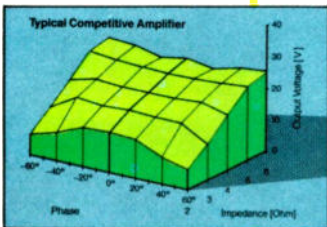
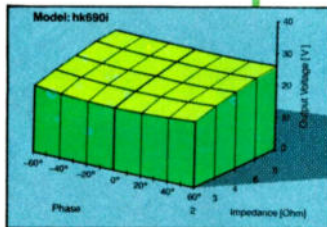
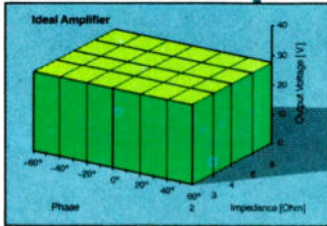
So, what are you waiting for? Butter that popcorn, put your feet up, and enjoy the best show in town. It's pure high fidelity for your eyes.



**VCD-1000
Wireless Remote**

HIGH CURRENT CAPABILITY... THE PROVEN POWER REQUIREMENT

While most manufacturers design their amplifiers to produce the best possible FTC power ratings, Harman Kardon designs equipment to produce the best possible sonic quality. FTC power ratings are determined by the continuous power an amplifier can drive into a resistor—typically 8 Ohms—which is supposed to represent a loudspeaker load. However, when actually playing music, a speaker does not react like a simple resistor. A low frequency transient can make a nominally rated 8 Ohm speaker instantaneously demand 6 times as much current as an 8 Ohm resistor. For this reason every Harman Kardon amplifier and receiver incorporates High instantaneous Current Capability (HCC) to properly drive any loudspeaker system, regardless of its impedance.



To demonstrate reactive load proficiency, Harman Kardon has developed a 3-dimensional graphic technique that exhibits amplifier output voltage (Volts), load impedance (Ohms) and current phase (Degrees).

REACTIVE LOAD PROFICIENCY

Recently, some manufacturers have tried to imitate Harman Kardon's HCC, and show improved power ratings in 4 and 2 Ohm resistive loads. However, they are not providing a third, critical dimension of loudspeaker drive potential—the ability to drive reactive loads.

By only designing for resistive loads, the amplifier will only be able to drive loudspeakers under very specific conditions: When they draw current totally in-phase with the music (voltage) signal. However, loudspeakers are nearly always drawing a current that is out-of-phase with the music (voltage) signal, which dissipates higher internal power. Amplifiers not capable of withstanding this dissipation must have output protection, usually in the form of current limiting. This ultimately results in significantly less power driven into the loudspeaker. As a result, peak music signals sound less powerful and the full potential of the loudspeaker is not realized.

NOT ALL COMPACT DISC PLAYERS ARE CREATED EQUAL

The compact disc medium is capable of elevating sonic standards to new levels. However, all compact disc players do not deliver the same quality of sound. Harman Kardon, renowned for superior quality audio/video components, applied their carefully developed design philosophies to the sonically superior HD500.

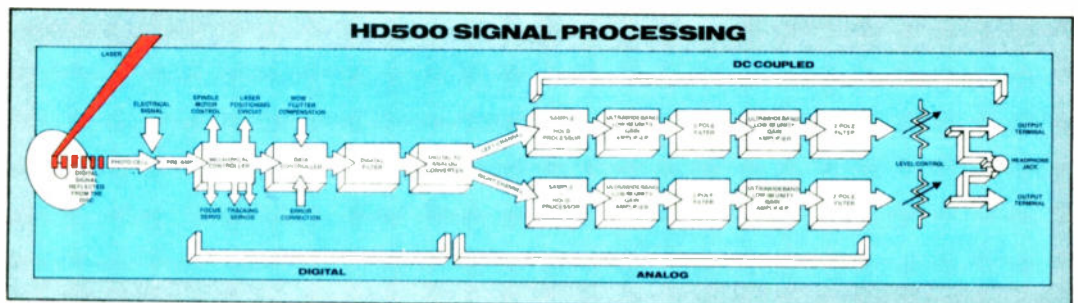
The digital sections of compact disc players are all basically the same, comprised primarily of integrated circuits (ICs). To create a superior sounding product, Harman Kardon paid particular attention to the design of the analog output section.

The most significant problems inherent in the compact disc medium are ultrasonic signals, known as "alias error." Most digital-to-analog converters employ a digital filter that suppresses these ultrasonic signals by 40dB. But, even at 40dB below the music, these signals cause the conventional analog sections to create highly audible intermodulation (IM) distortion.

To reduce this IM, conventional designs try to remove as much of the ultrasonic signals as is possible. Some manufacturers use digital filtering, but the result is a "processed" sound quality, lacking in detail. Others employ steep multi-stage 2-dimensional sound-ing analog filters with high negative feedback: This method produces severe phase shifts at mid-range and high audio frequencies, in addition to producing transient intermodulation distortion (TIM).

In sharp contrast, Harman Kardon developed an analog output section with exceptionally low IM, so that audible effects from the signals are virtually eliminated. A simple analog filter was then added to gradually reduce these ultrasonic signals. In addition, this section utilizes no negative feedback, which also eliminates TIM, yielding 3-dimensional imaging and clear, crisp sound.

For ease of operation, the HD500 is equipped with a full-function infra-red wireless remote control, which duplicates all of the front panel functions. The HD500 has been carefully designed to complement the sound and look of all Harman Kardon audio/video components. The Harman Kardon HD500... Created better than the rest.



THE HARMAN KARDON HD500 COMPACT DISC PLAYER

THE PERFECT BALANCE BETWEEN ARTISTIC INTERPRETATION AND TECHNICAL ACCURACY

The gymnast, poised on the balance beam, knows that in order to achieve a perfect score, there has to be total attention given to detail in artistic interpretation as well as the mastering of technical accuracy.

While all gymnasts aspire to perform the most intricate of routines, not all have the ability. The same is true of compact disc players. The digital sections of most CD players are similar to compulsory exercises: They're all basically the same and all basically adequate. The analog sections are where the quality of the performance and the differences between competitors are determined. The analog section of the Harman Kardon HD500 compact disc player has been designed with attention to subtle details, using only the most sophisticated circuitry and highest quality discrete components. The result is breathtaking dynamic range, startling realism and a world class performance every time.

Visit your local Harman Kardon dealer and judge for yourself...The HD500 receives a perfect score.



harman/kardon

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A Harman International Company

TRIAD AUDIO TAPES: TECHNICAL BREAKTHROUGHS DELIVER HIGHER QUALITY AT LOWER COST

For the first time in fifteen years a new tape technology has been introduced into the market. Newly developed, patented processes enable Triad—one of only four companies worldwide with proprietary formulations for the manufacture of audio tape—to offer sonically superior audio tapes at lower costs.

SUPERIOR METAL TAPE

The MG-X90 is a metal tape for the metal position. Fine crystals form needle shaped ferrous hydroxide particles which are near perfect in uniformity of size and composition. This advanced formulation allows the MG-X to deliver uncommonly high coercivity (1150 Oe) and retentivity (3300 G). The unique patented process that is employed in the manufacture of MG-X allows this pure metal tape to be offered to the consumer without the necessity of paying the premium associated with metal tape. Triad's MG-X defines new parameters of performance.

METAL FOR THE PRICE OF CHROME

The EM-X90 formulation, a metal tape for the high bias (CrO₂) position, offers true metal tape at the price of chrome. A technologically advanced process, which has garnered 20 worldwide patents, is utilized on EM-X90. The same process of forming needle shaped ferrous hydroxide particles is utilized as on the MG-X; however, the crystals that are formed are subsequently divided to reduce the tape's coercivity and allow its use in the high bias position. EM-X offers a high MOL (315Hz, +5.0dB) and impressive SOL (10kHz, -3.0dB). Since metal tape is used in the high bias position, it can be used in any home, car or portable cassette unit...A flexibility never before available.

EXCEPTIONAL NORMAL POSITION TAPE

Triad's F-X90, a cobalt-doped ferrite tape for the normal position, has the widest dynamic range and flattest frequency response of any normal bias tape on the market. A unique cobalt saturation method is employed in its manufacture, enabling the F-X to deliver previously unheard of specifications for a normal bias tape: Exceptional coercivity of 380 Oe and retentivity of 1800 G. F-X now becomes the standard by which the performance of all other normal bias tapes will be judged, but none will equal.

All three tape formulations are housed in Triad's precision "Delta" transport mechanism, which is meticulously engineered to ensure the best possible performance. Each of these Triad tape formulations deliver the exceptional dynamic range and performance superiority so important when reproducing digital source material.

MG-X, EM-X and F-X...Delivering a level of quality available only from Triad.

THE NEW JBL "L" SERIES: BRINGING PRO SOUND ALL THE WAY HOME

JBL's technical expertise and sonic accuracy makes JBL loudspeakers the choice of audio professionals around the world. Now, for the first time, the intended original dynamic range, extended frequency response, and re-creation of the full sound stage is available for home use. For the first time ever, the same speakers relied on by the professionals—producers, engineers and performers—to mix their recordings, sets the stage in the home environment.

For those who demand the same superior performance, sonic accuracy, reliability and power handling...The new "L" series from JBL.

The entire "L" series employs pure titanium for the high frequency transducers (tweeters). A high frequency transducer must be light enough to respond instantly to musical transients, yet strong enough to endure crushing force: Titanium has an extremely high strength-to-weight ratio. Until recently, it could not be fabricated thin enough to produce a dome. JBL engineers developed a unique process that forms the titanium dome perfectly and without causing stress fractures, yielding a high frequency response that is flat to 27kHz and smooth and neutral in sound character through the crucial 3kHz to 20kHz range.

Aquaplas, a trademarked substance, was chosen for use in the low frequency transducer cones (woofers) of both the L80T and L100T. JBL engineers have used Aquaplas very successfully in the JBL professional line for the last fifteen years. These low frequency transducers exhibit excellent linearity (low harmonic distortion) and the smoothest natural high frequency roll-off of any low frequency transducer available.

It is the crucial function of the crossover network to distribute the various frequencies to the respective transducers, and, in so doing, "orchestrate" the interaction that changes exceptional components into exceptional sound. Crossover points between components in the "L" series are achieved by High Spatial Identification Networks. Not only do these ensure smooth transducer-to-transducer transitions, they additionally guarantee proper musical placement, as was the intention during the recording process.

JBL's selective use of materials and attention to detail enables the "L" series to generate the most accurate signals with utmost reliability—enormously significant with the prevalence of digital sources.

Additionally, the cabinetry of JBL's new "L" series reflects their tradition of aesthetic as well as acoustic excellence.

The new "L" series from JBL...Bringing professional sound all the way home.

MG-X90



SUPERIOR
METAL TAPE

EM-X90




METAL FOR THE
PRICE OF CHROME

F-X90



COBALT-DOPED
FERRITE TAPE

THE NEW JBL "L SERIES" SETS THE STAGE AT HOME



JBL, the most respected name in professional sound for over 40 years, is today's speaker of choice. At live concerts, where 125,000 Watts drive over 600 speakers, and in 70% of the world's recording studios, JBL is the speaker chosen by professionals—performers, engineers and producers—who depend on the highest quality sound and reliability.

Now, for those who demand the same superior performance, JBL introduces the new "L Series." Each speaker in the "L Series" has a direct twin in the JBL professional studio monitor line. For the first time, the speakers relied on by recording engineers to mix the music, are available for your living room.

All of these speakers share the technology that is the cornerstone of JBL's Professional Speaker Systems—all use titanium dome tweeters, filled and laminated polypropylene and Aquaplas drivers, as well as cast frames for sonic accuracy, reliability and power handling.

Visit your local JBL dealer today and listen to professional sound for the home, made in the USA, by the sound professionals...JBL.

The New JBL "L Series"...Bringing Pro Sound All The Way Home.



CAR AUDIO...INNOVATIONS THAT OFFER PERFORMANCE PREVIOUSLY AVAILABLE ONLY AT HOME



CH160
Harman Kardon
In-dash Unit



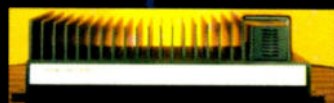
T545
JBL Automotive
Loudspeaker

Teaming Harman Kardon's striking new line of car audio products with JBL's powerful line of automotive loudspeaker systems, leads you to a higher fidelity on the road. Elevating car audio standards, these components and speakers smoothly outdistance the competition by reflecting the excellence so finely honed by both companies in their home audio products over the decades.

Three Harman Kardon in-dash cassette/tuners—the "CH" line—and three power amplifiers—the "CA" line—blaze new trails, all using heavy duty design construction for ruggedness and reliability. Each in-dash unit incorporates a cassette deck section that delivers an exceptional frequency response of 20-20,000Hz ± 3 dB; and a tuning section that provides a careful balance of sensitivity and interference rejection. Each amplifier offers High instantaneous Current Capability, Low Negative Feedback and Ultrawidebandwidth.

JBL, the number one choice of music professionals, offers a variety of speaker designs to suit your needs, each delivering the big clean sound sought after in automotive loudspeakers. Features include low frequency drivers with ribbon wire voice coils for increased power and efficiency; die-cast aluminum frames and unique graphite frames that provide greater strength and durability; and angled tweeters for extended high frequency response.

The previously unexplored realms of car audio are now within reach, for those tuned to a higher fidelity. From Harman Kardon and JBL.



CA260
Harman Kardon
Automotive Amp



T545
JBL Automotive
Loudspeaker



 **TRIAD**

harman / kardon

 **JBL**

Spectrum 108A Loudspeaker

The sound of the Spectrum 108A is far more startling than its physical appearance—which is a good thing, because its styling is not likely to catch your eye. Like myriad other models with walnut-grain vinyl enclosures, it is small enough to be set flush in a bookcase but can also be placed on a table or, preferably, on stands. On the floor, the tweeter will play toward your shins, so that location isn't advised unless you lie on the carpet to listen. The 108A has a black foam grille, and a pair of color-coded spring clips (for the power leads) and a fuse holder are recessed into the back panel of the cabinet. So what makes this speaker unusual? That it sounds so good.

The reason for this isn't as easy to tell as it might be because the speaker's grille is not removable. According to the specs, behind it hide an 8-inch woofer and a 1½-inch tweeter incorporating a ½-inch aluminum-dome radiator. The bass-loading system is described as "Thiele/Small optimized reflex," so there's a port somewhere. We could see the woofer opening at the bottom of the baffle (with the enclosure standing vertically, as the company logo on the grille suggests it should) and two smaller openings above. We take it that the one directly over the woofer opening houses the tweeter and that the void in the baffle's upper-left corner is the mouth of the vent.

The specifications suggest that the woofer delivers most of the acoustic energy, since the crossover frequency is said to be an unusually (though not outrageously) high 2.3 kHz. As is its custom, Diversified Science Laboratories measured near-field output, though the results tend to be somewhat problematic with the woofer, tweeter, and port so close together. According to these data, the woofer output begins to dip at about 800 Hz, returns in the band centered on 1.6 kHz, and falls off rapidly above, while the tweeter is very flat in

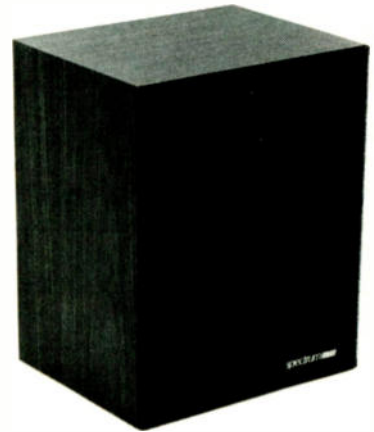
the bands between 1.25 and 16 kHz, rolling off rapidly both above and below. On this basis, 1 kHz or so would appear to be a more reasonable figure for the crossover frequency—though, again, such tightly spaced elements can influence each other's measurements.

Overall tests were made with the speaker mounted on an 18-inch stand and placed against the wall. With the exception of a trough centered on the 315-Hz band (which presumably represents a floor reflection, though it is unusually pronounced), on-axis response never rises above +4½ dB nor drops below -¼ dB with respect to the average value over the "music band" (from the 80-Hz one-third-octave band to that centered on 16 kHz). Off-axis response is almost as smooth and falls within almost as tight a spread, though a rise in the range just above 100 Hz is a little more pronounced. This smoothness of overall response is, indeed, the 108A's cardinal virtue.

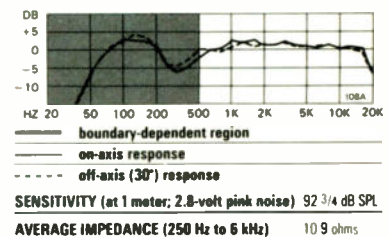
Not that it's lacking others. Bass is actually tighter and more natural than you might assume from the rolloff below 80 Hz in our graphs. In this respect, we judge the 108A to be at least on a par with other good speakers of its size, though no speaker this small can really bear comparison with larger models that make extended bass a major design goal. For example, low-frequency distortion is not particularly low compared with that of many larger speakers. From 40 Hz up, the 108A's average is about ½ percent even at the minimum test level of 85 dB SPL (sound pressure level) and rises to more than 1 percent by 95 dB, a level at which anomalously high distortion begins to appear at 200 Hz, making the 100-dB average moot. But such performance is typical for a speaker of this size.

Fed 300-Hz pulses, which more closely approximate the demands of music than do the sine waves of the distortion test, the 108A responded su-

DIMENSIONS: 11½" BY 14½" INCHES (FRONT), 9½" INCHES DEEP. **PRICE:** \$195 PER PAIR (\$215 ON THE WEST COAST). **WARRANTY:** "LIMITED," FIVE YEARS PARTS AND LABOR. **MANUFACTURER:** SPECTRUM LOUDSPEAKERS, P.O. BOX 774, TOLEDO, OHIO 43695.



ROOM RESPONSE CHARACTERISTICS



perbly, accepting the full output of the test amplifier (the equivalent of 27½ dBW, or 560 watts, into 8 ohms) for a calculated peak output of more than 120 dB SPL at 1 meter—more than enough to cause pain, not to mention hearing loss. Sensitivity, at 92¾ dB, is a little higher than you might expect in so small a system, even a vented one. With the 108A, you'll be able to generate fairly high sound levels using even a low-powered amplifier—say, 13 dBW (20 watts) per channel.

Impedance lies between 6.9 ohms (at around 4 kHz) and 30 ohms (at 100 Hz, the woofer resonance) throughout the audio range. Both bass impedance peaks (that occasioned by the vent is centered on about 31 Hz) are quite narrow, the maximum in the crossover region is less than 16 ohms, and the impedance stays above 8 ohms at all frequencies below 2 kHz. This is particularly good news if you're interested in the 108A for extension speakers that will be paralleled with your main pair,

because they should present a comfortable load to the amplifier.

But, again, the best news is the sound, which we admired, given the price range and general design intent. Imaging is very good. Response is remarkably smooth within the system's passband, which is not as broad as some, yet encompasses the needs of all but the most demanding musical material. We'd consider the 108A worth the price at \$200 apiece; at \$200 per pair, it's a steal. ●

T E S T R E P O R T S

Proton D-540 Integrated Amplifier

DIMENSIONS: 16 1/4" BY 3 INCHES (FRONT PANEL), 11 1/4" INCHES DEEP PLUS CLEARANCE FOR CONTROLS AND CONNECTIONS. AC CONVENIENCE OUTLETS: ONE SWITCHED, TWO UNSWITCHED (250 WATTS MAX. TOTAL OVERALL). PRICE: \$350. WARRANTY: "LIMITED," ONE YEAR PARTS, 90 DAYS LABOR. MANUFACTURER: MADE IN TAIWAN FOR PROTON CORP., 737 W. ARTESIA BLVD., COMPTON, CALIF. 90220.

Proton first put itself on the consumer-electronics map with the 600M TV monitor, which is widely acknowledged as a pacesetter in the industry (test report, September 1983). But the company also makes audio products that, like the monitor, seek to offer both superior performance and exceptional value. Of these, the D-540 particularly attracted our attention because of its power-amp section, which is designed for outstanding transient headroom above its modest continuous power rating of 16 dBW (40 watts) per channel into 8-ohm loads.

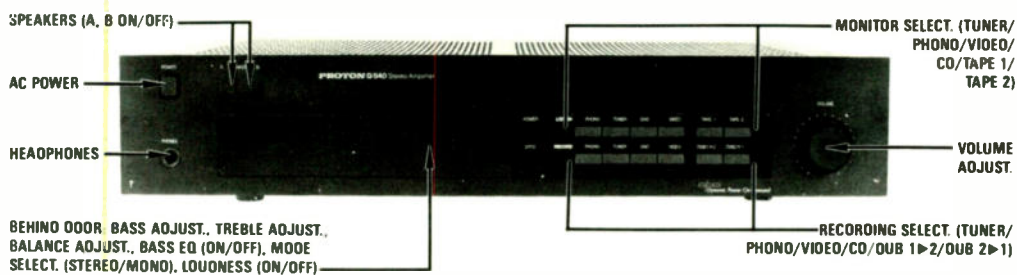
Proton calls its circuitry Dynamic Power on Demand (DPD). In theory, it does everything a normal Class AB design would do—until a large transient peak comes along. Then, a "power controller" circuit electronically switches in an extra set of large energy-storage capacitors that are fed from special windings of the amp's single power transformer. This is where the increased headroom comes from: The additional windings deliver to the capacitors twice the various voltages of the regular supply. When they're not needed, the capacitors of the secondary power supply charge up and become dormant, so to speak, until the next peak arrives.

Proton rates the headroom capabili-

ty of the design at 6 dB for 400 milliseconds. That is, it should be able to deliver four times as many watts as are stipulated in its continuous power rating and should be able to do so for a duration 20 times that of the 20-millisecond pulse called for in the IHF dynamic power test used by Diversified Science Laboratories for the data in our amplifier reports. That's a tall order.

In making its claim, Proton also attacks the IHF standard itself, saying that its own research has shown the 20-millisecond pulse to be too brief to simulate all musical transients accurately. Agreed. But it should be recalled that the 20-millisecond pulse was chosen as an arbitrary, easily reproduced "stand-in" for music and as a counterpoise to the equally arbitrary continuous-tone testing mandated by the Federal Trade Commission. No single waveform can possibly simulate all musical conditions: Some recordings will have peak pulses demanding more than 20 milliseconds of high power for unclipped reproduction; others require less power or less time.

That's why it's important that *both* the continuous (FTC) and dynamic (IHF) power ratings be available, if you're to assess behavior with music, even in the most general terms. Proton goes much farther, giving dynamic



power ratings not only for three load impedances (8, 4, and 2 ohms), but for three pulse durations: 20, 100, and 200 milliseconds. That's a total of nine specifications, not including the IHF dynamic headroom test (measured into 8 ohms, with the 20-millisecond pulse) or, of course, the continuous power figures. Since the extra headroom in the D-540 comes from discharging capacitors, it is not surprising that the company's dynamic power ratings go down as the length of the test pulse increases.

Diversified Science Laboratories' measurements confirm Proton's claims with room to spare. No doubt about it, this is the most powerful "40 watt" amplifier we've ever tested. Very occasionally, we have encountered dynamic headroom figures of 3 dB or more, but on only one occasion has the measurement come even close to the 6¼ dB racked up by the D-540. And that one—for an integrated amp with a similar power rating—was more a question of extreme conservatism in the specification of the product's continuous power than of exceptional ability to reproduce peaks. Since dynamic headroom compares pulse-passing ability with *rated* power, underrating the latter inflates the former. The D-540's rated power is a realistic figure, making this amplifier's headroom all the more remarkable.

Also dramatic is the amp's ability to handle low-impedance loads. Though Proton offers no 2-ohm continuous power rating (only dynamic ones), DSL checked clipping level into a 2-ohm load, with excellent results; the figures in our data column speak for themselves. Damping factor (which is inversely proportional to low-frequency output impedance) is high, and output impedance itself remains less than 0.5 ohm throughout the audio band.

No matter what the relationship may be between the dynamic and continuous power figures, some waveforms will eventually clip if the amp is

driven hard enough. Recognizing this, Proton includes what it calls an ACC (for "anticlipping circuit") switch on the back panel. It limits the peaks to prevent the spurious highs that are generated by hard clipping. At rated output (16 dBW, 40 watts), the ACC raised distortion a hair—from 0.015 percent total harmonic distortion (THD) at 1 kHz to 0.02 percent—and it began distorting pulses at outputs below the dynamic power ratings, which were measured with the ACC off, as were all the figures in the data column. We'd consider the ACC useful and desirable only if you really like to push your equipment.

Also unusual, at least in an integrated amplifier, is the back-panel bridging switch to convert the two channels of the power-amp section into a mono amplifier with more than twice the output, for a given load, than is available in either channel of the stereo mode. No specific rating is given for the bridged mode, but the hookup scheme is sufficiently commonplace in separate amps (to say nothing of car stereo systems) that it hardly needs further documentation.

To make use of the bridging, which requires a second mono or bridged-stereo amp if the system is to remain stereo, there are removable back-panel jumpers that give you access to the interface between preamp and power sections. We imagine, however, that these jumpers will be used most often for some sort of signal processor (a speaker equalizer, perhaps, or one of the many surround-sound or ambience processors) that the owner doesn't want cluttering up his tape connections.

Another reason for using the jumpers for such devices is that the D-540's tape deck facilities, though very comprehensive and useful, are not particularly well adapted to processors intended for use in a tape monitor loop. There are two independent banks of selectors, one for listening (which permits

RATED POWER	16 dBW (40 watts)/channel
OUTPUT AT CLIPPING (at 1 kHz; both channels driven)	
8-ohm load	17 3/4 dBW (60 watts)/channel
4-ohm load	19 1/2 dBW (90 watts)/channel
DYNAMIC POWER (at 1 kHz)	
8-ohm load	22 1/4 dBW
4-ohm load	25 dBW
2-ohm load	20 1/2 dBW
DYNAMIC HEADROOM (re rated power; 8-ohm load)	
	+6 1/4 dB
HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)	
at 16 dBW (40 watts)	≤ 0.024%
at 0 dBW (1 watt)	≤ 0.010%
FREQUENCY RESPONSE	
	+ 1/4, - 1/2 dB, 17 Hz to 19 kHz
	+ 1/4, - 3 dB, 13 Hz to 53.2 kHz
RIAA PHONO EQUALIZATION	
fixed-coil (MM)	+ 1/2, - 3/4 dB, 20 Hz to 20 kHz; -30 1/2 dB at 5 Hz
moving-coil (MC)	+ 0, - 1 1/4 dB, 20 Hz to 20 kHz; -31 dB at 5 Hz
SENSITIVITY & NOISE (re 0 dBW; A-weighting)	
	sensitivity S/N ratio
aux input	24 mV 90 3/4 dB
fixed-coil phono	0.40 mV 77 dB
moving-coil phono (high)	29 µV 76 dB
moving-coil phono (low)	15 µV 76 dB
PHONO OVERLOAD (1-kHz clipping)	
fixed-coil phono	250 mV
moving-coil phono (high)	18.5 mV
moving-coil phono (low)	9.4 mV
INPUT IMPEDANCE	
aux input	38.2k ohms
fixed-coil phono	45.6k ohms, 150/250/360 pF
moving-coil phono	100 ohms
OUTPUT IMPEDANCE (to tape)	
from aux input	1,000 ohms
from phono inputs	1,700 ohms
DAMPING FACTOR (at 50 Hz; re 8 ohms)	
	125
CHANNEL SEPARATION (at 1 kHz)	
	72 1/2 dB

you to hear a source other than the one being recorded) and one for taping. In the latter group, the Tape 1 and Tape 2 monitor switches are replaced by dubbing options: 1-TO-2 and 2-TO-1. Thus, if you wanted to listen to FM via a signal processor hooked to the Tape 1 connections, even if you weren't recording the signal, you would have to punch up TUNER on the *recording selector* and TAPE 1 on the main selector. Rather confusing—and a strong argument in favor of using the jumpers as the attachment point for a signal processor.

