

How to Buy Loudspeakers

Winning Oddball Audio Fetishes!

HIGH FIDELITY

AUDIO • VIDEO • TEST REPORTS • MUSIC

JUNE 1989

HOW TO PICK THE WINNING SPEAKER!

A Shopper's Guide To Getting the Best Sound for Your Money

We Test 4 Hot New Loudspeakers from Bose, Precise, B&W, and Ohm



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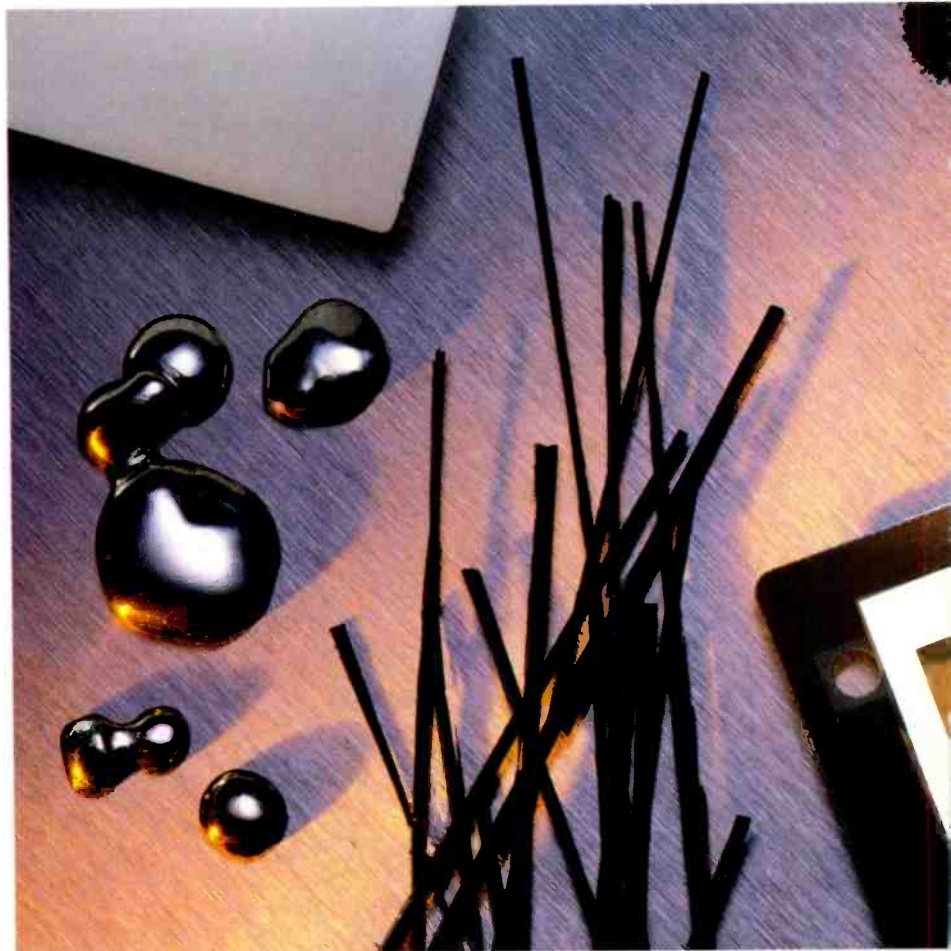
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HIGH FIDELITY

JUNE 1989

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On the cover (clockwise from the left): The Precise Monitor 3 loudspeaker (with and without front grille); the Bose 401 loudspeaker; the B&W Matrix 3 Series 2 loudspeaker; and the Ohm CAM-16 loudspeaker.



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When Less Is More

By Michael Riggs

Horsepower races are nothing new in audio. The number of drivers in the loudspeaker, the number of watts in the amp, and, most recently, the number of bits per sample or samples per second in the CD player are often taken as indexes of quality: "the bigger the better" usually. The logic behind these competitions tends to be a little half-baked, but often there is some reasonable premise from which it all springs.

Soon we will see how easy it is to put one of these races into reverse, when the first 1-bit Compact Disc players hit the market. I just returned from a visit to Philips headquarters in the Netherlands, where development of a line of single-bit digital-to-analog converters (DACs) and support chips is virtually complete. Based on what the company calls Bitstream technology, the new chips represent a fundamental break from previous methods of D/A conversion and a sharp about-face from the recent trend toward the use of 18- and 20-bit DACs in an effort to obtain the best possible low-level linearity when playing the 16-bit data encoded on CDs.

This is an interesting story from almost every angle, and one whose significance extends far beyond Philips's own players, since the company will be selling these new chips to other manufacturers (including some of the biggest in Japan), just as it now sells its 16-bit DACs to competitors. In one respect, the story is almost sociological: the giant European manufacturer's tendency to go its own way. Its first players, sold here under the Magnavox label, used 14-bit DACs with oversampling digital filters and noise shaping to achieve the 16-bit performance obtained by other manufacturers through more conventional techniques. The company's current 16-bit converters are based on an unusual—perhaps unique—design for which the engineers claim several benefits, including superior linearity and stability of performance. And now comes Bitstream.

I won't dwell here on the technology behind Bitstream, as we will have a good deal to say about it and similar technologies (such as Matsushita's MASH) in a future article. But the basic idea, as Philips puts it, is to make the converter more digital. The reason it's now so difficult to maintain very good linearity, and thus low distortion, at low signal levels is that the conversion process depends on almost impossibly accurate adjustment of circuit elements or currents within the DACs. That problem goes away with a single-bit converter, whose output can have only two states, as opposed to the more than 65,000 required of a conventional multibit DAC of the type used in today's CD players.

At this point, you're probably wondering how a device with only two output states (+1 and -1, in this case) can reconstruct an analog waveform of continuously varying amplitude. The answer, for Bitstream, is 256-times oversampling, sophisticated digital filtering, and something called pulse-density modulation output. This is the heart of the matter technically, and the bit I will leave for further explanation later. What's key, however, is that it should guarantee near-perfect linearity over the entire dynamic range of which the Compact Disc system is capable—from full amplitude to below the system's noise floor.

At first, players using 1-bit DACs will fetch premium prices, but in time the technique will filter down to very inexpensive models, for much the same reason that you now find digital filters everywhere you turn: cost. Ultimately, a good digital circuit tends to be cheaper than an equally good analog one. The only significant advantage of the oversampling digital filters used in the vast majority of today's CD players is that they permit the use of much shallower, and thus much simpler, analog output filters than are needed for straight 44.1-kHz conversion. These are far easier and less expensive to make than a "brick wall" 20-kHz analog filter that doesn't adversely affect response within the audio band. Eventually, a similar situation probably will apply to 1-bit DACs: They will be cheaper than equivalently linear 16- or 18-bit converters. □

ALOHA, AKAI

It was with great dismay and frustration that I read your report "Au revoir, Akai" ["Tape Tracks," February 1989]. Akai made some of the world's classiest-looking cassette decks, especially during the early '80s. But as to why they stopped selling in the United States, the reason is very simple: The American market does not reward innovation, high quality, and a better deal. For example, let's use the old Beta-vs.-VHS debate. Beta was clearly better (at least until the advent of Super VHS), but it lost out to the superior marketing of an inferior product. I always said, "You pay more for less with VHS."

Akai conquered the most inconvenient aspect of the VHS format with its Quick Start VHS machines that loaded tape like Beta decks. I was waiting for Akai to produce its first Quick Start S-VHS model, but alas, that option seems lost for good. Only Akai had the guts to admit to the major flaw in VHS. But since the public at large has never learned how convenient the Beta tape-loading system is, how could the American buyer—ordinarily an unin-

formed or misinformed patsy for the quick sell—ever discover the beauty of Akai's innovation?

Yes, I was upset that Akai gave up the U.S. market, but not surprised.

Chris Warner
Little Rock, Ark.

OXIDIZING DISCS (AGAIN)

I have just been hit with a disturbing rumor. A friend was told by his chemistry instructor that Compact Discs being sold today are not airtight in design and that the inner platter and all information thereon will oxidize into uselessness in about seven to eight years. Should I cry now over the LPs I have sold and replaced with CDs, or is this only irresponsible behavior on the part of an academic nitwit?

D.R.M.
no address given

A problem has been reported with some CDs pressed by the British company Nimbus, caused by corrosive inks used on the labels. These red and black inks are, to our knowledge, not now being used by any CD

manufacturer. This appears to be an isolated instance, however. And the reflective layer on a poorly sealed CD will oxidize, usually rather quickly. In general, however, there does not appear to be any reason to expect long-term deterioration of more than a handful of discs that are not obviously defective shortly after manufacture.—Ed.

DISAPPOINTED

I was disappointed with my first subscription issue of HIGH FIDELITY. The September 1988 cover prominently featured a JVC HR-S8000U Super VHS Hi-Fi VCR. However, the magazine contains no review or even any comment regarding that product. Why would you display a new product on your cover that is not even discussed in that issue of your magazine?

Morton Frisch
Sherman Oaks, Calif.

We regret your disappointment. Sometimes a product may appear on the cover simply because it illustrates a theme. In this particular case, however, we had planned a review of the HR-S8000U that had to be post-

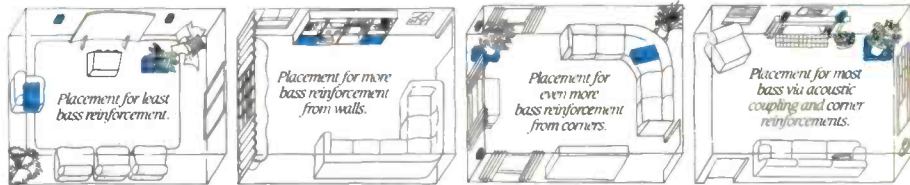
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Julian Hirsch
Stereo Review, Sept. '88

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What Henry Kloss tells his friends:

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

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

poned at the last minute because of technical difficulties in completing the report; there was no time to change the cover. A review of the VCR appeared in the December 1988 issue.—Ed.

A SIGHT TO BEHOLD

I read with interest J. I. Espinosa's comments regarding Compact Disc players and the invisibility of their operation ["Letters," December 1988]. There is some hope, however. Most, if not all, Technics CD players have an illuminated disc window. Though you can't actually see the laser, the spinning CD is quite a sight—especially to my nineteen-month-old son!

Jeff Jacobsen
Atlanta, Ga.

CD PINHOLES

In a recent issue of your magazine, mention was made of some Compact Discs having defective backing material. Many of my CDs have been making impossible blurred sounds. Holding them in front of a strong light, I find that all the ones making

weird sounds have holes in the backing material. In fact, all of my discs have a few pinholes—even those that sound okay. Am I doing something wrong? My CDs enjoy minimal use and good care; my player is an Emerson CD-150A.

A. P. Styskel
Murphys, Calif.

Virtually all CDs have at least a few tiny holes in their reflective layers. These normally are of no audible consequence, as the errors they cause usually can be corrected by the player. Big or extremely numerous pinholes would be expected to produce not "blurred" sounds but no sounds at all; they will cause the player to mistrack. If you are hearing problems with many of your discs and you care for them as well as you say, the cause probably is a design deficiency or defect in your CD player.—Ed.

A MODEST PROPOSAL

Period instruments in the works of Haydn, Mozart, and Beethoven sound great. The strings have a wonderful bite and resonance, the woodwinds are justly promi-

nent, the brass—especially in fanfare-like tutti passages—are for the first time given their just due, and the timpani sound like true percussion instruments rather than water mattresses.

What remains intolerable is the forte-piano. Even the best exemplars I have encountered sound clunky at best, like bar-room pianos. The solution to this problem is to combine a modern piano—at least one with the timbral properties of, say, one of Glenn Gould's instruments—with a period-instrument orchestra. This of course is only a suggestion for performers; music history teachers could keep their forte-pianos for accurately reconstructing the musical past.

So how about it, Hogwood, Gardiner, Brüggén, and the rest? Which of you will have the guts to do it first?

Jacob Opper
Gaithersburg, Md.

Questions of pitch aside (that is to say, dropping the standard modern piano's A from 440 to around 415), problems of balance and blend in concerted performance would

bass units can be tucked out of the way—on the floor, atop bookshelves, or under furniture. The satellites can be hung directly on the wall, or placed on windowsills or shelves. No bulky speakers dominate your living space, yet Ensemble reproduces the deep bass that no mini speakers can.

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make your solution unappealing to most of the period-instrument conductors we know. Fortepianos actually do sound "clunky," but the situation is not helped by their tendency to go out of tune while they are being played and, on recordings, by the appalling number of instruments that are poorly tuned to begin with. One hope, it appears for the moment, is for builders to work on improving the tone of their fortepianos . . . which of course was the process that led to the development of the modern concert grand in the first place. The question is: Where do you stop?—Ed.

NEW LAMPS FOR OLD

In reviewing Eduard van Beinum's recording of Handel's *Water Music* ["The CD Spread," January 1989], Robert E. Benson reported that "although an error in the CD booklet indicates that the Handel . . . is a mono recording, Philips advises that it is in fact stereo and will be labeled correctly as such in future pressings."

This recording, however, was also issued in mono, as LC 3551—which may account for the company's error. It is one of my most cherished recordings, and having read the caveats in Mr. Benson's review, I'll hang on to it and not replace it with the stereo CD. The reviewers' comments are of great value in cases like this, where an unknowing collector could make an unequal exchange of the beloved old for the quirky new.

Leonard Harrison
San Francisco, Calif.

MORE VINYL!

I am particularly interested in reviews of popular, rock, and jazz records—that is, LPs, not CDs. This category gets less and less coverage in HIGH FIDELITY—to the point where you are close to losing me as a subscriber.

J. M. Cox
Stone Mountain, Ga.

The amount of space in the magazine devoted to the "Backbeat" section has remained essentially unchanged for a long time. However, the proportion of recordings reviewed in the CD format has increased steadily as that medium's share of the market has grown (Compact Discs now outsell LPs). If you are interested primarily in the content of a release, a reviewer's comments on the CD should be equally applicable to the LP version, if one exists. Although there often are differences in sound quality between the two versions, the basic character of the sound usually is unaffected. In other words, reviews of CDs should in most cases

be useful to you even if you intend to buy only LPs. Be forewarned, however, that the LP is a dying medium. The day is coming when you will find it very hard to locate all the music you want on vinyl.—Ed.

SO MUCH FOR RICHARDSON AND EDDY

I was reading and thoroughly enjoying your December 1988 issue until I reached page 76, where I encountered Ken Richardson's review of Jimmy Page's *Outrider*. I find Mr. Richardson's approach unprofessional and immature: He seems more interested in putting down other groups—such as Van Halen, Cinderella, and Poisson—than in reviewing Page's album.

Although I am not a fan of those groups, I am very upset by Mr. Richardson's mockery of Eddie Van Halen, whose solos he calls "Speedy Van Name 'Em finger exercises." I respect Mr. Van Halen and can appreciate his incredible talent. As two of the best five rock guitarists, Page and Van Halen are both legendary heroes. They are, however, very different stylists.

If Mr. Richardson wishes to publish his own personal opinions, then let him buy his own magazine. Reviews such as this are bad for business and can result in a reduction in the number of subscriptions.

Jay Tabac
Montreal, Quebec
Canada

The pop half of the February 1989 "Medley," Chuck Eddy's "It's Zouk to Me," has to be down there among the worst in the magazine's history. "Ugly American guilt complex . . . cosmopolitan condescension . . . pronounced lust . . . pompous." Indeed. Popular Music Editor Ken Richardson's own columns are usually bad, which is probably why he often farms out his portion of "Medley," but Eddy's bozo journalism trying oh so hard to be gonzo deserves special recognition. To be fair, though, his album reviews in the same issue are only slightly less terrible. This guy actually likes Madonna and Poison. Chuck, it's better to remain silent and be thought a fool than to speak up and remove all doubt. To paraphrase, this college-educated Midwestern white guy also finds something missing.

Please ship editor Richardson and reviewer Eddy off to *Popular Mechanics*, where they can write about fanbelt squeal and refrigerator hum.

Ed Hassler
Jamestown, N.D.

Chuck Eddy replies: North Dakota is a Prairie state. The Midwest ends at Fargo.

Ken Richardson replies: It seems my cute little phrase in the Jimmy Page review is a bit too cute for its own good. When I wrote, "If Page is an outrider . . . it's because his solos are deliberate and not Speedy Van Name 'Em finger exercises," I meant not to slam Eddie Van Halen but to attack the legion of post-Eddie guitarists who think a solo is merely the time to see how fast they can play. I like Eddie a lot, but I like him as much for his slowburning breaks ("Jamie's Crying," "I'll Wait," "Why Can't This Be Love") as for his gymnastics. The problem with so many metal guitarists these days is that form has replaced content. Accordingly, my "Speedy Van Name 'Em" phrase is intended as a short way of saying, "Fill in the blank with any Fast Buck Freddie you care to mention."

Meanwhile, in only three sentences do I put down other groups (and in each case, it's to make a specific comparison). And hey, I always thought a good place for personal opinions is a review—not to mention our "Letters" department. Not to mention my half of "Medley," which, as I outlined again in April, is often "farmed out" to readers, too, in an effort to help fans and critics snuggle up together. Then again, with two readers so eager to actually ship me and Chuck off to another magazine, maybe we should start our own fishwrap—with Messrs. Tabac and Hassler as advertising directors—and call it something like Poison/Counterpoison.

BIRD SIGHTING IN SAUDI ARABIA

"Parker's Brood," Richard C. Walls's February 1989 survey of recent Charlie Parker CDs, must have been appreciated by all jazz fans and CD collectors. May I add one more title? It's *Bird '47* (Vogue 600124; dist. by Rounder), and it includes the following cuts: "Lover Man," "Dark Shadows," "Hot Blues," "Cool Blues," "Dewey Square," "Superman," "Bird of Paradise," "Embraceable You," "Bird Feathers," "Klactoveesedstene," "Scraple from the Apple," "My Old Flame," "Out of Nowhere," "Don't Blame Me," "Drifting on a Reed," "Quasimodo," "Charlie's Wig," "Bongo Beep," "Crazeology," and "How Deep Is the Ocean."

I bought this CD in Jeddah, Saudi Arabia, of all places. Actually, there are several CD shops there, with the largest carrying a very good selection of jazz titles—though they are quite expensive compared with American CDs.

Clyde Allen
APO New York, N.Y.

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

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RISING ABOVE THE CD JUNGLE





For most people, buying a CD player is a lot like taking a short stroll along the Amazon. And forgetting your map. Sooner or later, you're going to get lost.

That's because the "jungle of misinformation" about CD players makes it difficult to know what's really important. And what isn't.

Take a quick look at some of the claims—digital bit structures (what are they, anyway?) ranging from 1 to 45. Oversampling rates from 2x to (quick, who's got the latest?) 16x. All this for the sake of a numbers race. And not necessarily for the sake of the music.

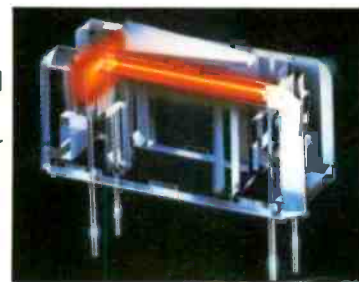
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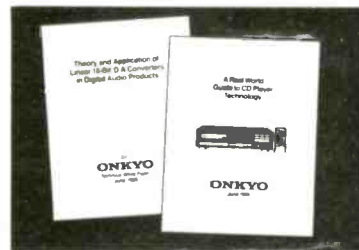


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Turntable maker Dual expands into electronics, with 11 offerings in all.

Dual Identity

Already known for its turntables, West Germany's Dual has launched a line of 11 electronic components, including the PA-5060 integrated amp (\$399), the CT-5040 AM/FM tuner (\$249), the CD-5070 Compact Disc player (\$450), and the CC-5850 cassette deck (\$450). These three units are also part of the company's "Audiophile Concept" line. The European-designed pieces are currently being distributed in the United States by New York-based Ortofon.

Dual's PA-5060 is rated at 60 watts per channel and has an instantaneous peak-current capability that is said to exceed 21 amperes. All that current is supplied by way of a heavy-duty power transformer, large storage capacitors, and double-parallel output stages. A switchable input lets you use either a moving-coil or moving-magnet phono cartridge. Other features include connections for a tuner, CD player, two video sources, and two tape decks; bidirectional dubbing; a variable headphone output; bass and treble controls; and a tone-defeat switch. The CT-5040 is an AM/FM digital frequency-synthesis tuner with 40 AM/FM presets. Stations can be tuned by direct keypad entry of the frequency or by automatic scan.

The 5070 CD player features a 16-bit D/A converter and a two-times oversam-

pling digital filter. Additionally, the unit has 16-track random access and a 12-function remote that duplicates most of the controls on the front panel. Dual's 5850 cassette deck is a two-motor design with a full-logic microprocessor-controlled transport. Noise reduction includes both Dolby B and C and HX Pro headroom extension as well. The front panel also has a switchable multiplex filter, used when recording FM broadcasts. *Ortofon, 122 DuPont St., Plainview, N.Y. 11803.*

In the Groove

Five new stereo phono cartridges comprise Signet's Analog Master Series, all of which feature the company's proven Twin-Flux design and special PCOCC pure copper wire for the coils. The Twin-Flux design uses two magnets instead of the conventional single magnet; each of the stereo channels has a dedicated moving magnet located at the ideal geometric plane for optimal pickup of the corresponding channel and minimum response to the opposite channel. Signet claims this approach enhances stereo separation and imaging, decreases record wear, and improves tracking as well as high-frequency tracing.