The phono section offers two options for typical moving-coil cartridges and three for moving-magnet (or high-output moving-coil) types, all (including the choice between MC and MM itself) chosen at back-panel switches. For the former, there are two gain settings. Where only one figure is shown for the moving-coil option, there is no significant difference between the two settings. For the latter, there are three shunt capacitances, marked as 100, 200, and 320 picofarads (pF). Measured values are a little higher, and the resistive

component of the input impedance is slightly lower than the 47-kilohm convention, but the discrepancies are not large enough to have any significant effect.

A nondefeatable infrasonic filter (which even affects the DAD input intended for Compact Disc players) rolls off at about 20 dB per octave below its 13-Hz knee frequency. As a result, phono response in the 5-Hz region (where warp output tends to be most severe) is suppressed by a hefty 30 dB or more. The overall signal-to-noise (S/N) ratio measurements were merely excellent, not the outstanding figures we expected, considering the "active" (feedback) volume-control design. But this is hardly a complaint.

The tone controls both shelve toward the frequency extremes and deliver about 10 dB of maximum boost or cut—a little less in the treble, a little more in the bass. (Anomalous behavior of the BASS—a cut at the "+2" setting, with normal behavior above and below it—was evidently a quirk of our particular sample.) The loudness compensa-

tion introduces a progressive boost across a broad range of the deep bass and a somewhat less pronounced one in the extreme highs, as volume is reduced.

In addition, there's what Proton calls BASS EQ, which adds a sharp 10-dB response peak at about 45 Hz. The idea is to give acoustic suspension speakers with long-throw woofers a kick in the rolloff, so to speak, to extend the effective bass response of the whole system. The company sensibly suggests that the option not be used for ported speakers or for minis, both of which can produce rather gross-sounding bass with this sort of expedient.

All told, Proton has succeeded admirably in meeting its design goals for both performance and value in the D-540. The power amp is the star, but the input-selector/tape-switching scheme is admirable as well—as is the flexibility of the phono section. If you want an integrated amp that delivers far more than its price, styling, or power rating would otherwise suggest, by all means consider the D-540. ●

T E S T R E P O R T S

Energy ESM-2 Loudspeaker

DIMENSIONS: 10 1/2" BY 23 1/2" INCHES (FRONT), 11 1/2" INCHES DEEP. PRICE: \$350 PER PAIR; OPTIONAL ST-1 STANDS, \$35 PER PAIR. WARRANTY: "LIMITED," FIVE YEARS PARTS AND LABOR. MANUFACTURER: ENERGY LOUDSPEAKERS, CANADA; U.S. DISTRIBUTOR: AUDIO PRODUCTS INTERNATIONAL, 135 TORBAY RD., MARKHAM, ONTARIO, CANADA L3R 1G7.

Canada's claim to high fidelity fame lies, almost exclusively, in its loudspeakers. They are produced by a number of manufacturers, including several that are part of Global Sound Systems' Audio Products International division. Among them is Energy—a name well known north of the border, but new to our pages. The ESM-2 is that company's effort to distill the essential qualities of its highly regarded Model 22 system into a substantially less expensive package. And it is, in fact, both a fine loudspeaker and an excellent value.

Its design is basically conventional and somewhat British in flavor (or are we swayed by the Commonwealth connection?). The cabinet is a little smaller

than the two cubic feet of traditional American "bookshelf" models and is vented. With the speaker standing vertically, a ducted port opens on the front baffle just below an 8-inch polypropylene-cone woofer. Both are centered in the panel. A phase-corrected crossover passes signals from 2 kHz up to a ferrofluid-cooled 1-inch soft dome positioned above and about 1 1/2 inches to the inside of the woofer. Compliant foam surrounding the woofer and, particularly, the tweeter evidently is intended to minimize diffraction—as is the bevel of the wooden frame that supports the removable stretch grille. The enclosure's four sides are finished in walnut-grain vinyl. Spring-clip lead terminals are recessed into the back panel.

Both for the measurements at Diversified Science Laboratories and in our listening, we kept the speakers three feet or more from the nearest walls and raised them on the optional ST-1 stands. These hold the speakers about 10½ inches off the floor and cant them slightly backward to aim the tweeters (which aren't quite 30 inches above the floor) toward the ears of a seated listener in a typical installation. The stands come in three unassembled pieces: a base plate, a tubular vertical support, and a slanted upper surface with a strip at the back to keep the speaker from sliding off. Nail-in feet for the bottom plate and resilient pads for the top, to protect the speaker's finish, complete the accoutrements. Four screws hold each stand together. But for the exceptional torque necessary to drive the screws home, assembly is exceedingly simple.

Response is very smooth and quite flat, falling within $\pm 3\frac{1}{2}$ dB on-axis, in DSL's measurements, throughout the range above the 50-Hz band. The usual dip at about 400 Hz (attributable to floor reflection) is visible but less pronounced than usual in our graph. Somewhat deeper is a broad trough toward the bottom of the tweeter range, followed by a gradual rise to 10 kHz. Off-axis response is quite similar: It does roll off more rapidly above the 12.5-kHz band (as is to be expected), but still indicates relatively little directionality at the top end.

Energy lists impedance as "8 ohms nominal"—a reasonable way of putting it, though on the surface it appears to disagree with our "average" of 16 ohms. Impedance at vent resonance (near 25 Hz) is, coincidentally, 16 ohms on the nose. From there it falls to 5.3 ohms and rises at woofer resonance (70 Hz) to 26 ohms. The minimum above this resonance—and therefore the traditional rating point—is 4.9 ohms (at 150 Hz), followed by a steady rise to a broad peak that reaches its apex of 25 ohms in the crossover region (near 2 kHz) before falling to a little more than 9 ohms from 10 kHz up. The frequency range over which our average is taken includes most of the peak, but not the deepest part of the biggest dip, driving the average up. And that dip could be important: We wouldn't recommend high-volume operation of a pair of

ESM-2s in parallel with a second set of speakers on a finicky amplifier, particularly if the others are low-impedance models.

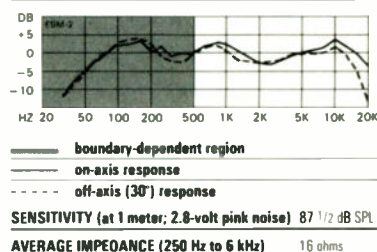
In the lab's 300-Hz pulse test, the ESM-2 accepted without noticeable complaint the full output of the test amplifier (equivalent to $26\frac{3}{4}$ dBW, or 470 watts, peak into 8 ohms), for a calculated SPL (sound pressure level) of $114\frac{3}{4}$ dB. Loud transients thus should be handled well. On steady signals, however, the ESM-2 showed signs of distress in the bass at 100 dB SPL, with distortion averaging more than 1 percent through most of the range and rising considerably higher in the midbass. Few home listeners will ever want sustained levels of 100 dB, though this test does suggest that the ESM-2 may not be well suited to unusually large listening rooms. Matters improve at more reasonable volumes, though the pattern of elevated midbass and lower-midrange distortion persists right down to the minimum test level (a moderately loud 85 dB SPL), where total harmonic distortion (THD) averages roughly 1 percent from 80 Hz to 1 kHz and less than $\frac{1}{4}$ percent above.

The sound is, as we've already implied, very good—particularly in light of the modest price. It has a tinge of brightness that we noticed more on instrumental music than on vocals, for some reason. Oboe, for example, seems a hair reedier than usual, though certainly not pinched or edgy. Bass sounds more extended than the response curves might suggest, with surprising heft at the very bottom. Though it's not clearly pitched (that sort of ultrabass usually comes only from very large transducers), it isn't an over-resonant thump either, by any means. In other words, the *quality* of the ESM-2's low-frequency reproduction is fully up to that of other speakers in its class. Stereo imaging, too, is very good.

If you're looking for relatively inexpensive full-range speakers—or even if your budget can accommodate twice the ESM-2s' price—you owe it to yourself to audition Energy's latest design. While you're at it, consider the stands, too. They're a bit modern for some decorators, perhaps, but their black finish keeps them unobtrusive. And acoustically, they seem just about optimum for the ESM-2, as the company intended. ●



ROOM RESPONSE CHARACTERISTICS

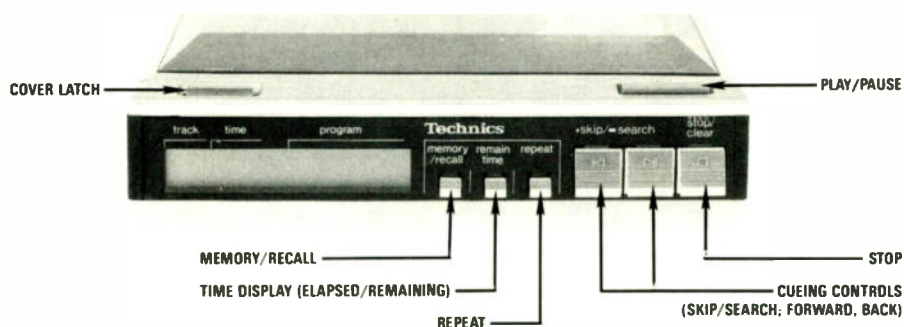


ABOUT THE dBW

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

Technics SL-XP7 Portable CD Player



DIMENSIONS: 5 BY 5 INCHES (TOP), 1 1/4 INCHES HIGH WITH COVER CLOSED, ADDITIONAL 4 INCHES ABOVE NEEDED TO OPEN COVER FULLY; SH-CDM7 BATTERY-PACK/CARRYING-CASE ACCESSORY, 5 1/4 BY 6 INCHES (TOP), 2 1/4 INCHES HIGH WITH COVER CLOSED, ADDITIONAL 5 1/4 INCHES ABOVE AND 1/2 INCH AT BACK NEEDED TO OPEN COVER TO VERTICAL. **PRICE:** \$300; SH-CDM7 CASE, \$50. **WARRANTY:** "LIMITED," TWO YEARS PARTS AND LABOR. **MANUFACTURER:** MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD., JAPAN; **U.S. DISTRIBUTOR:** TECHNICS, 1 PANASONIC WAY, SECaucus, N.J. 07094.

Billed at the time of its introduction as "the world's smallest Compact Disc player," the SL-XP7 is almost identical in size to three of the "jewel box" cases in which most CDs are packed. In fact, it's about as small as CD players are likely to get (though one manufacturer already has picked up the challenge and produced a still smaller competing model). Squeezing the necessary electronics into such tiny spaces is the least problematic part of this technology. The trick is to design a servo drive and a laser pickup that will do the job in tight quarters. Technics's solution is the FF-1 Fine Focus Single-Beam system, the core of the SL-XP7.

As delivered, the player includes an AC adapter and an interconnect cable (miniature stereo phone plug to dual pin plugs) to drive the aux input of a stereo system from its line-output jack. For portable use, you'll need the SH-CDB7 carrying case (incorporating a rechargeable nicad battery pack and a strap) and a pair of headphones with a miniature (1/8-inch) phone plug—which virtually all current lightweight headphones have.

To assemble a portable system, you disconnect the AC supply from the player, insert the player into the case (which automatically makes electrical connection to the nicads), and plug the AC supply into the case (to charge the

battery pack). A switch gives you the option of running the player from the AC, as long as the adapter is attached, whether or not the batteries are charged. The batteries are rated for a three-hour playing time and an eight-hour recharge cycle.

The top lid (or lids, if you're using the case) opens wide enough for the disc to be dropped directly onto the spindle. This means that the objective lens of the laser pickup is more exposed than in typical home players, but the wide opening makes cleaning easy as well. (The owner's manual suggests removing any visible dust with the sort of puffer or brush used on camera lenses, and any fingerprints with a cotton swab.) When you close the lid, the number of tracks registers on the liquid-crystal display as a series of numbered boxes (as many as 15, beyond which a ">" appears). Also shown are the total number of tracks and the total playing time; after you begin play, these digits shift to show the current track and its elapsed time.

To program a playback sequence, you first press either of the cueing keys (to step the track number up or down); when you then press MEMORY, all the numbered boxes disappear except that for the chosen track, and the selection number (assigned serially by the player) appears in place of the time. Stepping to a different track and pressing

MEMORY adds the corresponding numbered box to the display so that you can keep account of which tracks have been programmed. Once you press PLAY to begin the sequence, you can verify it by pressing MEMORY again, at which point the display will automatically step through the whole sequence. Consecutive tracks are joined seamlessly in programmed play.

If you press the cueing keys during play, the output volume drops somewhat and the pickup scans across the disc in the indicated direction, sampling the music as it goes. The traversal speed is fairly slow at first, but increases if you keep your finger on the key for more than a few seconds. To skip forward to the beginnings of tracks, you must first go into PAUSE, then tap one of the cueing buttons once for each track.

Operation of the REPEAT depends on the mode from which you summon it. In normal playback (begun by pressing PLAY with no cueing commands), the entire contents are repeated; if you have stepped to a specific track, that will be the one to which the pickup returns after the remainder of the disc; in programmed play, the entire selected sequence is repeated. Pressing STOP cancels programming and repeat modes. You can toggle back and forth at will between elapsed- and remaining-time displays during playback. In other words, despite its very simple control scheme, the SL-XP7 has as full a range of operating features and modes as many home players.

There are two additional controls intended specifically for listening on-the-go, located next to the headphone jack on the right side of the player. One is the headphone volume control, and the other is a sort of two-position treble adjustment. The manual says simply that this "high filter" is to be turned on "if high-range sound is too strong." In trying the player with a variety of lightweight headsets that seemed appropriate, we discovered that there were big differences in the degrees to which each needed the filter. We suspect that this is mainly a question of the headphones' treble smoothness, with the rougher models creating the harshest effects from the unmodified output.

With the filter off, Diversified Science Laboratories measured quite flat

response, with a slight prominence (approaching 1/2 dB) centered on 9 kHz and a steep cutoff above 18 kHz—that is, only a hair less flat and less extended at the high end than we've come to expect in home equipment. The cut provided by the high-frequency adjustment switch is so gentle—only about 3 dB per octave—that it's more of a rolloff than a filter, but its response is already 3 dB down at 3.5 kHz, so it really does take a sizable chunk out of the treble.

When used "flat," the Technics is perhaps a hair brighter in sound than some models we've tested, but it certainly isn't extreme in this respect and doesn't exaggerate any headphone peakiness. Why the sound quality seems to change so much from headphone to headphone, we aren't altogether sure. But we do know that some CDs can sound quite unpleasant and unnatural when reproduced flat on some headsets. Even though the numerically drastic effect of the treble switch isn't necessarily very natural, on average it offers an improvement—sometimes a big one.

The headphone output shown in the data was measured with a 50-ohm load; into a higher impedance, it would be greater (as much as 4.91 volts into an open circuit). These voltages represent clipping level. With the volume all the way up, a 0-dB signal (the absolute highest that can possibly exist in the medium) is clipped. This isn't a practical limitation, however: There's more than enough oomph at the headphone output, and we would never want to turn the player up full with any of the headsets we tried.

No portable or automotive CD player we've yet auditioned—including the SL-XP7—has been totally immune to shock. Perhaps there will someday be a model that we would be happy to go jogging with. Meanwhile, the cassette portable still strikes us as the alfresco medium of choice, despite its tendency to excessive wow during active pursuits. Sharp jostlings caused our sample of the Technics portable to mis-track—as did the two grossest signal-layer-interruption patterns on the Philips test disc. But in sedentary activities and with discs that have been properly pressed and maintained, tracking performance is good even by the high standards of the CD medium.

All data were obtained using the Sony YEDS-7, Technics SH-CD001, Philips 410 055-2, and Philips 410 056-2 test discs.

FREQUENCY RESPONSE

left channel	+ 1/4, -3/4 dB, 20 Hz to 20 kHz
right channel	+ 1/4, -3/4 dB, 20 Hz to 20 kHz

OE-EMPHASIS ERROR

left channel	+ < 3/4, -0 dB, 1 to 16 kHz
right channel	+ 1/2, -0 dB, 1 to 16 kHz

CHANNEL SEPARATION (at 1 kHz)	85 1/4 dB
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CHANNEL BALANCE (at 1 kHz)	± < 1/4 dB
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S/N RATIO (re 0 dB; A-weighted)

without de-emphasis	90 1/2 dB
with de-emphasis	94 dB

HARMONIC DISTORTION (THD + N; 40 Hz to 20 kHz)

at 0 dB	≤ 0.21%
at -24 dB	≤ 0.046%

IM DISTORTION (70-Hz difference; 300 Hz to 20 kHz)

at 0 dB	≤ 0.028%
at -10 dB	< 0.01%
at -20 dB	≤ 0.022%
at -30 dB	< 0.01%

LINEARITY (at 1 kHz)

0 to -70 dB	no measurable error
at -80 dB	- 1/4 dB
at -90 dB	+ 3 1/4 dB

TRACKING & ERROR-CORRECTION

maximum signal-layer gap	700 μm
maximum surface obstruction	> 800 μm
simulated-fingerprint test	pass

MAXIMUM OUTPUT LEVEL

line output	1.74 volts
headphone output	1.24 volts*

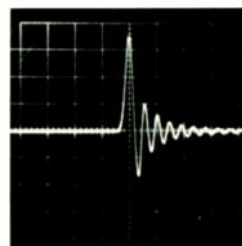
OUTPUT IMPEDANCE

line output	1.025 ohms
headphone output	69 ohms

SQUARE-WAVE RESPONSE (1 kHz)



IMPULSE RESPONSE



*See text

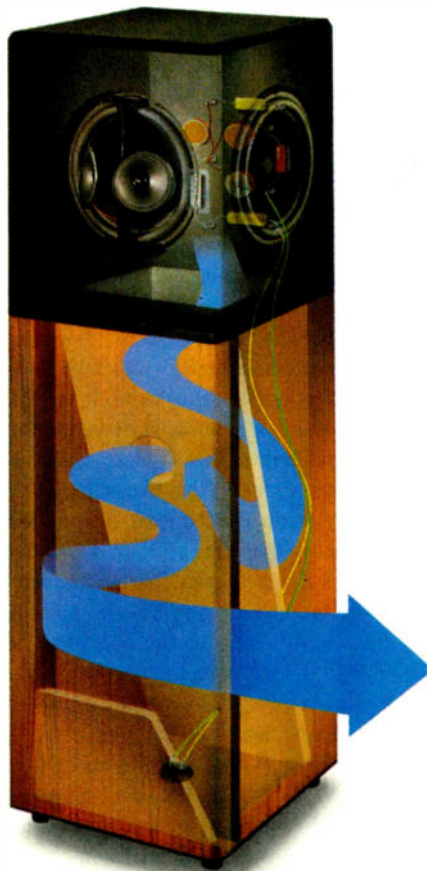
Finally, you can hear your stereo system in stereo.

When you listen to two conventional speakers, what you hear is mainly the sound from the one speaker that's closest to you. So unless you, your room, and your furniture are precisely arranged around your speakers, chances are that you'll never hear both of them in balance. And you need to hear properly balanced sound from both speakers to hear stereo. *It's that simple.*

Instead of listening to only one of the two speakers that you've paid for, why not listen to a pair of speakers that can play your stereo system in full stereo? All Bose® speakers are designed to put stereo right where it belongs: everywhere. So when you add a Bose speaker system to your stereo system, you'll finally get all of the realism that your stereo is capable of producing—because you'll finally hear your system playing in stereo.

The new Bose Point Two listening system, for example, literally shapes and controls sound, producing a Stereo Everywhere™ music image that you can hear—and almost feel—anywhere in your listening room. In fact, when you listen to a Point Two system, you won't hear sound as if it were coming directly from the speakers. Rather, you hear a complete, lifelike musical soundstage, transforming your music into a three-dimensional sculpture of sound.

The Bose Point Twos are made up of a number of audio innovations integrated into one complete listening system. Each part of the speaker—components,



The Bose 10.2 system

cabinet, and crossover—is part of a system that gives the Point Twos their exceptional control over sound. This Bose Stereo Targeting™ system shapes and directs music into your listening environment, allowing you to hear full stereo anywhere you're sitting or standing—even if it's right next to one of the speakers. To make the system complete, the entire Stereo Targeting system is placed on top of a newly-

designed bass venting system for full frequency realism. Advanced bass tuning gives the Point Two systems both high efficiency and tight, smooth bass—a performance combination not usually found in ordinary ported systems. Finally, Bose uses Syncom® II computer testing and rigid quality control to make sure that all the individual



The Bose Point Twos are high technology speakers designed to look as good as they sound.



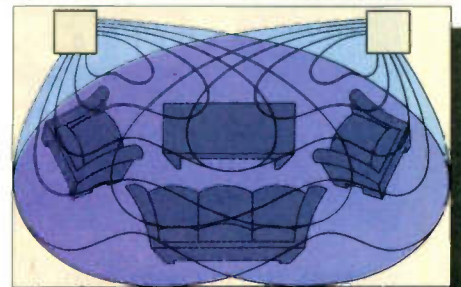
The Bose 8.2 system

parts of the Point Two system precisely match and work perfectly together—a very critical factor with speakers that precisely control sound.

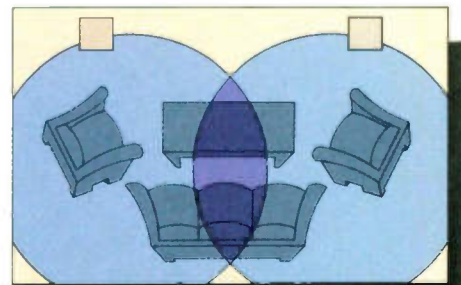
The high power-handling and high efficiency of the Bose® Point Twos make them ideal speakers for any system and any software, especially digital compact discs. The fact that the Bose Point Twos are pieces of high technol-



ogy that look as good as they sound make them ideal for *your* system and listening environment as well. With the Bose Point Two listening system, all of your music will take on an entirely new dimension of realism. We invite you to experience Stereo Everywhere™ realism for yourself by auditioning the new



Each half of the Point Two system produces a sound pattern that is distinctly different from the other, as shown in the top diagram. This enables the system to produce a stereo image that you can hear everywhere in the listening area.



Conventional speakers produce full stereo only in a narrow area between them. And since each speaker's performance is identical, listeners mainly hear sound as coming from only one speaker—the one they happen to be nearest.

Bose Point Two listening systems at selected dealers. For more information write: Bose Corporation, Department HF, 10 Speen Street, Framingham, MA 01701.

BOSE
Better sound through research.

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THE SL-XP7 IN ITS OPTIONAL BATTERY/CARRYING CASE; ITS AC ADAPTER (INCLUDED) IS AT RIGHT.

T E S T R E P O R T S

Barcus-Berry BBE-2002R Signal Processor

DIMENSIONS: 16 1/4" BY 3 INCHES (FRONT), 7 1/4" INCHES DEEP PLUS CLEARANCE FOR CONTROLS AND CONNECTIONS. **PRICE:** \$499. **WARRANTY:** "LIMITED," ONE YEAR PARTS AND LABOR. **MANUFACTURER:** BARCUS-BERRY ELECTRONICS, INC., 5381 PRODUCTION DR., HUNTINGTON BEACH, CALIF. 92649.

Those having long memories will associate the name Barcus-Berry with a novel add-on tweeter called the Audioplate, which we reviewed in our October 1978 issue. We haven't heard anything about that product for some time, perhaps because its manufacturer, Barcus-Berry, Inc., now limits itself almost exclusively to the pro audio market. The BBE-2002R is one of a family of signal processors, consumer and professional, that comprises the first offering from a new subsidiary, called Barcus-Berry Electronics.

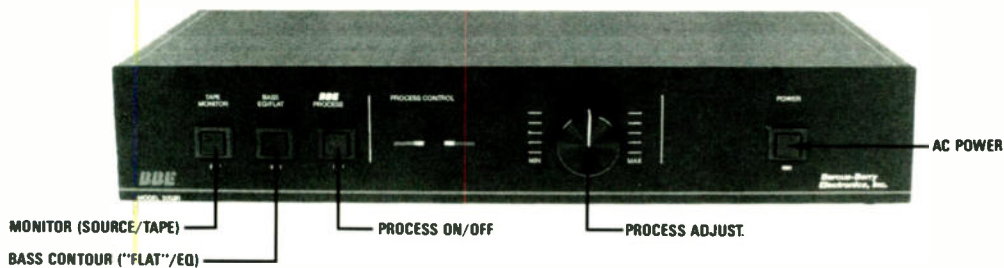
The idea behind the signal processors is to counteract certain types of signal degradation that BBE says are common to virtually all dynamic speaker systems driven by conventional amplifiers. At first, they were all to be servo systems that would detect any deviation of diaphragm motion from that dictated by the signal and then apply a correction signal to bring it back into line. One of the professional units does work this way, but the company says that this approach, at least in its current implementation, has some limitations. Therefore, most of the processors, including the BBE-2002R, base their action on a model of speaker behavior embedded in a proprietary integrated circuit. Barcus-Berry maintains

The real point of the SL-XP7's portability is that you can carry this level of performance with you wherever you want and listen beyond reach of AC lines. At almost three pounds for the player plus the battery/case assembly, it does weigh you down more than most pocketable tape players or radios. But when you finally arrive at your destination and deposit it on a convenient firm surface, it will supply finer listening than either of the less burdensome music-makers. And, not incidentally, when you return to the AC outlets, you can plug it into your home system, adding CD capability at minimum cost. ●

that most dynamic speakers are similar enough to one another that a single model can serve well for all.

Details of the system are somewhat sketchy (pending patents), but information supplied by the company indicates that it performs two basic functions. One is simply phase correction, which Diversified Science Laboratories' measurements confirm. The unit introduces a frequency-dependent delay amounting to approximately 1.2 milliseconds at low frequencies, decreasing to 1 millisecond at 575 Hz, 0.8 at 820 Hz, 0.6 at 1.2 kHz, 0.4 at 1.9 kHz, 0.3 at 2.7 kHz, 0.2 at 4.2 kHz, 0.1 at 9.4 kHz, and 0.05 at 20.8 kHz.

The second component of the processing is what BBE calls reactive load compensation, which is said to correct dynamic losses caused by the load reactance of typical speakers. This is achieved by splitting the signal into three bands and comparing their contents. Based on the results and the setting of a front-panel control knob, the processor's circuitry introduces equalization in the high-frequency band (+12 to -5 dB, according to Barcus-Berry). The EQ is constantly varying, depending on the characteristics of the incoming signal. Such dynamic equalization is said to correct the system's fi-



without imparting the shrillness that similar amounts of conventional equalization might create.

Again, DSL's tests provide confirmation, although the effect extends deeper than BBE's explanation had led us to expect, with some action evident as far down as 200 Hz. The response varies in a complex fashion according to signal level, but at most control settings and levels, its predominant feature is a treble boost commencing somewhere between 500 Hz and 2 kHz. Under some conditions, however, that transition region is depressed a few dB before the rise begins, and there may also be a dip centered on about 300 Hz. The setting of the control appears to affect the character as well as the aggressiveness of the processing.