Signet said its goal for the new line is to offer cartridges that can resolve every bit of music in a recording, whether that disc

was mastered with digital, direct-to-disc, or conventional techniques. Every cartridge in the series is distinguished by different stylus and cantilever combinations, at varying prices (\$100 to \$450) and performance levels. The flagship AM-50 (\$450) features a nude, square-shank MicroLine diamond stylus and a gold-plated beryllium cantilever. Frequency response is specified as 5 Hz to 37 kHz; tracking force is 0.8 to 1.6 grams. Channel balance is said to be within 0.05 dB. Rated channel separation at 1 kHz is 33 dB; at 10 kHz, 25 dB. Cartridge weight is 6 grams. It's available in a standard 1/2-inch mounting. *Signet, 4701 Hudson Dr., Stow, Ohio 44224.*

Safe Keeping

It's been said that if somebody really wants to steal something from your car, that person will find a way to do it. With that in mind, you might want to make it as difficult as possible for potential thieves to rip you off. One possibility is a steel safe designed for storing valuables in your car. The Car-Safe 5000, available in two sizes (\$139, \$149), is made of 11-gauge, 1/8-inch steel and has a removable lid and high-security Tubar lock. The company says this lock resists picking, vice grips, torque, and drive-through attempts—more than 2,500 pounds of prying force being needed to open it by unauthorized means. The larger 5000 (12 inches wide by 12 long by 3 1/2 high) can hold a typical transportable telephone. Both the large and smaller version (9 1/2 by 11 1/2 by 2 1/4) will hold a removable stereo head unit as well as a micro radar detector.

For medium security, the Car-Safe 2500 (\$99) is constructed of 14-gauge, 3/32-inch steel and uses an Ace II Barrel lock and two keys. To open it by unauthorized means is said to require more than 1,500 pounds' prying force. The 2500 is offered in the smaller size only. All Car-Safe models come with steel mounting hardware and a drawstring bag to make it easier to remove valuables and protect them from being scratched when being transferred. Depending on your car, Car-Safe can be installed in a number of locations, such as underneath the front passenger seat or in the trunk. *Colorado Car-Safe Co., P.O. Box 440591, Aurora, Colo. 80044.*

Winging It

Usually the only thing "high" about the fidelity on in-flight entertainment systems is the altitude. But now, instead of using the airline's supplied headsets, you can carry

on Jetman (\$35). Self-contained in a pocket-size flip-open case (1¼ by 2¼ by 3½ inches), Jetman consists of earbud-style mini stereo headphones with a patented "Airdaptor" sound-processing module that converts the "piped" sound to amplified electronic sound. You just plug Jetman into the airliner's audio seat jack and then plug the headphones into the Airdaptor. Power is supplied by two AAA batteries and is automatically switched off whenever the headset is disconnected for storage. These headphones can also be used with personal portable players.

The trick is that Jetman's Airdaptor uses a pair of condenser microphones, mounted in a specially designed seat connector, along with acoustic "correction baffles" to filter excess hiss and sibilance from the sound source. The microphones convert the piped sounds to stereo electronic signals, which are amplified by a Class AB stereo amplifier. This output signal is then reconverted to sound by the stereo headphones. Amplifier response is said to be 30 Hz to 20 kHz. The amplifier has protection against short circuits and reverse polarity. *Executive Travelware, P.O. Box 59387, Chicago, Ill. 60659.*

From Sharp Minds . . .

. . . come four new VCRs, including the top-of-the-line VC-H857U (\$700), with a four-head Hi-Fi system, a built-in MTS decoder for stereo broadcasts, a 62-function system remote control, and a VHS index search. Also provided are features found on all of Sharp's deluxe models, including multifunction on-screen display for easy programming, 169-channel PLL quartz synthesized tuning for quick access to stations, a one-year/eight-event programmable timer, a tamper-proof function that locks in programming, and Sharp's own Blue Screen Noise Elimination System. Other VCRs in the line, which share some similarities, are the VC-M705 (\$600); the VC-A607U (\$580), with HQ circuitry and a double-azimuth, four-head system for noiseless special effects such as still frame, frame advance, and variable slow motion; and the VC-A207U (\$480). *Sharp, Sharp Plaza, Mahwah, N.J. 07430.*

14, 15, 16 . . .

NEC put a number of digital goodies into its new CD-830 Compact Disc player (\$999), including 16-times oversampling and four digital-to-analog converters, two for each channel. The company says the

16-times transversal filtering circuit (TFC) and a digital servo tracking system reduce unwanted noise and accurately reproduce the nuances of digitally recorded music, while the four converters eliminate phase shift and reduce crosstalk between channels. Digital output terminals can handle either optical or coaxial cable.

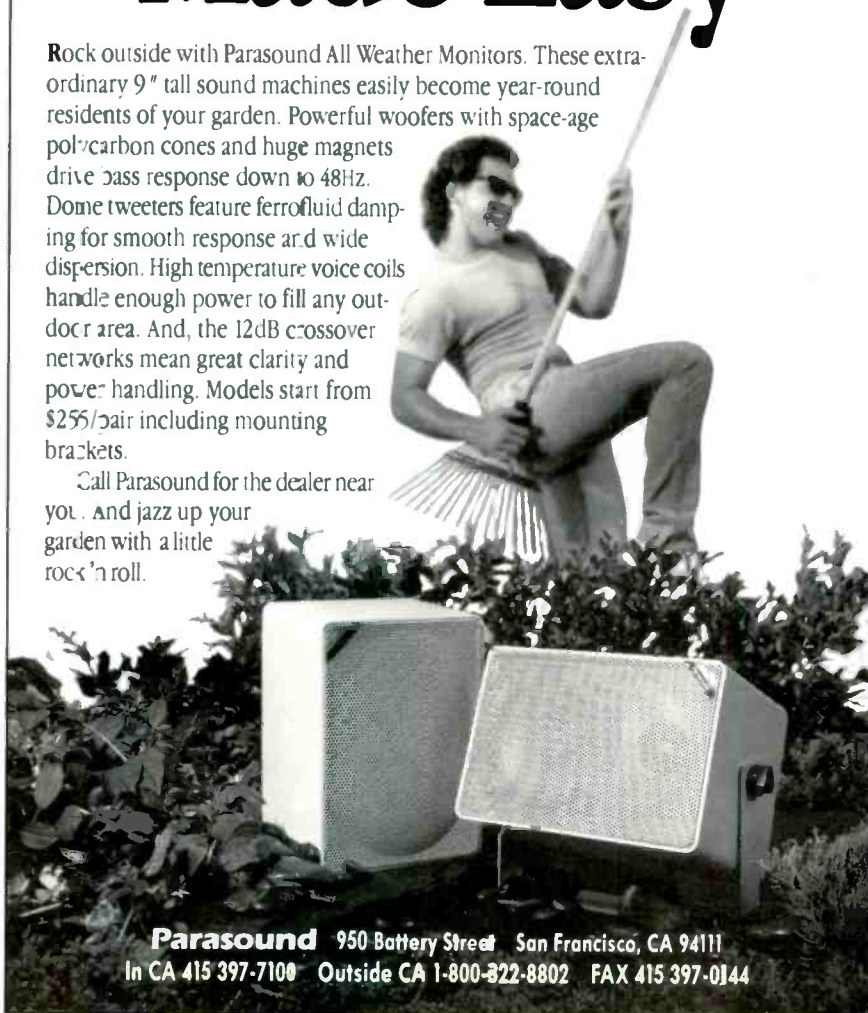
NEC also claims the CD-830 has extremely low response ripple in its audio frequency response and sharp attenuation of ultrasonic frequencies. Convenience features include: a random-programmable memory that handles up to 24 tracks; an AB repeat function that lets you program

(Continued on page 88)

Rock Gardening Made Easy

Rock outside with Parasound All Weather Monitors. These extraordinary 9" tall sound machines easily become year-round residents of your garden. Powerful woofers with space-age poly-carbon cones and huge magnets drive bass response down to 48Hz. Dome tweeters feature ferrofluid damping for smooth response and wide dispersion. High temperature voice coils handle enough power to fill any outdoor area. And, the 12dB crossover networks mean great clarity and power handling. Models start from \$255/pair including mounting brackets.

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Answers to Readers' Questions

By Larry Klein

Talking Hi-Fi

I've been fascinated by the various talking car and home appliances that appeared several years ago. Are there any plans to add voice control to audio equipment?

Charles Goldfarb
Tulsa, Okla.

More than ten years ago, Toshiba demonstrated a prototype audio system whose basic functions could be controlled by voice commands. But although it made a big splash in the audio press, it never appeared as a consumer product. I'm not sure whether Toshiba's no-go decision was based on technical problems, cost, projected lack of consumer interest, or a combination of all of these factors.

In any case, today's talking machines are more interested in telling you about themselves ("My load is dry," "A door is open," "I need gas," and so forth) than in listening to anything you have to say. Technically, it is far easier to make machines talk than to make them listen—a characteristic they share with my five-year-old son. And except for those music listeners with severe physical handicaps, I can see no advantage in voice control over a hand-held wireless remote control.

Surveys I've seen suggest that your enthusiasm for chatty machines is not shared by most others. The reasons are not clear, but I think there is a clue in the remark made by a frazzled young mother, who, when interviewed, said something like, "I have people, mostly kids, talking at me all day. I don't need anything else telling me what to do."

Whizzers

I'm curious about the speakers installed in the lower front-door panels of my car. I removed the grille of one of the speakers and found it to have a single, gray, 6-inch cone with a separate 1-inch white cone cemented to its center. Does the smaller cone serve as a tweeter?

Don Castle
Lancaster, Pa.

Sort of, but not really. What you've found is known as a "whizzer," and its purpose is to assist the high-frequency radiation of your speakers. A whizzer is a small, light, and stiff subsidiary cone with an unsupported outer edge cemented to the center of the main cone. The point of attachment is directly over the driver's voice coil. The whizzer is supposed to pick up the higher-frequency vibrations from the voice coil and help send them out into the world as sound.

If carefully designed, a whizzer can provide improved high-frequency radiation from larger drivers. Obviously, the manufacturing cost of adding a whizzer to a driver is very low compared to the cost of a separate tweeter, with

its crossover and mounting complications. On the other hand, a separate or coaxially mounted tweeter is able to put out significantly more high-frequency energy—which you could probably use, considering the calf-high location of your speakers.

Black Discs

I know that with CDs the aluminum layer beneath the transparent plastic makes them look silver, but I've never understood why LPs are black. Can you enlighten me?

David Purrel
Chicago, Ill.

About ten years ago, I also wondered why LPs were black, and embarked on a massive research project: I phoned several people engaged in record manufacturing. Contrary to what I hypothesized at the time, I was told that the coloring agent used (carbon black) provides neither antistatic properties nor lubrication. It is added to minimize the destructive effect on plastics of the ultraviolet component of normal sunlight, and also to obscure the bubbles and other subsurface pressing "defects" that might offend the eye, even when not audible. I also learned that carbon black is only one of several substances mixed in with the vinyl—which, in its basic state, is transparent. A variety of other proprietary substances are added to aid the pressing and playing of the disc.

X-ray Problems

Despite the printed reassurances posted at the passenger/baggage inspection areas of airports, I've always tried to keep my films and tapes from being X-ray inspected. I recently heard that color TV sets can also produce X-ray radiation. How far away from my TV should I keep my audio and video tapes in order to be safe.

Michael O'Shea
Burlington, Vt.

As far as I can determine, X-rays themselves, at the levels commonly found in baggage-inspection equipment, have no effect on tapes or the signals recorded on them. It's true that the stray magnetic fields produced by X-ray equipment and color TV sets might conceivably affect a recorded signal, but one expert has told me that the tapes would have to be stored *inside* the operating equipment, in close proximity to a transformer or TV deflection coil, before any erasure is likely to occur. X-ray radiation from color TV sets is limited by government regulations to levels that are safe for humans—who are more sensitive to X-rays than are magnetic tapes.

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



Revisiting a Rubber Ruler

By Robert Long

Years ago, when I was writing for a magazine whose editor relished a certain sensationalism in its headlines, I worked on a piece called something like "The Amazing Rubber Ruler." It was about the decibel scale—which, being logarithmic, stretches as it goes. For example, adding 3 dB to 10 watts gives you 20 watts; adding 3 dB to 100 watts gives you 200.

The more we learn about human perception—and we still have a great deal to learn—the more we find that it follows geometric, rather than arithmetic, scales. That is, if you add a certain amount to a stimulus and measure the response, then add as much again, the second change in response will be less pronounced than the first. But if you *multiply* the stimulus by the same factor in each case, the change in response will generally be comparable.

If you look at a chart of photographic films' ASA "speed" (sensitivity) ratings, you'll see a progression like this: . . . 80, 100, 125, 160, 200, 250 . . . Look familiar? It should; that's also the progression of third-octave center frequencies used in spectrum analyzers and graphic equalizers. Since the ISO (International Standards Organization) has played a role in setting standards for both, the similarity is not surprising, despite some minor discrepancies here and there.

The underlying reason for the similarity between scales, however, is that they follow the way our faculties deal with the phenomena they sense: in this case, brightness levels and frequency, respectively. In both cases, it is important to know when one figure is half or twice another—a difference of one "stop" in photography and of one octave in music. The absolute number of photons or cycles per second that must be added or subtracted to change one F-stop or one octave will vary (drastically) depending on what part of the brightness or frequency scale we happen to be dealing with. Such flexible rulers occur throughout the audio field.

Room with a VU. If you have a recorder old enough to be fitted with true (mechanical) VU meters, you've surely noticed how each dB occupies a significantly larger part of the dial as you work upward. This is more than just a clever way of helping you see fine distinctions where they count most (at levels near tape overload). The convenience is actually coincidental: Each added dB takes more added current through the recording head and the meter than did the last one and, therefore, greater added needle deflection (which is linearly proportional to current).

So as you try to squeeze out a dB or two of extra level, for best possible dynamic range, things tend to get worse more rapidly than they might, were the dB scale not logarithmic. What your ears tell you is "just one more dB" is so many extra milliamperes to the recording head. Whether it or the tape is the limiting factor, overload accumulates ever more rapidly as each added dB takes more record-current milliamps.

When mechanical VU meters were the rule, experienced recordists knew that you had to record peaks "into the red" in order to get good dynamic range. How far into the red? Very few could answer that critical question, which depended heavily on the meter calibration, the tape in use, and the nature of the signal being recorded. Most decks had lots of headroom above the marked 0 VU, but until we started measuring it for our equipment reports, home recordists could find out precisely how much only through elaborate trial and error.

How Good Is Good? Our perceptions create another, somewhat similarly flexible value scale when we have to recommend equipment—audio or otherwise—to somebody else. When someone says, "You read HIGH FIDELITY; what kind of tape deck should I buy?" your first thought is (or should be): How critical is this joker likely to be? Some people can't tell whether the Dolby's on or off and will think you've lost your senses if you suggest anything costing more than \$200. Others won't get the kind of performance they require unless both bias and recording gain can be fine-tuned to the tape in use. And if you can find *that* in a useful configuration costing less than \$500 today, please let me know.

And yet, in a culture geared to the quick info fix, there are plenty of would-be audiophiles who demand, in effect, that you give them a model number—or, often, simply a brand name—without asking a lot of annoying, albeit relevant, questions. I'm often tempted to pull a brand name out of the past: Viking or Concertone or Crown. Go try to find one of those brands at your neighborhood discount store.

Dolby Double-Dealing? I'm therefore not without sympathy for the positions involved when I come to consider the real point of this column: Dolby Laboratories' flexibility of standards.

Though Dolby designs are credited—quite correctly—with having made Philips's Compact Cassette the high fidelity medium it is today, the company first came to prominence as a purveyor of purely professional equipment. A quarter-century ago, audiophiles were abuzz with news of what we now call Dolby A noise reduction, which was audibly preventing hiss in the LPs made from tapes at Dolby-equipped studios. Then, long before consumers in general ever heard the term, Dolby Surround was in development in conjunction with movie studios and their sound technicians.

In the midst of that latter thrust came Dolby FM: essentially Dolby B, which by then was well established in home tape decks, applied to broadcasting. Dolby Laboratories claimed that you didn't need a Dolby decoder to enjoy Dolby FM's noise reduction; for pre-Dolby tuners, a change in the broadcast EQ would compensate for the treble compression produced by Dolby encoding.

As an audiophile, I was outraged. It was like saying



HUNGRY METAL

TDK's new MA cassettes have a voracious appetite for musical energy. Thanks to the awesome magnetic properties of their ultra-fine, ultra-dense Finavinx metal particles, they can consume (and store) massive quantities of the most powerful digital sources.

Considering the high frequency MOL'S (Maximum Output Levels) inherent in today's digital music, a tape must have extremely high coercivity and remanence to perfectly reproduce it. And MA's ultra-refined Finavinx, which contains nearly twice the magnetizable ions of normal and high position tapes, provides these two characteristics in a major way.

Compared to TDK's previous MA, an exceptional tape in its own right, new MA achieves a high frequency MOL (10 kHz) of 0 dB— an improvement of +3 dB! Combine this with an exceptional low bias noise of -58.0 dB, and you get a high frequency dynamic range improvement of 4.5 dB!

New MA's revolutionary particles also assure enduring storage and stable performance, thanks to TDK's special surface treatment. And to enhance these superb characteristics, the anti-resonance SP-AR mechanism drastically reduces modulation noise.

So, it's no wonder why audio perfectionists who demand perfect reproduction select MA. It's even available in 110 minute lengths, which will accommodate two CDs. Due to TDK's unique combination of smooth, durable base film and special coating technology, long term reliability is finally possible in this length.

Of course, new MA is also available in 46 and 90 minute lengths. Now, exactly how hungry are you for metal?



TAPE TRACKS

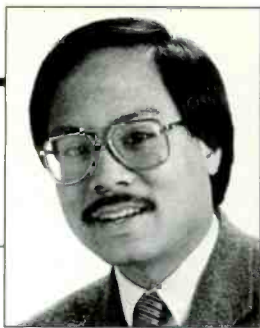
that you could simply turn down your treble control to play Dolby tapes on a non-Dolby deck. Sure, it would sound okay if there wasn't much dynamic range in the recorded signal, but on wide-ranging classics, any perceptive listener could hear that something was amiss. How could Dolby Laboratories refuse to license any tape deck that didn't provide a low-pass filter—lest any residual FM-stereo pilot tone somewhat upset Dolby tracking—and still permit mistracking this gross in the broadcast medium itself?

The answer is, of course, that people with \$29.95 table radios don't have the same sonic standards as those with stereo systems costing \$2,000 or more. Because of FCC regulations, Dolby FM had to achieve some sort of compatibility with non-Dolby broadcasting; Dolby recording had no such mandate. On the contrary, Dolby B had to be defended from such make-do practices if it was ever going to succeed.

Then came Dolby C. The earliest implementations used two coupled Dolby B integrated circuits instead of the now standard but then unavailable dual-function Dolby B/C chips. However, according to Dolby Labs, chip tolerances acceptable for Dolby B proved less so in Dolby C, and different brands of Dolby B chips could deviate in opposite directions from the ideal, further compromising compatibility. Dolby refused to license a deck that could not even decode its own tapes.

A model I particularly admired in that era was the Beocord 9000. For the (very solvent) music lover who didn't want to deal with technology firsthand, it automatically set bias, recording sensitivity, and recording EQ. And it did so quickly, repeatably, and well within the tolerances that duffers are likely to achieve even with elaborately instrumented hand-tweaking. While I had it within my grasp for our tests, I used it—with dual-chip Dolby C—every chance I got. Live concerts and live-concert broadcasts (all irreplaceable, of course) went into my collection via that deck. But the tapes now are unplayable because my current deck (with combination Dolby B/C chips) compromises the superb liveness of sound that I so cherished by making it phasey and edgy.

Dolby Laboratories is convinced that most of my problem is due to something other than the chip set. To their credit, they continue to investigate how tapes made on the early, make-do Dolby C decks fare when decoded by present models, and they say the degree of incompatibility they find is too trivial to account for the effect I describe. Yet even that statement again raises the question of the necessity and danger of elastic criteria. □



Two Digital Pies in the Sky

By David Ranada

Earlier this year, two organizations from opposite hemispheres announced progress in optical data storage technology that may eventually affect the home audio and video consumer. Taiyo Yuden, a Japanese electronic-parts manufacturer and maker of Triad magnetic tape, revealed the development of an optical disc recording system fully playback-compatible with existing Compact Disc players. And back home in Tennessee, none other than the Oak Ridge National Laboratory (ORNL) has started looking for licensees for a potentially revolutionary method of storing data. As ORNL's letter to potential licensees puts it, "Theoretically, one molecule on [an] optical disc can be a potential storage point."