Barcus-Berry recommends adjusting the processing control by ear, but the manual includes instructions for setting it by a pair of LED indicators on the front panel, as well. The other important control—apart from the bypass switch (which routes the signal entirely around the processor's electronics) and a replacement tape monitor button (for installations in which the 2002R takes up a tape loop)—is a bass EQ switch. Pushing it on adds a fixed boost of approximately 3 dB below 500 Hz.

Testing a device such as this one often presents problems when it comes time to measure noise and distortion, which may vary widely according to control settings or signal conditions. We were therefore surprised to see that the signal-to-noise (S/N) ratio was the same at all positions of the processing control and deteriorated only 1 dB when the bass EQ was turned on. Distortion was another story, however, and the lab ultimately gave up trying to measure it in our usual manner, as a function of frequency: Any change in the process control setting or the input signal altered the results in ways that defied simple characterization. Maxi-

mum output level was similarly difficult to pin down. The processor doesn't really clip, but it does generate a lot of distortion when pushed too hard. Going by the point at which total harmonic distortion (THD) reaches 3 percent, the overload point is 1.95 volts or more, depending on the position of the processing control, which should be more than adequate. Tape-loop installation may, however, lead to slight overload with certain high-output CD players whose peak outputs may exceed 2 volts.

There is only so much you can learn from laboratory analysis of a product such as this one. It's the ear that finally tells the tale. Our first impression when we hooked up the BBE-2002R in our listening room was of increased detail, particularly on voices; the second was of greater brightness. And though it is possible to make the sound rather tinny and brittle by advancing the processing control too far, we would categorize this as abuse. When used in a reasonable fashion, the 2002R seems to live up to its maker's claim of providing greater clarity without accompanying harshness. How much of an advantage it has over conventional equalization in this regard is hard to say. We found that we could mimic some of its effect by turning up the treble control on our preamp, although voices did not gain as much and the sound got a little edgier when we applied a lot of boost.

The BBE-2002R is an interesting device. And if you like what it does, you can make recordings through it for playback in your car or portable. In fact, Barcus-Berry is selling its professional models to recording studios, and a number of records have been made with BBE processing. (The company says that the 2002R detects when a program has been preprocessed and keeps out of the way, so that you don't wind up with EQ on top of EQ.) BBE processing is worth a listen: Try it and see if you like it.

MAXIMUM OUTPUT LEVEL (3% THD+N at 1 kHz)

≥ 1.95 volts

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

without bass EQ 79 dB

with bass EQ 78 dB

FREQUENCY RESPONSE

see text

INPUT IMPEDANCE

41k ohms

OUTPUT IMPEDANCE

39 ohms

TONEARM/CARTRIDGE MATCHING GRAPH

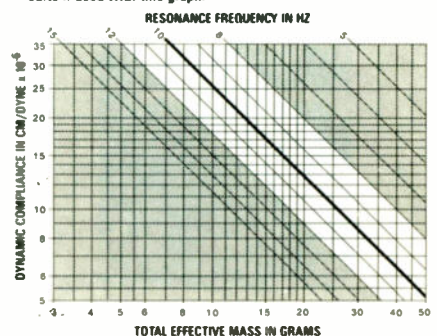
By means of this nomograph, you can quickly and easily determine the compatibility of any cartridge and tonearm we have tested. Ideally, the arm/cartridge resonance frequency (indicated by the diagonal lines) should fall at 10 Hz, but anywhere between 8 and 12 Hz will assure good warp tracking and accurate 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.

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

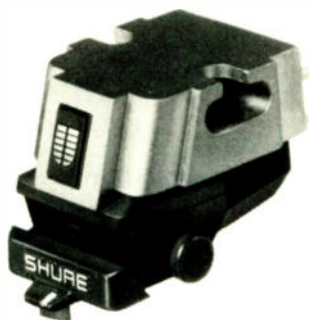
For tonearms, look up the vertical resonance frequency as measured with the Shure V-15 Type III cartridge. Find the intersection of the diagonal line for that frequency with the horizontal line representing the Shure's dynamic compliance of 22.5×10^{-6} cm/dyne. Reading down the vertical line on which 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.



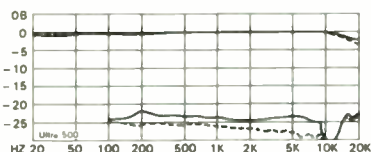
Shure Ultra 500 Phono Cartridge

TYPE: FIXED-COIL (MOVING-MAGNET) WITH USER-REPLACEABLE MICRO-RIDGE MULTIRADIAL DIAMOND STYLUS. PRICE: \$400. WARRANTY: "FULL," ONE YEAR PARTS AND LABOR. MANUFACTURER: SHURE BROTHERS, INC., 222 HARTREY AVE., EVANSTON, ILL. 60204.



FREQUENCY RESPONSE & CHANNEL SEPARATION

(test record: JVC TRS-1007 Mk. II)



Frequency response

— L ch	+0, -2 1/2 dB, 20 Hz to 20 kHz
- - - R ch	+0, -3 dB, 20 Hz to 18 kHz
Channel separation	≥ 21 dB, 100 Hz to 20 kHz

SENSITIVITY (at 1 kHz) 0.88 mV/cm/sec

CHANNEL BALANCE (at 1 kHz) ± < 1/4 dB

VERTICAL TRACKING ANGLE ≈ 17°

MAXIMUM TRACKING LEVEL (re RIAA 0 VU; 1.2 grams)*

lateral	> +18 dB
vertical	> +12 dB

DYNAMIC COMPLIANCE (vertical)

≈ 15 × 10⁻⁶ cm/dyne

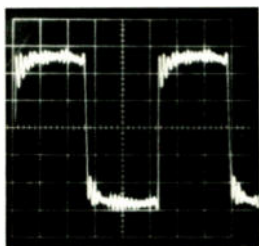
RECOMMENDED EFFECTIVE TONEARM MASS

see text

WEIGHT

9.5 grams

SQUARE-WAVE RESPONSE (1 kHz)



* Tracking force is net with Dynamic Stabilizer engaged; applied force is 1.7 grams. See text.

By now, anyone actively interested in audio is at least passingly familiar with the various incarnations of Shure's V-15 Type V phono cartridge. The last version we reviewed was the Type V-MR (December 1984), which we found to be among the very finest pickups available. Despite its radically different name, the Ultra 500 is not a fundamentally different beast. It is, rather, Shure's first effort at a "high end" cartridge, incorporating refinements designed to wring the final iota of performance from vinyl records.

The principal distinction is in the cartridge housing, whose top surface has been enlarged and strengthened to provide a firmer, less resonant mounting to the headshell of a tonearm. Shure also specifies slightly better tracking ability for the Ultra 500, though without indicating how this improvement is achieved. Presumably it is mainly a matter of the slightly increased recommended tracking force and greater care in manufacture, since the basic construction of the stylus assembly is unchanged. A highly polished Micro-Ridge stylus is attached to a thin-wall beryllium tube, which is said to provide an exceptional stiffness-to-mass ratio. This is the key to the pickup's high-frequency tracking ability.

Another benefit of the assembly's low mass is that it moves the cartridge's primary resonance well into the ultrasonic region, permitting flat treble response without electrical correction. This, together with a very efficient magnetic system, makes possible the use of low-inductance coils, which in turn minimizes the influence of the load impedance presented by the tonearm cabling and phono preamp on the pickup's frequency response.

The Ultra 500 comes in a handsome wooden box with a stylus brush and a vial of cleaning fluid, a set of hex-head mounting screws, and a small allen wrench for tightening them firmly. To

our dismay, however, Shure does not include an equivalent of the Type V-MR's superb alignment jig. Indeed, the manual (which could be better in other respects as well) doesn't even mention adjustment of lateral tracking angle. No matter how well a pickup is designed, it will perform poorly if it is not set up properly.

Our second surprise was the Ultra 500's heft: It weighs about 50 percent more than a Type V-MR, itself no lightweight. Under ordinary circumstances, this would spell trouble with warp tracking, because the cartridge's high mass and moderate compliance would drop the arm/cartridge resonance to a frequency well below the optimum range. But Shure's viscous-damped Dynamic Stabilizer brush saves the day by virtually eliminating any trace of this resonance. This is why our data column does not indicate optimum and acceptable effective tonearm masses. As long as you can balance the Ultra 500 in your tonearm, it should work fine. Just make sure that you do use the stabilizer (which, incidentally, also serves to keep the record clean and static-free as it is being played).

Diversified Science Laboratories' measurements show consistently excellent performance. The Ultra 500's tracking ability is at least as good as the best we have ever encountered, channel balance is as accurate as we can reliably measure, and output is more than adequate. Vertical tracking angle is a little less than the nominal 20-degree DIN standard, but not significantly so. More important, we think, is the close agreement between the figures obtained with low- and mid-frequency test tones, indicating accurate stylus rake angle. And distortion is quite low for a cartridge, even at high recording levels.

Channel separation is both wide and consistent, which suggests good mechanical behavior. This is especially

noteworthy near the top of the range, where separation begins to deteriorate with most other cartridges. Frequency response rolls off by a few dB in the top octave, at least on the JVC test record we use. Shure uses calibrated CBS test discs, which yield flatter curves with this pickup. (Variations between test records are a notorious problem in evaluating phono cartridges.) The disagreement is small, however, and even more insignificant than it looks on paper, given the very small amount of musical

information at those frequencies.

The Ultra 500 sounds as good as it measures: smooth and clean with excellent stereo imaging and depth (when these qualities are present on the record). And it goes almost without saying that this cartridge will track anything you can throw at it. As a sort of acid test, we did a quick-and-dirty face-off of the Ultra 500 against Compact Disc, using Proprius's *Jazz at the Pawnshop*, which is available in excellent pressings on both media. Aside from occasional

ticks from the LP, we were hard put to tell any difference most of the time.

Shure has long argued, against the tide of audiophile opinion, that moving-magnet pickups can be made to perform at least as well as and usually better than moving-coil designs. We consider the Ultra 500 ample proof. For sheer accuracy of reproduction, it has little real competition—and much of what there is comes from other models in the Shure line. In short, we don't see how you could go wrong with it. ●

T E S T R E P O R T S

Parasound CA-250 Integrated Amplifier

Over a year ago, we began receiving announcements of new products from Parasound, but this is the first time we've reviewed one. The company designs its wares in this country and has them built overseas, picking its manufacturing plants on the basis of their appropriateness to each product. This way of working certainly isn't unique, but it's refreshing to find that Parasound is up front about it, while some of its competitors—particularly if they used to manufacture in the U.S.—get very coy on the subject.

The company's overall style (which pervades its wares, whatever their provenance) is rather bold. The CA-250 is representative in that respect. It is an unusually low-priced integrated amplifier rated at 50 watts (17 dBW) per channel, with features commonly found only on more costly models. These include provision for two recording loops that can be used for dubbing in either direction (via a separate recording selector that lets you tape one source while you listen to another) and a two-knob loudness compensation system. The controls are generally ranged across the bottom of the front panel in groups that alternate between push-buttons and knobs, which helps guide your hand to the one you want. Across the top of the panel is a window that

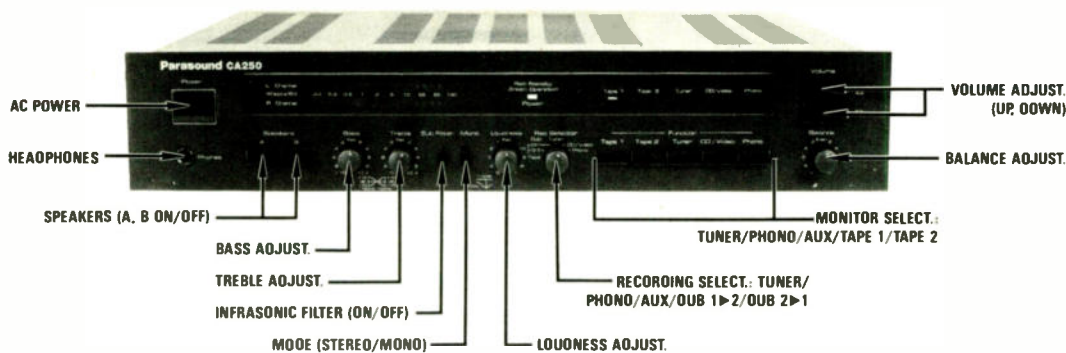
shows pilot LEDs for individual functions, on the right, and an LED "power meter" (nonextinguishable, unfortunately), on the left.

There are fewer inputs than is fashionable these days (also a characteristic of some high-end goods). The high-level group's two selector positions are marked for tuner and for either DAD (Compact Disc) or video—yesterday's "aux." If you have both a CD player and a video sound source, you'll need some outboard switching, otherwise you'll have to use the tuner or tape-recorder inputs. And if you want to use a moving-coil phono cartridge, you'll need an outboard head amp or matching transformer: The sole phono input is for fixed-coil models (or those few high-output moving-coil ones intended for direct connection to "MM" inputs).

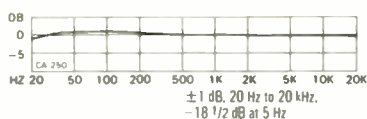
Parasound gives you a high- (line-) level output so that you can connect a separate amplifier to its preamp section either to drive yet another pair of speakers in another room or to upgrade your system by substituting a larger external power amplifier for the built-in one. The preamp output is not intended for outboard signal processors; there are no return connections to the input of the unit's power-amp section. The CA-250 has four pairs of spring clips for wiring two pairs of speakers, if you

DIMENSIONS: 17 1/4" BY 3 1/4" INCHES (FRONT), 11 1/2" INCHES DEEP PLUS CLEARANCE FOR CONTROLS AND CONNECTIONS. **AC CONVENIENCE OUTLETS:** ONE SWITCHED (100 WATTS MAX.), TWO UNSWITCHED (100 WATTS MAX. TOTAL). **PRICE:** \$270. **WARRANTY:** "LIMITED," ONE YEAR PARTS AND LABOR. **MANUFACTURER:** MADE IN TAIWAN FOR PARASOUND PRODUCTS, INC., SUITE 400, 680 BEACH ST., SAN FRANCISCO, CALIF. 94109.

RATED POWER	17 dBW (50 watts)/channel
OUTPUT AT CLIPPING (at 1 kHz; both channels driven)	
8-ohm load	19 dBW (80 watts)/channel
4-ohm load	20 dBW (100 watts)/channel
DYNAMIC POWER (at 1 kHz)	
8-ohm load	19 1/2 dBW
4-ohm load	21 dBW
2-ohm load	21 1/2 dBW
DYNAMIC HEADROOM (re rated power; 8-ohm load)	
	+ 2 1/2 dB
HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)	
at 17 dBW (50 watts)	≤ 0.024%
at 0 dBW (1 watt)	≤ 0.018%
FREQUENCY RESPONSE	
	± 1/2 dB, 18 Hz to 22.7 kHz
	+ 1/2, -3 dB, < 10 Hz to 76.0 kHz



RIAA PHONO EQUALIZATION



SENSITIVITY & NOISE (re 0 dBW; A-weighting)

	sensitivity	S/N ratio
aux input	16.5 mV	70 dB
phono input	0.36 mV	69 1/2 dB

PHONO OVERLOAD (1-kHz clipping)

	125 mV
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INPUT IMPEDANCE

aux input	61k ohms
phono input	54k ohms, 525 pF

OUTPUT IMPEDANCE (to tape)

	2,000 ohms
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DAMPING FACTOR (at 50 Hz; re 8 ohms)

	65
--	----

CHANNEL SEPARATION (at 1 kHz)

	72 1/4 dB
--	-----------

INFRASONIC FILTER

	-3 dB at 19 Hz, ≈ 10 dB/octave
--	----------------------------------------

don't use the external-amp option.

Parasound uses a stepping two-button (UP and DOWN) volume control for two reasons. First, circuitry was developed in anticipation of a forthcoming wireless remote control (though the company expects to introduce it in conjunction with a higher-power receiver). Second, Parasound says it is able to deliver quieter performance with its design than can be achieved with some competing remote/stepped volume circuits. Unfortunately, however, the bugs don't all seem to be out of the design, on the basis of our two test samples. The steps are reasonably small (about 2 dB) and even in size, except that a tap on one of the buttons frequently delivers no audible change at all. And the change sometimes seems inconsistent between the two channels. That is, increasing or decreasing volume may also create a need to readjust balance.

Perhaps the most unusual feature of the CA-250 is a continuously variable loudness control, usually reserved (when it's available at all) for luxurious

higher-power amplifiers. The idea is that you set a "full up" or loudest acceptable listening level with the VOLUME (with the LOUDNESS turned all the way up). Any reduction in level from that point is then done with the LOUDNESS. This introduces the latter's frequency-shaping when levels need to be kept low, compensating for the ear's loss of deep-bass sensitivity under those conditions. Simple switches can't manage this because they have no means of matching the action to speaker sensitivity and room acoustics, which is what you do with the CA-250 in first adjusting for "full" level.

The actual contour of the Parasound loudness compensation is unusual in boosting the highs as much as the lows, relative to the midrange—and, indeed, even somewhat more at certain settings. This explains why we found the sound rather thin and bodiless when we turned down the level at the LOUDNESS. This is, of course, a subjective reaction tied to the actual listening level, a reaction with which you may not agree. (We don't agree among ourselves about what loudness compensation ought to sound like.) We were eventually able to achieve good subjective balance by touching up with the tone controls. Like the loudness contour, the tone controls tend to shelve nicely toward the frequency extremes. They deliver somewhat more range in the bass (± 15 dB or so below 50 Hz) than in the treble (about ± 10 dB above 10 kHz).

The phono response is reasonably flat, with a slight emphasis in the bass (1 dB or more, relative to 1-kHz response) between 35 and 250 Hz and with a tiny rolloff at the top end. At the very bottom end of the audio band begins a rolloff that becomes steep enough in the infrasonic region to sup-

press 5-Hz warp "information" by $18 \frac{1}{2}$ dB. This can be abetted by a switchable filter that takes a further significant bite out of the infrasonics, thanks to its slope, which is closer to 12 dB per octave than to the all-too-common (and quite wimpy) 6-dB-per-octave characteristic.

Phono input impedance is slightly higher than the standard 47,000-ohm spec, and input capacitance also is higher than we'd like, but neither factor should faze most of today's top pickup cartridges. Similarly, the aux (DAD/video) input overloads at 6.4 volts—which, though it's a lower threshold than most, will not be a limiting factor with typical signal sources.

The amplifier section is conservatively rated, 2 dB below its 1-kHz clipping level into an 8-ohm load. Actually, this accounts for much of the generous $2 \frac{1}{2}$ -dB dynamic headroom, since there is a difference of only $\frac{1}{2}$ dB between the clipping output and the dynamic output into 8 ohms, and a 1-dB difference into 4 ohms. The fact that output continues to climb as the load is reduced—even to 2 ohms, in the dynamic test—speaks well for the ability of the amplifier to cope with low-impedance loads. This is, in terms of output power, an unusually "big" little amp.

It may be unfair to expect so modest an integrated amplifier to tell us what to expect from a company with plans as big as Parasound's evidently are. While the CA-250's overall performance is acceptable, few particulars can be considered impressive. But the company evidently is determined to make the most of its design-it-here, build-it-there philosophy, which it is convinced can be made to deliver designs and values that are out of reach of those biggies that try to produce as much as possible in-house. ●

Audio Control Phase Coupled Activator

Just what the name "Phase Coupled Activator" is meant to convey, we can't say for sure, though we can say that the intent of the device is to restore bass frequencies lost in the recording process. In view of a pending application for a patent on its circuitry, designer Greg Mackie takes refuge in what we might charitably call circumlocutory remarks in the product-background white paper supplied to us. Flights of verbal fancy have often been used to lend a touch of mystery to what otherwise might be perceived as mundane products. The most dazzling verbal aureoles have sometimes surrounded devices that did not even work, much less operate as described. Unexplained phrases found in the white paper and the full-color data sheet include such gems as "Artifact Detector and Spectral Analyzer," "Digital Reconstruction Section," and "Logic-Controlled Activator." A glance inside the cabinet reveals none of the circuitry commonly associated with digital audio. But don't let that lead you into a premature dismissal: The Phase Coupled Activator, whatever it may be, really works!

It actually is two products with one name. In theory, the Phase Coupled Activator (PCA) portion is a signal processor. It senses the presence of the higher-frequency overtones that remain when deep-bass signals are suppressed or lost altogether in the recording signal-chain and reconstructs the original fundamentals from those vestiges. The other portion is an electronic crossover enabling you to biamp your system. As delivered, the crossover frequency is set to 90 Hz (appropriate for subwoofers, with which the PCA circuits should work well), but Audio Control says its dealers can alter the frequency to any of a range of options between 60 Hz and 3 kHz. A front-panel coin-slot knob adjusts sensitivity of the crossover's low-pass region relative to that of the high-pass output, and a button

switches the crossover in and out.

The PCA itself is designed so that it can be used between preamplifier and power amplifier or inserted into a tape monitor loop. If you choose the latter course and the loop already is occupied by a tape deck, the processor offers substitute jacks and switching for the deck. There is only one PCA operating control: a knob marked "detection ratio," calibrated from -200 to +200 percent and having a center detent (the recommended setting for most applications) marked with an equals-approximately symbol (\approx). Apparently, this is to suggest that the ratio of output products to original signal can be varied up or down from approximately 1:1. In any case, this is how the control seems to work and, despite the cryptic labeling, the way Audio Control says it is supposed to work.

A selector button chooses between two main stereo inputs: one for conventional audio and one for audio from video sources. According to the company, the video input is tweaked for optimum behavior with a mono mix of speech and music (as in a TV signal), while the other one derives some of its processing from interchannel phase differences and is optimized for music.

With so little to go on in the way of hard facts, Diversified Science Laboratories was rather in the position of someone playing darts blindfolded, never even having seen the dartboard beforehand. As a first try, it fed the PCA a series of low-frequency sine waves, just to see what would happen. Since these were single frequencies, they didn't truly provide the overtone structure of a lost fundamental, which normally would involve a harmonically related group of tones. But they did produce results that correspond well to perceived performance—though perhaps in what may ultimately prove to be a grossly oversimplified way.

Because the processor's output is

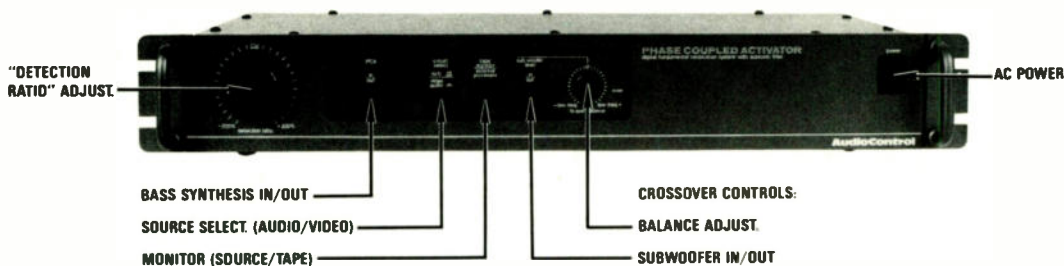
DIMENSIONS: 19 BY 2 1/2, INCHES (FRONT PANEL), 8 1/2, INCHES DEEP PLUS CLEARANCE FOR RACK-MOUNT HANDLES AND CONNECTIONS. AC CONVENIENCE OUTLETS: ONE UNSWITCHED (CAPACITY UNRATED). PRICE: \$259. WARRANTY: "FULL," FIVE YEARS PARTS AND LABOR. MANUFACTURER: AUDIO CONTROL, P.O. BOX 3199, LYNNWOOD, WASH. 98036.

PCA SECTION

OUTPUT AT CLIPPING (at 1 kHz)	6.9 volts
HARMONIC DISTORTION (THD; 20 Hz to 20 kHz; see text)	$\leq 0.058\%$
FREQUENCY RESPONSE (PCA off)	
+0, -1/2 dB, 30 Hz to 51.4 kHz	
+0, -3 dB, 24 Hz to 150 kHz	
roll-off, ≈ 24 dB per octave below 24 Hz	
S/N RATIO (re 0.5 volt; A-weighted)	≥ 93 1/4 dB
GAIN	$< 1/2$ dB
INPUT IMPEDANCE	98k ohms
OUTPUT IMPEDANCE	150 ohms
CHANNEL SEPARATION (at 1 kHz)	68 1/2 dB

ELECTRONIC CROSSOVER SECTION

OUTPUT AT CLIPPING (at 1 kHz)	≥ 7.0 volts
HARMONIC DISTORTION (THD; 20 Hz to 20 kHz)	$< 0.01\%$
FREQUENCY RESPONSE (overall; see text)	
+0, -1/2 dB, < 10 Hz to 25.2 kHz	
+0, -3 dB, < 10 Hz to 76.9 kHz	
S/N RATIO (re 0.5 volt; A-weighted)	≥ 95 1/2 dB
GAIN	
high-pass section	-3/4 dB
low-pass section	adjustable, -42 1/2 to +12 1/2 dB
INPUT IMPEDANCE	21.9k ohms
OUTPUT IMPEDANCE	
high-pass section	150 ohms
low-pass section	205 ohms
CHANNEL SEPARATION (at 1 kHz)	80 dB



filtered sharply at the extreme bottom (sloping off at about 24 dB per octave below 24 Hz, by DSL's measurement) to prevent transmission of potentially damaging infrasonic products to your woofers, there is a limit to how deep in pitch the device can go in its generation of subharmonics. And because the frequencies it intends to replace are only in the deep bass, the processor can't operate too high without exceeding its mandate. Consequently, DSL found that tone generation started dropping off when the test frequency was tuned to, roughly, below 50 or above 80 Hz, leaving about an octave in which it produced the most significant results.

Tested at these two frequencies, with 0.5-volt input signals and with the control knob at the center detent, the processor generates a tone that is one octave below the input signal and approximately equal in magnitude. The 40-Hz output synthesized from the 80-Hz input is actually $2\frac{3}{4}$ dB stronger than the 80 Hz; the 25-Hz output from the 50-Hz signal is $4\frac{1}{4}$ dB below the level of the input, but that is surely a result, in part, of the infrasonic filtering. There also is some output at the third harmonic of the synthesized frequencies (that is, at 120 and 75 Hz, respectively, for the 80- and 50-Hz inputs), though it is down more than 20 dB for the lower frequency and almost 30 for the higher one. There are traces of the fifth harmonic (200 and 125 Hz) and, in some tests, of the seventh (280 and 175 Hz) as well. Outside of the input signals, which of course are at the second harmonic of their generated "fundamentals," there are no discernible even harmonics in the output under these test conditions.

Turning the control knob to either of its extreme positions alters the level of the generated tones by, very roughly, a factor of ten. That is, output of the generated tones drops by about 10 dB when the knob is turned to "-200%"

and increases by about 10 dB when it is turned to "+200%." Again, however, these are only very inexact figures, and the test method itself is only an approximation of what we might do if we knew exactly how the Phase Coupled Activator works. Varying the input voltage may well influence processor behavior; introducing disparities between channels also should, according to the company; using test tones consisting of more than one frequency (or including pulse elements as well as sustained tones) should profoundly influence the bench results if the circuitry does any significant degree of input-signal "analysis," as the company's data sheet implies.

In the more usual respects, the lab measurements are above serious criticism. The only test frequency at which distortion exceeds our 0.01-percent reporting threshold (with the processor off and a 2-volt input) is 20 Hz, and the amount there is still very low. (Distortion can't be legitimately measured within the PCA's operating range with the processor on because the intentionally generated subharmonics also show up as "distortion.") Above 100 Hz, the test signal is out of the operating band, and no difference could be detected when the processor was turned on. Noise is very low, and the small gain is of no practical consequence.

For a truly useful description of the processor's behavior, we must turn to the listening room. First, we have never heard any sort of "bass recovery" device that came close to this one in adding a solid and musically believable sonic underpinning without introducing unrealistic by-products. The PCA does little unless there really is some bass from which it can produce subharmonics. When they are generated, the subharmonics supply a touch of viscerality along with a true sense of tone—as long as your system is capable of clean low-frequency output. Sources as dis-

parate as string bass, bass drum, and tuba can sound even more like themselves, in most recordings, with the PCA on than with it off.

Audio Control suggests that any loudness-compensation circuits be turned off when the PCA is on, which probably is good advice. If you're in the habit of using (or abusing) those circuits to add low-frequency drama, substitution of the PCA may at first disappoint you with its lack of upper-bass thumping. In contrast to the actions of equalizers—which, when boosting the bass, also boost low-frequency noise—the PCA seems to generate relatively little "subharmonic" energy from record noise and the like.

As the company says, the results usually are best with the detection-ratio control centered. When it is turned down, the effect fades; when it is turned up, the effect can become a little gross and even take on a quality that suggests ringing, though a few recordings seem to actually profit from over-processing. CDs usually benefit from the middle setting as much as LPs, though the former are seldom cut with deliberately limited deep bass and theoretically need less processing. For reasons we don't fully understand, audio cassette sound sometimes becomes quite muddy at the bottom unless the control is turned down or the processor defeated altogether. And in some material, you can hear a distinct frequency "threshold" above which the signal remains unaltered and below which the subharmonics suddenly appear. Extraneous transients in the signal also are sometimes overdramatized. But by and large, the PCA's action is uncannily musical in simulating truer bass than typical sources actually contain.

The electronic crossover section is exemplary. Measured crossover frequency is just about spot-on the nominal 90 Hz. There is a slight (and insignificant) insertion loss in both sections

with the balance control at its center detent. It affords as much as 14½ dB of attenuation and 12½ dB of boost to the low-pass section, which should be plenty with almost any permutation of amplifier and speaker sensitivities. Input impedance is perhaps a trifle lower than is typical among the devices we test, but not enough to be a concern.

It should be obvious from the fore-

going that the Phase Coupled Activator isn't perfect. That is, it doesn't unequivocally improve every signal that passes through it or always produce its effects without unwanted by-products. But it's far nearer perfection than any predecessor we've heard. It is, in fact, the first bass-recovery device we have tested that we can unhesitatingly recommend to the attention of audiophiles.

Audio Control says that you don't need a subwoofer to appreciate the device (we agree), but that if your woofers are smaller than about 8 inches in diameter, the sound won't profit much and the woofers could be overdriven by the processor. But we think that owners of systems capable of reproducing very deep, clean bass will appreciate the PCA's unmatched excellence. ●

T E S T R E P O R T S

General Electric Monitor/Receiver

The General Electric 26PM-5881, a top-of-the-line 26-inch monitor/receiver, has a host of up-to-date features for videophiles and audiophiles alike. It is, for example, compatible with the stereo-TV broadcasts in this country; if the broadcasters in your area haven't converted yet, you can make do with the unit's Sound Plus stereo simulator. Both features are activated by pressing the Sound Plus/stereo button, which is located behind a hinged door on the upper front edge of the set. If a stereo broadcast is being received, an LED illuminates and the monitor automatically chooses true stereo over the simulation. A second LED indicates the presence of a bilingual broadcast on the SAP channel, which can be selected by pushing the "bilingual" button on the supplied infrared remote control. Pressing it again returns to the stereo broadcast.

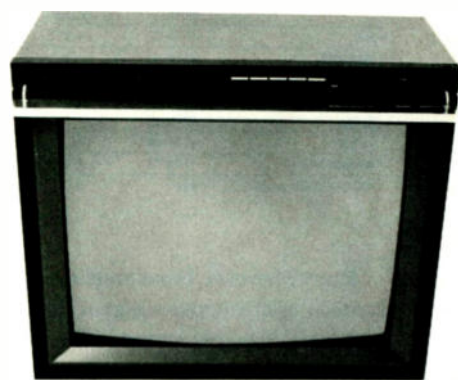
The tuner spans all broadcast VHF and UHF channels plus 51 CATV channels (A through W, AA through WW, A-1, A-2, A-6, A-7, and A-8). It's also fitted with a second antenna input and a jack so that you can permanently connect a pay-TV decoder and switch it in from the remote control. If you don't have cable, the second antenna input can serve to connect a video game, computer, or other video source that delivers an RF signal. In addition to the two RF inputs, there are two sets of direct composite-video and line-level stereo

audio inputs (called Video Position 1 and 2), which enable you to use the system as a straight monitor. The direct audio inputs have mono/stereo slide switches for feeding a single connected audio channel through both of the monitor's built-in speakers. One set of direct inputs is fitted with an audio level control so that you can match its loudness with that of other sources. You select the source with the front-panel button that sequences through the four inputs: Video Position 1, Video Position 2, Antenna 2, Antenna 1, and back to Video Position 1. "P1," "P2," or "A2" appears in the channel indicator for the first three positions; the actual channel number comes up when Antenna 1 is chosen.

Also behind the control door are the main power switch, volume up/down buttons, channel up/down buttons, and the source selector button, all of which are duplicated on the remote control. The remote also enables you to tune any channel by number via a ten-key pad, to mute the sound temporarily, and to program the tuner to skip over unused channels during up/down scan. Neither of the last two functions is accessible from the main-panel controls.

From the main panel—but not from the remote—you can adjust bass, treble, and balance, as well as engage a loudness contour. These affect the sound only through the external-amplifier jacks, the external-speaker jacks,

DIMENSIONS: 25½, BY 22½, INCHES (FRONT), 20½, INCHES DEEP; SCREEN, 26 INCHES (DIAGONAL). PRICE: \$699. WARRANTY: "LIMITED," TWO YEARS PARTS AND LABOR ON PICTURE TUBE, ONE YEAR ON ALL OTHER PARTS. MANUFACTURER: GENERAL ELECTRIC CO., VIDEO AND AUDIO CONSUMER ELECTRIC PRODUCTS OPERATIONS, ONE COLLEGE BLVD., PORTSMOUTH, VA. 23705.



and the monitor's own speakers. (A back-panel slide switch chooses between the internal speakers and the external amplifier.) Unfortunately, this portion of the audio circuitry on our test sample failed to work, so Diversified Science Laboratories made all audio measurements from the unit's fixed-level audio outputs. The latter—which General Electric says actually provide the best audio performance—are unaffected by the tone controls.

VIDEO MONITOR SECTION

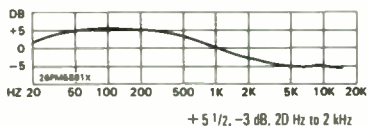
All measurements were made through the composite (direct) video inputs

HORIZONTAL RESOLUTION	> 330 lines
INTERLACE	perfect
OVERSCAN	
horizontal	≈ 11%
vertical	≈ 7 1/2%
CENTERING	
horizontal	left ≈ 2%
vertical	perfect
BLOOMING	see text

TV TUNER SECTION

All measurements were taken at the direct audio and video outputs

AUDIO FREQUENCY RESPONSE (mono)



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

best case (no color or luminance)	45 1/2 dB
worst case (multiburst pattern)	24 dB

RESIDUAL HORIZONTAL-SCAN COMPONENT (15.7 kHz)

	-42 dB
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MAX. AUDIO OUTPUT (100% modulation)

	0.72 volt
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AUDIO OUTPUT IMPEDANCE

	90 ohms
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VIDEO FREQUENCY RESPONSE

at 500 kHz	+ 3/4 dB
at 1.5 MHz	+ 1 1/2 dB
at 2.0 MHz	+ 1 dB
at 3.0 MHz	- 1 3/4 dB
at 3.5 MHz	- 4 1/2 dB
at 4.2 MHz	- 17 3/4 dB

LUMINANCE LEVEL

	12% high
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GRAY-SCALE NONLINEARITY (worst case)

	≈ 5 1/2%
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CHROMA DIFFERENTIAL GAIN

	≈ 30%
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CHROMA DIFFERENTIAL PHASE

	≈ ± 11°
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CHROMA ERROR

	level	phase
red	-2 3/4 dB	+ 3°
magenta	-2 3/4 dB	+ 3°
blue	-2 3/4 dB	+ 3°
cyan	-2 3/4 dB	+ 5°
green	-2 3/4 dB	+ 3°
yellow	-2 3/4 dB	+ 3°
median error	-2 3/4 dB	+ 4°
uncorrectable error	none	± 1°

Many television broadcasts contain a special color-reference signal during the vertical blanking interval. This VIR signal can be used to set proper color automatically, and the 26PM-5881 is equipped to decode and use the information. An indicator on the front panel lights when a VIR signal is present in the broadcast; the system is engaged by pressing the VIR button. The two VIR preference controls, COLOR and TINT, enable you to choose the saturation and shading you'd like to see maintained on the screen. When no VIR signal is broadcast, the system reverts to conventional color settings, which are controlled by a second set of color and hue controls. In addition, brightness and picture knobs give you control over

black level and contrast, respectively.

All these controls lie, as one would expect, behind the control-panel door. Oddly, SHARPNESS does not: It's on the rear panel. But then, GE's sharpness control seems to affect focus and contrast more than video frequency response, as most other sharpness controls do. Suffice it to say that, in both the laboratory tests and normal viewing, we preferred to leave SHARPNESS alone. Advancing it caused noticeable blooming; reducing it decreased contrast and washed out the picture.

In DSL's tests, blooming also proved a problem when the brightness or picture controls were turned up too high, indicating a poorly regulated high-voltage supply. At moderate settings, the monitor's horizontal resolution was excellent and fully up to the capabilities of the NTSC system. Black retention was very good to excellent, as was transient response. When using proper control settings, gray-scale linearity and the related chroma differential gain and phase also were first-rate. The picture was almost perfectly centered along both axes, and the degree of overscan was about average. Geometric linearity, however, left something to be desired. The picture was modestly elongated along the bottom third of the screen, and there was some horizontal pincushion distortion.

Over most of the screen, color rendition was quite good. The blues were exceptionally vivid, though the reds tended slightly toward the orange and the greens toward lime (common occurrences with consumer video equipment). Convergence and raster purity were sore points, at least on our sample. The three electron beams were noticeably misconverged over the upper two-thirds of the screen and over the left fifth. In addition, red and blue raster purity was poor, especially on the left side of the screen. Turning the set off and on several times to activate the automatic degaussing system that is standard on most TV sets failed to cure the problem (which can arise from stray magnetic fields). After a day, the convergence problems dropped appreciably; perhaps, after additional power cycles, the degaussing system had a chance to function. But later in the tests, the problem recurred, though to a lesser extent. We believe that the con-

vergence and raster-purity problems were caused by magnetism in either the cabinet or the internal structure of the set. If so, our sample might not be representative of the one you might buy.

The tuner section's performance checked out very well. Response held up well to 3.58 MHz (the color-burst frequency), which implies a horizontal resolution of approximately 300 lines. Luminance level was only slightly high, and the gray scale was exceptionally linear. Chroma differential gain and phase were a bit greater than average, but the discrepancies occurred only at the highest brightness level, so you'd be unlikely to notice them. Chroma level was 2 3/4 dB low but absolutely uniform for all colors. The VIR circuits will compensate for this quite nicely. Chroma phase, which translates to color accuracy, also was better than average.

The tuner's audio section proved a mixed bag. Signal-to-noise ratio was exceptionally good even when the set was receiving unusual test patterns. Only the multiburst pattern gave it problems—and that would never be transmitted by a station, much less be perceived as entertainment if it were. And total harmonic distortion also was lower than average. Output level and impedance are well suited for connection with other components. Our main quibble with the tuner's audio performance lies with its frequency response, which has a wider deviation from flat than we're accustomed to seeing. From the shape of the curve, we'd say a nonstandard de-emphasis is used. Frequencies below 1 kHz are boosted upwards of 5 dB; those above 1 kHz are cut an equivalent amount. The result may be a pleasant and warm sound, but we'd prefer better accuracy.

Considering the problems we experienced with our sample of GE's 26PM-5881X, we can hardly give it a clean bill of health. Nonetheless, we're aware that certain of these problems, the convergence and raster purity in particular, could be peculiar to our unit. The design has some things going for it: VIR, stereo, and bilingual capability, and the option of permanently connecting a pay-TV decoder and switching it in and out. And the price is lower than average for a true monitor/receiver with such a wide range of convenience features. ●

MEDLEY

Edited by Georgia Christgau
and Ted Libbey



Recording American Exports

Live recording, especially of the symphonic repertory, is being done more frequently these days, as it becomes increasingly costly for classical labels to arrange studio sessions with full orchestras. A recent example here in New York found Deutsche Grammophon in town to record Giuseppe Sinopoli and the New York Philharmonic in concert performances of several Wagner preludes and overtures. So that DG could get a full disc's worth of selections, the orchestra's program changed several times in the course of a normal subscription week.

Leonard Bernstein, also a DG artist, has for the past few years done live recording only, and with generally very acceptable results. Other labels, too, have explored the possibilities of live recording. Not long ago, Philips captured Alfred Brendel's Beethoven piano concerto cycle with James Levine and the Chicago Symphony. Over the past few seasons, CBS has recorded the New York Philharmonic in performances of the first act of Wagner's *Die Walküre* and, in collaboration with Sefel, has issued a *Turandot* from the Vienna State Opera.

Unfortunately, many of the best performances by America's top orchestras go unrecorded, or are preserved only on tapes intended for radio broadcast—not a bad medium of dissemination, but ultimately an evanescent one.

In Europe this summer, I heard two American orchestras give concerts that I wish could have been recorded. At the Montreux Festival, Lorin Maazel led the Pittsburgh Symphony in a superlative account of Stravinsky's *Symphony in Three Movements*—a work, my European colleagues agreed, that cries out for the powerful playing a group like the Pittsburgh can give it. A week later, in Yugoslavia, I heard the National Symphony perform Prokofiev's Fifth Symphony under Mstislav Rostropovich. Again, a definitive treatment.

Orchestras tend to be at their best on tour: They have polished the repertory they are playing, and because each concert is an "event," they tend to put out their utmost effort. For American symphonies, the European tour is the artistic zenith (it can also be a physical and emotional hack-breaker). So why not make records of the tour repertory, during the tour?

As things now stand, the bulk of the classical recording activity takes place in Europe to begin with; major companies are there, and the logistics of setting up a session are less complicated than when equipment and personnel must be flown across the Atlantic for Stateside tapings. And who would be willing to say that releases by American orchestras made in Europe's top halls wouldn't have a marketable sonic appeal?

Well, in any event, a word to the wise. . . . *Ted Libbey*

Sun City S.O.S.

You might say that "We Are the World" begat "Sun City," the antiapartheid single produced by Steve Van Zandt and Arthur Baker to which over 40 artists contributed. A few megastars like Bruce Springsteen and Bob Dylan took part in both projects, but most performers on "Sun City" are mavericks accustomed to speaking their minds. They also have everything to gain commercially from the access to the public this undertaking (which includes an album of the same name and two videos, one a half-hour MTV special) will provide. "Sun City" won't be as big a media event, though: Being against slavery in 1985 may not seem radical to us, but it's not the kind of universal cause that results in a made-in-pop-star-heaven chorus and a worldwide broadcast.

A boycott, such as the one this song suggests, pressures the South African government to give blacks—80 percent of the nation's population—full citizenship. Now they live in restricted townships, cannot vote, and must carry official identification at all times. The lavish resort Sun City is South Africa's highest-paying gig; these artists, who include everyone from the Fat Boys to Bonnie Raitt, refuse to play there.

As a piece of music, the track depends a little too much on its reliable, driving funk groove for my taste; it's not a great moment in pop songwriting like "We Are the

World" is. As a video, though, "Sun City" really takes hold. No one in this impressively diverse collaboration seems out of place (with the exception, perhaps, of Pat Benatar, whose in-studio voice-over shot lacks the vitality of so many other performances). When Joey Ramone pops his head out of the door of an abandoned building to shout, "Constructive engagement is Ronald Reagan's plan," he's believable. In fact, the clip was probably filmed in his East Village neighborhood.

The same authenticity electrifies Nona Hendryx's sneer, Ruben Blades's famous Italian expletive gesture, and the sexy lilt of Bonnie Raitt's r&b. Rap blends naturally with African rhythms, which are beautifully incorporated in a powerful finale: news footage of a South African mass protest against the 20-year imprisonment of nationalist leader Nelson Mandela. (The occasion of "Sun City" has caused Chrysalis to reissue as a 12-inch the Special AKA's great single, "Free Nelson Mandela," reviewed in "The 12-inch Single: Ain't No Stoppin' It Now," October 1984.) Identify with the anger of your favorite artist (from Afrika Bambaataa to Hall and Oates, this video's got 'em all), but understand what he or she is saying, too: If artists this diverse can unite behind a cause, so can their fans.

Georgia Christgau



WATCHING THE BOARD AT THE MUSIKVEREINSAAL

A closeup look at the winner of the 1985 Grammy for Best Classical Producer

Steven Epstein at Work

PHOTOS BY CHRISTOPHER GREENLEAF

BY CHRISTOPHER GREENLEAF

Late last summer, high above Sixth Avenue's snarl of contentious drivers and hurried pedestrians, CBS Masterworks executive producer Steven Epstein leaned forward on a stack of editing notes and began to sketch for me what his life's work is about. Months earlier, at his invitation, I had joined him at the Musikvereinsaal in Vienna for recording sessions of Mahler's Third Symphony and the *Kindertotenlieder* (with Agnes Baltsa, Lorin Maazel, and the Vienna Philharmonic Orchestra). In between the invitation itself and those Vienna dates, the National Academy of Recording Arts and Sciences had awarded Epstein a Grammy as Best Classical Producer of 1985.

His position at CBS had changed subtly since the award, but not his priorities. During my interviews with him, he conveyed a concept of the classical producer's job that is fresh, honest, and flexible to a degree rare in the business. Many of his statements made me realize just how aware he is of

Christopher Greenleaf is a New York-based engineer and producer who writes frequently about records and recording.

STEVEN EPSTEIN

the work of his predecessors and contemporaries. And overall, his comments on the career he chose while still in grade school made a striking impression.

At one point, in response to my asking him his views on live recording vs. studio sessions, Epstein said, "As a listener . . . I prefer a fairly abstract context, and a concert recording cannot have that. Listening to one, you have to live again and again with the same coughs, clams, gestures, and other details that are acceptable one time and not intended to be repeated. . . . And you simply don't achieve the same sonics as in the studio. The audience's absorption of the reverberation, even in a very good hall, renders the sound flat, two-dimensional. Anyway, a concert does not absolutely guarantee great rapport and excitement. The allure of abstraction—freedom from distraction and perfection of sound—is strong."

In the Musikverein control room, the abstraction was total. At a time when Maazel and the Vienna Philharmonic were embroiled in the controversy over the conductor's departure from the State Opera, I was amazed to find so tranquil a mood, barring the usual small crises. The CBS recording team included 41-year veteran engineer Bud Graham, British engineer Tony Faulkner (an award-winning producer on his own shores), and Peter Jones, who is director of Feldon Audio Hire, one of England's big location-recording outfits.

Later, Epstein and I got down to talking about the role of the producer. "In any recording," he noted, "I'm the spokesperson between the artists and the label. In the old days, a producer had much more of the total project in his hands: art, copy, packaging, even marketing. With the major labels today, the sheer size of the organization makes one's work easier, as those tasks are shared with other departments. I don't have to see every little feature of an album, even though I do follow it through many production stages. Instead, I can concentrate on my real job.

"When it comes to initiating projects, I can and do suggest artists and repertoire to Joseph Dash [senior vice-president and general manager of CBS Masterworks] and Christine Reed [vice-president, a&r]. After marketing decisions are made, the project can come back to me, and I may be assigned as producer. From that point on, the responsibility and direction are essentially mine. And the work, too."

Epstein values the freedom to attend to the many intricately intertangled threads of his job. Indeed, this mobility is the key to his happiness at CBS—aside from the opportunity of working with the artists he respects. "My hours are often pretty grueling, though," he confided. "The sheer weight of detail is killing. Every time I look at a project, I realize how much of my time is spent at this damned desk keeping the calendar straight, anticipating disaster, booking odd instruments, or meeting totally unexpected technical emergencies with next-day action."

As if on cue, the telephone informs him that one of the 24-track recorders has gone down and needs attention—right in the middle of some important editing transfers. "Sony said *what?* That's just not acceptable. That 3324 has to be back up by tomorrow a.m." High-pitched noises from the receiver. "All right, I'll call them." Ten minutes later, he is able to reassure the studio: The appropriate repairman and materials are on the way, and life can begin again.

Epstein joined CBS in 1973, straight out of Hofstra University. For a time, he served as a music editor—following producers' notes to edit tapes for new release or to prepare older recordings for rerelease. He then began working with Tom Frost, one of the established American boardmen, and produced his first al-

bum at the age of twenty-three.

"I think it was the chance to get closer to artists and to look in on their creative processes that first lured me to Masterworks," he commented. "I had trained as a violinist and got just good enough to know how incredibly hard the great artists work to get that way. As a teenager in the Sixties, I spent time learning the Tchaikovsky Concerto through Isaac Stern's recording. I never dreamt I'd work with the man, much less record the concerto with him and Seiji Ozawa and the Boston Symphony. And . . . this is funny for an old man of thirty-four . . . I never considered that I'd be working with artists younger than I was!"

But Epstein is insistent about the demarcation between his responsibilities and those of the musicians. "There are people in my position who believe in playing more than a guiding role in the recording—tempo, dynamics, and so on. I'm almost 180 degrees from that. I'm making a record of the artist, not the producer. On as important a label as CBS, my job is to capture the artist doing what his career has led him to believe he can do best. If he or she doesn't have a clear understanding of what's supposed to happen in the studio, I may try to foil doubts or point out what's grossly wrong, but it's definitely not my job to volunteer interpretation. Someone who needs that shouldn't be recording."

On the technical side, a special joy has

MIKING FOR MAHLER

At the sessions I attended and at CBS's other Mahler recording projects in Vienna's Musikvereinsaal, guy wires suspended a "tree" frame holding three omnidirectional microphones a fixed number of feet from a common center over the podium. An additional, widely spaced pair of omnis was almost 30 feet out into the room, about 15 feet up, for ambience. Spot mikes (in some cases both an omni and a cardioid, each with its own track on the recorder) were on the left and right string sections at the stage front and on the horns, timpani, and contrabasses. Closer mikes were used only in cases where loud instruments were adjacent to the accented section.

All feeds went through the board and onto the 24-track Sony 3324 digital recorder, but the mix listened to in the control room was essentially the left-center-right feed from the tree, with a bit from the ambience omnis and a slight assist from the spot on the basses. (Except for local editing requirements within the score, the presence of the other mikes has little to do with the final mix.) In addition to the main recorder, Sony digital processors fed U-matic recorders, which, being two-track machines, preserved the monitoring mix.

The principal microphones were by B&K and Schoeps, though a few Neumann KM-84s were used. The monitor loudspeakers were a pair of B+W 801s.

C.G.

STEVEN EPSTEIN

been working with Bud Graham. "Buddy is my favorite engineer. The guy is almost telepathic. This eliminates all the unnecessary chat back and forth. . . . Some engineers will freeze onto theories of the 'right' way to handle a situation, instead of doing something that takes care of reality. Buddy's not that way at all. We immediately take action if something is not working."

He paused, smiled, and turned to Graham. "You know, classical producing was much as I'd envisioned it, but I can't remember not longing to change the way things were done in the past." To that, Graham added, "You have to think of improving, or you backslide. A lot has been done that would have benefited from fresher thinking."

"Here's one example," Epstein interjected. "The old idea, if the bass section was not loud enough, was to increase the gain on a microphone you added to that part of the orchestra. Today, we realize that the natural loudness cues are not there and that it doesn't sound right to do it that way. Instead, even if we do use accent mikes for security, we have the basses play harder. If we still can't get the natural balance right, the fault is with our mike technique, and we have to change it. That's all at the start, when we're setting mikes and looking at overall balance. The sound has to be as right as it can be *at the session*; I don't believe in fix-it-in-the-mix. You can refine things in postproduction, but the basics have to be there from the beginning."

Epstein believes that anticipation of the commercial release's sonics entails rethinking ideas learned in concert listening. "The results are almost invariably better when you physically set up the orchestra for the main balance. To make a natural-sounding recording, you may have to slightly reseat the brass and percussion in ways that work better for stereo clarity. And of course, there are little tricks you learn, to help in the record-cutting and to enable home stereos to be more effective—such as putting the bass drum in the center, where it will be shared by both channels. You should hear the impact with that setup! When we did the Mahler Seventh with Maazel, I decided to augment the Philharmonic's normal two cowbell groups with a third. I set them up left, center, right. In that big Mahler score, it's enormously effective. In the Adagio from the Tenth, Maazel and I put the first vio-



"TREE" FRAME SUSPENDED ABOVE MAAZEL HOLDS OMNIDIRECTIONAL MIKES, USED AS MAIN PICKUPS.

lins left, violas left-rear, cellos right-rear, and second violins right. Not only was the miking simpler as a result, but the conductor heard what we heard in the control room."

For several minutes, we discuss the specifics of his microphone arrangement [see the accompanying article, "Miking for Mahler."] "Everyone discovers that doing a successful piano-and-violin recording, for example, is usually harder than doing an orchestral recording. To me, both mean using the technical means at my disposal and paying attention to three factors that determine my mike setup: direct sound, indirect sound—ambience, if you will—and the dynamic range involved. At the start, I go for the first two. That's a matter of personal taste. . . . It's obvious to any musical person that there's a point beyond which you cannot approach instruments, because they're intended to be heard from a certain distance. If you are too far back, however, you lose detail and presence. You ultimately find that the room, details of the score, tempos, and instrumentation dictate that outer limit. Within those bounds . . . natural bounds . . . I choose the

specific perspective that I think works best."

Though a new quality-consciousness was heralded with the arrival of Joseph Dash at Masterworks, a heightened corporate awareness of microphone technique came "when Jack Renner and Telarc had such a huge critical and financial success," Epstein remarked. "Their records' sonic excellence and musical integrity really caught everyone's eye here." But he stressed that he has always been encouraged to experiment with sound and has been allowed to do so in sessions. In fact, his current miking techniques are the result of starting with "what one does" and departing from there quickly.