Both of these technologies are, as yet, digital pies in the sky. But Taiyo Yuden's development, which was demonstrated at a news conference in New York, is somewhat closer to reaching your local stereo discounter. Basically, the company has invented a chemical that, when embedded in a Compact Disc and zapped with a laser, will form the optical equivalent of a CD's molded pits. At the present state of development, the pits cannot be erased, so the proposed disc system is a write-once/read-many-times (WORM) proposition.

Where the Taiyo Yuden development is unique is in the disc's compatibility with standard CD players; other WORM systems have sometimes required extensive modifications to a player's readout optics and circuitry. Test data presented by the company show that its system produces discs that are fully equivalent—or superior—to standard, molded CDs in such crucial areas as error rate, durability, and operating environment. At the demonstration, a disc recorded in Japan was played on a garden-variety CD player, with excellent sonic results.

So the system works—as far as it goes. Taiyo Yuden is not, however, a hardware manufacturer, and there has been no announcement by any of the Japanese biggies of any pending CD recorders using the Taiyo Yuden disc. The system is still in limbo, like a new film without a suitable camera. For the consumer, it may stay that way. At the press conference, the company announced that "due to the copyright issue," its system "will be used only in professional audio and computer industry applications." As officials of the Recording Industry Association of America (RIAA) looked on, one presumes approvingly, a statement from the president of Taiyo Yuden said: "We are only entering fields which are free from copyright or in which copyright is strictly enforced."

At around the same time, a far more awe-inspiring development was announced by Oak Ridge. ORNL, although related to the folks who do work on nuclear weapons, is a research organization actually operated by Martin Marietta Energy Systems, Inc., for the U.S. Department of Energy. This connection helps explain the new development, which is an outgrowth of research de-

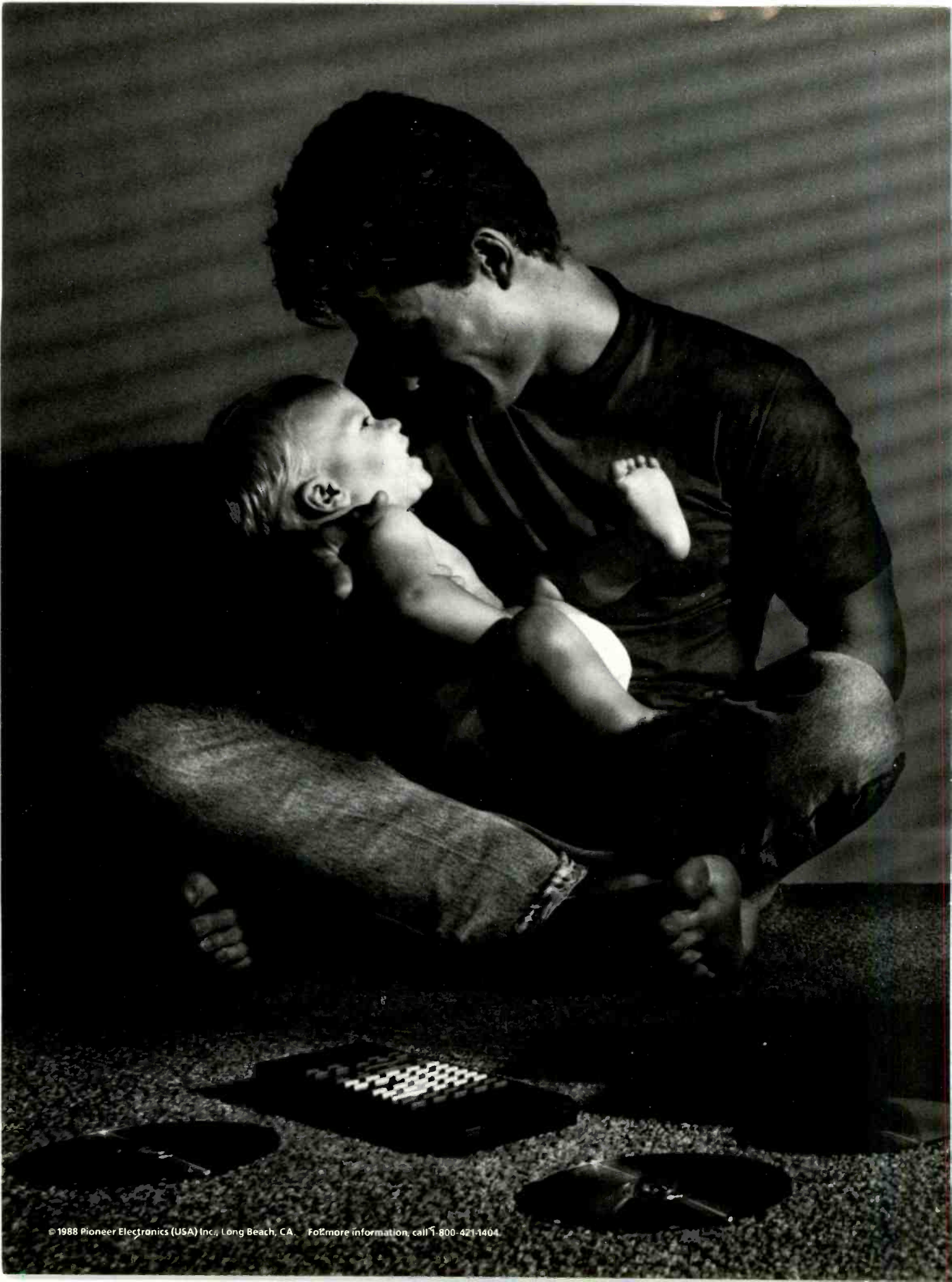
signed to detect minute traces of organic compounds (a process that other organizations, such as the Environmental Protection Agency, would be very interested in).

Even in late March, details on the ORNL discovery were still very sketchy, pending the filing of a patent; but it, too, seems to consist of a "writable" substrate. This one, however, is thinner than Taiyo Yuden's—only one molecule thick. The licensing letter says that "a laser or radiation beam is used to modify the molecular interactions of the surface of a storage disc." In a phone interview, Guven Yalcintas, ORNL's licensing director, said that the laser system used is not very different from present-day optical-disc technologies.

Yalcintas also mentioned a potential data-storage density of 10 gigabits per square centimeter (that works out to 64,516,000,000,000 bits per square inch). My calculations show that with this data density, enough digital-audio data—formatted and error-corrected as in the CD system—could be crammed on a CD-size disc that would play for 5½ days. This magnitude of data density, if reliably achievable, would revolutionize information-related technologies. Along with ultralong-playing CDs or micro-miniature Wagner *Ring* cycles, it could, for example, replace microfilm and microfiche and allow the storage of high-definition television (HDTV) signals in digital form on a disc of convenient size.

Many in Washington, D.C., are running around like so many headless chickens casting about for some answer to the so-called erosion of America's technology edge, and they are, in the process, eating away at our chances for the highest possible HDTV picture quality. Meanwhile, down home in Oak Ridge, there may have arisen a technology of pace-setting importance that has received little attention. Congress should note that ORNL intends to license only U.S. companies for further development of the substrate and an appropriate disc/laser system. As the licensing invitation puts it: "In many industries federally developed science and technology may give U.S. companies a competitive advantage which has been lacking [in] the past. One such window of opportunity [note the 'nukespeak' here] may exist in the optical data storage industry."

Molecular data storage has been tried before and has proven to be a rather grand success. The system, invented by Mother Nature Labs, goes by the trade name of DNA. It is unfortunate, however, that the state-of-the-art in DNA systems—man—has brought the planet to the brink of ecological and technological catastrophe. The irony of the ORNL invention lies in remembering what else goes on at Oak Ridge. It's not the accurate preservation of music that antidigital audiophiles should worry about; they instead should fear those last few digital bits that signal the failure of nuclear deterrence: the launch codes that send the warheads on their terrible way. □

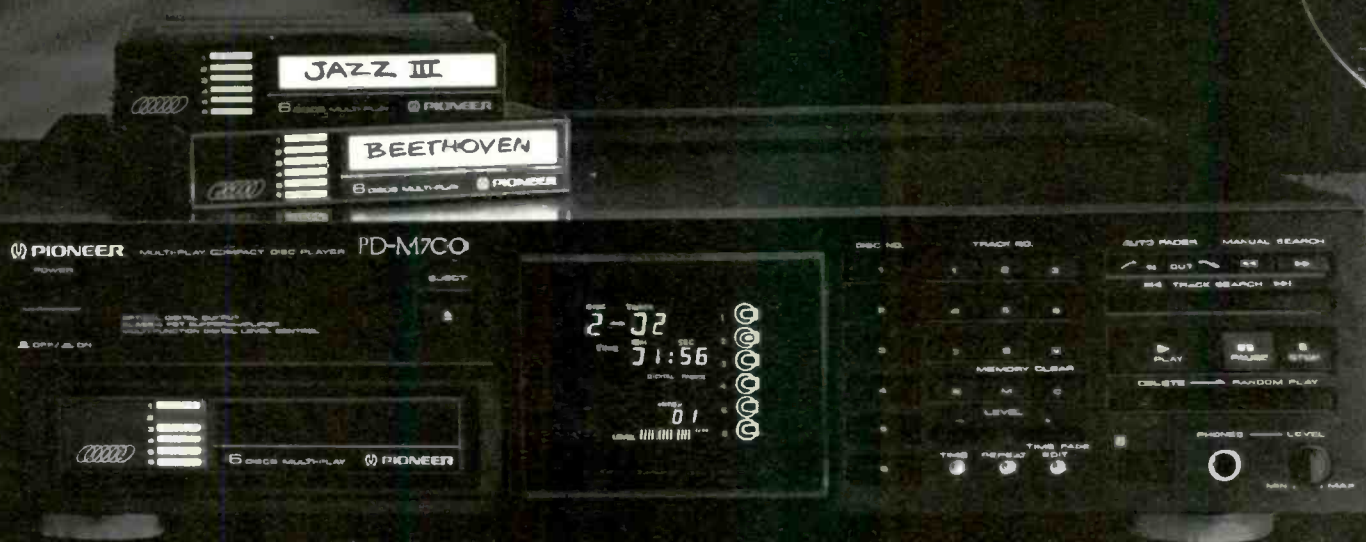


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A Ford/JBL Even Better Idea

By Beth C. Fishkind

I might be accused of sacrilege, suggesting that audiophiles accept a prepackaged sound system. After all, one of the reasons you read magazines such as *HIGH FIDELITY* is to be educated enough to enjoy making your own choices. But car audio is a whole other animal for most home audio buffs, so sound systems from car manufacturers make more sense than, say, a rack system for your living room. (I'm not putting down rack systems, which have their place but usually don't appeal to audiophiles for the above-mentioned reasons.)

These days, car manufacturers are putting a lot of effort into improving their audio offerings. It's getting to the point where opting for a factory-installed system as opposed to putting your own in later has less to do with quality than convenience. The Ford/JBL audio pairing I tested in a 1989 Ford Thunderbird (also available in Mercury Cougars) is a good example. It has most of the trimmings an audiophile would want in an upscale package: a full-featured cassette/receiver, optional Compact Disc player, power antenna, custom equalization, and bi-amped power feeding a subwoofer and eight speakers. And it sounds great.

Ford says that the heart of this system is its bi-amplified speaker design: High and low frequencies each get their own power amplification, which the company claims yields greater volume and lower distortion levels. The low frequencies use about 60 percent of the system's total power for good bass. Consequently, Ford uses a 7-inch subwoofer that's housed in a ten-liter sealed enclosure and is driven by a separate 85-watt monophonic power amp.

Higher frequencies are handled by eight satellite speakers, arranged in four 5½-by-7½-inch two-way enclosures, one in each door and one each in the rear quarter panels. Ford says this placement provides the best imaging. Each enclosure has a 4-inch-diameter midrange driver and a 1-inch tweeter. All of the midrange drivers and tweeters get their power from a four-channel, 60-watt (4 by 15) amp, with four bands of custom parametric equalization, voltage-limiting circuitry, and crossover networks. There are also two bands of EQ for the subwoofer.

Among the amplifier features are active filters for noise reduction. For instance, the amplifier driving the satellite speakers has active power-line filtering to reduce alternator and ignition noise. The total acoustic output level that can be obtained inside the vehicle is 105 dB SPL (sound-pressure level).

The cassette/receiver features the usual compliment of modern conveniences, including FM stereo, seek and scan for both broadcast and cassette tape operation, Dolby B and DNR (Dynamic Noise Reduction), five AM and ten FM station presets, and a clock. Also included is the ability to receive stereo AM broadcasts.

One feature I really liked was the volume control, a

small protrusion on the left-hand side of the head unit with a scoop-type indentation in it. Pressing down lowered the volume; pressing up raised it. This was very easy to control while driving. When I needed to lower the volume to talk to a passenger, for instance, I could keep track of how many times I pressed the volume button down and bring it back to that same volume level by pressing the same number of times upward. Really quite useful.

The optional CD player (reportedly made by Sony) worked nicely, but its location in the lower central part of the dash was awkward. It was a bit of a problem putting discs in or getting them out. To really see what I was doing required not only taking my eyes off the road but tilting my head down—a maneuver that can be a little risky or a lot risky, but never a good risk. As far as specs go, the CD player's frequency response is noted as 5 Hz to 20 kHz, with harmonic distortion of less than 0.1 percent. Dynamic range is said to be more than 85 dB, channel separation more than 70 dB.

And while you might consider the Ford Thunderbird and Mercury Cougar for the nice stereo option, the cars themselves are worth investigating—at least in the case of the Thunderbird. This car is beautifully engineered for American driving. The automatic transmission spared my left knee the grind of shifting gears in stop-and-go traffic and freed up my right hand for playing with the stereo. And there's plenty of pickup on demand for battling Yellow Cabs for position and flying down parkways. Plus, the antilock braking system is very effective (some folks must have never learned how to merge, or else just don't care) and the power-adjusted seat was wonderful. No trouble with back strain after hour-or-so jaunts into New Jersey and Long Island.

You still might want to put together your own car stereo system from scratch to suit your own needs: The way we listen to and perceive music is a personal thing. Nevertheless, you should be aware that the Ford/JBL system is very worthy of your consideration. And there are other advantages, too. Everything's in there when you drive out of the showroom, with sound perfectly tailored for your vehicle and all equipment seamlessly integrated into the look. Plus, you don't have to shell out any extra for installation. And financially, if you need to, you can include the cost of the stereo in the loan you take out to buy the car.

The standard, base model Thunderbird will run you a little over \$15,000, as delivered. The more deluxe LX model is about \$17,300. There are various options that can alter the total price of the Ford/JBL stereo package, but for the whole kit and caboodle, expect to pay in the neighborhood of \$1,200 to \$1,300. This breaks down into \$793 for the power amps, speakers, and cassette/receiver and \$491 for the optional CD player. □

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

Test Reports

B&W's Matrix Series, introduced three years ago, uses a proprietary "honeycomb" construction to achieve an exceptional degree of rigidity, and therefore of acoustical inertness, in loudspeaker enclosures. Actually, "grid" might be a more precise term, since the interlocking members of the Matrix internal bracing produce square cells, rather than the hexagons characteristic of true honeycomb designs. B&W calls Matrix "the first radical improvement in enclosure design in many years." With all due respect to the reservations B&W's competitors might have about that statement, it *is* radical, and its thrust most emphatically is on the side of the angels.

At least potentially. When I auditioned the original Matrix 2 (for a test report in November 1986—which explains the now-familiar construction in more detail), I was . . . well, disappointed. B&W speakers have been so good, and I expected a distinctly audible improvement due to the Matrix enclosure. What I heard was a good speaker, but not a truly exceptional one in terms of coloration. Well, B&W evidently agreed that improvements could be made, because they have introduced the Series 2 line, upgrading the original designs. And in this incarnation, the Matrix 3 is an exceptional speaker, no doubt about it.

It is a floor-standing three-way (or, depending on your point of view, two-and-a-half-way) system with two 8-inch polypropylene low-frequency drivers and an aluminum/magnesium-alloy dome tweeter—all mounted axially on the front baffle of a tall, narrow, floor-standing enclosure. B&W says—and, in essence, Diversified Science Laboratories' near-field measurements confirm—that the tweeter crosses over to the upper 8-inch cone (for bass and midrange frequencies) at about 3 kHz, while the lower (bass-only) cone kicks in below 400 Hz. At the lowest frequencies, the two cones act in tandem, approximating the behavior of a single, large diaphragm.

The baffle panel itself—that is, the portion of the front panel covered by the grille, made of stretch fabric over a lightweight, removable plastic frame—is covered with a pattern of fine pyramids. Actually, this is a series of subpanels, one for each driver. The tweeter panel is made of polystyrene and helps to absorb or transmit to the Matrix structure any

vibration from the tweeter subenclosure, which is mounted directly to the panel. The woofer panels feel almost identical to the touch but are made of metal, evidently with the pyramid texture applied over it. Again, the drivers are bolted di-

B&W Matrix 3 Series 2 Loudspeaker



DAVID A. WAGNER

rectly to these panels, which are thus charged with conveying the woofer-basket vibrations to the Matrix structure for dissipation.

Below the pyramid paneling, the front panel of our test sample is a smooth, satin black. The sides, top, and back of the enclosure are black-finish ash

Dimensions: 10¼ by 35¾ inches (front), 15½ inches deep.

Price: \$2,500 per pair in black ash or natural-walnut veneers; \$2,750 per pair in natural oak.

Warranty: "Limited," 5 years parts only.

Manufacturer: B&W Loudspeakers, Ltd., England.

U.S. Distributor: B&W Loudspeakers of America, Div. of Equity International, Inc., P.O. Box 653, Buffalo, N.Y. 14240.

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vener (natural walnut and oak are available as well). Recessed into the back panel are four gold-plated, color-coded thumbscrew connectors that will accept bared leads or banana plugs. They are angled for visibility and easy cable insertion, though this makes them protrude slightly beyond the back surface of the enclosure.

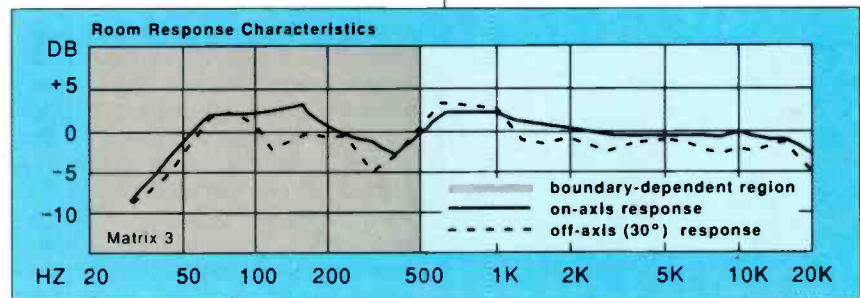
At first glance, the availability of two pairs of connectors on each speaker suggests biampification, but here the purpose is somewhat different. If you turn the speaker upside down, you will find a removable bottom panel with four brass fittings recessed into it. The fittings are for supplied prong feet, should you want the speakers to grip your floor tenaciously. Removing the bottom panel exposes the crossover board. Jumpers on it connect the two crossovers so that only one of the back-panel terminal pairs need be used.

You can remove the jumpers and run two wire pairs from your amplifier to the terminal panel. According to the manual: "Recent work . . . indicates that there can be a small improvement in reproduction by connecting the two crossover network sections with separate leads." Though the manual does not mention it, you can also use this option for what B&W calls "passive biamping." That is, you can drive the two sets of inputs (for tweeter and midrange/bass) with separate, preferably identical amplifiers, each carrying the full signal, and use the built-in crossover. (True biamping requires an electronic crossover to separate frequency bands *before* amplification.) This is said to offer a subtle improvement even over the dual-feed hookup from a single amplifier.

For most of the listening tests, I ignored these suggestions, as did DSL in making the measurements, on the presumption that most users would opt for the standard (one amplifier, one set of cables) hookup. In any event, I couldn't detect a significant difference in my setup when trying out the dual-feed option. If you buy the speakers, you might want to experiment, however, to see whether the special hookups make a difference in your system and room. If you want to use premium speaker cables (the manual says, ". . . at the B&W Research Department we have found linear or mono-crystal to be eminently suitable"), double wiring admittedly will add appreciably to the cost.

Sensitivity is fairly high for a totally sealed system—even one this large. The impedance spec, "not less than 4.5 ohms," is somewhat ambiguous. If B&W means to imply that no matter how you

rate it *overall*, the figure will be 4.5 ohms or higher, the lab tests concur. The measured averages are 12.8 ohms in the music band and 9.8 ohms over the full audio band, while the minimum above the bass resonance (a common rating point) is 4.6 ohms. The curve does dip to 4.2 ohms at 20 Hz (and may drop still lower below that frequency) and to 3.9 Hz near 12 kHz. The maxima are 21.9 ohms near 1.3 kHz and 14.6 ohms at bass resonance around 55 Hz. Overall, the Matrix 3 should be a reasonably easy load for



most amplifiers with typical signals.