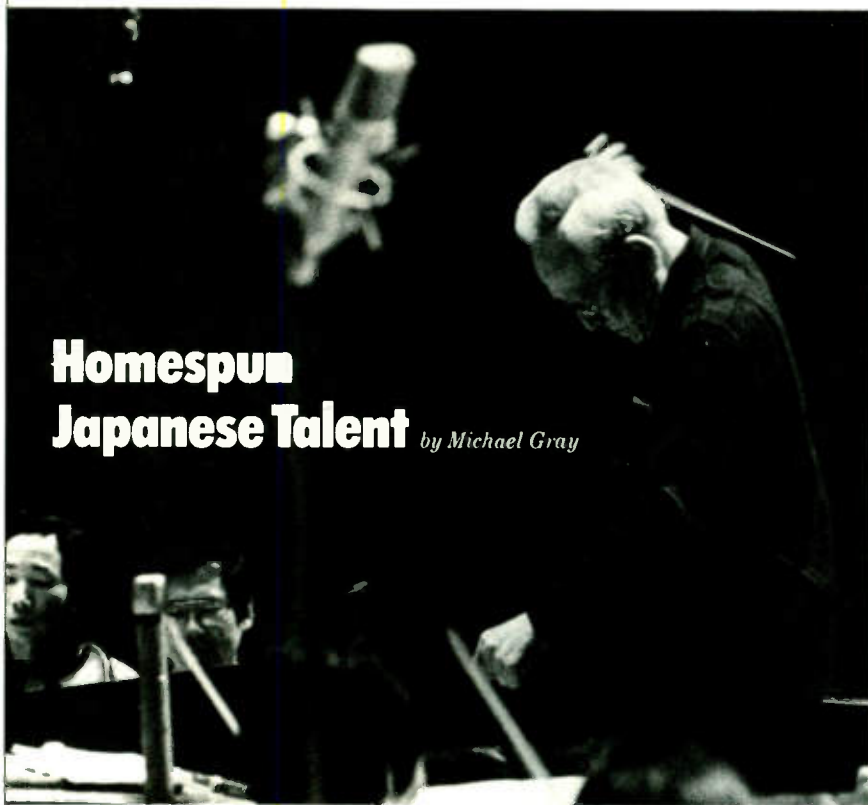
"Four years ago," he recalled, "I never would have *believed* we'd be using omnidirectional microphones as main pickups. On the one hand, I'm using less and less mikes, and on the other, I will not go blindly into any hall and say I'll use three because God intended it that way. I have to tailor my setup to the ensemble and the acoustics, but simplicity—Jack Renner's lesson—is always in mind." Epstein's philosophy is to use as few inputs as possible in the finished mix and go for a good overall blend from a simple pickup. "Even—or especially—in good acoustics, you may very well need spot mikes. Whether or not you use them in the final mix, you'd be stupid not to record them on separate tracks for safety's sake. You never know what tiny but important correction might rely on a discrete input from an accent mike."

Epstein described his first encounter with digital editing: spending an entire weekend on four edits. "It was a nightmare. I was very unimpressed with the quantization noise; it was a low-level fuzz modulated by some of the quieter program material and, once heard, could not be ignored."

Since then, the feedback from CBS engineers and editors has been a prime factor in the development of the new digital multitrack machines and their associated editing hardware. Though one should not underestimate the limitations they still have and the learning curve associated with their efficient use, Epstein numbers them among the greatest advances in audio technology. But he sees them in perspective: "The basic musical values of spaciousness, naturalness, and balance have always applied to good recordings. My developing preferences won't alter that, no matter what the technology." ●

Homespun Japanese Talent

by Michael Gray



TAKASHI ASAHINA IN A RECORDING SESSION

M. FUKUDA

Japan's own artists might seem at first glance to be hopelessly outclassed by the foreign superstars who dominate its classical record market. Many Japanese companies have nonetheless found ways to acknowledge a remarkable amount of local talent, usually via solo LPs, but often in combination with an orchestra or conductor from outside the home islands.

For some labels, this recognition has proven surprisingly successful. CBS-Sony, for instance, had records by two Japanese performers—pianist Hiroko Nakamura and violinist Teiko Maebashi—slotted in the first, second, and fourth positions on its 1984 best-seller list. Nakamura has been on the CBS roster for more than ten years, having recorded solo music of Chopin, Mozart, Schubert, and Beethoven (her latest disc of Beethoven sonatas was No. 4 on the CBS list) and such concertos as the Tchaikovsky B flat minor (with the Moscow Philharmonic Orchestra on 25AC 409), the Chopin E minor (with the London Symphony Orchestra under Anatole Fistoulari on 28AC 2000, CBS's top 1984 disc), and the Chopin F minor (again with the LSO and Fistoulari, on Compact Disc only, 32AC 411). Maebashi, on the other hand, is a relatively recent acquisition, but one impor-

tant enough to rate a full-color, back-cover layout in the March *Record Geijutsu* and new traversals of the Mendelssohn and Tchaikovsky concertos (with another CBS newcomer, Christoph Eschenbach, leading the Zurich Tonhalle Orchestra on 28AC 2025, issued simultaneously with Eschenbach's recording of Brahms First with the same ensemble, 28AC 2024).

On occasion, a Japanese orchestra takes the spotlight under a foreign conductor, often someone whose recording career elsewhere is in limbo. One such maestro is Horst Stein, who has now released two LPs directing the NHK (Japan Broadcasting Corp.) Symphony Orchestra. One features the music of Wagner (Toshiba-EMI EAC 90147); the other, recorded in February 1984 and issued early this year, offers a collection of German Romantic overtures (EWC 90256). Another—and much more familiar—name is that of Frederick Fennell, whose new disc with Tokyo's Kosei Wind Orchestra is called, not surprisingly, *American March Forever* (King K28W 405).

Last, but not least, are the foreign virtuosos—such as Jean-Pierre Rampal, James Galway, and Ransom Wilson—who appear in Japanese recording studios to

pay tribute to local fans and whose records sell all over the world. One figure in this "guest artist" category with especially close ties to the Japanese scene is double-bassist Gary Karr, known in the United States for his performance of the Koussevitzky Concerto (CRI S 248). His discography in Japan ranges from the music of Bach to Schubert's *Arpeggione* Sonata (Seven Seas K28C 20), and his latest foray into this high-position territory is a recording of the Dvořák Cello Concerto in his own arrangement, accompanied by the Osaka Philharmonic Orchestra under Takashi Asahina (Firebird, distributed through King on K28C 330).

Karr's performance is not the only striking thing about this release; in the Romantic repertory, seventy-seven-year-old Asahina enjoys a reputation among Japan's record collectors and concertgoers exceeding that of any other living Japanese conductor. Asahina, who trained in literature and law at Tokyo Imperial University in the early 1930s and then studied conducting with Leonid Kreutzer, has led the Osaka Philharmonic for more than a quarter-century. Since the early '70s, he has amassed a large discography of concert recordings on JVC, including the symphonies of Brahms and Beethoven, plus music by Schumann, Tchaikovsky, Rimsky-Korsakov, Richard Strauss, Mahler, and Wagner.

It is Asahina's Bruckner, however, that has aroused the greatest admiration and provoked comparisons with such conductors as Carl Schuricht, Bruno Walter, Hans Knappertsbusch, and Wilhelm Furtwängler (whose Second Symphony Asahina has also recorded, on JVC VDC 5007/8). His currently available work includes Bruckner's Symphony No. 0, known as "Die Nulle" (SJX 9523); the Second Symphony (SJX 9571); and the Seventh (two recordings, one of a 1975 live performance on KVV 5501/2, the other a 1983 recording on Compact Disc only, VDC 511). To these he has now added performances of the Third Symphony (VIC 4160/1) and the Mass in F minor (SIX 9578).

Domestic orders for Asahina records often soak up the discs as soon as they are issued. But if the evidence of his Wagner (Firebird K20C 390) is any indication, this music may well be worth seeking out. ●

Michael Gray is the music librarian of Voice of America and observes the Japanese record scene from Washington.



PLACIDO DOMINGO AS DON CARLOS

Definitive “Don Carlos” from La Scala

VERDI:

Don Carlos.

Ⓞ Raimondi, Domingo, Nucci, Ghiaurov, Ricciarelli, Terrani; Chorus and Orchestra of the Teatro alla Scala, Milan, Abbado. Deutsche Grammophon 415 316-1 (D, 5). Ⓜ (3). Ⓢ (4).

STAN FELLERMAN/COURTESY DEUTSCHE GRAMMOPHON

Don Carlos, not *Don Carlo*: This is the very first recording of the original French version of Verdi's largest and most ambitious work. He wrote it for the Paris Opéra, that “grande boutique” with which he had a life-long love-hate relationship, and the extensive revisions also were composed to French words. There is no “original” Italian *Don Carlo*, only several adaptations of Verdi's music to an Italian translation—which at many places brings none-too-happy results as to prosody and rhythm.

However, the Italian quickly superseded the original in every country. The Paris premiere of 1867 met with only moderate success and was dropped after 43 performances; this was a meager record compared with that of Meyerbeer's monsters, whose favor among the French public Verdi had hoped to surpass. When the opera was revived at “la grande boutique” fairly recently, it was performed in Italian, with an international cast.

And the fact that this first recording of the original French should come from Milan, rather than Paris, is an eloquent testimony to the generation-long decay of France's first opera house.

Don Carlos, then, not *Don Carlo*. But which version? For no other opera did Verdi write such a vast amount of music: about four hours' worth, which is as much as *Il Trovatore* and *La Traviata* put together. The work proved too long right from the first rehearsals in 1867. The management of the Opéra discovered that the performances would end too late in the evening to allow members of the audience who lived in the suburbs to catch the last trains back; Verdi was forced to make some cuts even before the opening. Apart from a slight revision in 1872 of the Philippe/Rodrigue duet from Act II (nullified by the far more drastic later reworking), Verdi did not touch the score again until 1882, when at last, after some tense mo-

ments with his French librettist, Camille du Locle, he received new textual material. In 1882–83, when the last version of *Simon Boccanegra* had just been completed, the composer gave *Don Carlos* its new shape. He left out Act I (set in Fontainebleau) and transferred Carlos's solo aria to Act II, replaced the opening chorus and ballet in Act III with a short orchestral prelude, and re-composed important parts of the remaining three acts. In 1886, Act I was reinstated, and the work reached its final incarnation, at least in Verdi's belief.

Whether in four or five acts, the opera has always been performed (and recorded) in this final version. Verdi's original score, including the music discarded before the 1867 premiere, came to light some 15 years ago. Thanks to the joint efforts of Andrew Porter, Charles Rosen, and Ursula Günther, a new full score was issued by Ricordi in 1974, followed by a vocal score in 1980. This edition

includes all the music written by Verdi, and it is the basis of the present recording.

What this set has to offer comes as close to a critical edition as is possible: Eight recording sides are devoted to a complete account of the 1886 five-act version, amounting to three hours and eight minutes in performance. But there is an additional LP containing 46 minutes of music never before recorded. First, we have the original opening to Act I, which I feel should be included henceforth in any five-act production. At the cost of eight additional minutes, it restores Verdi's earliest conception: It provides a fine, tense, and dramatic orchestral prelude based on the "stab of grief" motif that permeates much of the opera, and, by showing the war-stricken French people's misery, it gives much more weight and verisimilitude to Elisabeth's sacrifice later in the same act.

To me, this is all gain. The next two sections reinstate the original opening of Act III, with a chorus followed by an extended ballet lasting approximately 15 minutes. The latter contains brilliantly scored and attractive music, but distracts us from the main action. The brief chorus, on the other hand (in the midst of which Eboli changes clothes with the Queen), helps to explain Carlos's confusion a little later. I don't think it should be salvaged, but it does show how any cutting can harm the dramatic logic of a libretto. The succeeding restored bit is a fragment from the Elisabeth/Eboli duet in Act IV, cut before the premiere: Eboli's admission to having been seduced by the King was not palatable to French imperial censorship. In 1882-83, Verdi rewrote the whole duet, but it would still be possible to reinstate those four lovely minutes of music. Next comes the original finale to Act IV, with Philippe's striking lament on Rodrigue's death ("*Qui me rendra ce mort?*"); this passage is noteworthy for its noble, sepulchral solo trumpet and for its magnificent tune, which, in slightly altered form, was to become the Requiem Mass's *Lacrymosa*.

The last revision of this scene, with its stirring insurrection, is much more concise and scenically more effective. The same verdict applies to the final shape of the opera's ending. Here, too, we are given the first 1867 version as an appendix: Its pianissimo conclusion is to my mind more expressive and atmospheric, and it presents a far more faithful picture of Carlos mysteriously withdrawing inside the cloister. However, the much shorter and more dramatic revision does leave us breathless. With the present set of records we have for the first time the

privilege to judge, and, thanks to adequate banding, to choose. . . .

The decision to make this a complete recording, including all variants (a format that should from now on be followed in all similar cases), and the selection of the original French text serve to set this production apart from all others. Not that *Don Carlo* albums have been plentiful these last 20 years: Sir Georg Solti's five-act account was recorded in 1965, Carlo Maria Giulini's came only five years later, and Herbert von Karajan's four-act Berlin set is already seven years old.

Solti's interpretation, which still sounds astonishingly fresh and even spectacular, remains a grandiose and impressive realization by any standard: Carlo Bergonzi's Carlo has not been surpassed, and Grace Bumbry, in her prime, sang *the* most ardent and sensuous Eboli. Nor do I know of any match for the formidable confrontation between Nicolai Ghiaurov and Martti Talvela. Giulini's conducting is refined and beautifully poised (he takes a full 15 minutes longer than Solti does, partly because he restores some cuts), but his cast is not nearly as homogeneous and strong as Solti's, nor is the recorded sound as impressive. As for Karajan's 1978 version (despite thrilling sound, the revelation of Agnes Baltsa's Eboli, and the presence of such luminaries as José Carreras, Mirella Freni, Piero Cappuccilli, and Ghiaurov, whom I find less impressive than in the Solti set), I miss both the Fontainebleau act and real emotional commitment from the conductor.

Of course, Claudio Abbado has a rather cool, Apollonian nature, but he is always at his best as an operatic conductor—and never more so than in Verdi. Here he leads a performance of tremendous drive and energy, full of expertly contrasted nuances (with some really breathtaking pianissimos), and he shows that the Scala orchestra can compete with any of the world's greatest.

Plácido Domingo and Ruggero Raimondi met 15 years ago under Giulini to sing their same parts, but in Italian, which does make a big difference. In fact, there is not a single French singer in the present cast, and most of the performers have some problems with French pronunciation (above all with nasals), a fact that accounts for some slight handicaps in vocal emission and a general lack of intelligibility without the help of the libretto. This is much worse still with the chorus, which has been recorded in a very distant perspective—to the point of sounding somewhat tubby at times—and with

some notable alteration of pitch in fortissimo chords.

Raimondi is not the most impressive Philippe, but he is a very moving, vulnerable, and even human one in "*Elle ne m'aime pas!*" ("*Ella giammai m'amò,*" for readers unfamiliar with du Locle's original French). Domingo gives a more mature and deeper performance here than he did with Giulini, and, after a rather subdued start, reaches magnificent climaxes of passion. So does Katia Ricciarelli as Elisabeth, after a shockingly wobbly start offstage (it should have been rerecorded). Her performance reaches sublime heights in the last act ("*Toi, qui sus le néant,*" or "*Tu che le vanità*"), where her pianissimos are exquisite. Ghiaurov, now a veteran, sings the Grand Inquisitor with more subdued than shattering power, and appears all the more formidable for it.

The younger generation of Italian singers is brilliantly represented by Lucia Valentini Terrani's Eboli (she has rich, fruity chest tones and a fiery temper) and even more by Leo Nucci, a Rodrigue as ringing and valiant as I have ever heard. The great duets that are the high points of the score (Andrew Porter, in his excellent liner notes, shows in a very effective "diagram of passions" joining the five main characters why this should be so) also happen to be among the most striking moments of this recording.

All in all, without wanting to discard my old Solti set, this is a performance to treasure and to be warmly recommended—and not only because it allows us to enjoy a full two sides of "unknown" Verdi!

Harry Halbreich

SIBELIUS:

Concerto for Violin and Orchestra, in D minor, Op. 47.

SCHUMANN:

Concerto for Violin and Orchestra, in D minor.

● *Kremer, Philharmonia Orchestra, Muti. John Mordler, prod. Angel EMI CDC 47110 (D). O DS 37957. □ 4DS 37957.*

Aside from the fact that they share the same key, these two works have little in common. The Sibelius concerto (1903) was written by a master violinist; though it bristles with technical difficulties, it was conceived by a man who knew how to compose idiomatically for the instrument. Schumann wrote his concerto (1853) for the great Joseph Joachim—but Joachim, citing the work's "dreadful passages," refused to perform it. Clara Schumann and Johannes Brahms concurred with Joachim's judgment, so the concerto remained unpublished and unper-

formed until 1938. (Unfortunately, one must admit that Joachim's verdict was not far from the truth: The virtuosic material is awkward and pedantic, the thematic content—with the notable exception of the gorgeous slow movement—is uninspired, and the formal seams are all too evident.)

Gidon Kremer's artistry in these performances is peerless. He is not afraid to plunge into the music, even if it means occasionally sacrificing tonal sheen for emotional impact. His impassioned approach calls forth sharply chiseled, sometimes brutal articulations, and he aims more for virility than for elegance. Yet he possesses an absolutely sumptuous tone and, when he wishes to, can produce passages of pristine delicacy and luscious lyricism.

Kremer's crisp bow strokes serve him well at the opening of Sibelius's finale; rarely have I heard such a clean, convincing presentation of the movement's principal thematic material. His soulful playing, full of rich portamentos and rubatos, molds the slow movements into warmly Romantic effusions. And he has an impeccable technique, so that even the clumsy figuration of the Schumann concerto sounds idiomatic in his hands.

Angel's generous (61:06) pairing of these two works has been available for several years on LP and cassette. On Compact Disc, the recording is still colored by a slightly murky sound in full orchestral sections, noticeable primarily in the strings. Yet Kremer's fiery playing and Riccardo Muti's sensitive, flexible accompaniment combine to make these the performances of choice in this format. Only the CD of Itzhak Perl-

man's rendition of the Sibelius with the Pittsburgh Symphony (Angel EM1 CDC 47167) can offer serious competition.

K. Robert Schwarz

CHARPENTIER, M.A.:

"Motets à voix seule et à deux voix."

Ⓞ Nelson, Jacobs; *Concerto Vocale, Christie, Michel Bernard, prod. Harmonia Mundi France HMC 1149 (D)*. Ⓜ Ⓣ

Antiphons: *Alma Redemptoris mater, H. 21; Ave regina, H. 22; Salve regina des Jésuites, H. 27. Tenebrae Responsories: Amicus meus, H. 127; O vos omnes, H. 134. Elevation Motets: Elevation, H. 245 ("O pretiosum"); Elevation, H. 273 ("O vere, o bone"); Motet du saint sacrement, H. 280 ("Egredimini filiae Sion"). Occasional Motets: *Magdalena lugens voce sola cum symphonia, H. 343 ("Sola vivebat in antris"); Pour la passion de notre Seigneur, H. 349-50; Motet for Mary Magdalen, H. 373 ("Sola vivebat in antris"). Dramatic Motet: Dialogus inter Magdalenam et Jesum, H. 423 ("Hei mihi infelix Magdalena").**

"In reality, nothing is vaguer than the precise denotation of the term 'motet' in the last decades of the 17th century." So say the liner notes accompanying this release. That is an understatement, and it is difficult to find a common musical thread running through these dozen works of Marc-Antoine Charpentier. Such settings of texts from the Bible or of verses written by contemporary poets were designed to fill the chinks in the liturgy for an audience (no other word is appropriate) that demanded constant titillation of the senses—one that, by most accounts, found the traditional religious services stuffy and tiresome.

The scenes portrayed here are the most operatic that could be sneaked into church: dialogues between Mary Magdalen and Jesus, fervid praises of the Sacrament, some of

the more emotional passages from the Holy Week liturgy, and traditional Marian antiphons. The music is as breathlessly emotional as anything turned out by the Victorians, and it is a pity that the soloists of Concerto Vocale treat it so coolly. The continuo group (organist William Christie and cellists Jaaper Linden and Konrad Junghänel) is sublime, and violinists Trix Landolf and Kathrin Bopp make much of their supporting roles. But the singers sound like a pair of Calvinists on a tour of a Jesuit church, determined not to be taken in by the succulent splendor of it all. For aficionados of the French Baroque, this disc is indispensable, since the repertory is so seldom heard at all. Others may be put off by the prissiness of the interpretations, or may simply be bored.

Michael Fleming

BRITTEN:

Choral Music.

Ⓞ Chance, Coxwell, Hayes, Salmon, Seers, Unwin; *Westminster Cathedral Choristers, Corydon Singers, Best, Mark Brown, prod. Hyperion KA 66126 (A)*. Ⓞ (Distributed by Harmonia Mundi, U.S.A.)

Rejoice in the Lamb, Op. 30; A Wedding Anthem ("Amo Ergo Sum"), Op. 46; Festival Te Deum, Op. 32; A Boy Was Born, Op. 3.

On their latest recording for Hyperion, the Corydon Singers, augmented by a brace of trebles from Westminster Cathedral and accompanied by organist Thomas Trotter, offer a beautifully sung all-Britten program recorded in the vast resonant space of London's St. Alban's Cathedral, scene of a number of Peter Hurford's Bach organ recordings.

The highlight of this excellent album is a

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

The most noteworthy releases reviewed recently

BACH:

Brandenburg Concertos.
Academy of Ancient Music, Hogwood. Ⓜ Ⓣ *Oiseau-Lyre 414 187-4, Nov.*

BLOCH:

Piano Quintet No. 2.

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

CHAUSSON:

Concert for Violin, Piano, and String Quartet, in D, Op. 21.
R. Pasquier, Pennetier; Daugareil Quartet. Ⓞ *Harmonia Mundi France 1135, Nov.*

DONIZETTI:

L'Elisir d'amore.
Popp, Dvorsky, Nesterenko, Weikl, Hobarth; Bavarian Radio Chorus, Munich Radio Orchestra, Wallberg. Ⓞ *RCA ARC 3-5411, Dec.*

ELGAR:

Cello Concerto in E minor.

WALTON:

Cello Concerto.
Ma; London Symphony Orchestra, Previn. Ⓜ *CBS Masterworks IMT 39541, Dec.*

GIORDANO:

Andrea Chénier.
Pavarotti, Caballé, others; Chorus of the Welsh National Opera, National Philharmonic Orchestra, Chailly. Ⓞ *London 410 117-2, Aug.*

HANDEL:

Aminta e Fillide.
Fisher, Kwella; London Handel Orchestra, Darlow. Ⓞ *Hyperion A 66118, Nov.*

IVES:

Symphony No. 3; Orchestral Set No. 2.
Concertgebouw Orchestra, Thomas. Ⓞ *CBS IM 37823, Aug.*

LA BARBARA:

Vocal/Instrumental Works.

SUBOTNICK:

The Last Dream of the Beast.
La Barbara; chamber ensemble; various instrumentalists, Mosko. Ⓞ *Nonesuch 78029, Nov.*

MONTEVERDI:

Vespro della Beata Vergine.
Kirkby, Rogers; Taverner Consort, Players, and Choir, Parrott. Ⓜ *Angel EMI 4D2S 3963, Dec.*

SIBELIUS:

String Quartets: in A minor; in B flat, Op. 4.
Sibelius Academy Quartet. Ⓞ *Finlandia FAD 345, Dec.*

ZEMLINKSY:

Der Zwerg.
Nielsen, Haldas, Weller, Riegel; RIAS Chamber Choir, Berlin Radio Symphony Orchestra, Albrecht. Ⓞ *Schwann VMS 1626, Aug.*

ZEMLINKSY:

Eine florentinische Tragödie.
Riegel, Sarabia, Soffel; Berlin Radio Symphony Orchestra, Albrecht. Ⓞ *Schwann VMS 1625, Aug.*

lovely version of *Rejoice in the Lamb*, Britten's 1943 "festival cantata" on a text by Christopher Smart, the mentally disturbed 18th-century poet who pops up from time to time (as "Kit Smart") in Boswell's *Life of Samuel Johnson*. This distinctly Purcellian setting of excerpts from Smart's long religious poem "*Jubilate Agno*" is a work of the utmost purity and sweetness, full of imaginative musical responses to Smart's quirky, mystical imagery. And conductor Matthew Best leads his superb group in a performance whose only flaw is the rather stately tempo (no doubt a response to St. Alban's acoustic) of "Let Nimrod, the mighty hunter."

Best and the Corydon Singers are also in good form for *A Boy Was Born*, a lengthy set of "choral variations" for a large, unaccompanied body of men's, women's, and boys' voices, which was composed when Britten was only nineteen. Like so much of his early music, it is shamelessly virtuosic. The elaborate motivic transformations of the opening four-part chorale are ingenious; the work as a whole could easily serve as a textbook on the flexible handling of large choral forces. But Britten's technique outstrips his sense of proportion here: While consistently attractive from moment to moment, the piece ends up being a bit too long for its own good. (Best's occasional tendency to linger over particularly savory passages doesn't help matters any.)

As a bonus, we get immaculate performances of two of Britten's very best pieces of occasional music: *Amo Ergo Sum*, a warmly lyrical anthem written for the wedding of the Earl of Harewood and Marion Stein, and *Festival Te Deum*, a rhythmically subtle setting of the Anglican *Te Deum* text composed while Britten was in the middle of work on *Peter Grimes*. Mark Brown's recording is spacious and convincingly realistic. The cassette transfer is generally good, despite a hint of peaking; complete texts and a useful set of liner notes by Kenneth Dommett are included. *Terry Teachout*

KHACHATURIAN:

Concerto for Piano and Orchestra*.

PROKOFIEV:

Concerto for Piano and Orchestra, No. 3, in C, Op. 26.**

⊙ Kapell; Boston Symphony Orchestra, Koussevitzky*; Dallas Symphony Orchestra, Dorati**. Jack Pfeiffer, reissue prod. RCA Gold Seal AGM 1-5266 (A).

Finally we have the first in what one hopes will be a series of long-overdue releases by this country's greatest pianist. What has



NORMAN L. DANVERS

WILLIAM KAPPELL: NOT JUST SURFACE EFFECT

state-of-the-art digital remastering afforded these absolutely classic performances from 1946 and 1949? To these ears, William Kapell's amazing Prokofiev Third has never had it so good; the sound here is far better than on the two previous LP issues. However, the Khachaturian suffers slightly when compared with the 1962 reissue (RCA Victor LM 2588), to say nothing of the body and warmth that still emerge from the original 78s.

This is but the most minor of quibbles when one listens *through* the sound into the performances themselves. Here the verdict remains as simple as it was when each 78 set was new: No one, before or since, has played these stunning Russian masterpieces as did Kapell. The reason why is also simple. Most pianists play both works (but particularly the abused Khachaturian) from the outside in, concentrating on (or, worse yet, reveling in) them for the sake of surface effect. Kapell alone separates himself from the "effecters" by playing both works from the inside out. He not only covers himself with glory but enables each concerto to shine with the deep brilliance that lurks within.

In the Prokofiev, Antal Dorati aids in the soloist's conviction—without, however, adding much of value on his own. Doubtless the Dallas orchestra's rough qualities are partly responsible. (A broadcast of a Kapell performance from the same year, with Leopold Stokowski and the New York Philharmonic, shows what a difference there can be.) However, when it comes to the Khachaturian, the great Serge Koussevitzky proves the worth of his faith in this concerto as a great score with an accompaniment that remains a towering statement on its own, a performance only someone like Evgeny Mravinsky could mount these days. As French critics are so fond of saying, when it comes to totally classic recordings, this one is "*de référence*"! *Thomas L. Dixon*

KHACHATURIAN:

Concerto for Violin and Orchestra.

TCHAIKOVSKY (orch. Glazunov):

Méditation in D minor, Op. 42, No. 1.

⊙ Perlman; Israel Philharmonic Orchestra, Mehta. Suvī Raj Grubb, prod. Angel EMI DS 38055 (D). ⊞ ⊞ CDC 47087.

Rehearing this performance on cassette while driving along the interstate gave rise to a singularly ghastly thought: that Itzhak Perlman may soon become, if he is not more careful, the Holiday Inn of contemporary violinists: "no surprises," but no delights either. The mind and emotions wander as this performance drags on and on, totally bogged down in the mire of routine. But the critic's memory also fondly conjures up the three wonderful performances by David Oistrakh, an equally brilliant one by son Igor, and two by Leonid Kogan, especially a 1958 version with Pierre Monteux conducting, currently available (thank heavens!) on a fine RCA Victrola cassette (ALK 1-4496).

The ultimate fault with the present performance is not that it is so bad, but that both the soloist and conductor Zubin Mehta appear to be taking their potential buyers for granted. Perhaps some casual fans may be taken in—but not this critic, nor, for that matter, anyone who loves this concerto. By the way, the sound on both cassette and LP is boxy and poor. One brighter thought: The Tchaikovsky-Glazunov item is simply lovely.

Thomas L. Dixon

BACH:

Partitas Nos. 1-6, in B, C minor, A minor, D, G, and E minor, B.W.V. 825-30 (from "Clavier-Übung," Vol. 1).

⊙ Schiff, Michael Haas, prod. London 411 732-1 (D, 2). ⊞ (2). ⊞ (2).

Andras Schiff's recorded accounts of the last five of these Bach Partitas, like the earlier live performances that I heard of the *Goldberg Variations*, Chopin's Preludes, several shorter pieces by Bartók, and Brahms's F minor Quintet, establish him as a great pianist and musician. The characteristics of Schiff's piano-playing are its clarity; the evenness, and absence of apparent strain in rapid passages; the uncommonly varied dynamic range (which, being centered below mezzoforte, permits him to create fortissimos as often by contrast as by loudness); the beauty of his tone even at high volume; its warmth even at its quietest; and the exquisite shading he achieves by touch, legato, and pedaling.

The pianist's tone and dynamic gradations are the result of musical decisions made by a mind that almost always operates

with a sense for the shape of a phrase, the harmonic color of a chord, the rhythmic pulse of a movement, and the relation of one movement to another. His freedom and rubato make the fugue in the opening Toccata of the E minor Partita, for example, supple yet continuous in tension. In the Courante of the same work, near the end of the repeat of the second half, Schiff calculatedly allows his two hands to drift slightly apart from one another in time; yet, the music's pulse is not disrupted, and the resulting effect of pliancy within a coherent form is impressive.

Schiff does not operate at this level all the time. For me, the First Partita is made fussy by the extremes of elasticity to which he carries the same flexibility that makes the last five supple. Dinu Lipatti's performance is the one to acquire.

Concerning the ornaments Schiff improvises in repeated passages, less elaborately in all but the First Partita than some performers have done: The argument is that Bach would have done the same thing when he played himself. However, what Bach would have done and what someone who is not Bach does are not equivalent. These interpolations may come to seem more distracting when heard repeatedly on a record than they would be at a concert.

The (Bösendorfer) piano is recorded for once from a comfortable distance, as it might be heard in a recital hall, and the sound is marvelous.

Thomas Hathaway

SCHÜTZ:

Historia des Leidens und Sterbens unsers Herrn und Heylandes Jesu Christi nach dem Evangelisten S. Matheum, S.W.V. 479 ("St. Matthew Passion").

Ⓞ Hilliard Vocal Ensemble, Hillier, Gerd Berg, prod. Angel EMI DS 38167 (D). □

The modern listener can hardly approach a setting of the Passion According to St. Matthew without hearing Bach's monumental one in his ears. Coming to Schütz's version from this perspective, one is struck first by what is missing: the operatic arias, the concertato choruses, the congregational chorales. But to hear the Schütz *St. Matthew Passion* in reverse, as it were, is to miss its own, austere beauties. After a period of aural adjustment, the listener discovers that the emotional range is just as great in Schütz as in Bach. The recitatives, unaccompanied and based on the traditional reciting tones, are supple and expressive; the short, madrigal-like choruses are no less imposing than Bach's.

Since the *Passion* is composed for unaccompanied voices throughout, certain prob-



THE HILLIARD ENSEMBLE DELIVERS SCHÜTZ FERVENTLY BUT WITHOUT FUSS.

lems of performance practice are minimal. The power of the work lies in the German text, which Schütz sets with attention to each detail, and which the Hilliard Vocal Ensemble delivers fervently but without fuss. Paul Elliott uses his fine, light tenor to good advantage in the Evangelist's role, and Paul Hillier, the group's director, is a steady, noble Christus. Especially piquant is the assignment of the part of Judas to a counter-tenor; David James does not let us forget that Schütz was no less a dramatist than Bach, even in sacred music. The other roles are all idiomatically sung, and the ensembles—dramatic rather than reflective—are sharpened to a keen edge. The Henry Wood Hall in London offers just the right amount of reverberation to cushion the singers' lines without obscuring their words. Texts and translations are neatly laid out in four languages, and Hillier and Lena-Liis Kiesel provide pithy liner notes.

Michael Fleming

DVOŘÁK:

American Suite, in A, Op. 98b.

JANÁČEK:

Lachian Dances.

Ⓞ Rochester Philharmonic Orchestra, Zinman, Judith Sherman, prod. Nonesuch 79078-4 (D). □

Most home listeners have a special affection for what they subconsciously cherish as security-blanket music: usually old favorites, but sometimes newly encountered works that are immediately recognized as good-friends-to-be. The determining factors vary with individuals, but they generally include freedom from disturbing difficulties or moods and the presence of melodic and harmonic appeal—or whatever best fosters one's own relaxation and sense of confidence.

Always dependent on the way they are performed, many works of Dvořák fit neatly into this category, and the composer's own orchestral version of his Piano Suite in A—

generally more Czech- than American-flavored, despite its Injun-drumming finale—is a heartwarmer on first hearing of David Zinman's glowingly played and recorded performance.

Janáček's relatively early *Lachian Dances*, based on actual Moravian folk tunes, might seem less suitable for a "comfortable music" classification, but the present recording, while it may minimize some of the folkish and harmonic pungencies, italicizes the work's quirky charms and evocative pastoralism. Even on first hearing, one accepts this score as an old and loved friend, with "its shimmering little notes and its teasing, twittering, thoughtful melodies"; the composer himself (as quoted in James Wierzbicki's illuminating notes) averred that the music was written in memory of a "warm summer night with starry skies above."

"May it sow happiness and conjure up many a smile," was Janáček's hope—one realized well-nigh ideally here.

R. D. Darrell

TCHAIKOVSKY:

Symphony No. 2, in C minor, Op. 17 ("Little Russian"); Symphonic Fantasia in F minor, Op. 18: Burya ("The Tempest").

Ⓞ Chicago Symphony Orchestra, Abbado, James Mallinson, prod. CBS IM 39359 (D). □

Claudio Abbado's occasional exaggerations of tempo and phrasing—the distensions he introduces into the horn statement that begins the Second Symphony, for example—evidently represent his belief that Tchaikovsky's music, unlike any other he conducts, must be exaggerated to be effective. His live performance of the Fifth Symphony with the New York Philharmonic several seasons ago was even more distorted.

Lorin Maazel's adherence (for the most part) to what Tchaikovsky wrote makes his interpretation of the Second Symphony with the Vienna Philharmonic (London 6427, discontinued) more effective. That recording is

worth looking for, in spite of its less animated Scherzo and Maazel's decision to disregard the presto marking for the coda of the last movement, a direction Abbado respects.

Of the other available accounts, Riccardo Muti's is particularly to be avoided. I have not heard Herbert von Karajan's, and Igor Markevitch's I recall as being tense. The recorded sound of Abbado's version is good in all but the first movement, where it is noticeably inferior, clouded, and distant. *The Tempest*, which fills out the present disc, is a feeble piece. *Thomas Hathaway*

BACH:

Overture in the French Style, in B minor, B.W.V. 831; The French Suites, B.W.V. 812-17.

Ⓞ Gould. Andrew Kazdin, prod. CBS M2 39099 (A, 2). Ⓜ (2).
The French Suites: No. 1, in D minor; No. 2, in C minor; No. 3, in B minor; No. 4, in E flat; No. 5, in G; No. 6, in E.

BACH:

The English Suites, B.W.V. 806-11.

Ⓞ Gould. Andrew Kazdin, prod. CBS M2 39682 (A, 2). Ⓜ (2).
The English Suites: No. 1, in A; No. 2, in A minor; No. 3, in G minor; No. 4, in F; No. 5, in E minor; No. 6, in D minor.

In these recordings of the *French Suites*, Glenn Gould's idiosyncratic playing is exciting and effective most of the time (although in the *Overture in the French Style*, it is dull and mechanical). For that reason, one puts up with the occasional phrases and isolated movements for which Gould thought up startling effects of ornamentation, arpeggiation, staccatissimo touch, rhythm, and phrasing that were unimagined by the composer. In the *English Suites*, however, virtually every section is damaged almost beyond recognition. The correct response to anyone who would justify distortion of this kind on the grounds of originality was given by the musician who listened to these records with me: "It's original, but it's idiotic."

The reprocessed sound on both sets is agreeable, if neither beautiful nor like the sound of a piano in a normal room. The pitch wavers unaccountably in places, and the recording of the *Overture in the French Style* sounds wooden. *Thomas Hathaway*

KHACHATURIAN:

**Concerto for Piano and Orchestra*;
 Concerto for Violin and Orchestra**;
 Symphony No. 2.**

Ⓞ *Navassardian*, Aharonian***; Armenian Television and Radio Orchestra, Mangasarian. Golden Age 1028/1029 (A, 2). (5347 28th St. N.W., Washington, D.C. 20015.)

After listening to this recording only once, I had to resist the evil temptation that affects

critics occasionally: namely, to recommend it "for fans of the composer only." Further listenings, however, caused me to upgrade my verdict. The sound is fine without being noteworthy; the pressings are more than serviceable without being great. What really makes the set worth investigation is the fact that we are given completely honest performances by all concerned.

How nice it is to hear major scores by the great Armenian bard played by people of his own land, and, better yet, played as music that adds up to more than mere colorful, Oriental effects—or, in the case of the concertos, music that is simply worth performing as music and not as an egotistical vehicle to wow the listener. Neither the conductor, the pianist, nor the violinist are known to me, but my interest is now whetted.

Thomas L. Dixon

TCHAIKOVSKY:

Symphony No. 6, in B minor, Op. 74 ("Pathétique").

Ⓞ Chicago Symphony Orchestra, Levine. Thomas Z. Shepard, prod. RCA ARC 1-5355 (D). Ⓜ (3)

The recorded sound of James Levine's *Pathétique* is poor enough to recommend against it. The overbrilliance of the orchestra can be reduced by lowering the treble—but without headphones, the double-bass fifth that begins the piece is too faint to be heard unless the volume is raised momentarily. The brass instruments overpower the strings at times and often sound out-of-balance with each other. Other instruments are occasionally inaudible in fortissimo passages. My review copy was a replacement for an earlier, reportedly defective one, but this one had pops, crackles, and surface hiss nevertheless.

Musically, the energy of Levine's performance would make it superior to Carlo Maria Giulini's excellent, and better-reproduced, version with the Los Angeles Philhar-

monic (the best of the 32 currently listed in THE NEW SCHWANN) were it not for Levine's occasional exaggerations—his slight slowing down of the first three notes of the introduction's andante theme being the easiest to single out. When the NBC Symphony players slowed that measure down out of habit, as Levine does on purpose, Arturo Toscanini commented, "Tradition! The first *asino* did it that way, and everyone follow him!"

Toscanini's great performance with the Philadelphia Orchestra was issued in an RCA set (CRM 5-1900) with Schubert's Ninth Symphony, Debussy's *La Mer*, and other pieces. His later version with the NBC Symphony (once on Victrola VIC 1268) was not the equal of the earlier one. Guido Cantelli's performance with the Philharmonia Orchestra (formerly on EMI "World Record Club" SHB 52) also is worth investigating.

Thomas Hathaway

RECITALS AND MISCELLANY

GLENN GOULD:

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

Ⓞ Gould; Columbia Symphony Orchestra, Golschmann*; Leningrad Philharmonic Academic Symphony Orchestra, Slovak**. Howard Scott, prod. CBS Masterworks M3T 39036 (A, 3). Ⓜ (3).

BEETHOVEN: Concertos for Piano and Orchestra: No. 1, in C, Op. 15; No. 2, in B flat, Op. 19**; Sonatas for Piano: No. 30, in E, Op. 109; No. 31, in A flat, Op. 110; No. 32, in C minor, Op. 111. HAYDN: Sonata for Piano, in E flat, Hob. XVI:49. MOZART: Sonata for Piano, No. 10, in C, K. 330; Prelude and Fugue, in C, K. 394.*

This volume of CBS's *Glenn Gould Legacy* reissue series restores to the catalog Gould's famous, long-unavailable mono recordings of Beethoven's last three piano sonatas, Mozart's Sonata No. 10, and Haydn's E flat Sonata, an important set of performances in which the pianist is heard at his late-Fifties best. [For an appraisal of Vol. 1 of this series,

GLENN GOULD'S LATE-FIFTIES RENDERINGS REVEAL HIS PENETRATING BEST.



see Thomas Hathaway's feature review in our April 1985 issue.] The Beethoven sonatas are disfigured by occasional eccentricities of tempo; the Haydn and Mozart are virtually without flaw. All five sonatas are played with the incisive, electrifying touch and penetrating brilliance that made Gould the most exciting pianist of his day. Listeners who only know the bizarre high-speed Haydn and Mozart of his later years will be astonished by these truly remarkable performances.

Two Beethoven concertos also are included: the C major in the superb 1958 studio recording and the B flat in an equally satisfying live version from the pianist's 1957 tour of the Soviet Union. The C major—complete with Gould's own peculiar cadenzas—receives a bold, immensely characterful account that makes most recorded interpretations of this work sound pallid. The newly released live B flat Concerto serves as a welcome (if rather sad) reminder of what the musical world lost when Glenn Gould, mistakenly enamored of the "take two"-ness of the recording studio, abandoned the concert stage forever in 1964. An essential collection, particularly for younger listeners who find Gould's later work impossibly erratic.

Terry Teachout

LEONTYNE PRICE:

Live!

Price, Garvey. Steven Vining, prod. Pro Arte PAD 231 (D). 

Opera selections. CILEA: *Adriana Lecouvreur*: *Io son l'umile ancella*. GERSHWIN: *Porgy and Bess*: *Summertime*. MOZART: *Die Zauberflöte*: *Ach, ich fühl's*. PUCCINI: *Tosca*: *Vissi d'arte*. VERDI: *La Forza del destino*: *Pace, pace, mio Dio!* Songs. HAHN: *Le Printemps*. JOHNSON, HALL: *Ride on King Jesus*. LISZT: *Oh! quand je dors*; *Comment, disaient-ils*. POULENC: *C'est ainsi que tu es*. PRICE, FLORENCE B.: *My Soul's Been Anchored in the Lord*. STRAUSS, R.: *Zueignung*; *Der Stern*; *Ständchen*; *Die Nacht*; *Ich liebe dich*.



HIGH FIDELITY ARCHIVES

This disc commemorates the gala inaugural concert at the Ordway Music Theater in St. Paul, Minnesota, on January 8, 1985. The hall's acoustics instantly became celebrated,

and justly so: They seem ideal for small orchestra and chamber music performances, as well as recitals such as this one. The present recording seems to have captured those acoustics just about perfectly, with a minimum of background noise, letting us hear more or less exactly how Leontyne Price sounds these days.

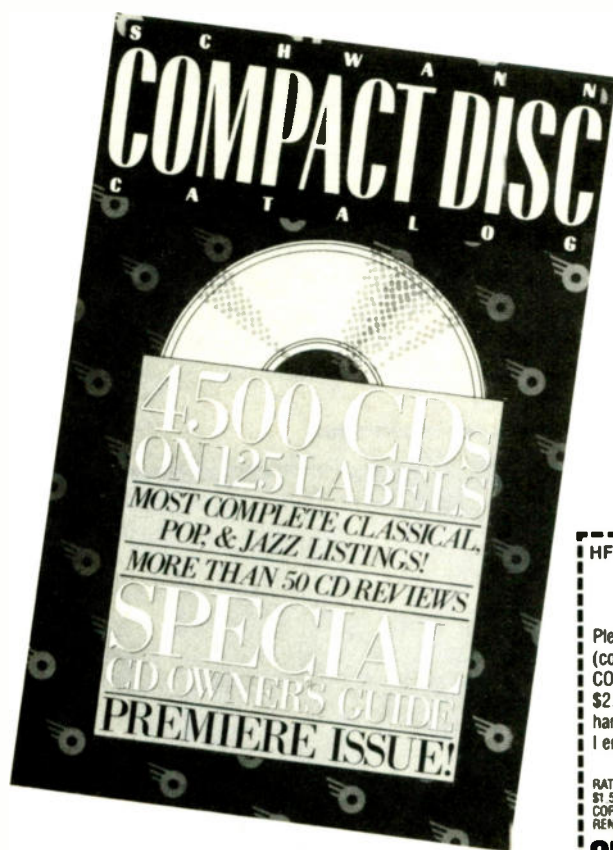
Very fine indeed, for the most part. As if to underscore the fact that La Price retired from the operatic stage only a few days before this concert, the opening *Zauberflöte* aria finds her at noticeably less than her best. The phrasing is choppy, and the articulation is somewhat nebulous. Too bad, since in her operatic heyday, she sang "*Ach, ich fühl's*" incomparably. Nevertheless, the other opera selections (notably the aria from *Adriana Lecouvreur*) are delivered with wonted authority and liquid line. The song groups are exceptionally well sung. The Strauss is particularly radiant; I'm only sorry Price didn't see fit to include *Befreit* on this occasion, since it is a song that for years she has seemed to own. All in all, a fitting commemoration of the opening of a great concert hall (one assumes Pro Arte and other labels will be busy here), and a precious souvenir of a great singer. *Bill Zakariasen*

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JUST DESSERTS

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STRAUSS'S "SALOME"

This Compact Disc release of Richard Strauss's *Salome* is a stunning sonic achievement, even though it was recorded in the early '60s. Performed by the Vienna Philharmonic Orchestra, Sir Georg Solti conducting, this account was issued on LP as the first of the Decca/London "Sonicstage" productions—sort of a predecessor to the label's Phase Four Series. Orchestral sound is magnificent, and I find the balances between the orchestra and the voices of Birgit Nilsson (Salome), Grace Hoffman (Herodias), Gerhard Stolze (Herod), Eberhard Waechter (Jochanaan), and others to be near ideal, far superior to those achieved in the majority of recent digital opera recordings.

The performance itself is high-powered. To me, Nilsson is no Salome, but she trumpets her way through the score with incredible security. (I look forward to the announced CD issue of the Solti-Nilsson collaboration on *Elektra*.) A complete libretto is provided with the two-CD package. Playing time: 99:26. (London 414 412-2.) *R.E.B.*

"GLAGOLITIK" MASS

The new recording of Leoš Janáček's *Glagolitic Mass* is not only the first appearance of this magnificent work on Compact Disc; it's also the finest performance it has received on any medium. Sir Charles Mackerras, leading the Czech Philharmonic Or-

chestra and Chorus (with a first-class solo quartet headed by soprano Elisabeth Söderström), has completely restudied the work, going back to Janáček's original manuscript and incorporating passages omitted from the published score. The differences are slight, and they would mean nothing if Mackerras didn't back up his research with a reading worthy of the music.

For ferociously ecstatic commitment, this performance stands alone. The brawny yet consistently transparent sound on CD is splendid—notably more so, by the way, than on the 12-inch counterpart. One might complain that there was plenty of room at the end of this disc for another Janáček choral work; but to be fair, no previous recording of the Mass has been any more generous. Playing time: 39:55. (Supraphon CDS 7448.) *B.Z.*

MIRACULOUS MAHLER EIGHTH

How long yesterday's miracles will endure against today's scientific advances may well be illustrated by this classic recording of Mahler's greatest symphony, produced in Vienna's Sofiensaal more than a dozen years ago. The high level of justice achieved by the Vienna Singverein, the chorus of the Vienna State Opera, and even the Wiener Sängerknaben could perhaps be matched in another undertaking, but hardly with the equal of the touring Chicago Symphony or the timeless quality of the solo "vocal fam-

ily" brought together for this production by Sir Georg Solti. Included are bass Martti Talvela, baritone John Shirley-Quirk, tenor René Kollo, mezzo Yvonne Minton and Helen Watts, and sopranos Heather Harper, Lucia Popp, and Arleen Augér.

Those accustomed to the reel-to-reel tape version (London LONK 490 211) will find that the two Compact Discs shed further sound-light not so much on the performance as on the dazzling imagination of Mahler himself. Time is of no essence here, because it is all there on the two discs. Playing time: 79:36. (London 414 493-2.) *I.K.*

SATIE TREASURE

Erik Satie's status as a "precursor" to better known French composers was somewhat altered by the production at the Metropolitan Opera several years ago (due to be revived this season) of a triptych capped by his *Parade*. Beyond that, there is much to be learned from the content of these three Compact Discs featuring the Tokyo-born Yuji Takahashi. They follow a sequence from the earliest *Gymnopédies* of 1888 to the later works for two pianists. These are performed by Takahashi and Alain Planès, and include the original *Parade* plus other music for the stage. Altogether, a very good acquisition, whose duplication is unlikely and whose availability may be of uncertain duration. Playing times: 53:16, 43:27, 49:59. (Denon 7485/86/87.) *I.K.*

CHOPIN "PRELUDES"

Maurizio Pollini's mid-Seventies analog recording of Chopin's *Preludes* is now on CD. These are highly acclaimed performances, well recorded—but with such a short total playing time, the disc is hardly a bargain. Surely Deutsche Grammophon could have found *something* else to add. Playing time: 36:18. (Deutsche Grammophon 413 796-2.)

R.E.B.

BEATIFIK BRAHMS

Robert Shaw, who conducted the first American recording of Brahms's *Ein deutsches Requiem* in 1947, now leads a considerably more spacious performance of it. Barring a bit of scrappy ensemble at the outset, the Atlanta Symphony Orchestra and Chorus do splendid work, and there is fine soloing from soprano Arleen Augér and baritone Richard Stilwell. Despite his notably slow tempos (at least in comparison with his former account), Shaw keeps things moving. Thanks in part to the stupendously wide-ranging sound heard on CD, the climaxes roar forth with all the power one could desire. Moreover, the especially firm bottom end in this recording registers the important organ obbligato with far more strength than any previous recorded rendition has achieved, and hall resonance is just right. The length of this single disc makes it an excellent value as well. Playing time: 69:46. (Telarc CD 80092.) *B.Z.*

Can Prince's
most talented consort leave
home without him?

SHEILA E. in Romancing the Throne

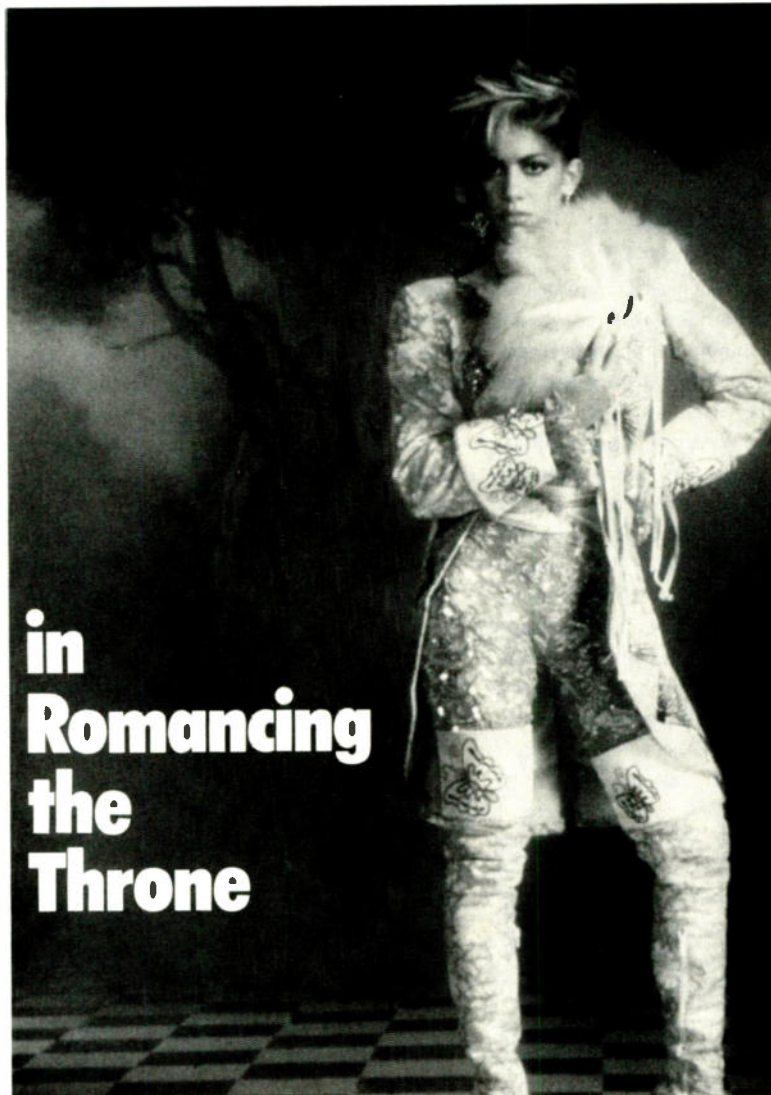
BY PAMELA BLOOM

There are many ways to make a pop star. Struggle from the start as a solo act, with nothing but guts and genius to guide you. Rise to fame in a prominent vocal group, then cut loose with your own material. Camouflage a small gift in an outrageous élan and capture the libido of the masses. Or hitch yourself professionally (and possibly romantically) to an already throbbing star. Vanity and Apollonia joined the galaxy called Prince, and although both women looked great, their singing debuts would have sounded better lip-synched. But as career girls they were not stupid: When things got too hot *not* to cool down, they grabbed their notoriety and ran, parlaying their visual and quasi-dramatic talents into film and television.

It's curious that one lady who has chosen to stick around and hitch herself even closer to the galaxy is twenty-seven-year-old percussionist Sheila E., a performer/composer/producer in her own right. Formerly a well-respected but definite sideperson for such stars as Lionel Richie, Marvin Gaye, and Diana Ross, Sheila catapulted to

fame last year opening for Prince on his worldwide *Purple Rain* tour: The perfect female foil, she dressed in a see-through pussycat suit, wielded neon-flashing timbale sticks, and indulged in onstage simulations that rivaled those of her boss. Although her debut album, *The Glamorous Life*, was obviously embellished by an uncredited mentor, it manifested enough quirks and shivers to promise the eventual emergence of an original voice. The new LP, *Romance 1600*, does take a few giant steps forward, but . . .