Response is unusually flat and smooth. With the speaker 3 inches in front of the wall, DSL's measured on-axis response (shown in the graph) is within $+3\frac{1}{2}$, -3 dB from the 50-Hz band all the way to the band centered on 16 kHz and falls only a little lower in the 40-Hz and 20-kHz bands. The response dip around 300 Hz that shows up in a majority of our speaker-response measurements—stemming principally from partial cancellation due to a floor reflection—is less severe than often is the case, perhaps because of the dual 8-inch-driver arrangement. Also remarkable is the evenness throughout the treble. The off-axis response is very similar to the on-axis results and shows no significant evidence of beaming.

DSL also measured the speaker 32 inches out into the room. As you might expect, the important difference is in the bass, where the rolloff begins higher but slopes downward more gradually without the wall for reinforcement. Actually, I preferred the speakers out in the room for the listening tests. Without the early reflections from the wall, stereo imaging generally is at its best with any speaker, and the Matrix 3's bass seemed more than adequate and exceptionally clean in this orientation.

Distortion figures are quite low. In the least demanding test, at 85-dB SPL (sound-pressure level), they average well under 1 percent even when the deep bass is included. And as drive level is increased, the percentages rise less quickly than in most models we test. Even at the

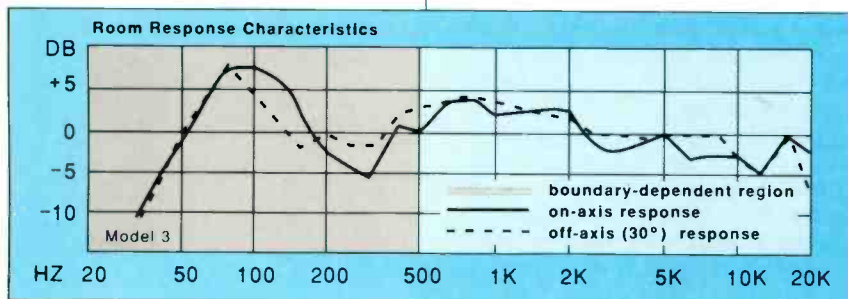
Sensitivity (at 1 meter; 2.8-volt pink noise)

91 1/2 dB SPL

Average Impedance (250 Hz to 6 kHz)

12.8 ohms

Precise Monitor 3 Loudspeaker



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

90 1/4 dB SPL

Average Impedance (250 Hz to 6 kHz)

8.5 ohms

maximum test level of 100-dB SPL, the average remains near 1 percent, and the figures stay remarkably low in the deep bass.

No evidence of impending overload could be perceived in the 300-Hz pulse test, either. At the test amplifier's maximum drive, calculated output was nearly 120-dB SPL, confirming B&W's contention that the Matrix 3 can be driven to the high levels needed for use as a studio monitor—a use for which its sonic properties make it eminently suited.

In the listening tests, I was very impressed by the speaker's handling of quiet detail, both alone and embedded within complex orchestral textures. A harp glissando here, a bassoon passage there, a creaky chair somewhere else—all sorts of minutiae that had been, at best, only vaguely sensed with other speakers—were clearly and delicately defined by the Matrix 3. This is partly the result of superlative stereo imaging. Repeatedly, I had to remind myself that these sounds were emanating from a pair of speakers—not being generated spontaneously in the air between and around them.

At B&W's insistence (and ignoring what it might do to the carpet) I overcame my skepticism and tried the sharp

prong feet that screw into the bottom panel. To my surprise—because this hasn't been my experience in past such experiments—the stereo really did seem more vivid. It was not more sharply defined, as B&W's representative had claimed it would be—there was little room for improvement in that regard. But the stereo "picture" did seem decidedly bigger and more imposing, moving farther out beyond the speakers on more recordings.

The trouble with a speaker this good is that it sometimes tells you things about your records you would rather not hear. I had never before been aware, for example, how unflattering to some of the voices involved is the miking for the live Prague recording of Rossini's *Il viaggio a Reims* (Deutsche Grammophon 415 498-2) or how much audience reaction can be heard behind the music. Still, for every such revelation there are other, positive ones to rejoice in.

B&W has built its reputation on careful craftsmanship in the development, design, and construction of its loudspeakers, and that has led to some superb results. The Matrix 3 Series 2 is unequivocally a case in point. Audition it, by all means.

Robert Long

Despite its model designation, the Monitor 3 is at the bottom of a product line that, at its inception, also included the Monitors 5, 7, 9, and 10—ranging up to \$750 apiece. They are designed by engineer Keith Johnson for his relatively new company. Presumably

back panel are a vent for the ducted port and a recessed pair of color-coded spring-clip connections for the amplifier connections.

However, these clips are subtly out of the ordinary, since they will accept exceptionally heavy wire gauges and even banana plugs. The bottom of the enclosure is fitted with corklike pads that give it an unusually sure "grip" on the surface beneath. More important, I presume, is the design technique, which Precise calls Differential Stress Mode Analysis. According to the company, DSMA permits alteration of design parameters in a loudspeaker—to fine-tune the result—while complex musical waveforms are played through it.

The rather discursive owner's manual suggests use of a stand between 35 and 40 inches high with the Monitor 3. Diversified Science Laboratories used one 38 inches high and, for the curves shown here, placed it 6 inches from the wall. The bass peak, near 80 Hz, is quite pronounced, as is a dip associated with floor reflection in the region around 300 Hz. Above this, there is a mild prominence in the so-called "presence" region and then a gentle rolloff toward the extreme treble. The total spread of the on-axis curve over the working range of the

we have more models to look forward to, filling the empty number slots.

In basic description, the Monitor 3 isn't much different from any number of other compact speakers. A 1-inch soft-dome tweeter and a 6 1/2-inch polymer-laminated woofer are mounted axially on the baffle and concealed behind a removable stretch-fabric grille on a light plastic frame. The enclosure, finished in oak-grain vinyl, is rounded at the two sides to minimize diffraction. On the

speaker (from 50 Hz up) is some +8, -5½ dB.

Moving the speaker 38 inches away from the wall tamed the bass peak considerably but introduced a sharp peak in the 500-Hz band, for a similar overall spread. In both cases, the off-axis plots show less of a dip in the floor-reflection range than do the related on-axis plots and give very little evidence of beaming at the top end. DSL's near-field measurements indicate that much of the energy in the bass peak actually is coming from the vent and reflecting off the wall; only around 100 Hz does the direct woofer radiation begin to dominate. The crossover to the tweeter appears to be near 3 kHz.

The impedance curve is surprisingly complex for so outwardly simple a speaker. The maximum, 28.4 ohms, is at the lower of the two bass peaks that are characteristic of vented systems. This occurs at 23 Hz; the other bass peak, at about 85 Hz, measures 23.6 ohms. Between them is a dip to 4.6 ohms, followed by one to 4.5 ohms centered below 200 Hz. Then the curve rises to 12 ohms above 1 kHz and ripples gradually downward from there, finally reaching a minimum of 4 ohms near 12.5 kHz. This suggests a relatively complex crossover and perhaps a somewhat more reactive load than might be typical for such a loudspeaker—but nothing untoward. The impedance spec for the model is 6 ohms. If you parallel the Monitor 3s with other speakers, perhaps this would be a safer load to assume than the 8-plus ohms of the measured average, just in case the amplifier proves finicky.

Like most compact speakers, this one is not at its best when pushed hard. To keep the woofer from overloading on the infrasonics in the test signal, DSL had to measure frequency response at a lower level than normal, and evidence of compression began to show in the distortion measurements for very high frequencies (6.3 and 10 kHz) at 95-dB SPL (sound-pressure level). At 100 dB, compression at these frequencies became severe.

At 85-dB SPL, distortion measured quite low—averaging around ½ percent—through the midrange and treble, but it ran considerably higher in the bass below 200 Hz. This pattern was maintained, with only moderate increases across the board, as level was increased. At the full 100 dB, the average still was not much above 1 percent for most of the midrange/treble area, though it ran considerably higher in the bass, of course. For so small a speaker, this is acceptable behavior.

Calculated output in the pulse test at maximum amplifier drive was nearly

118-dB SPL, which is plenty loud. The sensitivity is quite high for a small system—thanks to the bass-reflex design—and this helps boost output level in this test.

Frankly, I was surprised by some of these data when I saw them after giving the Monitor 3 extended listening tests, because it “listens” better than it measures. The bass had seemed smoother



DAVID A. WAGNER

and truer with the stands out in the room than with them against the wall, and they were left accordingly for most of the listening. In that position, there is a pleasant immediacy, or forwardness, to the sound that probably is attributable to the moderate rise in the presence range—a rise that shows up on all of the lab's traces. And the distortion figures explain why there is some loss of inner detail on loud orchestral passages. But the overall listening impression is of greater smoothness and tonal balance than I would have predicted from the numbers alone. Stereo imaging is good, though not exceptional—in part because

Dimensions: 8 by 15½ inches (front), 10 inches deep plus clearance for grille and back-panel vent.

Price: \$299 per pair.

Warranty: “Limited,” five years parts and labor.

Manufacturer: Precise Acoustic Laboratories, Suite B, 200 Williams Dr., Eamsey, N.J. 07446.

Ohm CAM-16 Loudspeaker



DAVID A. WAGNER

Dimensions: 9 by 15 inches (front, without tweeter), 10 $\frac{1}{4}$ inches deep plus clearance for grille.

Price: \$300 per pair.

Warranty: "Limited," five years parts, one year labor.

Manufacturer: Ohm Acoustics Corp., 241 Taaffe Place, Brooklyn, N.Y. 11205.

the forwardness of the sound itself, while exciting, doesn't promote the long perspective or atmosphere that a recording may otherwise invoke.

The Monitor 3 is, in fact, a very attractive speaker, given its modest size and price. It is less bothered by high drive levels than many of the minis we've

tested and is considerably less "zingy" at the top and boomy at the bottom than once was the rule in small speakers trying to sound "big." Which is to say that, given the right placement (as always), the Monitor 3 can supply good value in a system that is careful to avoid extravagance. *Robert Long*

The "CAM" rubric of the model number specifies Ohm's Coherent Audio Monitor Series; the number itself represents the woofer enclosure volume in liters. Three models were an-

carbonate dome driver, which is ferrofluid-cooled. At the bottom of the molded tweeter enclosure is a gold-plated phone plug that you insert directly into a matching jack on the top surface of the woofer enclosure. Calibrations around this jack indicate, in degrees, how far to either side of straight forward the tweeter is turned, as an aid in fine-tuning the "sweet spot" or returning to a setting if the tweeter has been accidentally rotated out of alignment.

This design allows you to have the woofers facing straight forward—the easiest orientation to manage in many installations—while aiming the high treble for best tonal balance and stereo imaging. In the latter capability, the CAM-16 imitates a number of expensive high-tech models that use extra tweeters, with or without additional electronics, to broaden the listening area in which stereo imaging will hold up well. Furthermore, according to Ohm, the arrangement allows phase coherence between tweeter and woofer, despite the adjustable tweeter orientation.

The avoidance of diffraction edges continues in the black-finish oak-veneer woofer enclosure. Except at the back, the cabinet edges are all beveled, and there is no frame structure in the protruding grille, which is made of formed, perforated plastic with a thin fabric bonded to its front surface. An edge flange running all the way around the grille fits into a slot in the cabinet, making the grille both secure and removable.

Behind it is a 6 $\frac{1}{2}$ -inch long-throw polypropylene-cone woofer and a ducted port to extend the bass and increase sensitivity compared to an otherwise similar sealed cabinet. Both elements are mounted on the central axis of the baffle, the driver above the port and thus closer to the tweeter. Color-coded spring clips for the amplifier leads are recessed into the back panel. The manual (which is for the entire CAM line), states that "thermal overload devices" are built into the speaker's drivers to "absorb momentary overloads."

Diversified Science Laboratories measured Ohm's CAM-16 on a 24-inch stand and 3 inches from the wall. In this

nounced a year ago: the CAM-42, -32, and -16. So the 16-liter (about $\frac{1}{2}$ -cubic-foot) model is the baby of the line. All share an obvious common element: the teardrop/egg shape of the plug-in, rotatable tweeter element.

The shape is important, because it is designed to avoid any edges that could cause diffraction and thus interfere with the direct sound from the $\frac{3}{4}$ -inch poly-



— Leonard Feather, Celebrated Jazz Critic for the L.A. Times, Washington Post News Service and Author of many books including "The Jazz Years—Earwitness to an Era."

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Test Reports

position, the frequency response shown in our graph exhibits somewhat more dip in the region associated with floor-reflection interference (here centered on about 300 Hz) than often is the case. Additional measurements, with the speaker 27 inches from the wall, show very little dip in this region, however, though they do show the characteristic bass rolloff that starts at relatively high frequencies because of the lack of reinforcement afforded by a nearby room boundary.

Ignoring the dip, on-axis response (with the speaker 3 inches from the wall) stays within $+3\frac{1}{2}$, $-3\frac{1}{2}$ dB from around 60 Hz to about 16 kHz. The most important maxima within this range are one in the midrange (centered on 800 Hz or so) and a pronounced peak at 10 kHz, above which the treble rolls off. Off-axis response is basically quite similar, with maybe a hint of beaming at the very top. This is part of the design; the manual states: "Your Monitor will sound brightest with the ET's [egg tweeters] aimed at

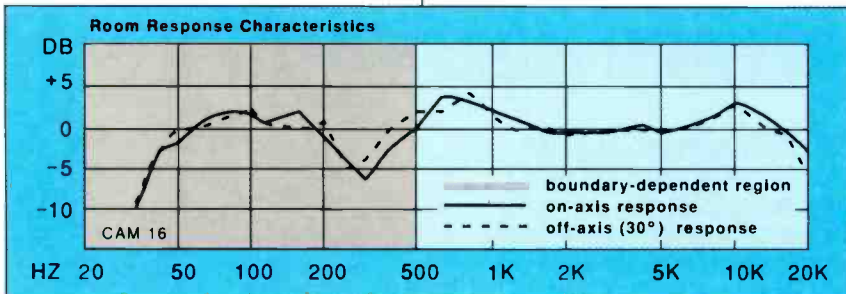
that the built-in protection was functioning to protect the tweeter. Thus, testing was stopped at this level, with distortion already averaging more than 4 percent over the portion of the frequency band that remained uncompressed.

Frequency response had to be measured at a somewhat lower level than is the lab's usual practice in order to keep infrasonics in the test signal from overloading the woofer. This, together with the results of the distortion test, suggests a limited maximum drive level. Actually, however, Ohm suggests that the model is appropriate for amplifiers up to 85 watts (19.3 dBW), and the CAM-16 did accept the full output of the test amp—a peak value of 578 watts, or some 8.6 dB higher—in the 300-Hz pulse test, producing a calculated output in excess of 116-dB SPL without complaint.

Ohm suggests that the top of the woofer cabinet be at approximately eye level, which in my listening room resulted in placing the speakers a little higher off the floor than the lab had done in measuring them. As often is the case, I found I preferred the sound with the speakers away from the wall, despite the bass reinforcement that a wall supplies. Although not especially extended on the lower end, the sound in the resulting position had a slight but noticeable richness of tonal balance, without any annoying boominess, that was quite appealing.

What problems showed up in the listening room centered on the opposite end of the spectrum and appeared to relate to the response curve's peak at 10 kHz. Certain musical passages suggested a roughness or slight sizzle at the top end that didn't really match the rest of the sound. When this quality appeared, it also compromised the otherwise very good stereo imaging by making some notes or overtones appear to move out of the stereo picture and into one or the other of the speakers.

But, as intended, the tweeters' rotatability allows for considerable variation in upper-treble response. Rotating them



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

89 dB SPL

Average Impedance (250 Hz to 6 kHz)

8.9 ohms

you and less so as they are turned away from you." (The tweeter was pointing straight forward for DSL's tests.)

Ohm lists no crossover frequency in the specs, but DSL's near-field measurements suggest 3 kHz as a likely frequency. Direct output from the woofer holds up well to 100 Hz or so, below which the vent increasingly takes over. The impedance curve hits its maximum at bass resonance: 17 ohms at 80 Hz. Port resonance is at 25 Hz. The lowest impedance minimum measures 4.5 ohms at about 230 Hz. There is another minimum near 7 kHz, and the maximum between them is centered near 2.5 kHz. Most of the curve lies between 6 and 12 ohms. Ohm's 8-ohm rating thus is reasonable, and is confirmed by the lab's 8.9-ohm measured average.

The distortion measurements are not particularly low, though for a speaker this small they aren't particularly high either. At 85-dB SPL (sound-pressure level), the figures average about 1 percent across the band. At 95-dB SPL, the lab found as much as 4 dB of compression at high frequencies and assumed

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(MAM)



Bose 401 Loudspeaker



DAVID A. WAGNER

Dimensions: 11¼ by 30 inches (front; plus clearance for side grille), 11¼ inches deep.

Price: \$599 per pair.

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

Manufacturer: Bose Corp., The Mountain, Framingham, Mass. 01701.

inward (toward the opposite speaker) so that the eggs' axes crossed in front of the listening position produced a much smoother sound and solidified the image so that small side-to-side head movements did not change it and the overtones stayed put. Although the manual doesn't mention it, you can also experiment with rotating the tweeters slightly *outward*, so that some of the treble re-

flects off the side walls before reaching your ears. On some material, this seemed to increase the sense of spaciousness.

Basically, the CAM-16 is quite an attractive speaker at a modest price. As a realization of an intriguing design concept, it's even more attractive—particularly since that concept makes so much sense and especially because it works.

Robert Long

No other loudspeaker design principle I can think of has been, at once, as controversial and as successful as that embodied in the Bose Direct/Reflecting models. When the

use of evolving technology), and so is the debate. The longevity of both may, in itself, constitute some sort of record.

The basic premise of all Direct/Reflecting speakers (a proprietary designation) is that significant portions of the sound should reach the listener by way of at least one room-boundary reflection. The 401's implementation of the concept is somewhat different from that of any of its predecessors. In particular, it specifically addresses the idea of aiming the treble inward, somewhat in front of the listening area, so that as you move your listening position in the direction of one of the speakers, you tend to move into the "beam" of the other, preserving stereo imaging over a wider area.

To this end, the "front" of the enclosure actually is angled inward by 45 degrees. The floor plan of these minitowers thus is basically an equilateral triangle whose 90-degree apex is at the outside back corner and whose acute angles (at the outside front and inside back) have been beveled off. Toward the top of both the front/inside and the outside surface are removable grilles made of stretch fabric over lightweight frames.

Behind the front/inside grille are a 2-inch cone tweeter, near the inner edge, and a 6½-inch cone woofer, both centered about 2 feet above the floor. At the same height on the outside face is a second 6½-inch woofer. On the back panel is a port that helps to extend the bass of the system. Also on the back panel are recessed color-coded clip input connectors that accept even heavy leads or banana plugs.

The Bose literature—essentially confirmed by Diversified Science Laboratories' near-field testing—implies that crossover is near 3 kHz and that the woofers behave identically but for the direction in which each propagates its output. Bass rolloff of the direct sound from the woofers begins below 100 Hz; output from the vent reaches its maximum near 40 Hz.

Most of the musical fundamentals—that is, the midrange and low treble—are propagated in two directions: (1) for-

Bose 901 appeared, so did the debate over whether the spaciousness of its sound added to or detracted from the realism of the music it reproduced. A generation later, the 901 is still with us (albeit, after a number of redesigns to make

ward and inward, along an axis that, in a normal 401 setup, passes in front of the listeners; and (2) to the side, where they can be reflected by the room's boundaries, particularly its side walls. The high treble, consisting primarily of overtones, comes from the single tweeter and is directed only along the forward/inward axis, whereas the deep bass (and, because of the dual drivers, even the not-so-deep bass) is essentially omnidirectional. Bose calls this driver configuration a Stereo Space Array. It is intended to combine the spaciousness typical of Direct/Reflecting systems (via the outward-firing drivers, in particular) with the broad, stable stereo "sweet spot" characteristic of upper-range driver axes that intersect in front of (rather than at) the listening position.

For its measurements, DSL kept the "on-axis" microphone directly out in front of the speaker, as it always does. This is not actually on the axis of any of the drivers, however. Nor is the "off-axis" mike, which is offset by approximately 30 degrees from the on-axis mike location, whereas the panel holding the front/inside drivers is offset by 45 degrees. In terms of the tweeter response, therefore, neither trace represents what would normally be called on-axis behavior, though the off-axis trace presumably comes closer than the on-axis one.

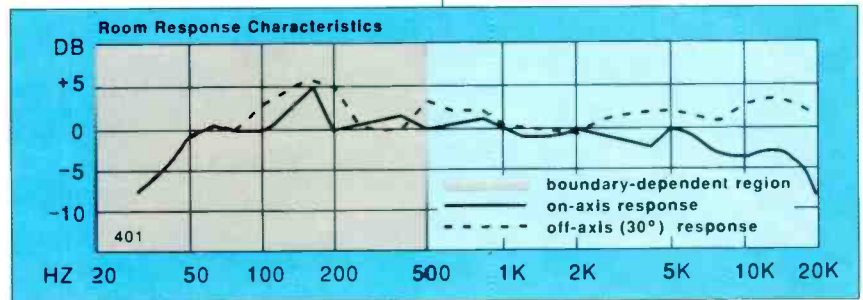
The graph shows response with the speakers 37 inches in front of the wall. The "on-axis" trace, in particular, is exceptionally flat except for a moderate peak near 160 Hz and some evidence of minor roughness in the high treble. Ignoring the peak, the trace falls within about +2, -3 1/4 dB from the 50-Hz band to that centered on 16 kHz—despite the microphone's being considerably off-axis of the tweeter. The "off-axis" trace holds up even better (and is smoother) at the top end, but the upper-bass peak is broader.

Moving the speakers nearer the wall (6 inches away, for the lab test) pushed this peak down slightly in frequency but also exaggerated it somewhat. In the listening room, too, the bass seemed in somewhat better balance with the speaker farther from the wall, and this became the standard position for both measurement and listening. In any event, the 401 can't be placed literally *against* the wall, because the vent needs room to "breathe." And space at the sides—at least two feet, according to the owner's manual—is needed to delay the reflections from the side-firing drivers, in order to create the spaciousness that is the Direct/Reflecting hallmark.

Distortion at the lowest test sound-

pressure level (SPL) of 85 dB averaged less than 1 percent, which is respectable but not outstanding. Impressively, however, it did not rise significantly in the deep bass, and the rise in distortion with increasing drive level was quite moderate. At the maximum level (100-dB SPL), the figures still averaged in the neighborhood of 2 percent, which isn't at all bad for a moderately priced, relatively compact system.

Impedance is rated at 4 ohms. Although the measured average comes in a



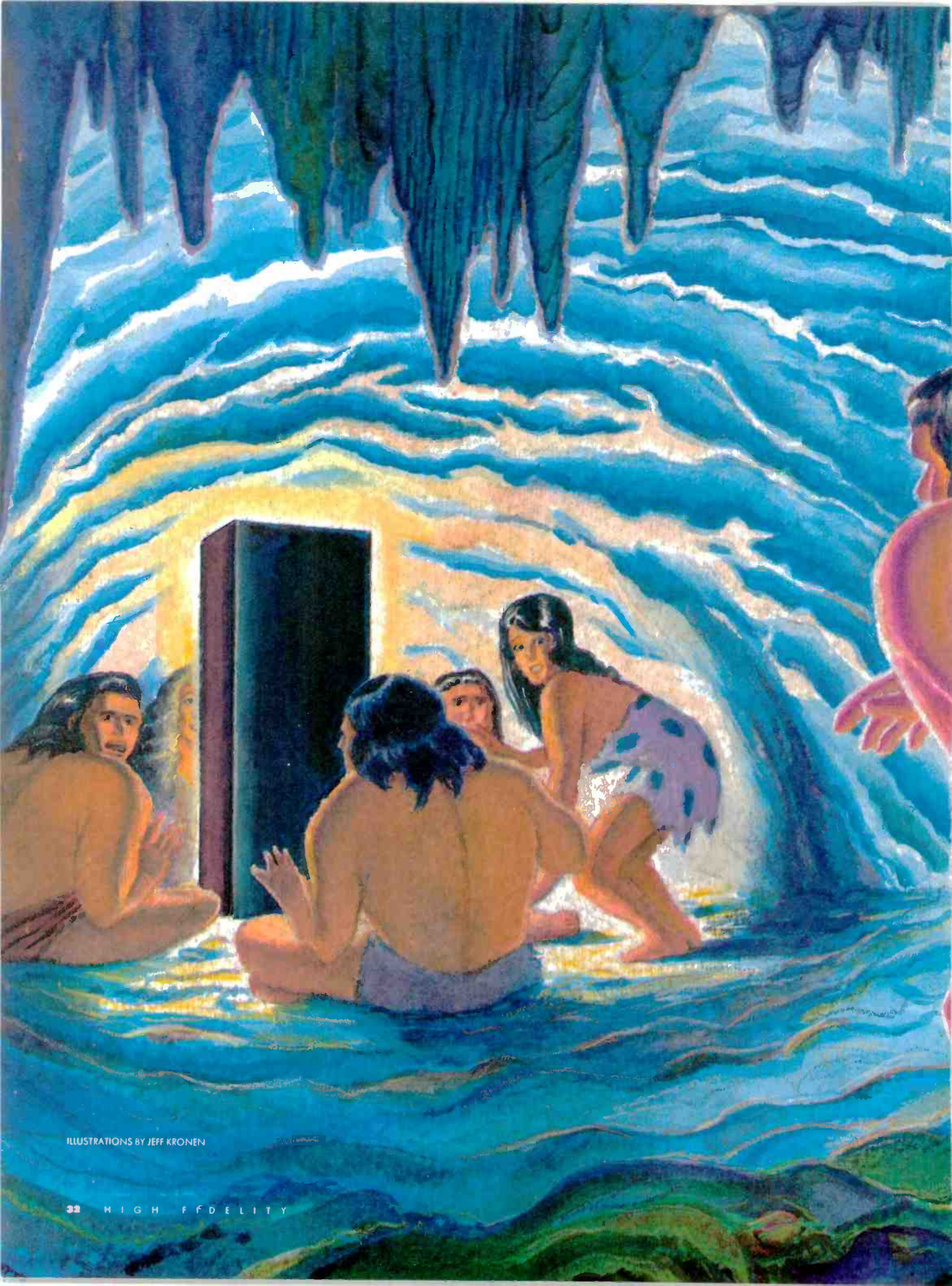
bit higher, there are four points that measure just under 4 ohms in our test sample, suggesting that the lower rating should be adhered to in calculating multiple-speaker hookups. The highest peak is 14 ohms at woofer resonance, near 95 Hz. Except for a double-barreled trough in the woofer range, it is a textbook impedance curve for a vented system.

The sound of the 401s is not a textbook case, however. Like all Direct/Reflecting speakers, they suggest space in a very specific and exciting way, and they do so with a breadth and smoothness of sound that belies their relative modesty of size and price. Some roughness is audible in the treble, and the midbass is not exceptionally clean, but neither factor is excessive for a speaker in this class, and the sense of space and drama that the 401 supplies can easily offset these considerations for many listeners. The Direct/Reflecting approach has always exacted a price in precision of localization, and the 401 runs true to form, yielding a stereo image that is a little more diffuse than that which one might obtain from a more conventional design. Conversely, speakers that produce a more tightly focused image may sound comparatively flat and constricted.

For those who prefer the Direct/Reflecting sound but don't want to spring for the 901s, the 401s offer the best moderate-price alternative I've heard. In fact, dollar for dollar, I would call the 401s the better buy and possibly the best value Bose has ever offered. Let's hope that they stay around as long as the 901s have.

Robert Long

Sensitivity (at 1 meter, 2.8-volt pink noise)	89 1/4 dB SPL
Average Impedance (250 Hz to 6 kHz)	7.4 ohms



ILLUSTRATIONS BY JEFF KRONEN

THE QUEST FOR SPEAKERS

ANSWERS TO SPEAKER-SHOPPING QUESTIONS

The selection of loudspeakers is the most difficult task you must undertake in assembling an audio system. One reason for this is that speakers are the most important link in a sound-reproduction chain—all the signals from your system must pass through the speakers to get to your ears—and therefore must be chosen with particular care. Another reason for the difficulty is that making fair comparisons among speakers is not easy, since it requires a high awareness of the possible decision-throwing factors, as well as unusual amounts of cooperation from your dealer in order to control, eliminate, or explain them.

This article is a guide to those factors for the speaker shopper, and is a primer on how actually to go about selecting a speaker. Speaker technology, as prominent as it is in advertisements and product brochures, is covered in a very cursory fashion, since it is not as important as speaker sound quality (see "Ignorance as Bliss," below). However, to many audio beginners, even sound quality takes second place to the bottom line.

How much should I spend?

The glib answer to this one is: as much as you can afford. A more complicated response requires a look at what you get at every price level. In general, it's pretty difficult to find good speakers costing, at list price, less than \$180 per pair (all speaker prices in this article are per pair). Cheap speakers typically won't play loud enough or won't have a solid bass (low-frequency) response, or they stand out in a showroom demo only because they are raucous. So beware of any units costing \$180 or less, especially if they have large enclosures or contain more than two drivers (one woofer and one tweeter).

The highest concentration of good products lies in the \$200–\$500 price range, and, for a first system, this is an excellent price level to start exploring. As you ascend in this range, you'll find better bass performance and an increased ability to play at lifelike sound levels. Experienced or critical listeners and those upgrading from a starter system would do well to look at the \$750–\$1,000 range. What you get in a speaker costing more than \$1,000 are additional, perhaps very subtle or seldom-used refinements and possibly new and radical design approaches.

Systems assembled by stores and sold as a package tend to have too much emphasis placed on the electronic components and not enough on the speakers. You will have a better-sounding system if you spend less on the receiver/amplifier or CD player and more on the speakers. Careful selection of a speaker that takes into account its sensitivity (how much sound it puts out for a given amount of power) can save you considerable amounts on the electronics portion of a system (see "Reading Speaker Specs," below). Spending as much as half your total system budget on the speakers is not unreasonable. ▶

BY DAVID RANADA

THE QUEST FOR SPEAKERS

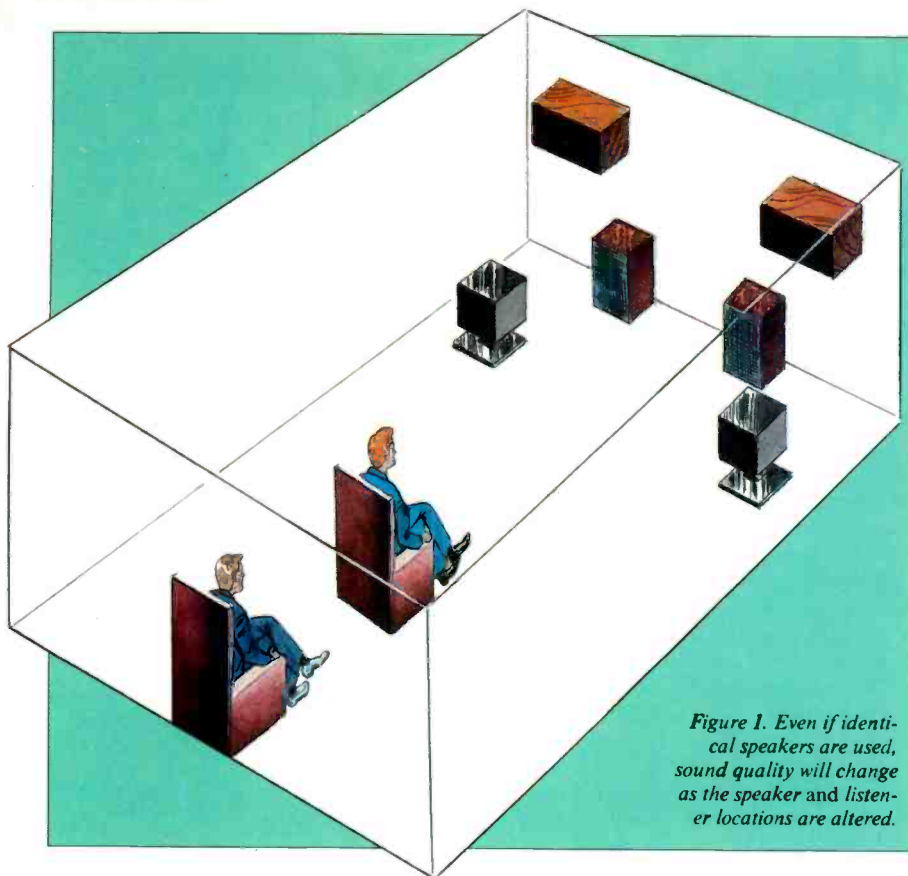


Figure 1. Even if identical speakers are used, sound quality will change as the speaker and listener locations are altered.

How do I learn what is good?

Many stereo novices couldn't tell a good speaker from a bad one. Then again, neither can many experienced listeners—such as recording studio engineers, who often make critical musical judgments listening to the most dreadful monstrosities. Falling in between these extremes are many stereo salespeople, whose opinions can be formed as much by manufacturer kickbacks and other perks as by true audio discernment. And salespeople are the dominant (90-percent according to one designer I talked to) influence when it comes to the choice of a loudspeaker system. So how does a beginner in audio get started on the right path?

Unfortunately, there are no shortcuts to audio enlightenment. The only way to learn good sound is to listen, listen, and listen. To live concerts of all kinds of music, to stereo systems costing far more than you can afford, to friends' systems, to the opinions of experts. If you are in a hurry—and many buyers make speaker-purchase decisions faster than prudence would dictate—there are some substitutes for personal listening that can help you along. For example, although this may seem a bit self-serving, you could do much worse than to march into a store, point to a glowing product review in an equipment magazine, and say, "Give me a pair of those." Equipment reviewers, for this magazine at least, are extremely good and experienced listeners, who clearly state their honest opinions on a product. Careful reading will reveal the speakers we like best.

Magazine reviewers have an important advantage over most shoppers in being able to hear a speaker for an extended period, not the ten minutes or less usually accorded a shopper in a busy showroom. The last speaker I reviewed, for example, was auditioned over several *days* and was compared to other speakers of known high quality. I could experiment with the speakers' placement in the room, with my listening position, and, most significantly, with a great variety of music. In my tests, it's not un-

common for music on nearly 40 different CDs to be used in the evaluation of one speaker. Try that in your neighborhood we-won't-be-undersold store.

Many people think of the purchase of a product as a medium for personal expression—an art form in itself—and are hesitant about taking even expert advice. If you're determined to jump in on your own, a good tactic is to start out by auditioning top-of-the-line or highly rated models, even though you may not be able to afford them, in order to learn what you give up by spending less.

What homework do I have to do?

Deciding how much you can spend is one part of speaker-shopping homework, reading reviews and getting familiar with good sound is another. But before you walk into that showroom, there's a little more preparation you have to do in order to make your task, and that of the salesperson, easier.

You have to have a good idea of where you want the speakers to go: how much room you have, whether there are bookshelves of the requisite sturdiness at the right height for bookshelf speakers, whether there is space for a floor-standing model, whether you'd tolerate a floor-standing speaker 3 feet out from the walls, whether there's room on or in your walls

for wall-mounted models. You must be able to describe, should you be asked, the size and shape of your intended listening room, as well as its general acoustical properties—whether it is reverberant ("live") or nonreverberant ("dead"). You should be prepared to describe any special requirements you have for the speakers, such as appearance, size, weight, and finish. Finally, you should also be ready to gracefully exit the store having decided not to buy anything quite yet. Don't get pushed into a purchase you may regret.

How do I make a fair comparison?

The difficulty in making a listening comparison between speakers in a showroom lies not with the facilities on hand. After all, even the lowliest of discounters usually has some provision for rapid switching between two pairs of speakers. It's complete *fairness* that is rarely achieved. Many seemingly irrelevant factors can influence the sound of a speaker enough to sway a buying decision. Here are a few of the major ones:

The Speaker Locations. Fig. 1 shows three possible positions for speakers in a showroom. Even if *identical* speakers were used, they would sound different at the very least because of their location relative to the walls, floor, and ceiling. The closer any speaker gets to one of these "room boundaries," the louder the bass. And the more boundaries it approaches, the bigger the bass boost. This can be taken advantage of by the manufacturer, who may require a specific placement of a speaker for best results. Room reflections can also alter the stereo effect. Moral: Compare speakers only when they are placed in their recommended locations. Beware of comparisons between widely separated pairs, especially if either is placed somewhere other than where the manufacturer recommends.

The Listening Location. The room-boundary effects that were mentioned above also apply to the listener. You'll get more bass if

your head is close to a wall, and a great deal more bass if it is in a corner near the floor (this is usually uncomfortable, however). Moral: Either mentally compensate for the differences between the showroom situation and your listening room, or try to maneuver the speakers and listening position in the showroom to mimic your home layout. If the speakers are placed as at home, place yourself that way: Sit down while auditioning (unless, of course, all the speakers you are comparing sit on an elevated shelf, as is often the case with bookshelf models in stores).

Speaker Orientation. Speakers can sound different according

to whether they are placed horizontally or vertically, and some manufacturers design their products for a specific orientation. In particular, the stereo effect can become unstable with slight side-to-side head movements if the drivers are not in a vertical line. Moral: Make sure the speakers auditioned are oriented according to the manufacturer's recommendations. Beware of sideways logos.

Speaker Angle. Because of the shape of the outer ear, the sound you hear from a speaker changes depending on the angle it is from straight ahead. This can be heard if you stare straight ahead while

IGNORANCE AS BLISS

This suggestion may seem like blasphemy in a magazine such as *HIGH FIDELITY*, but when it comes to selecting a loudspeaker, you can usually ignore claims to sonic superiority that result from technological "advances." I make this recommendation reluctantly, since there actually have been tremendous technical improvements in speaker design over the past decade—such as increased power handling and lower bass distortion. However, among the good brands that you should be considering, everybody is at nearly the same state of the art with such improvements, no company or technique having a decisive superiority over another. Rather than sorting through long, extremely technical essays as to why one company thinks it is doing something better than all the rest, you'll find it simpler to ignore them all. The amount of specious pseudo-engineering gobbledegook you will bypass will far outweigh the few true design gems you'll overlook. With speakers, it's better to rely on the judgment of your own ears, or those of someone you trust.

It is difficult, I realize, to ignore the claims in advertisements and product brochures. But it's also too easy to become fixated on a particular aspect of speaker design that may, or may not, prove to have distinctly audible benefits. Here are six of them:

Driver Materials. Hardly a month goes by when a speaker company somewhere doesn't introduce the "world's best driver material." All manner of exotic metals, alloys, and plastics are being employed in speakers nowadays, with varying degrees of success. The sonic success that has been achieved, however, cannot often be directly attributed to the driver material—even though a manufacturer might like you to think so. A driver material is, after all, merely a means to an end that probably can be obtained by other methods. In fact, old-fashioned treated paper is among the very best diaphragm materials. Unfortunately, paper-diaphragm drivers of consistent properties are difficult to produce efficiently. Many designers have been forced by economic factors to change from paper to alternative materials.

Driver Shape. As long as the driver's diaphragm size is considerably smaller than the wavelength of sound being reproduced, its shape does not matter. For example, at the lowest frequencies, whose wavelengths measure several feet, round woofers have no inherent advantage over, say, square ones. As

the wavelength of sound approaches the size of the diaphragm, the radiation from the driver becomes more directional, with the precise radiation pattern greatly dependent on the driver's shape. At such frequencies, the radiation pattern from a round driver, being symmetrical, is easier to calculate and, if necessary, to compensate for than that of any other shape. What really matters, however, is whether the speaker designer knows this and has taken driver radiation pattern into account.

Antidiffraction Treatments. Rounded cabinet edges and special front-baffle treatments are now in vogue as means to combat the dreaded effects of "diffraction" (by which a sound wave emitted from a driver encounters a sudden change in acoustical impedance and reflects therefrom—which is not really diffraction in the scientific sense of the word). The diffraction from a speaker enclosure is measurable under laboratory conditions and is sometimes audible when special test signals are played. But don't get hung up on antidiffraction measures when simply moving the speakers a few feet in your listening room can produce a far more drastic change in sound quality. Likewise, moving your listening position a few inches can produce a far greater change in image quality than is obtained from antidiffraction design. It is nice to have a speaker with reduced diffraction effects, but don't rule out a good-sounding unit just because it does not have rounded cabinet edges.

Vented vs. Acoustic Suspension. Ever since comprehensive design equations were developed for them, vented speaker systems have become all the rage. The only competitive technology that likewise provides good bass performance in a small-size cabinet is acoustic suspension. Fewer new systems are being designed using the latter technique, not because it is inferior, which it definitely is not, but because it is more difficult. An acoustic suspension speaker must be designed from the ground up; the basic characteristics of such a system are all locked together in a single equation (Hoffman's Iron Law). These characteristics include specific properties of the woofer, and since most speaker companies do not manufacture their own drivers anymore, it's difficult to integrate a preexisting woofer into a new acoustic suspension system. In most respects, vented and acoustic suspension technologies are equivalent performers, though a well-designed acoustic suspension system still is measurably superior to ported designs

in the reproduction of transients.

Phase Alignment (sometimes called Time Alignment). It seems to make perfect sense that the drivers in a speaker system should be aligned so that they emit their sound in perfect synchrony. Unfortunately, at the highest frequencies, where such alignment can have its greatest effect on a reproduced waveform, the human ear is not sensitive to phase, only to the spectrum (frequency response). At low frequencies, where humans are more sensitive to phase effects, no speaker of even remotely conventional design is *not* phase aligned, since the wavelengths reproduced are so large compared to the spacing of the drivers. Besides, phase alignment of a multidriver system can be perfectly achieved only at one precisely specified location in front of the speaker. Move away from that point by a fraction of an inch and you've lost the alignment. The effects usually trotted out to demonstrate the so-called benefits of phase alignment are those of frequency response, since both the on- and off-axis responses of a speaker may change with alterations of mechanical or electronic phase. Phase alignment is not a reasonable basis for choosing one speaker over another.