Lying on the floor, bushed at the end of a long day of interviews, Sheila Escovedo is looking more than ever like a Prince clone, wearing what can only be described as a royal hand-me-down: a pink-and-white version of his signature suit, with big white buttons crisscrossing the crotch. Despite the androgynous cover, it's not a getup designed to establish her independence. But clothes don't make the musician. Underneath the pop star attire is a feisty, cockfighting talent who was fed the musical spirit from day one—and what she didn't pick up at home, she worked damn hard to teach herself. In short, Sheila E.'s a woman with



REBECCA BLAKE/COURTESY WARNER BROS.

SHEILA E.

the means to be independent, but one who—for now, at least—has sacrificed some of the ways.

San Francisco at the height of the Haight-Ashbury revolt was a pretty heady place for a little girl to grow up, and the Escovedo clan, a family already synonymous with the best of West Coast Latin syncopations, created for itself a veritable musical Nirvana. From an early age, Sheila was indoctrinated into the fusion way of knowledge: By the late '60s, her father, Mexican percussionist Pete Escovedo, and her uncle, Coke, were adding smoking Latin riffs to Carlos Santana's acid rock before retracking their own jazz roots in the 16-man band Azteca.

"Music was around the house constantly. It was like eating everyday," Sheila recalls, her voice a soft Western slur that can suddenly jump to a loud yelp. "We'd listen to a lot of Tito Puente, Cal Tjader, Eddie Palmieri, and Mongo Santamaria. I started to listen to commercial r&b as a teenager. I have two brothers and one sister, and sometimes we used to blast different music from every room in the house. That's probably why I can write anything I want."

The self-confidence is not empty bravado. A consummate technician, Sheila demonstrates on *Romance 1600* how equally at home she is in fusion, funk, pop, and salsa, as well as in the traditional r&b dance mix. But she also hears the emotions in rhythm, a talent acutely brought into focus on *The Glamorous Life*, where, for example, a single circular drum riff spiced with castanets evokes the hazy, narcotic sensuality of a "Noon Rendezvous." Hers is an innate musicality that refuses to be waylaid and is propelled by an insatiable physical energy always on the prowl. She remembers being mesmerized at the age of three by the sight of her father pummeling away on his congas.

"Nobody taught me how to play," she recounts. "When my father practiced, I'd sit in front of him and copy him, mirror-style. I was just mocking then, but later I'd come back and play by myself." By the time Pete took notice, Sheila had developed a left-handed style, placing the bass drum on the right—a cockeyed technique that allows her to pound harder and faster than most men. The technique, however, is only the physical manifestation of a singular attitude that infuses all her work: a kind of virtuosic eccentricity.

"My father plays like a true timbale player, but my style is more like a drummer playing the timbales or congas. I know so many instruments that whatever comes out is a mixture of all of them. I have always played just what I felt. For example, I *never* thought in clave. I understood the beat, but to add something to that straight r&b sound, I always put it on the wrong side. Only the real Latin guys could tell. I just wanted to be different."

Part of the ability to be different comes from being self-taught, except on violin (which she quit after five years of lessons because "my friends thought it was square and so did I"). How exactly she learned traps, or timbales, or even guitar and keyboards, remains a mystery; in any case, she was always passing up the guys taking classes. Her professional switch to congas seems attributable to something akin to spontaneous combustion: "I was on traps in a band where my boyfriend was the conga player. I told him I really didn't know how to play, and he said I'd learn, because I knew a few beats. Within a month, rhythms I didn't even know I knew started coming out like crazy."

Despite Sheila's obvious prowess, music often took a backseat to sports, and by junior high, she was thinking seriously about training for Olympic track. Spurred by a strong competitive spirit, she liked "to do things girls wouldn't do," and became notorious for playing football with the guys and egging anybody on to a race. In fact, watching her hurl her congas into the audience or furiously kick over her stand-up cymbals makes the sports-music connection more than plausible. Back then, however, having a future as a Latin percussionist—particularly a female one—seemed much less likely than winning a gold medal. In a way, she wasn't prepared at all for the glamorous life.

"My father was successful, but we were poor. We grew up in a rough neighborhood and never really had food in the house. Not many people were using percussion in those days, and if they were, it was in Latin bands, and nobody was making any money because the bands were too big. My father wanted something better for me." What Pete wanted was for Sheila to be in a symphony orchestra. By the time she was fifteen, though, her professional gigs were helping to pay the bills, and it was help Pete couldn't refuse.

Hiring her for his own band, however, was a different matter. "First of all, he

didn't think I was that good. He'd come to see me only once in a great while, and he'd say, 'You can't play, you're only thirteen.'" But once when he had to replace a percussionist on short notice, Sheila insisted and he finally gave in. The next night, 8,000 people at the San Francisco Civic Center stood to applaud her solo. "When I heard that ovation, I had this feeling I had never had in my whole life. I just wanted to cry; it felt like the ultimate." After the

"I had to discipline myself to play simply, but I thought it was dumb. It was somebody else telling me what to do."

concert she turned to Pete and informed him that she was quitting school to join his tour. She went to Europe and Asia with Azteca, and eventually father and daughter made two albums together.

Although never slavishly committed to any Latin tenets of playing, as a studio musician Sheila learned that the rest of the world generally reduced rhythms to four squares, and it was a rude awakening. But that commercial experience, however frustrating, served to heighten her appreciation of her multitrapped roots. "Most people just wanted doom-dah, doom-dah, doom—not the in-between stuff, the real Latin sound. I had to discipline myself to play simply, but I thought it was dumb. It was someone else telling me what to do."

One person who told her what to do, however, changed her life. In 1978, Prince and Sheila finally met: They were both precocious teenagers, both the children of Latin-black parentage, both mavericks. She was touring with George Duke, and the seventeen-year-old Prince had just masterminded his debut, *For You*.

"I heard about this kid who was writing and producing his own stuff, and I was impressed. When I first saw him, I just thought he was this cute guy standing against the wall. But when we met, he was impressed, too, because he had heard about *me*. We've been friends ever since."

"Friends" is an overly humble description of a relationship that has included co-composing, co-performing, co-producing, and co-touring. Rumors about co-habita-

(Continued on page 79)

Personal Best

WYNTON MARSALIS:

Black Codes (From the Underground).

Ⓞ Steve Epstein, prod. Columbia FC 40009. ☐

OUT OF THE BLUE:

O.T.B.

Ⓞ Michael Cuscuna, prod. Blue Note BT 85118. ☐

I was as delighted as anyone when Wynton Marsalis debuted as a leader on a major label a few years ago. All the debate about whether neoclassicism was a tendency or a movement, whether it was a failure of imagination or a necessary and overdue reaffirmation of traditional jazz values, seemed pretty much irrelevant in the face of this blazing new talent and his exciting acoustic quintet.

That the music he was reviving—the sort of post-hard-bop, mid-Sixties acoustic jazz typified by the Miles Davis groups of that period—was music that I had always had a great affinity for was no doubt part of the reason for my willingness to overlook whatever controversy there might be. And yet there was no denying that something about Marsalis as he came across in interviews, and certainly about the enthusiasts who cheered his ascendancy, suggested retreat. One was frequently being asked to agree that this music was better than that of an eager-to-please fusion hack shamelessly diddling out third-rate rock riffs on a plugged-in whatzit (I agreed). Or that it was better than some clown from the fire-next-time brigade blowing his tenor guts out for 20 minutes without any apparent rhyme or reason (well, now, just a minute . . .). Marsal-

is's admirers often gave the impression that liking the trumpeter involved disliking a great number of other people.

Yet listening to *Black Codes (From the Underground)*, this reactionary undertone seems unimportant, just so much crit-chat that will be long forgotten when Marsalis's records are still being bought and dug. This is the third and best album by his working quintet. His playing shows a new level of maturity; he's almost cautious at times, pacing himself judiciously, avoiding the flash-for-flash's-sake that occasionally marred his earlier work. Even when he resorts to a few patented licks, as on "Phyrzzinian Man," or whips up a frenzied storm, as on Kenny Kirkland's "Chambers of Tain," he never loses his poised assuredness. Most of the compositions (seven originals—six by Wynton and one by Kirkland, the group's pianist) are in the by now familiar no-quarter-given mode of complexity: tricky themes delivered in fragments with meter shifts. Not songs to fall in love with quickly, but meaty thematic material for this apparently ravenous crew. Exceptions are "For Wee Folks," lovely and wistful, with intelligently poignant improvs (no gaudy display of cheap emotion for these guys); "Aural Oasis," featuring the leader's delicately intense, muted playing that's nev-

er merely pretty; and "Blues," a coda to the album where a credible Wynton struts over a walking bass—and after all the superb music that has just gone by, you'll find it in your heart to forgive him the inevitable showboating held note.

Wynton isn't the whole story, of course. On tenor and soprano, brother Branford offers exquisitely thoughtful, often coolly sophisticated solos, while Kirkland, seventeen-year-old bassist Charnett Moffett, and drummer Jeff "Tain" Watts are unceasingly responsive to each other and the horns. You feel confident that they won't take the easy way out, favor the worn lick, or lapse into mere cliché. And you're right.

As the debate continues over Wynton's impact on jazz (aside from the fact that his immense popularity ain't gonna hurt), one immediate result is the appearance of a like-minded group on another major label. Out of the Blue, a quintet in their early- to mid-twenties, are faithfully reinvestigating something closer to conventional hard bop than the trumpeter's more flexible and airy forms. But the similarities are here: the impeccable chops; the ability of the musicians to listen to each other and so create living, breathing group improvisations within the strictures of chord changes and time signa-



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tures; and, not incidentally, a set of Stanley Crouch liner notes. Like his notes for all three Marsalis quintet albums, these discuss the freedom-through-discipline movement, indulge in some harmless fusion-bashing, and offer an off-putting neo-con take on the avant-garde.

O.T.B. raises all the old doubts, the nagging feelings that this trip might not be absolutely necessary. No denying the group's technical achievement, or that its Jazz Messenger re-creation on the title cut hits the mark, or that "Blue Hughes" might have been written by Horace Silver c. *Cape Verdean Blues* . . . or even that, given time, these young musicians might develop personalities as intriguing as their influences. Still, *O.T.B.* is a record you can admire and even respect without particularly liking. There's a perfunctory quality about these performances that is absent from the Marsalis set—which returns us to the question of whether neoclassicism is a revitalization or a temporary dead end. And whether it's a genuine organic development or just a sturdy stick to beat on some music you don't like.

Richard C. Walls

BILLIE HOLIDAY:

Billie Holiday on Verve 1946–1959.

⊙ *Tohru Okamura, prod. Verve OOMJ 3480/89 (10).*

Billie Holiday recorded for Verve in earnest during the last seven years of her life. "God Bless the Child," "I Cried for You," "Strange Fruit," Lester Young, Teddy Wilson—all the songs and musicians that created the Lady Day legend were history when the thirty-seven-year-old singer first went into a California studio for Norman Granz in 1952. At Verve, Holiday made some of her strongest, most personal and disturbing work; these are the performances that bring the reality of her life too close for comfort.

Mounting physical abuse could no longer be kept out of her voice. The light "laughing at life" touch of the '30s and '40s was worn down to a raspy tone that tended to get ragged around the edges; the once reliable buoyant lilt had begun to drift. Her range, never a strong point, had diminished. But tonal beauty and emotional expressiveness worked inversely for Holiday: The more her pipes gave out, the more penetrating and affecting her delivery became. If her earlier recordings are moving, then these are devastating.

Something else changed dramatically during the Verve years: the text. The Columbia sides were filled with sow's-ear-to-silk-

purse transformations of Tin Pan Alley dreck; at Verve her reputation warranted only Grade A American Songbook standards. The magic of these recordings was in how Holiday was able to personalize such household names as Cole Porter, George Gershwin, and Rodgers and Hart. The torch songs—Billie's turf—are unsurprisingly sublime. On the final downslide in her losing battle with dope, men, and racism, she is incapable of keeping the hurt out of a song. But she really proves her artistry with totally credible interpretations of sophisticated and more emotionally distanced ballads, such as "A Foggy Day," "Moonlight in Vermont," and "I Didn't Know What Time It Was." On optimistic swingers like "They Can't Take That Away from Me," her double-edged readings, with more than a hint of melancholy and disbelief, reject the knee-jerk sentimentality of these well-worn classics. This underlying ambivalence also allows Holiday to overcome cute lyrics; hers is the only "Let's Call the Whole Thing Off" I can stomach. Aside from the live cuts of 1946 and one album's worth of redone greatest hits, the majority of this material isn't commonly associated with Lady Day. And of 134 songs, only four are blues.

Instrumentally speaking, comparison between the Columbia and Verve periods is fruitless. No one could replace Young, nor could the spontaneity and telepathic ease of those early sessions be manufactured. But get past that, and you can hear how empathic and inspired some of her later accompanists were. Pianist Jimmy Rowles, trumpeter Harry "Sweets" Edison, and tenor saxophonist Ben Webster, who appear on eight sides here, catch every nuance. Even the less sympathetic musicians (frequent sidemen Charlie Shavers and Oscar Peterson are often conspicuous in their brashness) never completely founder any session.

The sumptuous packaging reflects the love, care, and fanaticism—complete discography, lyrics to every song, full-color reproductions—unique to Japanese aficionados of jazz. It's not hard to understand why Holiday inspires an almost religious devotion. Spend a weekend with this collection and it's impossible not to be moved by the dignity of the woman. For someone so in touch with emotion, she's remarkably devoid of melodrama or self-pity; if the art was restrained and understated, it was because the artist was courageous and resilient. *Billie Holiday on Verve* is the final testament of someone who saw the end coming but wouldn't go down without a fight. *Steve Futterman*

LOREZ ALEXANDRIA:

Lorez Alexandria Sings the Songs of Johnny Mercer, Vol. 2: Harlem Butterfly.

⊙ *Albert Marx, prod. Discovery DSCD 905. ⊙*

Relatively unknown on the East Coast despite a recording career that goes back to 1957, Lorez Alexandria is a poised performer whose clarity and careful taste give her cool-sounding interpretations their own worldly charm. She sings in tones that range from intimate ("Harlem Butterfly") to brassy ("This Time the Dream's on Me"), seems to prefer slow-to-medium tempos, and respects composers' and lyricists' intentions. That means her sophistication is never coy or self-indulgent.

It also means she's ideally suited to the lyrics and music of Johnny Mercer—this release being the second of her three albums of Mercer material and the first to be put on Compact Disc. On "Love's Got Me in a Lazy Mood," she's both apparently weary and secretly pleased. (Herman Riley's obligato on soprano saxophone, however, is *too lazy*.) Like many other singers, Alexandria gets impatient with the repeated notes in "Come Rain or Come Shine," but her decorations on its bare-bones structure are supple and appealing. "Skylark" is daringly introduced a cappella; she bends the "anything" of the first line so broadly that it sounds like she's slipping down a slide. But Alexandria rarely shows off. She's inventive and yet has both feet on the ground. I can imagine just one serious complaint about this disc: It's only a little more than 30 minutes long and could easily have included Vol. 3 of the Mercer series. Otherwise, it's a find.

Michael Ullman

THE HORIZON QUINTET:

Gumbo.

⊙ *Curtis Lundy and Robert Watson, prods. Amigo 851. (Distributed by New Music Distribution Service, 500 Broadway, New York, N.Y. 10012.)*

The Horizon Quintet plays an eloquent kind of hard bop that takes off some of the edge. Coleader Robert Watson's alto saxophone suggests the urgency of Jackie McLean's, and pianist Mulgrew Miller may owe something to McCoy Tyner. But *Gumbo*, as well as *Beatitudes*, is mellower, more controlled and lyrical, than comparable sets by such leaders in the '60s.

That lyricism—partially the result of newcomer Marvin "Smitty" Smith's melodic drums and coleader Curtis Lundy's big-toned bass—is an asset on the latter's ballad "Luqman's Dream," which features a broadly relaxed Melton Mustafa. It also accounts

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- Ⓢ LP/EP
- Ⓢ Cassette
- Ⓢ Compact Disc
- Ⓢ Videocassette
- Ⓢ Videodisc
- Ⓢ 12-inch single
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for the graceful forward motion of Mustafa's "Premonition," a complicated piece with several strains that's played with natural ease. Guest baritone saxophonist Hamiet Bluiett introduces the title and longest cut by repeating a static figure that alternates with a section of straight-ahead swing. Bluiett can bebop blithely: Here he also shows his avant-garde colors by cackling briefly in a transition to Watson's ripping solo. This young quintet is bright, fluid, and direct. Their compositions work well for them, and they have a sound of their own. I imagine they're looking for work. I hope they find it.

Michael Ullman

LESTER BOWIE'S BRASS FANTASY:

I Only Have Eyes for You.

Ⓢ Manfred Eicher and Lester Bowie, prods. ECM 25034-1. Ⓢ

Lesser wits and bandleaders than trumpeter Lester Bowie would not fare as well with revivalist tendencies. But Bowie—onetime carnival performer, blues/r&b sideman, AACM cofounder, and charter member of the Art Ensemble of Chicago—is a supreme prankster who treats *The Tradition* as a musical curry. *I Only Have Eyes for You*, by his nine-piece Brass Fantasy (a cross between his now defunct Hot Trumpet Repertory Ensemble and his occasional road show troupe, Roots to the Source), capitalizes on the AEC's pioneering role in group improvisation and the aural coloration of modern jazz, as well as on today's rekindled awareness of New Orleans-style brass bands.

Like his previous recordings of "Hello Dolly" and "The Great Pretender," Bowie's cover of Harry Warren's "I Only Have Eyes for You" reflects his eccentric pop taste. (Michael Jackson and George Clinton figure in

live sets.) Featuring Bowie as the lead soloist against a backdrop of cooing trombones and staccato, keyboardish trumpets, "Eyes" sounds forever like a synthesis of Count Basie-era Billie Holiday and street corner doowop. Bowie is at his most lyrical even as he distorts the melody with smears, coiled notes, and party-favor squeals. Much later, the final cut creeps and stutters and growls some more: Part Sam Nanton and Cootie Williams, part call-and-response wailing, "When the Spirit Returns" is a haunting blues reprise.

Between these hypnotic tunes, Bowie packages a jaunty, dub-wise "Coming Back, Jamaica," complete with echoic "found voices" and choppy horns over the thumping drums of "Big Foot" Phillip Wilson and the hunching tuba of Bob Stewart. "Nonet," whose stacked, swirling harmonies recall Tadd Dameron, is built around an inverted clave rhythm carried by Stewart; in fact, it snatches a few heads from the Mongo Santamaria classic "Afro Blue."

There are a few lapses, like the foggy-toned howls, snores, wheezes, and rumbles of Steve Turre's conch shells and Craig Harris's *didjeridoo*, which linger about without building to a strong resolution. That's the trouble with the cross-rhythms of small percussion instruments on "Nonet," too, and on the suite for trumpeter Ray Copeland, "Lament." Nonetheless, *I Only Have Eyes for You* further solidifies Bowie's leadership of those jazz musicians who strive to blend the arcane with the entertaining.

Don Palmer

MILES DAVIS AND JOHN COLTRANE:

Live in Stockholm 1960.

Ⓢ Dragon DRLP 90/91 (2).

In March of 1960 John Coltrane reluctantly accompanied Miles Davis on a short European tour. Coltrane had been contemplating a break with the band ever since recording *Giant Steps* three months earlier. But as a favor to his longtime employer, and because of a slight case of cold feet, he went.

Davis's last group project had been the epochal *Kind of Blue*, and Coltrane had changed significantly since then. Combining his furious "sheets of sound" chordal maneuverings with *Blue's* modal avenues, he fashioned a breakthrough that signaled a new search for instrumental self-expression. *Live in Stockholm 1960* catches Coltrane at this crucial stage of experimentation and fills in an important gap. While his playing on *Blue* is superb in its grasp of the new scalar language, it is also, in keeping with the

album's lyrical tone, uncharacteristically subdued. *Stockholm*, his last known recording as a band member, lets us hear a more passionate and exploratory Trane cut loose on some of the same material.

If Coltrane was about to start the most far-reaching period in his career, then Davis was entering what I will call his "classical" stage. He had reached a balance of technique and expression that was a summation of all he had been aiming for since 1945; these solos are brought off with an inimitable blend of grace, poignancy, and funk. But with maturity came predictability. Coltrane's solos, on the other hand, are like crystal-ball visions; risk is part and parcel of every statement. His celebrated torrential outpourings of notes and unconventional rhythmic accents in place, Trane consciously experiments with timbre and tonal distortion. He has abandoned his role as Davis's aggressive foil to become his own man.

Coltrane's solo on the second of two versions of "So What" is his declaration of independence. After warming up with a variation on "Willow Weep for Me," he cuts loose with a series of unbroken phrases that demolishes any recollections of *Blue's* original track. Filtered through his gruff, commanding tone, the notes come fast and furious, splintering at times into distorted exultations, only to regroup in authoritative lines. The archetypal rhythm section of pianist Wynton Kelly, drummer Jimmy Cobb, and Paul Chambers (whom I would defend as jazz's greatest bassist) try their best, but they just can't keep up. Trane's intensity and unpredictable contours make clear why he chose more flexible, fiery players like McCoy Tyner and Elvin Jones for his own band.

On "All Blues" he copes with the confinements of conventional time by turning away from his sound-sheets to coax overtones from a select group of notes. This is the kind of daring you don't expect from him until, say, 1963. "Green Dolphin Street" and "Fran Dance" are the tamest cuts, but even they elicit grand moments. The first version of "So What" and especially "Walkin'" summon up his inexhaustible energy and voracious appetite: Coltrane as superman. As an added bonus, the LP offers a brief but telling interview that helps demystify the man while preserving his humble aura.

In 1960 Davis's musicians were the finest touring unit of the day. Coltrane, as this performance eloquently points out, had simply outgrown them. Within a month of it he left the band.

Steve Futterman

(Continued on page 70)

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**JOHN COUGAR MELLENCAMP:
Scarecrow.**

Ⓞ *Little Bastard and Don Gehman, prods. Riva 824 865-2.* Ⓞ



COURTESY POLYGRAM

On *Scarecrow*, John Cougar Mellencamp reaffirms his formal commitment to rock 'n' roll's basic unit, spelled B-A-N-D. For several years now, he has toured, written, recorded, and even made his excellent videos with the same outfit of two guitars, bass, and drums. These guys hit the top of the charts in the summer of '82 (*American Fool*: "Hurts So Good," "Jack & Diane") and flashed real brilliance the following year (*Uh-Huh*: "Crumblin' Down," the extraordinary "Pink Houses"). *Scarecrow* features the same melodic slash-and-burn architecture, constructed around the twin lodgepoles of Larry (he *can* play a guitar just like ringin' a bell) Crane's peeling acoustic chords and Kenny (the Timekeeper) Aronoff's keep-the-needle-in-the-red sledgehammer drumming. The carefully engineered tension between the resonant, woody dynamics of the layered guitars and the brutal crunch of the overmodulated drums drives the entire album: The band just keeps chiming and chugging. If you can't find several tracks to love here, then you do not love rock 'n' roll.

But Mellencamp's vision of America and his place in it does seem to be changing. Where previously his most clear-eyed and admirable energy was focused on folks who could never have dreamed of owning a farm ("Jack & Diane," "Pink Houses," "Golden Gates"), the new LP's "Rain on the Scarecrow" is devoted to the families losing theirs. This is a bigger shift than it would seem at first, requiring this perennial outsider to take an insider's stance, to cross some charred bridges back to the Heartland's tried and true. When a thinking person makes his peace with the same old trouble he's been having for years, it's a mark of ma-

turity. So why then, on "The Face of the Nation," is Mellencamp wondering "what happened to the golden rule"? I thought he'd explained *exactly* what happened to it on *Uh-Huh*. And the same song's generalized anxiety about loneliness and suffering is overcome "for me and you," babe. Jeez, this could be Beaver Brown! Perhaps he should slow his rapprochement a bit so he doesn't forget what he learned when he was out there on his own. As for tough-minded political convictions, "Justice and Independence '85" is the silliest allegory since John Fogerty's "Zanz Kant Danz." I'd like to think its heart is in the right place, but it's so muddled I don't know where the heart actually is. I can hear it beating, though.

Scarecrow's best songs steer clear of the state of the nation, keeping to the particular, to simple thoughts and actions closely observed. In "Small Town," Mellencamp lays out his identity and destiny with such disarming ease and clarity that it takes my breath away; the band piles guitar upon guitar over Aronoff's fail-safe sticks, building with organ and plaintive harp (John?) to a perfect acoustic-chord climax: What a track! "Lonely Ol' Night" is a fine radio single, tender and tough in just the right proportions, and it's even finer on Compact Disc. In "Rumbleseat," the imagery of confusion and personal travail has both poignance *and* humor, a Hoosier specialty.

All these power chords and precise details sound especially good in the CD format. Mellencamp and his console partner, Don Gehman, are underrated as producers, and this recording, with its wealth of texture—tambourines and shakers and lots of acoustic guitars that don't get lost in a thunderous roar or undifferentiated boogie—really shows their skill. *Scarecrow's* crispness and lucidity don't blur or dull no matter how high the tracks are stacked. Again, if you can't find several cuts to love here, then you do not love rock 'n' roll.

Jeff Nesin

**SIMPLY RED:
Picture Book.**

Ⓞ *Stewart Levine, prod. Elektra 60452-1.* Ⓞ

Mick Hucknall, the redheaded singer/songwriter who fronts the Manchester-based, multiracial Simply Red, has one of those instinctive, expressive white soul voices that England exports so successfully these days. In this case it's tart and tender, subtly gritty, raw in places, but capable of surprisingly clear high notes—a voice that makes you stop and listen, not to its showboating self-satisfaction (England has given

us plenty of that, too), but to its fresh, idiosyncratic attack. The material Hucknall attacks is mostly his own, a smart collection of songs in styles that range from crisp and jazz-inflected ("Sad Old Red" sounds like it could be a Sade cover) to creamy, mournful soul ("Holding Back the Years," with its pillow of strings, pinch of sax) to crunchy amalgams spiked for dancing ("Red Box," "Look at You Now," "No Direction"—a jumble of party, romance, angst).

His odd version of David Byrne's playful, pointed "Heaven" takes its deadpan irony rather too seriously with a classic soul arrangement reminiscent of "When a Man Loves a Woman" and an earnest delivery; instead of a loopy meditation on eternity, this feels like failed gospel. But Hucknall can craft and carry off ambitious stuff, too: "Jericho" and "Picture Book," ambiguous, intensely sung cuts dealing with secular and religious power and love—producer Stewart Levine's most dramatically structured pieces here—and a rousing, double-edged message song called "Come to My Aid."

Still, the track that sparks things here is another cover, another message: "Money's Too Tight (to Mention)," a Valentine Brothers song that disappeared in the States but became a cult item in England. Recalling the O'Jays record on the same topic, "Money" is a sharp, aggressive, irresistibly upbeat take on the state of the economy, the sort that wrings energy, even optimism, out of despair and anger. At nearly nine minutes, the 12-inch version has more bite and a powerful momentum, but the LP cut is reason enough to get this unexpectedly rewarding album.

Vince Aletti

MORRIS DAY:
Color of Success.

Ⓞ *Morris Day, prod. Warner Bros. WB 25320.* Ⓞ

Like, could you imagine regular folks in clubs pretending they're trees? The prospect would please Morris Day, the jive-talkin' *Purple Rain* cutup/costar. "The Oak Tree," his steamy new stomp, is a dance step he'll be debuting on tour. *What Time Is It* premiered the Walk, and *Ice Cream Castle* gave us the Bird. His latest track, juiced-up and buoyant, is a more than serviceable high-energy workout. But do we really need another dance craze forced on us by an egotistical trendoid?