Weird Radiation Patterns. As stated in the main article, radiation pattern is one area where considerable irreconcilable sonic differences between models arise and where fundamental speaker-selection decisions have to be made. Along with increased interest in the characteristic have come models with what might be called weird radiation patterns, each designed to produce a specific sort of effect. There are systems that are said to produce: (1) a good sonic image from practically anywhere in the listening room, (2) an expanded image by means of inter-ear crosstalk cancellation, or (3) a sound field having correct proportions of direct and reflected sound. In auditioning such speakers you would do well to ask the following questions: Do I like the effect? Does it provide benefits to all the types of music I will play on my system (or at least to the music I favor most)? Will it eventually prove annoying or distracting? Has something been given up to obtain the effect (such as balanced frequency response, bass performance, or power-handling capability)? Does it impose any restrictions in hookup, speaker placement, or listening position? Is it worth the extra cost? Some systems with unusual radiation patterns sound quite good, others do not. Again, let your ears make the selection. Nobody has all the answers yet.

D.R.

THE QUEST FOR SPEAKERS

somebody "walks" a speaker around you while it is playing a "pink noise" test signal. Moral: Audition similar speakers close together so that the subtended angle between them (which, ideally, should be approximately 60 degrees) doesn't change much as you switch between them.

Speaker Distance. Sound quality can change with your distance from the speakers. This effect stems from, among other things, a change in the ratio of direct to reflected sound. Moral: Listen, if possible, to speakers from a distance close to that which you will have at home.

Room Acoustics. Many showrooms are heavily "damped" with carpets and acoustic treatments and are far less reverberant, especially at high frequencies, than a home listening room. A speaker that sounds well-balanced in such a showroom could sound overly "bright" and sibilant at home. Thin, flexible walls and drop ceilings can absorb bass; large glass doors and windows can reflect all manner of frequencies. Moral: Be aware of the acoustics of the showroom, and be prepared to do a mental comparison of them to the acoustics of your listening room.

Noise Levels. Except in New York City, it seems, stereo showrooms are noisier than typical home listening rooms. The human ear can hear "through" a great deal, but it is also extremely sensitive to the absolute level at which sound is reproduced: Something that sounds live at one volume level can sound annoyingly artificial if played slightly louder to cover up some noise. Moral: Find a quiet showroom, or at least one whose noise level does not exceed that of your listening room.

Dirty Tricks. Although the increasing sophistication of customers is making deceptive selling practices less common, dirty tricks can still occur. In order to sell one speaker over another, dealers have been known to put pinholes in drivers, burn out tweeters, switch in deep-bass subwoofers or ambience speakers on only one set in a comparison, turn driver level controls all the way down, place speakers in unfavorable positions, connect one pair out of

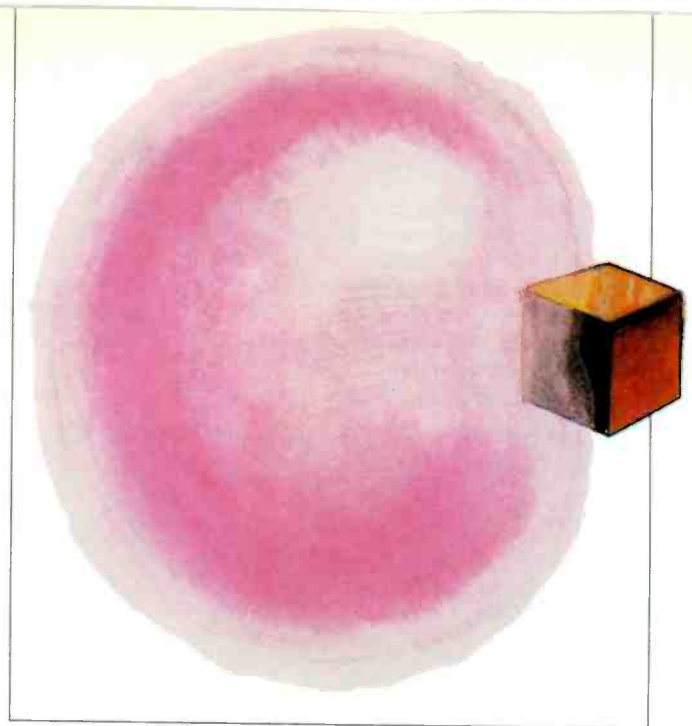


Figure 2. Most loudspeakers in the popular price ranges radiate their energy primarily in a forward direction.

phase, or adjust certain speakers so that they always sound slightly softer in a comparison. Moral: Choose your dealer carefully (see "Cat and Mouse," March 1989).

How do I make an A/B comparison?

By following all the above suggestions, you've just turned the showroom into your home listening room—if only through mental compensation for showroom effects. But there are still three preliminary steps to take before you start serious auditioning.

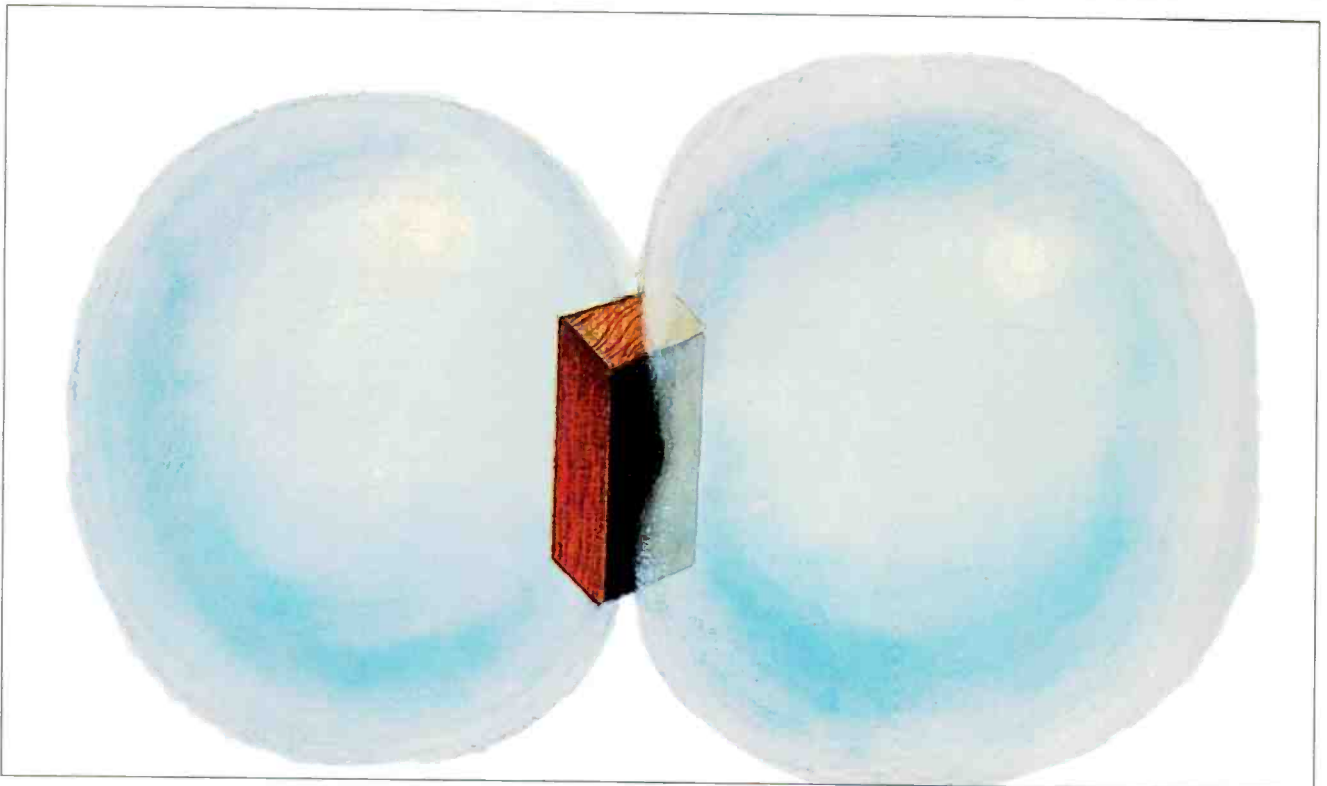


Figure 3. Quite a few higher-priced models radiate sound bidirectionally (from front and back) and produce a unique sound quality unduplicatable by other radiation patterns. Bidirectional speakers are usually tall and flat.

First of all, even though the switcher may let you listen to any number of speakers, compare only two pairs at a time. Comparisons should be A vs. B, not A vs. B vs. C, etc. Reject at least one pair before moving on to others. When you are done, you can go

back and check to make certain your choice still holds. Second, set any driver-level controls on the speakers to "neutral," all the while keeping in mind that such controls, as well as amplifier tone
(Continued on page 40)

READING SPEAKER SPECS

Compared to, say, an audio-video receiver, a loudspeaker data sheet usually contains blessedly few specifications. In a way, this is an acknowledgment by the audio industry of the importance of listening in the evaluation of a speaker: If a loudspeaker could be completely characterized by numerical specifications, it probably would be. This may occur someday. Meanwhile, of the specs that are printed, a few are important to a buying decision, others should be disregarded altogether.

Some data can be basic to a speaker selection: size, weight, finish, price. But forget about a manufacturer's frequency-response specifications: They are all so uniformly good that if they were true representations of speaker sound quality, you'd be hard pressed to account for the fact that speakers sound as different as they do. It's better to trust your ears or the ears and lab tests of an equipment reviewer in matters relating to frequency response. The same goes for distortion performance, although in product brochures the specs for distortion are more rare than those for frequency response.

Three common technical specifications do need some attention: impedance, sensitivity, and the interrelated specs of recommended amplifier power and power-handling capability. Impedance is the load a speaker places upon the amplifier driving it; the lower the impedance, the greater the load. But impedance should be of concern only if you have an amplifier that is particularly inept at driving low impedances (fortunately, these are rare)—in which case beware if (1) the speaker you are considering has an unusually low (4 ohms or less) minimum impedance or if (2) you are thinking of running two or more pairs of speakers from the same amplifier simultaneously (all turned on at the same time). If you have a poorly designed amplifier and either of these two conditions is true, avoid speakers with a minimum impedance of 4 ohms or less (6 ohms or less, if you want to be conservative). Impedance is not a significant issue if your amplifier is capable of delivering more power into 4- or 2-ohm loads than 8-ohm loads or, in a multispeaker setup, if only one pair will be on at any given time.

The most important electronic specification relevant to a buying decision is probably a speaker's sensitivity, which is a measure of how much sound it will generate when fed with a specific level of signal. A typical sensitivity spec might be "90-dB SPL/w/m," which, translated, reads: "This speaker will generate a sound-pressure level of 90 decibels 1 meter away when fed with a 1-watt signal." A sensitivity specification is not—repeat, not—a gauge of speaker quality, but it can help with evaluating speaker/amplifier compatibility—specifically, indicating whether

your amp has enough oomph to do the job.

A 90-dB sound level produced in a typical (small to medium) home listening room is what most people would consider loud (100 dB = very loud, 110 dB = extremely loud, 120 dB = deafening—and dangerous). To gauge the maximum level a 90-dB speaker could produce from, say, a 30-watt amplifier, simply add the dBW figure for a 30-watt amplifier (see table) to the speaker sensitivity: 90 dB + 14½ dB = 104½ dB. So, for a 90-dB speaker, you would be able to generate very loud sustained levels from "only" a 30-watt amplifier. (To derive dBW equivalents for wattages not listed on the chart, find the base-

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

10 logarithm of the wattage and multiply that by 10.)

From the chart, you can also estimate the significant effect that speaker sensitivity can have on the choice of an amplifier or receiver. As far as maximum possible sound levels go, selecting a speaker that is 6 dB more sensitive than another (90 dB vs. 84 dB, a not unusual span) is equivalent to multiplying the amplifier power by 4 (30 watts into a 90-dB speaker will produce the same maximum level as 120 watts into a 84-dB model). The difference in speaker prices can be minimal, but the price difference between a 30-watt and a 120-watt amplifier is considerable.

Keep in mind that I've been talking about maximum levels so far. Most music, even loud rock music, putters along at very much lower

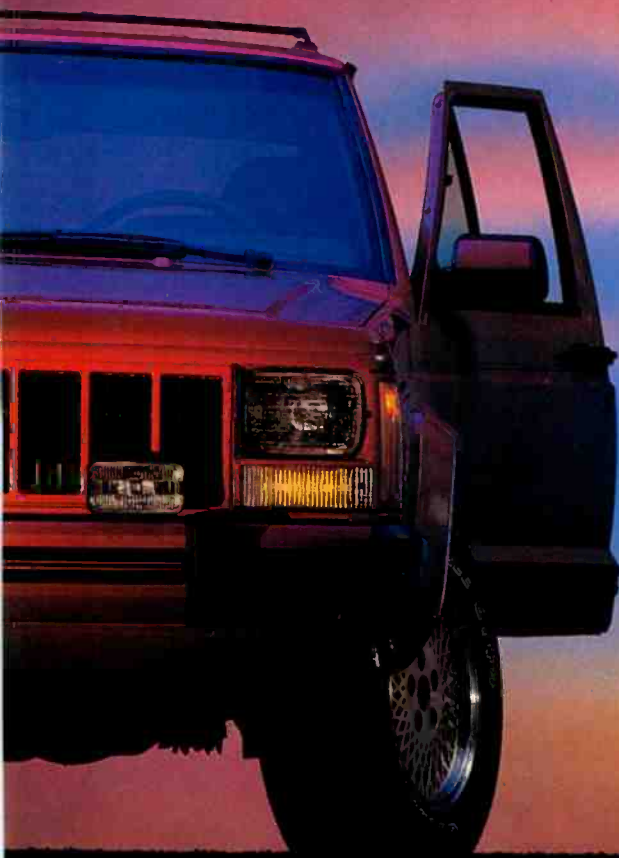
levels (remember, for many speakers you need only 1 watt to generate a loud 90-dB SPL or more). Classical music spends most of its time in the sub-watt regions and requires massive amounts of power only on the loudest fortissimos. Since large amounts of power are required only on peaks, the best—most cost-effective—amplifier/speaker-buying strategy would be to select as small an amplifier power consistent with the intended maximum listening level (add the speaker sensitivity to the dBW figure for the amp to get the listening level) and choose an amplifier at that power level with high "dynamic headroom," for undistorted reproduction on peaks (a 2-dB dynamic headroom is rare, a 3-dB or higher rarer still, unfortunately).

From my perusal of store ads for component stereo systems, I'd say that most home setups are overpowered—that the amplifiers' full output capabilities are rarely, if ever, reached during the life of the system. Perhaps this is because dealers and customers are confused by the admittedly perplexing recommendations by speaker manufacturers for "minimum amplifier power" or "power-handling capability." Unlike the situation with speaker sensitivity, there are no industry-wide conventions for rating these important specs: One designer's 25-watt minimum may be 15 watts to another. If the speaker manufacturer recommends a specific amplifier power, get one at approximately that level (within about 25 percent). If there is a minimum recommended power, buy at least that much. All this is fairly simple.

The complications set in with a speaker's maximum power ratings. Most new buyers think that using an amplifier with a higher wattage than the speakers are "rated" for places the speakers under unusual stress or risk. Not so, unless you do something drastically untoward: You play *much* louder than normal to show off your system, you are prone to dropping your stylus on your LPs, or you use large boosts in tone-control or equalizer settings . . .

The amount of power you need to obtain a given loudness level depends on the speakers' sensitivity and not on the amount of power on hand. Most modern name-brand speakers can endure large amounts of power for short periods of time (less than a second), especially if they are ferrofluid cooled or use other measures to prevent driver overload. Having *more* amplifier power than you use is always better than *less* power, if only because the amplifier—if not also the speakers—won't distort on large peaks. If you are concerned about having too much amplifier power, you can always install fuses on the speaker lines. (Contact the speaker manufacturer for specific fuse recommendations.)
D.R.

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THE QUEST FOR SPEAKERS

(Continued from page 37)

controls, may make a speaker sound better in your own listening room. Third, match levels so that the two speaker pairs play at as nearly the same loudness level as possible. A mere 1-dB difference in overall level can make you prefer one speaker pair over another, even if they are the same speakers. It is therefore essential that you make an attempt to compensate for this effect.

The best way to match levels is to measure them using an A-weighted sound-level meter (Radio Shack makes a workable one for around \$30) while playing pink noise from a test-signal CD. If instrumentation is not available, match levels while playing musical passages with predominantly midrange material (or turn the amplifier's bass and treble controls all the way down). If the dealer's switcher cannot match levels, try to do it manually, using the volume controls on the amplifier. A fair comparison cannot be made without at least approximately matched levels.

While listening, set the overall listening level to what you prefer. But be aware that the ear can be most discerning when the levels are elevated yet not deafening. For well-recorded acoustical instruments, the proper level is that of the real instrument or ensemble as heard from the sonic perspective contained in the recording.

When switching from speaker A to speaker B, do so instantaneously

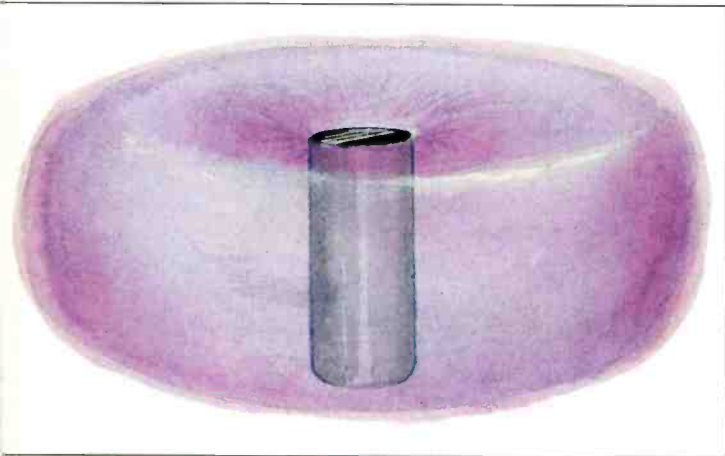


Figure 4. Many models experiment with multidirectional radiation patterns, including the omnidirectional pattern shown here.

neously during a continuous texture in the music. This can be during a sustained note or, in more dynamic musical styles, during a musical phrase. Don't switch between phrases, because the music may also change there. Don't take more than a fraction of a second to switch, since the ear can forget the most subtle differences in so short a time. And don't be afraid to switch often—even once a second or faster.

What do I listen to and for?

I recommend that you listen to as wide a variety of music as possible—don't just bring in one treasured disc, unless that's all you ever listen to. At the very least, take along samples of the complete range of music you prefer listening to. When I do speaker evaluations, the music ranges from Gregorian chant (ambience and midrange coloration), through the classics and opera (overall balance), to disco and rock (power handling, bass performance, and stereo effect). Along with instantaneous switching between competing models, the use of many different recordings helps you zero in on a speaker's personality.

Don't listen only to the music you bring, however. The store may have some favorite demo discs you may not have heard that can show your prospective purchase to best advantage (or disadvantage).

Conversely, don't listen only to a store's discs—which could have been chosen to suit a particular type of speaker and might not include any musical genres you like.

Every good listener I know recommends auditioning at least one solo vocal recording, male or female, preferably both. We all are quite familiar with the sound of the voice, and the coloration imposed on a voice by a speaker can be very vivid during an A/B comparison. The trick is finding a natural-sounding voice recording and not one gimmicked up with electronic processing. Classical and folk vocals are the least likely to have been "enhanced."

Beyond vocal recordings, it's very difficult to make recommendations because, unless you know what the real thing sounds like (this is where hearing live music comes in handy), you have no way of knowing whether the sound qualities you are hearing originate in the recording or are a property of the speakers. In general, the overriding goal in the design of a high-quality loudspeaker system is the creation of a "balanced" sound. This is one in which no part of the reproduced frequency range receives undue prominence, which could thereby alter instrumental and vocal timbres. This doesn't necessarily mean a "flat" frequency response, although flat-measuring speakers tend naturally to sound better balanced. A well-balanced speaker should be able to reproduce a natural-sounding recording realistically, and a highly processed or synthesized one accurately (accuracy and realism are separate qualities not always found simultaneously, if at all, in a given model). Again, in assessing realism and accuracy, it is helpful to use many different recordings and to audition them on speakers above your price range, just to see what they can sound like.

In your perusal of brochures and test reports and your encounters with salespeople, you might run across such other descriptive terms as clarity, impact, richness, fullness, and presence. But while such words have great evocative power, they can generate different responses in different people and can be useless in actually communicating information about what you are hearing. There is at least one word, however, that can be useful: imaging. This describes a speaker system's ability to create the audible illusion of sounds originating from other than the two speaker locations. (This is what I have been calling the "stereo effect.") Usually, imaging refers only to the creation of phantom "images" of sound sources spread between the speakers. Imaging can range from being precise and "tight" (the phantom images are perceived as well-defined, small sources) or vague or smeared (the images are proportionately larger than life-size or have no definite point of origin). Be aware, however, that recordings can have precise or vague imaging themselves and that vague images are ordinarily what you hear at a live concert—vague imaging can sometimes be considered both accurate and realistic. Image stability is also a criterion: The size and location of the phantom sources don't change much with small head movements—or even, with some speakers, with complete changes of listening position. But this may not matter if you are the type who sits still during serious listening.

"Ambience" is related to imaging in that it describes a speaker's ability to create a sense of acoustic space around the phantom sources, the ability to locate those sources in depth (receding from the plane of the speakers), and the rare ability of suggesting space to the sides and in back of the listening position. Even though they may sound quite similar otherwise, different models vary greatly in these properties, which are most audible with classical recordings.

Why do speakers sound so different?

Because speakers are supposedly designed by highly trained engineers, it may be surprising for the beginner to find that various

(Continued on page 87)

Audio Fetish Finalists

We present the winner and runners-up
in our outlandish-ideas contest.



ILLUSTRATIONS BY STEVE SMALLWOOD

Spike Bones

Headphones need spikes for direct contact with the skull. This improves bass response via bone conduction. It also helps compensate for the nonlinearity of the human ear.
*Dominic Centala
Posen, Mich.*

Our October 1988 issue included an article called "Audio Fetishes," by Ken Kantor, in which he discussed some of the peculiar theories that have been advanced in the audiophile community and how to distinguish the ones that might have some merit from those that very likely don't. In conjunction with that piece, we announced a fetish contest: The entrant who submitted the funniest, most outrageous oddball audio idea would win an NHT three-piece loudspeaker system, and the runners-up would get two-year subscriptions (or subscription extensions) to HIGH FIDELITY.

The response was overwhelming. One reason it has taken us so long to announce the winners is the amount of time it took to evaluate all the entries. But now we're ready. Congratulations go to Dominic Centala, whose fetish was the unanimous first choice of the judges, and to the six other finalists. Their entries follow, for your entertainment. Just remember—they're only kidding (I think). *Michael Riggs* ▶



Kool Sounds

I once knew an audiophile who would ask several of his friends over to listen any time he bought a new album. Sitting on the coffee table in his living room were bowls of ice cubes. The idea was to place a cube between the jaw teeth on each side of your mouth. He insisted that this enhanced one's sensitivity to high-frequency sounds. There we would sit, listening to whatever record he had for us with ice melting in our mouths. He was quite sold on this fetish—to the point of providing little flavored ice cubes made from Kool-Aid. I realized he was serious about it when I dropped by unannounced one evening and found him listening to an album, ice melting in his mouth and his bare feet in a tub of warm water. "Experimenting," he said, "pushing the envelope."

*John L. Summers
Millwood, W. Va.*

Beer-Bottle Blues

Drinking beer while listening to music can cause a moderate loss of bass response. The reason is that beer bottles piled up around the listener absorb low frequencies in the vicinity of 125 Hz. (Glass has a sound-absorption coefficient of 0.35 at 125 Hz.)

*W. B. Josburg
Memphis, Tenn.*



Time to Rewind

Speaker cable should be replaced periodically with newly wound wire. (You can tell when this is necessary because your system will start to sound too familiar.) An atom of copper has a limited number of electrons it can give up, and a length of wire has a limited number of atoms. Eventually, the wire will have given up most of its free electrons and will start to load down the amplifier to which it is connected, causing it to clip.

*James L. Stacey II
West Lafayette, Ind.*



Diet Cable

You should use the *thinnest* possible cables to connect the components of your system. Skinny wire gives less room for some electrons to move laterally while others are moving forward, so when they come out the end of the cable they'll be more coherent. Also, when electrons reach a certain density, they tend to repel each other, further restricting lateral movement.

*Ed Stokes
Glassboro, N.J.*

Cold Sounds

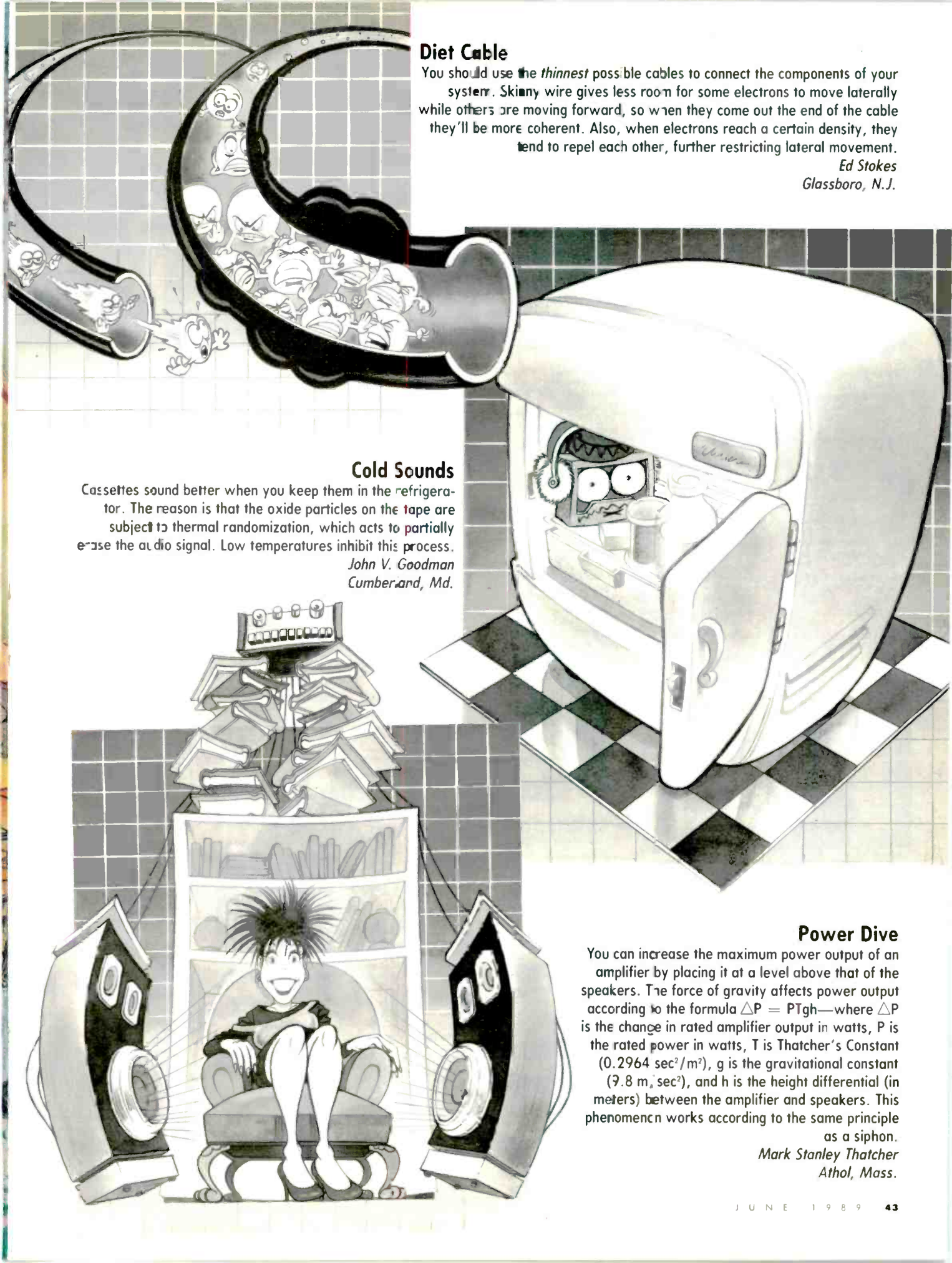
Cassettes sound better when you keep them in the refrigerator. The reason is that the oxide particles on the tape are subject to thermal randomization, which acts to partially erase the audio signal. Low temperatures inhibit this process.

*John V. Goodman
Cumberland, Md.*

Power Dive

You can increase the maximum power output of an amplifier by placing it at a level above that of the speakers. The force of gravity affects power output according to the formula $\Delta P = PTgh$ —where ΔP is the change in rated amplifier output in watts, P is the rated power in watts, T is Thatcher's Constant ($0.2964 \text{ sec}^2/\text{m}^2$), g is the gravitational constant (9.8 m/sec^2), and h is the height differential (in meters) between the amplifier and speakers. This phenomenon works according to the same principle as a siphon.

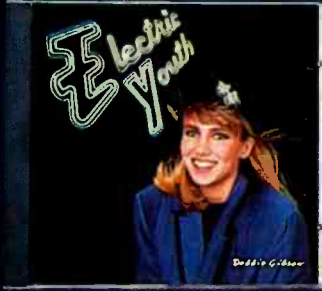
*Mark Stanley Thatcher
Athol, Mass.*



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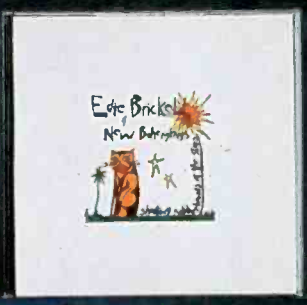
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- Poison—Open Up And Say...Ahh! (Capitol/Enigma) 368688
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- Billy Idol—Vital Idol (Chrysalis) 360107
- Jethro Tull—Crest Of A Knave (Chrysalis) 360040
- Guns N' Roses—Appetite For Destruction (Geffen) 359984
- White Lion—Pride (Atlantic) 359471
- Aerosmith—Permanent Vacation (Geffen) 359075
- Duke Ellington Orch.—Digital Duke (GRP) 357350
- The Police—Every Breath You Take... The Singles (A&M) 348318
- Best Of The Kinks—1977-1986 (Arista) 345314
- Michael Brecker—Don't Try This At Home (MCA/Impulse) 374769

- Anita Baker—Giving You The Best That I Got (Elektra) 374058
- Steve Winwood—Chronicles (Island) 362525
- Robbie Robertson (Geffen) 362152
- Michael Jackson—Bad (Epic) 362079
- Sting—... Nothing Like The Sun (A&M) 361675
- Introducing The Hardline According To Terence Trent D'Arby (Columbia) 361618
- Yes—Big Generator (ATCO) 361170
- The Manhattan Transfer—Brasil (Atlantic) 363648
- Linda Ronstadt—Canciones De Mi Padre (Asylum) 362640
- Pretenders—The Singles (Sire) 362541
- Portrait of Wynton Marsalis (CBS Master) 373555
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- The Clash—The Story Of The Clash Vol. 1 (Epic) 368597-398594
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- Sade—Stronger Than Pride (Epic) 368027
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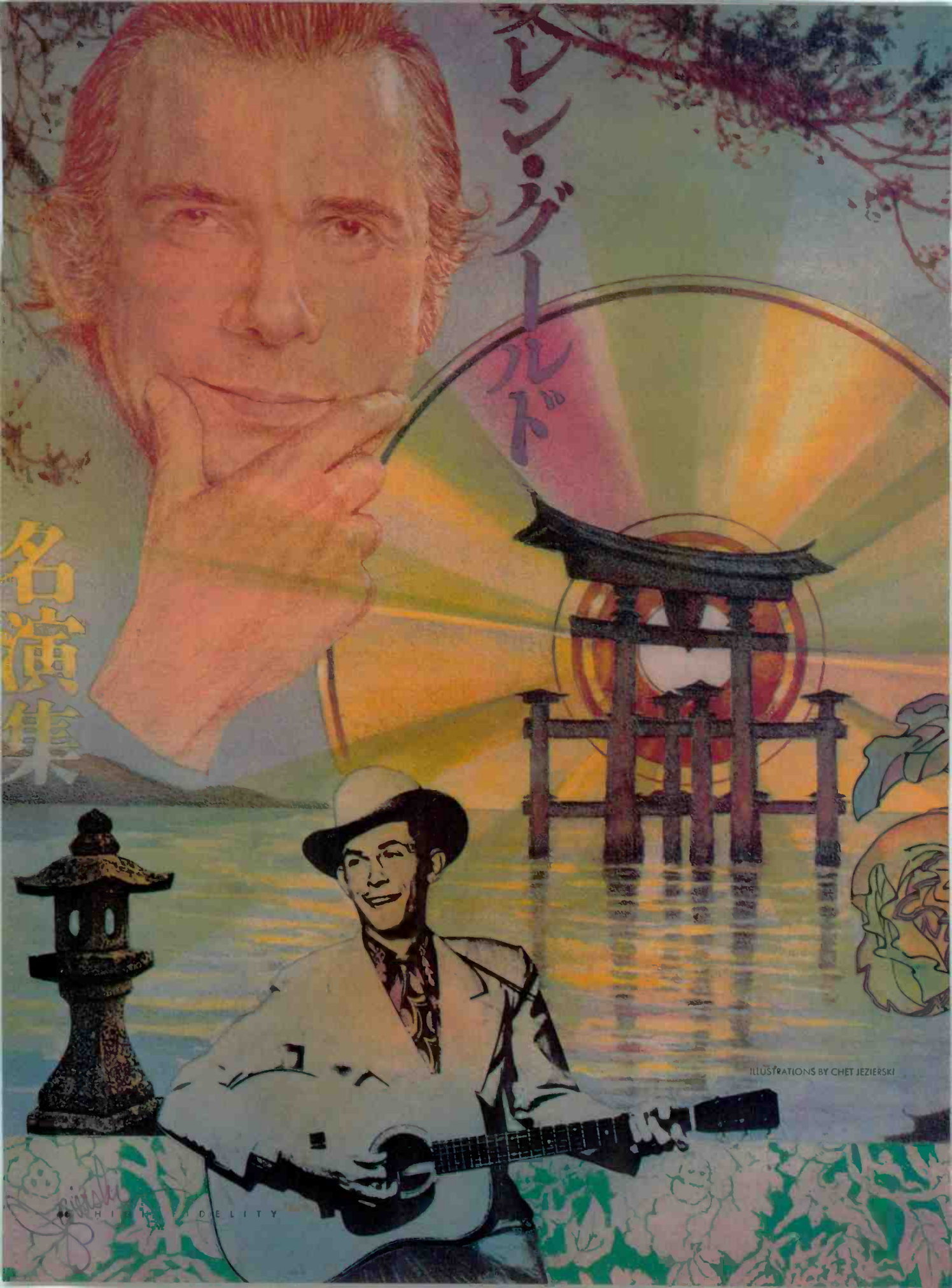
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名演集

ILLUSTRATIONS BY CHET JEZERSKI

HI FIDELITY

You are an avid and discerning record collector. Your format of choice is Compact Disc. Your musical taste focuses on, but is not limited to, classical music, especially great performances from the golden age of the phonograph. You have a penchant for the offbeat. You love Bach and Mozart and Mahler as much as anyone, but what really intrigues you is to hear a famous performer play the works of a somewhat obscure composer or to come across a war-horse interpreted by a fine musician whose name has slipped into the shadows. A worthy account of some undeservedly neglected piece of chamber music, or a live recording of a less-than-familiar opera, excites you more than the latest brand-name blockbuster, with its concomitant PR blitz.

Well, good news! There is a shop that offers hundreds of fascinating reissues and even some new recordings—none of which will you see at the record store in your local mall. The complete theater music of Purcell from Christopher Hogwood and the Academy of Ancient Music, long out of print on LP—they have it, superbly remastered, in a beautiful boxed set of six CDs. Glenn Gould's great recording of keyboard works by Byrd and Gibbon? They've got it, too. *Les Contes d'Hoffmann* with Schwarzkopf and Gedda? It's there, too. Lili Kraus's recording of the complete Mozart concertos? The Budapest String Quartet's classic set of the 16 Beethoven quartets? Pierre Boulez conducting the complete works of Webern? All of those

BY JAMIE JAMES



CD167
世界初登場

GOT A YEN FOR CDs?



and many more are to be found there.

The shop I have described is not on a little back street in Greenwich Village or the West End of London, nor is it in Paris or Berlin. It is any well-stocked record store in Japan.

Yes, this is *another* field in which the Japanese have beat us at our own game. While baseball and apple pie may never be subject to Japanese competition, it is depressing to realize that Japan's superiority in the realm of audio hardware has spread to software as well. But it is unquestionably true: Japanese consumers have a wider choice of musical product than we do. What is amazing about this is that we are talking about Western music, interpreted by Western artists and recorded by American and European engineers.

In part because of their unprecedented wealth, and in part because of their ability to adapt quickly to changing circumstances, the Japanese have won the CD wars. While Western markets were comparatively slow to react to the overwhelming acceptance of the Compact Disc medium, the Japanese, with their national mania to have the latest thing, embraced it without reservation. The result, perhaps temporary, is a strange cultural dislocation. Although American record executives are quick to reassure anyone who asks that, yes, more and more of the back catalog will be reissued, there is nevertheless something peculiar about the fact that Hogwood's Purcell is unobtainable in England and Boulez's Webern is not to be had in Paris or Vienna—while they are both readily found in Tokyo. Perhaps the most absurd case of all is the recent decision by Polygram's Tokyo office to issue the complete recorded output of Hank Williams in a deluxe multi-CD set. This while Williams—the father of country music and a veritable American icon—is represented in his homeland by one forlorn CD release: a two-disc set on Polydor.

There is nothing sinister about the way Japanese record companies have come to dominate the field. They have simply done what companies in capitalist economies are supposed to do: supply their customers with what they want—in this case, a wide selection. Choice is what it's all about. The SCHWANN CD catalog lists 42 recordings of Beethoven's Ninth Symphony that are available on CD in the United States. That sounds like overkill, and of course it is, but if the one you want isn't among those listed, then 42 isn't enough.

The most egregious contributors to the Reissue Gap—the labels that have taken least advantage of what their Japanese divisions are cranking out—are CBS Masterworks and Decca/London, though Angel EMI and others have had their share of



It appears that Western collectors may be better off with the catalog in the hands of the Japanese.

lapses. Juro Yokoyama, the executive in charge of the classical division at Sony/CBS's Tokyo headquarters, explained in a recent interview: "Japan was the first to believe in the Compact Disc, mostly because we had the advantage in terms of manufacturing and marketing it. But even though the president of Sony, Akio Morita, had a strong commitment to the new medium, he had a hard time convincing foreign affiliates—especially CBS—to believe in it."

As the new medium took hold, Japanese consumers, who have traditionally loved Western classical music, clamored for reissues from the extensive CBS catalog. In the beginning, executives like Yokoyama had to relay their requests to New York, for approval by their counterparts at CBS; then the original tapes were remastered for release in the new medium. Most music-industry analysts agree that Sony's recent takeover of CBS was motivated in part because the Japanese firm wanted control of that catalog itself. Much has been made of the \$39 million paid by a Japanese collector for Vincent van Gogh's *Sunflowers*, but that pales beside Sony's acquisition of CBS. The former is only one painting, however enormous the price tag; the latter is a sizable chunk of the history of recorded music.

Yet, paradoxically, it appears that Western collectors may be better off with the catalog in the hands of the Japanese.

They seem to be more favorably inclined to reissues, and they are doing it responsibly. There is not a whiff of unseemly possessiveness about the new regime at CBS. Even though the business shots are being called in Tokyo, the remixing and remastering is being done in New York whenever possible—in a number of cases, according to Yokoyama, by the original producers and engineers. (That may be far from reassuring to many collectors, given the execrable quality of some of CBS's early CD reissues—notably, those of Bruno Walter's recordings with the Columbia Symphony.)

The new age at Sony/CBS is getting high marks even in New York. Says Peter Munves, the director of market planning at CBS Masterworks in New York, "The Japanese are taking a much longer view. Now I will be able to do things that I would never have been able to do before, because we were always looking at the bottom line." Without explaining exactly what these things are, he implies that with the Japanese in control, the consumer will have much to rejoice about. Yokoyama emphasizes that in Japan, Sony/CBS listens carefully to what the consumer has to say—another nice Japanese custom that several major record labels in the West might do well to emulate. "Last year, we received many telephone calls asking for more releases of Oistrakh, so we decided to do so."

There are reasons why certain classical artists have remained popular in Japan, even though they may have fallen on hard times back home. The reputation of pianist Lili Kraus, for example, has not held up too well in the West, but she toured Japan many times, and won a large following there. Hence, her recordings of the Mozart piano concertos are available on CD in Japan but not in the United States or Europe. What is strange is not that the Kraus set is obtainable in Japan but that it is not on the shelves here as well. Once the Japanese have footed the bill for remixing and remastering a reissue, the only expense left for an American release is to prepare English-language art and liner notes.

CBS might respond, "Why should we bother to offer a set by an artist of rather limited appeal like Kraus, when we have a brilliant new recording of the same music by Murray Perahia—a set heavy-laden with critical accolades, superbly recorded in a modern studio?" The answer might well be: "Because you can. The Perahia set may be everything you say. But I am a Lili Kraus fan, and her recording is the one I want." Choice is what it's all about.

Meanwhile, at Decca/London, the Japanese have an expanding role, even

though control of the repertory and the recorded catalog remains in English hands. Mikio Mori, the label's assistant manager in Tokyo, explains how the reissue process works within Decca: "At the beginning of each year, we submit a list of the titles from the catalog we would like to release in Japan to Tony Lomas, product manager of Decca. Lomas decides which of the titles we may release, and they are remastered by the Decca engineers in London."