On *Color of Success*, Day's "chili sauce" warms up and aims to bore a hole in your rockin' shoe soles. His sleaze ball rolls on, and he plays to win. Unlike Jesse Johnson, Andre Cymone, and Jimmy Jam and Terry

Lewis, who, after leaving the Prince camp, still tick on his licks, Day seems determined to get as far away from the wand as possible, recording and mixing on both coasts—and not in his Minnesota hometown. Except for a brief guitar riff on "The Oak Tree" and a couple of synth hooks on the romping "Love Sign," there isn't a thing on this record that sounds like it was chilled out by a Minneapolis winter. A lot of credit must go to a stellar cast of L.A. session men; the only snow they relate to comes in short, dry lines.

Day seems like a good guy to hang with: Party with him and you *know* you'll have a great time. Such promise, transmitted through his effervescent nature, translates extremely well onto disc. Reveling back-ground vocals (mostly cheering and party chatter) and Day's own jokey games pull you into the grooves. Still, in "The Character," one of the most drastic stepaways, which simmers but still threatens to bubble over the top, he tries to convince us that he's "just a victim" and that he's actually "scared to fall in love." These lines contradict every drop of his sometimes boring, over-the-edge narcissism, which is especially grating in the title cut. But come to think of it, he may be a victim. Few women I know will put up with his sort of insistent cocksurety and remote badness in a relationship. This cartoon may be a ladies' man out of necessity.

Havelock Nelson

JONI MITCHELL:

Dog Eat Dog.

© Joni Mitchell, Larry Klein, Mike Shipley, and Thomas Dolby, prods. Geffen GHS 24074.



Tuneful, enticing, politically correct, Joni Mitchell's fourteenth album moves in subtly surprising ways. Formulated by Mitchell and a supporting cast of techno-wizards, the LP's arrangements—from the brisk, poly-rhythmic syncopations of "Fiction" to the looping clatter of a cigarette machine in "Smokin' (Empty, Try Another)"—glisten with a bracing, mechanical sheen. But the cool precision of sequential Fairlight samples and whip-track percussion patterns is tempered by warm, deftly layered jazz and folk accompaniments, like the drowsy piano and shakahachi drum haunting "Ethiopia," the serendipitous sax of "Lucky Girl," or the gliding harmony Michael McDonald lends to "Good Friends." These novel aural configurations seldom fail to allure.

In seven out of the album's nine full songs, Mitchell's unwavering liberal conscience compels her to take on everything

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from the disorienting effects of media saturation to tax-evading evangelists who preach war in God's name. Her proselytizing is undoubtedly sincere, but her lyrics, especially in "Fiction," "The Three Great Stimulants," and "Tax Free," are uncharacteristically pedestrian, even tiresome. She gets across the same conviction with clever, austere writing and clipped-punch delivery on "Shiny Toys," a droll electronic samba that playfully indicts yuppie materialism. "Good Friends" and "Lucky Girl" are more lighthearted and self-reflective. Even these, however, avoid examining Mitchell's recent transition from wandering romantic to married woman, an exposé many of her devotees may rightfully expect.

Rosemary Passantino

THE ROCHESES:

Another World.

Ⓢ Various prods. Warner Bros. 25321-1. ☐

Maggie, Terre, and Suzzy Roche, sisters from a nice Catholic family in deepest New Jersey, sound like choirgirls on acid. Three pretty and impressive voices romp through choral land taking zany risks; their freedom comes from an intense familiarity as sisters and as a trio.

Contrary to the album's title, the Roches' original songs on *Another World* seem more down-to-earth than the obfuscatory verses of their two previous releases; this return to literalness recalls their eponymous 1979 debut, only now the sound is more electronic than ever. Old admirers might balk, but why get upset when the results are positive? The title cut, with its loopy, mellow rock beat, typically confronts life's unfairness with droll wit: "I don't feel that great today/I have never felt that great/Don't tell me to exercise/Don't tell me it's what I ate/There's got to be another world." Ethereal harmonies remain sweet, even though an instrumental break is synthed. A crank-it-up treatment seems out of place on Suzzy's dreamy ballad "Love to See You," but electric guitar riffs bring off both "Missing," brother David Roche's ominous rocker about a vanished lover, and Maggie and Terre's "Gimme a Slice."

One thing that hasn't changed is the trio's offbeat sense of humor. In the catchy "Face Down at Folk City," a reference to the famous club where they themselves were first noticed, they goof gently on the scene there—bombing onstage, someone barfing in the bathroom—while punctuating the repetitive title chorus with blaring syllables. In "Older Girls," the Roches, who must admit

they're not college kids, quip about their love affairs and big career while speculating on the future: growing kids, rocky marriages, and expanding waistlines.

The late-Fifties vocal hit "Come Softly to Me" is an astute choice for dramatics, but this pleasant cover doesn't match the bolder choice and starker, a cappella rendition of Handel's "Hallelujah Chorus" that appeared on the group's last LP. In 1980 the Roches sang that selection on *Saturday Night Live*, forever relegating themselves to the wonderful but weird. *Another World* should soften their image a bit; fans will like it, too, if they give it a chance.

Kate Walter

THE DESCENDENTS:

Bonus Fat.

Ⓢ Spot, prod. New Alliance NAR 025. (Dist. by SST, P.O. Box 1, Lawndale, Calif. 90260.)

THE DESCENDENTS:

I Don't Want to Grow Up.

Ⓢ Bill Stevenson and David Turling, prods. New Alliance NAR 026.



GLENE FRIEDMAN/COURTESY NEW ALLIANCE

Starting out like everyone else with a handful of overlooked sides here and there, the Descendents emerged from L.A.'s South Bay scene in 1981 with their *Fat* EP, which sounded like the finest joke that punk (not hardcore) had produced since the Ramones. But where those New Yorkers plied jaded, fake street-smarts, the Descendents tempered punk's fury with goofy, West Coast ennui. That eight-song EP, coupled with both sides of a 1979 single, has now been reissued as *Bonus Fat*, and it confirms this group's stature as the original 11-second wonder.

That's the actual length of "Weinerschnitzel," the story of a boy and his fast-food lunch. It is, as far as I can document, the first song ever to mention bull sperm, and its 15-second companion piece, "I Like Food," is almost as short and to the point. Other highlights include "Mr. Bass"—about the fish, not the guitar—and the humorously scabrous "My Dad Sucks."

There was always more to this joke than first met the ear. "Hey Hey," for example, is

a catchy, Who-like anthem, while "Ride the Wild" is a first-rate pop song with a tuneful, faintly Spanish guitar solo from Frank Navetta, who offers solid riffing and bracing single-note runs throughout. Lead vocalist Milo's adenoidal, throat-searing Everypunk shout is just flexible enough to match his mood changes and make each song stand out.

Well, things change, and things stay the same. Milo, the brains of this operation, went to college, an event documented on the 1983 farewell album, *Milo Goes to College. I Don't Want to Grow Up*, the Descendents' new reunion album with Ray Cooper replacing Navetta, puts more emphasis on the quartet's pop sensibility. Along with the Ramones (still!), they're the only band to make punk's abandon jibe with Top 40's constraints. It helps that they've neither slowed down to a tuneless dirge nor speeded up to a faceless thrash, as has most punk-gone-hardcore, but what really makes the difference is the songwriting and singing.

The two obvious examples are "Can't Go Back," with its Mersey Beat feel and the hard-earned lessons of the lyric, and "Good Good Things," which builds momentum steadily before busting out into an urgent, jubilant love song. Listen closer to "Descendents," a Monkees-like anthem, and "Theme," a Captain Beefheart-influenced guitar instrumental. "Pervert" trades punk's usual Neanderthal sexuality for bawdiness. And while the album has its share of venom and cynicism, its authors choose their targets carefully and emerge as moralists on "Ace." They still walk the youth line on the title track, though: "You're a fool/And I refuse to be like you." Good luck, guys.

John Morthland

NEIL YOUNG:

Old Ways.

Ⓢ Elliot Mazer, David Briggs, Ben Keith, and Neil Young, prods. Geffen GHS 24068. ☐

The title of this LP does not refer to country music, which Neil says he likes a lot. It refers to drugs and liquor, which he says he doesn't like. I'm wondering where he stands on cigarettes. That's because so much of this album is straight from Marlboro Country, out there where the Lonesome High Plains Drifter meets the 101 Strings.

It didn't have to be this way. For all the ballyhoo surrounding his "career shift" toward Nashville, the fact is that Young has long been one of our most worthy country rockers, and he has cut much better stuff in this very same vein. (He's also the only man

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this side of mid-Sixties Dylan who has been able to wring nasty rock 'n' roll out of Nashville sidemen, but that's another story.)

Used to be that a straight country number offered a change of pace on a Neil Young album. A whole set of them makes him seem one-dimensional. He also has taken all the ambiguity out of his songs, and it was those mysteries that made him such a compelling figure. He pours a lot of feeling into "Once an Angel," but the words are strung together by clichés; they ring hollow. Ditto for tracks like "My Boy," "Get Back to the Country," and "Where Is the Highway Tonight," which tackle themes that he has wrestled with much more convincingly in the past. Drawn to the side of country music that romanticizes and sentimentalizes, Young winds up trivializing his subjects. The sole exception is "Misfits," a surreal space parable squarely in the tradition of unsettling Young songs: The various parts don't seem to make sense, but somehow they fit together.

Stolid Nashville production and arrangements put the weight on the tearjerkers, too; you'll find only a suggestion of the instrumental interplay that characterizes Young's best work, though fiddler Rufus Thibodeaux is the unsung star of this album. Neil wants to draw attention instead to Waylon Jennings and their five duets together, a combination that blends like oil and water.

Neil Young has always been a chameleon, changing radically from one release to the next. But in doing so he never renounced his past; he simply revealed different sides of the same person. With songs like "Get Back to the Country" and the title cut, he clearly wants to take back everything—including a lot of work that puts *Old Ways* to shame. Adios, hoss. *John Morthland*

VARIOUS ARTISTS:

Songsters and Saints, Vol. 1.

Ⓢ *Gef Lucena, prod. Matchbox MSEX 2001/2002 (2).* (Distributed by Qualiton Imports, Ltd., 39-28 Crescent St., Long Island City, N.Y. 11101.)

From Bessie Smith to B.B. King, the blues has been the most popular and respectable form of Afro-American folksong. Unfortunately, the immense amount of attention given this genre by the recording industry has obscured all the other successful styles that once existed in this country. Vaudeville and ragtime, ballads and street-corner sermons—the two-volume time capsule of *Songsters and Saints* permits us to view rural black America as it was in the 1920s, when medicine and tent shows provided

most of the entertainment and evangelists traveled from town to town soliciting new congregations.

Don't think these songs are merely quaint and humorous relics of a bygone era, useful for little else besides sociological analysis! Many of them will sound familiar; did you know that "He's in the Jailhouse Now" originated on the medicine show circuit long before it was a hit for Jimmie Rodgers? Or that the perennial folk ditty "Railroad Bill" is based on the exploits of Alabama fugitive Morris Slater, who was to Southern blacks what Pretty Boy Floyd was to the Okies?

The first volume of *Songsters and Saints* contains fascinating examples of very early music, too, more African than American, such as "Beans," which is rendered without chords in a style reminiscent of the kora-accompanied vocals of the Mandingo. Subject matter ranges from poverty and oppression ("Furniture Man") to farm life real and idealized to a number of spiritual parodies ("I Heard the Voice of a Pork-Chop"). The "Songster" sides also include a few minstrel show selections ("coon" songs), which, if taken literally, present demeaning/racist stereotypes. But as Paul Oliver points out in his liner notes, when they were performed, tongue-in-cheek, entertainers turned these songs around to validate the image of the black man as a successful hustler; look, for example, at the "Mysterious Coon" who gives the judge a thousand dollars and says, "Keep the change."

To appreciate the "Saints" material, keep in mind that the two or three minutes available on a 78 created a challenge for even the best preacher. So the Rev. Isaiah Shelton's hurried version of "As the Eagle Stirreth Her Nest" cannot compete with C. L. Franklin's LP of the same title. However, the compressed power and eloquence of these minisermons have their own appeal.

Songsters and Saints is the musical counterpart to Oliver's new book published by Cambridge University Press. The questions posed by his research are intriguing: What type of music did black Americans play before the blues? How did black popular music of 100 years ago relate to the mainstream? How did instrumental music, once forbidden, enter the black church and create the powerful gospel styles we know today? Recorded material other than blues is hard to come by, and Oliver has done a commendable job of collecting it. If his research asks more questions than it answers, that only proves how much we have yet to learn about the pre-blues era. *Joe Blum*

(Continued from page 22)

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Golden Oldies Coming to CD. Theodore W. Libbey, Jr. Medley, July.

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Lewis, Jerry Lee: *18 Original Sun Greatest Hits*. Jeff Nesin. Mar.
London Symphony: *Orchestral works*. (Gould.) Robert E. Benson. July.
Metheny, Pat, and Lyle Mays: *As Falls Wichita, So Falls Wichita Falls*. Sam Sutherland. Jan.
Pepper, Art: *Winter Moon*. Michael Ullman. Mar.
Pepper, Jim: *Comin' and Goin'*. Michael Ullman. Dec.
Rollins, Sonny: *Brass/Trio*. Steve Futterman. Jan.
Schubert: *Piano Sonatas*. (Richter.) Shirley Fleming. Feb.
Scofield, John: *Electric Outlet*. Michael Ullman. June.
Second Course. (Mini-reviews.) Robert E. Benson. Dec.
Tacuma, Jamaaladeen: *Renaissance Man*. Steve Futterman. Apr.

Tyner, McCoy: *Fly with the Wind*. Michael Ullman. Oct.
Vaughan, Sarah: *Sassy Swings Again*. Michael Ullman. Feb.
Vaughan Williams and Delius: *Orchestral works*. (Handley.) Theodore W. Libbey, Jr. Apr.
We Are the World. Jeff Nesin. Oct.
Weber: *Symphonies Nos. 1 and 2*. (Sawalisch.) Roger Dettmer. Mar.
Williams: *Close Encounters, Star Wars Suites*. (Gerhardt.) Robert E. Benson. July.

Composers and Musicians

Bach: 1985—A Banner Year in Music. Theodore W. Libbey, Jr. Apr.
Bang, Billy, and John Blake: *Playing for Keeps*. Francis Davis. May.
Beethoven: *More Treasures from Dresden*. Theodore W. Libbey, Jr. Medley, May.
Constant, Marius: *Revisiting The Twilight Zone*. Marius Constant. Medley, Apr.
Dixon, Dean: *When the Doors Didn't Open*. Noah André Trudeau. May.
Gerhardt, Charles: *Digestible Fare*. Robert E. Benson. July.
Gershwin: *Discovering Gershwin*. David Patrick Stearns. June.
Handel: 1985—A Banner Year in Music. Theodore W. Libbey, Jr. Mar.
Harris, Craig: *If It Sounds Good, It Is Good*. Francis Davis. Oct.
Kondrashin, Kiril: *A Tribute*. Robert E. Benson. Jan.
Madonna: *Madonna Phenomena*. Georgia Christgau. Medley, Sept.
Masekela, Hugh: *The Fela in Masekela*. Leslie Berman. Medley, Oct.
Parachute Club: *Canadian Club*. Susan Gallardi. Medley, July.
Perahia, Murray: *Success Is an Anglo-American Alliance*. Edward Greenfield. Mar.
Rattle, Simon: *Simon Rattle and the Seriousness of Sibelius*. Paul Griffiths. Jan.
Scazzano, 1985—A Banner Year in Music. Michael Fleming. Dec.
Schütz: 1985—A Banner Year in Music. Michael Fleming. Nov.
Solti, Georg: *Messiah* Done Solti-style in Chicago. David Patrick Stearns. Apr.
Welitsch, Ljuba: *A Force of Nature*. Bert Wechsler. Feb.
Welitsch, Ljuba: *More Welitsch on Disc*. Robert E. Benson. Feb.

Featured LP/Cassette Reviews

Anger/Higbie Quintet: *Live at Montreux*. Leslie Berman. Aug.
Bach: *Various releases on Teldec*. James Wierzbicki. Aug.
Bernstein: *West Side Story*. (Bernstein.) Terry Teachout. Nov.
Carlos, Don: *Just a Passing Glance*. Crispin Sartwell. May.
Cervenka, Exene, and Wanda Coleman: *Twin Sisters*. Rosemary Passantino. Oct.
Chabrier: *L'Étoile* (Gardiner). *Le Roi malgré lui* (Dutoit). Harry Halbreich. July.
DeJohnette's Special Edition: *Album Album*. Steve Futterman. Feb.
Donizetti: *L'Elisir d'amore*. (Wallberg.) Gregory Sandow. Dec.
Dread, Mikey: *Pave the Way*. Crispin Sartwell. May.
Evans, Bill: *The Complete Riverside Recordings*. Steve Futterman. July.
Gladiators: *Serious Thing*. Crispin Sartwell. May.
Gould, Glenn: *The Glenn Gould Legacy, Vol. 1: J. S. Bach*. Thomas Hathaway. Apr.
Handel: *Various releases on Teldec*. James Wierzbicki. Aug.

Knitters: *Poor Little Critter on the Road*. Rosemary Passantino. Oct.
 Lindsay, Arto: *Envy*. John Piccarella. June.
 Los Lobos: *How Will the Wolf Survive?* Mark Moses. Mar.
 Mozart: *The Portable Mozart*. (Works compiled by Time-Life Music on 16 cassettes.) R. D. Darrell. Aug.
 Mussorgsky: *Boris Godunov*. (Fedoseyev.) Harry Halbreich. May.
 Ono, Yoko: *Every Man Has a Woman Who Loves Him*. Leslie Berman. Apr.
 Parker, Charlie: *Charlie Parker on Verve, 1946-1954*. Francis Davis. Mar.
 Presley, Elvis: *A Golden Celebration*. Mitchell Cohen. Feb.
 Prior, Maddy, and June Tabor: *Silly Sisters*. Leslie Berman. Jan.
 Puccini: *Turandot*. (Maazel.) Paul Hume. Mar.
 Renbourn, John: *Sir John Alot Of*. Steve Futterman. Jan.
 Schoenberg: Vocal and instrumental works. (Boulez.) Paul Moor. June.
 Shear, Jules: *The Eternal Return*. RJ Smith. Sept.
 Strauss, R.: *Der Rosenkavalier*. (Karajan.) Paul Moor. Jan.
 Velvet Underground: *VU*. Michael Hill. May.
 Waits, Tom: *Anthology; Rain Dogs*. Michael Hill. Dec.
 X: *Ain't Love Grand*. Rosemary Passantino. Oct.

Recordings

12-inch Report. Vince Aletti. Jan., Apr., June, Sept.
 18th Annual High Fidelity/International Record Critics Awards. Theodore W. Libbey, Jr. Dec.
 800 Upcoming Recordings. (Annual classical preview.) Sept.

Alive and Well. (Pro Arte's American Artists Series.) Theodore W. Libbey, Jr. Medley, Dec.
 Arthur Baker's Makeovers. Crispin Cioe. Apr.
 Back in Business. (Jazz mini-reviews.) John S. Wilson. Dec.
 Birthday Greetings from Hungary. Bálint András Varga. Notes from Underground, Nov.
 Black and Tan Fantasy. (Various Cotton Club artists.) Pamela Bloom. Feb.
 Blue Notes. (Mini-reviews of Blue Note releases.) Various writers. Sept.
 Bond Cycle. (James Bond soundtracks.) Noah André Trudeau. Aug.
 ECM Improvises. Steve Futterman. Medley, Apr.
 Film Crop 1984. (Soundtrack mini-reviews.) Noah André Trudeau. June.
 Flygirl Fights Back. ("Roxanne" singles.) Havelock Nelson. Medley, June.
 Lone Wolves. (American bands and independent labels.) Georgia Christgau. Medley, Mar.
 Made in the U.S.A. Theodore W. Libbey, Jr. Medley, June.
 Magyar Offerings. Bálint András Varga. Notes from Underground, June.
 More News from Britain. Edward Greenfield. Notes from Underground, Aug.
 Musical Rx. (Cassettes for "walkabout" listening.) R. D. Darrell. Feb.
 Not Fade Away. (Rock reissues.) Wayne King. July.
 Punked Out. (Various hardcore artists.) John Morthland. Jan.
 Signs of Life in Britain. Edward Greenfield. Notes from Underground, July.
 Worthy Cause: American Music. Theodore W. Libbey, Jr. Medley, Aug.
 Writing on the Wall. (Industry trends.) Theodore W. Libbey, Jr. Medley, Sept.

Video Articles

Guess Who's Coming to Dinner. (*Liquid Sky, Repo Man, Smithereens, and Stranger Than Paradise*.) John Piccarella. Nov.
 Les Blank's Americans. RJ Smith. Mar.

Video Reviews

Country Music on Broadway. John Morthland. Nov.
 Doors: *Dance on Fire*. John Piccarella. July.
 Everly Brothers: *Rock 'n' Roll Odyssey*. Michael Hill. Feb.
 Last Polka. Joyce Millman. Nov.
 Longhair, Toussaint, and Washington: *Piano Players Rarely Ever Play Together*. John Morthland. July.
 "One Night with Blue Note" Preserved. Vols. 1 and 2. Steve Futterman. Nov.
 Ono, Yoko: *Then & Now*. Leslie Berman. Apr.
 Rock and Roll—*The Early Days*. Jeff Nesin. Apr.
 That's the Way of the World. Mark Moses. Nov.
 This Is Spinal Tap. Joyce Millman. Nov.

Miscellaneous

Big Buzzard. (Cleveland's WMMS-FM.) Jonathan W. Poses. Medley, May.
 Hold Your Nose and Speak Out. (Sexual violence in rock lyrics.) Caryl Rivers. Medley, Dec.
 Let's Get Trivial. (Rock quiz.) Billy Altman and Jeff Nesin. Aug.
 Rock 'n' Roll Feels the Fire. (Censorship of lyrics.) John Morthland. Dec.
 Studio Grows in Brooklyn. A. Don Palmer. Medley, Aug.
 Trivia Pursued. (Rock quiz answers.) Medley, Nov.

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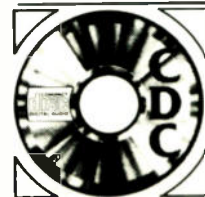
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SHEILA E.

(Continued from page 65)

tion have abounded in the press, "nasty rumors" Sheila coyly alludes to in her recent "Sister Fate" video. Their debut together was on his "Erotic City," the B-side of *Purple Rain's* "Let's Go Crazy," where Sheila's viscous vocal timbre shadows Prince's pungent baritone—an odd combination that works. Prince apparently saw a lot more in Sheila than a mere backup singer. "While I was playing traps on *Apollonia 6*, I would watch him work in the studio, and it seemed so easy. He finally asked, 'Why don't you do your own thing?' And I answered, 'I don't have anything to give the public.' He said, 'Yes, you do, just be yourself.' And that's really *all* he said."

But it's hard to believe that's all he did. The metamorphosis that followed in 1984—clipping her last name to a letter and propelling her like a comet to center stage—took a nice, okay-attractive girl with a big Afro and bonged her into the sexiest of Latin donnas, wrapped in furs, dripping with diamonds, her drumsticks tucked thigh-high in her stockings. The look, Sheila claims, was self-induced, but no woman, no matter how talented, learns to make herself up overnight. And her *Romance 1600* persona presents another drastic change. Influenced by the movie *Amadeus*, Sheila explains, the band dresses French-style c. 17th century (so much for historical accuracy). And she herself comes on like a punked-out Cherubino. (In this trouser role from Mozart's *The Marriage of Figaro*, a mezzo-soprano plays a horny young male page on the verge of discovering his sexuality.) The look is clearly androgynous, and many of Sheila's lyrics hint at a social inclination that's not sticking to the straight and narrow. At the very least, she's not the kind of woman likely to conform to a traditional sexual role. In fact, her real spirit seems to belong more to the if-you-can't-join-them, beat-them school.

During a recent television interview, Sheila E. did credit Prince with teaching her to write fast. "He didn't exactly teach me. I watched and I wanted to learn. I used to spend a week or two thinking about a song. Now I go into the studio and write the music in about ten minutes. First the rhythm tracks, then the story, and when I put them together, a melody comes out." What Prince himself hasn't yet learned, however, is that spontaneous creation doesn't always work. Although Sheila's big ideas are often novel (a love song

to Michelangelo, a playful rap about childhood masturbation), her lyrics often sound as facile as his, sometimes more so. In fact, the tedious "Love Bizarre," which they co-wrote, is *1600's* most ironic disappointment for two live wires who ought to be in the middle of Times Square dodging traffic.

Where Sheila comes into her own is in her mastery of studio technique, by which she turns everything in sight—including her own barks, snorts, and trills—into a percussion instrument. She even uses the studio as an instrument, counterposing rhythm tracks and inventing the oddest aural gadgetry, including cymbal crashes sucked up into a vacuum and little cries that shatter like glass. Thanks to her Atari-like nursery tunes, "Toy Box" becomes a romper room full of prepubescent sexuality, capped by disjunct stream-of-consciousness lines that recall the humor of a Molly Bloom. The lyrics of "Dear Michelangelo" might reduce the world's greatest artist to a mere bedfellow, but the syncopation on his name is well worth the listen. Two songs in particular, though, set her apart from her mentor. The instrumental "Merci for the Speed of a Mad Clown in Summer" is a Charles Ives delight of crossing bands, sour circus tunes, and cracking lion whips, held together by Eddie Minnefield's careening sax riffs. "Bedtime Story," addressed to "the prince who had no time," is a bluesy confession whose final, tender good-night—talk-sung in the most pathetic little-girl voice—is left hanging, painfully unanswered. Not surprisingly, this was no ten-minute job, she told me. "I just started to sing, and I couldn't stop."

In performance, Sheila exudes that unflagging, combustible energy that makes you want to jump up, grab a drumstick, and pound away on the nearest hard surface. At this point in her career, however, she is fighting an uphill battle. As a female percussionist and leader of her own band, she is razing musical and social barriers that few women have even tried to surmount. And stepping out from the shadow of a genius (especially a male one who triggers her most powerful commodity—vulnerability) is no easy trick either. But music runs like blood in Sheila E.; her recent acting debut in *Krush Groove* proves she only truly comes alive at the sound of a backbeat. Whether she can learn to be herself—by herself—remains to be seen . . . and heard. ●

Advertising Index

Aiwa America, Inc.	Cover IV
Army	24
Audio Technica U.S. Inc.	5
Bose Corp.	40, 41
Carver Corp.	6
Discwasher, Inc.	4
Ford Audio Products	8, 9
Harman Kardon	32A-32H
Illinois Audio	76
J & R Music World	69
LaBelle Camera & Stereo	73
Maxell Corp.	15
NEC	Cover III, 25
New York Wholesalers Warehouse	71
Onkyo U.S.A Corp.	31
Perreaux	22, 23
Pioneer Video	17
Polk Audio, Inc.	12, 13
Radio Shack	2
Sansui Electronics Corp.	Cover II
Shure	11
Siefert Research	20
Sony Corp. of America	18
Sound Reproduction	74
TDK	10
Technics	7
Wisconsin Discount	71
Yamaha	26

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