In practice, Lomas rarely turns down a Japanese request to reissue, probably because Decca in Japan (which, as in the United States, is called London Records) has been extraordinarily successful at raking in the yen. Thus, the Japanese label has been able to reissue many more titles from Decca's back catalog than have hit the racks in this country or in Great Britain. Lynn Hoffmann-Engel, vice president of London in New York, notes that "the Japanese are very aggressive about pushing for reissues."

In almost no case is there a compelling reason to conclude that it makes sense to release a particular record in Japan and not in the West. If anything, there is usually ample reason to think just the opposite. Joan Sutherland, for example, has never been especially popular in Japan,

certainly not to the degree she is in the United States and England. Yet last year, Japanese London reissued a record with the rather tacky title *The Last Rose of Summer: Sutherland Sings Her Favorites*. It is a collection of old popular songs, including, besides the title tune, such venerable numbers as "Home, Sweet Home," "La serenata," and "Songs My Mother Taught Me." The disc is not the cloying audio fluff that one might have feared. It is a treasurable collection for the Sutherland fan, half of it recorded in 1962, the rest ten years later.

It is perhaps understandable that some of the most obscure numbers from the early-music catalog on Decca's L'Oiseau-Lyre label that are being reissued in Japan might be passed over in the West. Perhaps, but not really. Why Johann Stamitz, say, should fare better in Japan than in Europe or here is an impenetrable mystery. Yet it is simply astonishing that a recital of sentimental popular songs by Joan Sutherland should not be released here and in England, particularly after the Japanese have already paid the bill for remastering. Aside from any consideration of the disc's artistic merits, one would expect it to sell like hotcakes.

Among the exclusive releases coming this year from Japanese London are a series of recordings by the late Antal Dorati, a conductor who was held in very high esteem in Japan. The cycle will include recordings Dorati made with several European orchestras; one of the offerings will be a set devoted to orchestral works of Kodály. Is it tedious to point out that this record might possibly be of interest to some European and American collectors?

Despite the greater availability of music in Japan, it is no paradise for record collectors—mainly because, like everything else there, CDs cost a fortune. New releases are usually priced at 3,500 yen. (At the moment, that is equivalent to a bit over \$28.) While that figure is somewhat misleading, owing to the fact that the current exchange rate is brutal, the cost of new product is nonetheless very high. Although steep prices and the generally robust Japanese economy have been the principal reason for Japan's new influence in the world record market—after all, Sony might not have bought CBS if the strength of the yen had not made it such a bargain—that very economic muscle is beginning to cripple Japanese music lovers.

When you walk into a Japanese record shop, you will find a large section devoted to imports, where American and German product is sold for a substantially lower price than is charged for the domestic Japanese issue of the same music. For example, when Decca offers a new worldwide release, the price in pounds sterling

Because of their ability to adapt quickly to changing circumstances, the Japanese have won the CD wars.





and in American dollars is so much lower, compared to the price in yen, that Japanese importers are able to bring in the American or English issue of the same disc and sell it for as much as 30 percent less than the Japanese one. The liner notes will be in English, but that has a certain snob appeal for some Japanese consumers.

An even more outrageous side effect of Japan's economic health on its domestic music market is described by Tetsuya Shibayashi, the manager of the international repertory department of Nippon Columbia, parent company of Denon. All of Denon's Compact Discs are manufactured in Japan, but the ones that are exported have, in Shibayashi's words, "a very different price"—meaning that the price Japanese manufacturers charge to wholesalers in their own country is higher than the price charged to wholesalers abroad. Japanese importers are thus able to re-import (or de-import) those export discs, bringing them back to Japan, where they can offer them for a lower price than the product originally earmarked for domestic release—even after the discs have traveled around the world.

To combat this unintended hardship imposed by the booming economy, the major labels in Japan are constantly dreaming up new ways to appeal specifically to the Japanese classical-music market. Many Japanese are quite sophisticated about Western music, and this has been the case since the early years of this century. As Shibayashi reminds us, the first recording ever made of Mahler's Fourth Symphony was Japanese, performed by a

forerunner of the NHK (Japanese Broadcasting Corporation) Orchestra and engineered by Nippon Columbia. Nonetheless, as any product manager will tell you, there's no such thing as too much market share, so the labels have come up with a variety of marketing tactics to boost sales.

One is the release of compilations of famous musical selections in colorful, low-price packages. That is common practice everywhere, but the Japanese have carried it to unprecedented extremes. Japanese London has a series that began with a disc called *This Is the Shostakovich!!!* It consisted of brief excerpts from the symphonies. Another series, called *Classical Dictionary*, is more serious and makes a real attempt to initiate the novice into the basics of the Western musical tradition. The strangest marketing concoction of all was devised by Sony/CBS, which put together a disc called *CM Classics* containing snippets of famous classical tunes that have been used on Japanese television commercials for cars. The copy on the brochure reads: "Feel the Breeze/Catch the Sun/Nice and Easy/Listen to the Music Play/Now It's Time for the CM Classics."

One of the peculiarities of Japanese record collectors, according to London Records' Mori, is that they prefer whenever possible to buy complete sets. "They like the feeling of security of knowing that they have it all," he explains. Western consumers perhaps tend to be more easily frightened by the prices of complete sets, although when the maximum amount of music is fitted onto each

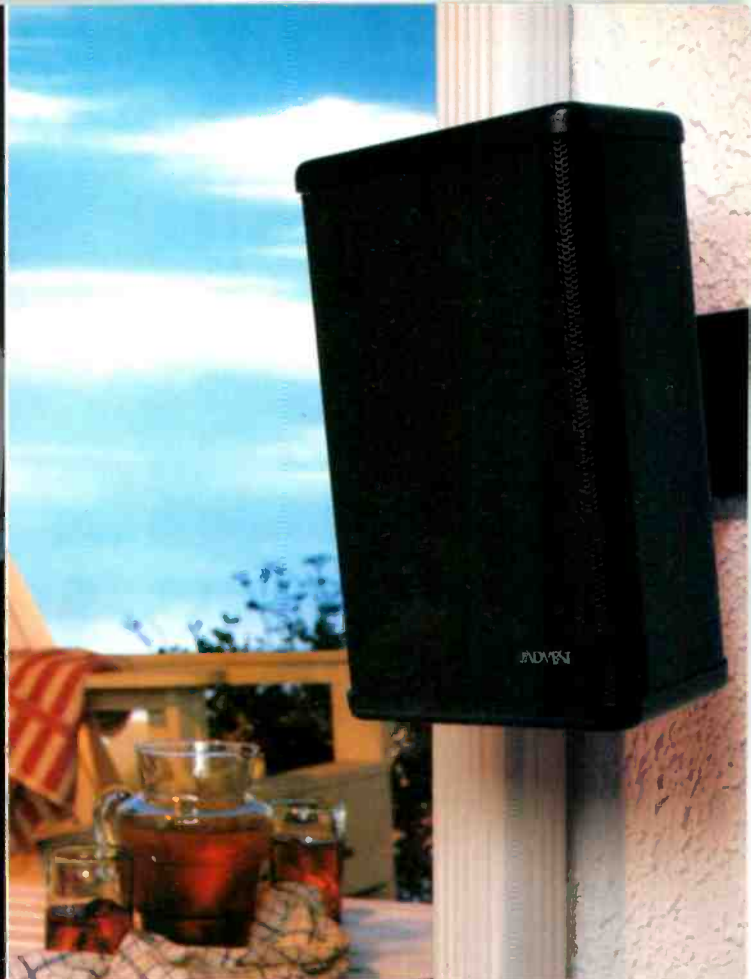
disc, as opposed to the usual one-to-one LP-to-CD reissue ratio, the complete sets are cheaper. And many American and European collectors might like to have the same secure feeling of "having it all." Furthermore, when a large body of work is broken down into several volumes, as it frequently is in the West, there is always one album that seems never to be available. The record companies will say that the collector can always special-order titles that are hard to find—but just try it.

Another peculiarity of the Western philosophy of reissuing back catalog is that new recordings by young artists are always full-price issues, whereas the classic, benchmark performances of the same music by established figures are routinely reissued on midprice or budget lines. Presumably, the pricing reflects the differential in a label's investments in the discs: A new recording costs a great deal more than a catalog reissue does. Yet the practice creates a strange imbalance. The prospective purchaser is asked to pay nearly twice as much for Ivo Pogorelich's Chopin as for Horowitz's, twice as much for Seiji Ozawa's Ravel as for Monteux's definitive recordings. One pays a premium to hear Katia Ricciarelli as Tosca, compared, for instance, to the likes of Leontyne Price.

If that seems a bit topsy-turvy, it is not an unusual state of affairs at the major labels in the West. One senses that only very recently have they completely accepted the age of the CD; they just don't seem able to roll with the punches as quickly as their Japanese counterparts. Alison Ames, until recently vice president of Deutsche Grammophon in New York and now that label's chief of A&R for the American market (as well as Leonard Bernstein's producer), concedes: "At DG, we had a broader catalog in 1974 than we do now. We've had to hie more to the mass-market end of things." Ames points out the many pressures on the major labels nowadays, particularly the proliferation of fly-by-night labels—"I'll call them mushroom labels," she says, "because they spring up like mushrooms in the forest after a good rain"—that offer lower-paid, no-name artists on CD for very low prices. "They probably don't pay the performers," Ames notes sardonically. "We do."

All the American record executives interviewed for this story predicted that better times are coming, if the consumer will only be patient. Perhaps this is indeed merely a bumpy period of transition and, in a few years' time, we will be able to shop till we drop. In the meantime, you can always take your life's savings out of the bank and head for Japan. □

Jamie James is at work on a book about music and science, to be published by Weidenfeld & Nicolson.



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HITTING

THE BOOKS

Jazz guides come of age.

Each year, "jazz" becomes a more and more dubious umbrella word. Today, it's used to cover musicians as diverse as Louis Armstrong, Albert Ayler, and Kenny G., to label subgenres as seemingly independent of each other as Chicago avant-garde and L.A. fuzak. It's possible for two people to proclaim themselves jazz fans and for each to be deeply involved with a type of music the other has never heard or holds in disdain.

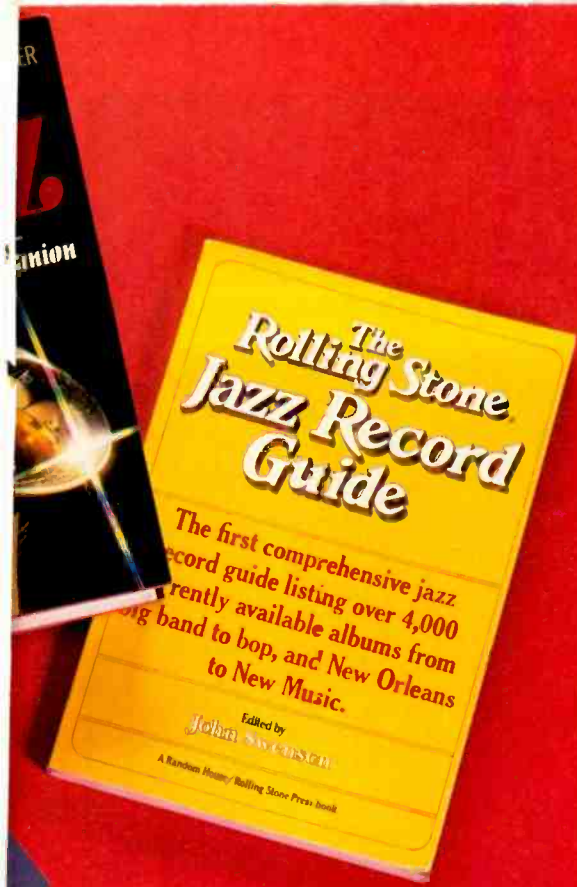
In short, jazz is a huge area of endeavor, an imposing entity to both fan and neophyte. What's needed is some kind of comprehensive guide, something to aid the listener faced with the welter of names, styles, and conflicting assertions as to what real jazz is or isn't. Not that there's a dearth of fine books on the general topic—opinions being like outstanding debts (everybody has one)—but what I'm talking about are reference books: biographical dictionaries, consumer guides to recordings, or hybrids of both. Something to help us work our way through the pleasurable confusion.

What attempts there have been to come up with useful books have been limited either by taste or by the more willful editing resulting from the difficulty of getting it all—or even a lot of it—down in one volume. Consider, for example, the pioneer works of both Frederic Ramsey, Jr., and Hugues Panassié. Ramsey, who had been writing about jazz since the 1930s, came out with the seminal reference book, *A Guide to Longplay Jazz Records* (Long Player Publications), in 1954. Using the approach of a roundup of available LPs, Ramsey wrote succinct critiques covering the then current spectrum of the music, from New Orleans founding-fathers to hotshot young post-Bird players like James Moody and Dexter Gordon. Although his generally clear-eyed assessments did entail a certain amount of squinting as he gazed upon the much-hyped moderns (the book's original edition has a series of record-company ads in the back, pushing "progressive modern jazz," "music of the future," and the like; such trumpeting begs for a skeptical response), he is a font of open-minded liberality compared with Panassié.

The French critic took the biographical-dictionary approach, co-writing with Madeleine Gautier his *Guide to Jazz* (Houghton Mifflin), first published here in 1956 (having been originally published in France two years earlier as *Dictionnaire de Jazz*). This could have been a model for later attempts if it weren't for Panassié's one little quirk: He considered bop to be some kind of mutant offspring that wasn't really jazz. Charlie Parker, we read, "gradually gave up jazz in favor of bop," while Thelonious Monk "has strayed far from jazz but never completely turned his back on it as the bop players have." Cf Art Blakey, we are told "there are no records that do justice to his value as a jazz musician"—meaning, in Panassié-speak, that he has made bop records. Perhaps most mind-boggling of all is his assertion that Clifford Brown, "unlike most bopsters, [is] an accomplished musician." Under the entry "Bop," Panassié gets to explain his peculiar views and reveals himself to be a paternalistic racist with a tin ear. Look this one up in the library, it's a hoot.

The next famous efforts to get it together in a dictionary mode were Leonard Feather's *The Encyclopedia of Jazz* (which was first published in 1955), *The Encyclopedia of Jazz in the Sixties* (1966), and *The Encyclopedia of Jazz in the Seventies* (1976; all three now available from Da Capo Press). Unfortunately, I couldn't obtain a copy of the first book before press time, but

BY RICHARD C. WALLS



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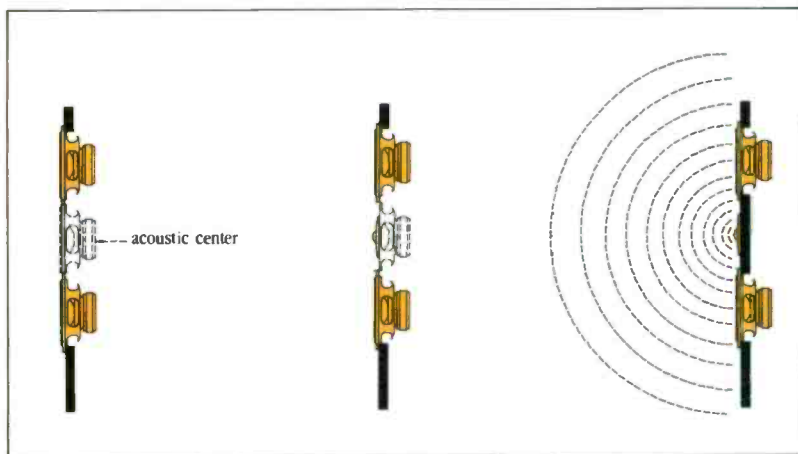
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Feather has written that it covers "men, women, and events in jazz history from the beginning." The other volumes, as their names imply, zero in on the achievements of Feather's subjects, be they Duke Ellington or Archie Shepp, during the specified decades. To gauge Feather's success at encapsulating the *whole* of jazz history, you'd need all three books: Despite his judicious use of quotations (from musicians and critics) to give fair representation to controversial subjects—a good approach to the turbulent '60s and '70s—and despite his own considered and open-minded opinions (with an assist from Ira Gitler for the later volume), the focus of these two titles remains decidedly narrow.

What makes them of still current interest by themselves, apart from the many fine photographs (the sudden appearance of varied and wild hairdos in the '70s being

Harmony's glitzy encyclopedia is pleasing to the eye, sure, but the text is not for beginners only.

especially striking), is the inclusion of excerpts from some of the Blindfold Tests that he conducted for *Down Beat* over the years. The premise of these tests is to have a musician judge a cut from a record, with no prior information given, and the result is often proof that you don't have to be a didactic Frenchman to resist new sounds. Reading the excoriating comments of established musicians confronting the work of Ornette Coleman and John Coltrane brings back the to-the-barricades mood of the times (instructive, too, for those who would take our hard-won freedoms for granted). Another bonus is the inclusion of the full texts of Blindfold Tests given to Thelonious Monk, whose responses are elliptical and Zen-like (in the '60s volume), and to Miles Davis, who barks out his wound-tight rage (in the '70s).

A different bio-dictionary approach is used by John Chilton in his *Who's Who of Jazz* (Da Capo Press), which first appeared in 1972 and was revised in 1985. Subtitled *Storyville to Swing Street*, this collection of more than 1,000 entries in-

HITTIN'

THE BOOKS

cludes only musicians born before 1920, a decision that keeps the material manageable but also gives it an ideological twist: If you title your book as Chilton does and then don't include Charlie Parker, you're making a statement. Although Sun Ra (real name Herman Blount) gets in (having been born in 1914), along with a little more than a dozen boppers (including Dizzy Gillespie, Thelonious Monk, and Herbie Nichols), even then the emphasis is on these musicians' swing associations. Still, for a no-frills outline of the careers of preboppers both famous and obscure, this is the place to look—keeping in mind that Chilton's eschewing of any critical comment (apart from that implied by the format) renders the book pretty much browse-proof.

Another serious attempt with self-imposed limits is *The Rolling Stone Jazz Record Guide* (Random House/Rolling Stone Press), edited by John Swenson and published in 1985. What's here in this slim paperback is generally very good—but what's missing is impressive, too. The big mistake was to focus only on records that were still in print when the book was being prepared. Because the state of officially available jazz records is constantly in flux, this guaranteed that the guide would be dated by the time it appeared (for example, it missed the Blue Note revival—no small matter). Also, this approach leads to sometimes skimpy discographies and the exclusion of essential artists who temporarily had few or no records in the *Schwann* catalog: We get a listing for Sathima Bea Benjamin and none for Andrew Hill or Yusef Lateef, a listing for the group Blackbyrds and none for Grachan Moncur III or Milt Jackson.

Theoretically, as every jazz fan knows, all jazz records are available at all times—that's why we scour the cutout/bargain bins (saving money is, like, incidental). But even with these limits, the *Rolling Stone* book is worth having. Bob Blumenthal's many entries are especially cogent, and nobody disgraces himself. The use of writers of varying sympathies allows the covering of a range of musical styles without a right, left, or center slant. A nice start, and one hopes that soon they'll reassemble the same crew and get it right.

Though a bit off the path I am beating right now, John Schaefer's *New Sounds: A Listener's Guide to New Music*

(Harper & Row), published in 1987, is worth noting. Already listed in David Browne's article on rock reference books in the March 1988 issue of *HIGH FIDELITY*, it's the kind of unclassifiable work that will probably also get mentioned if this magazine gets around to doing a survey of classical-music reference books—or one on electronic music, Balinese music, East Anglian boiled water music, whatever. The chapter in this intriguing source that may interest jazz fans is "ECM and Windham Hill: A Tale of Two Labels," which not only covers those companies (Schaefer's approach is an essay followed by a thorough, annotated discography) but also weaves in references to many of those musicians who have stretched the boundaries of jazz by bringing in elements from the outside (John Coltrane, Chick Corea, Anthony Davis, Miles Davis). The book is recommended: Schaefer's enthusiasms don't always translate into insights, but the scope of his listening is impressive, his explications of esoteric forms helpful—and besides, he got there first with the most, and one can't help but salute.

Getting back to our main stream, it seems there has been some sort of jazz revival recently in Britain: At least twice in *The Harmony Illustrated Encyclopedia of Jazz* (Harmony), reference is made to sixteen-year-olds in discos overheard comparing the relative merits of trumpeters Kenny Dorham, Lee Morgan, Clifford Brown. . . . I'll believe it when I overhear it, but meanwhile this British import (first published in 1978; third edition, 1987) is designed like an outreach project for a young audience. A large-size paperback, liberally sprinkled with color and black-and-white photos as well as pictures of albums covers (all in color), it's pleasing to the eye. The entries are mostly biographical sketches centering around key recordings, responsibly mentioning who has influenced whom. The two writers, Brian Case and Stan Britt, give the impression of actually having listened to most of the albums they write about. Case, the more colorful stylist of the two, handles the modern stuff while Britt delineates the earlier genres.

The book leads off with a typically cranky spiel from Wynton Marsalis, featuring his usual tight-booty proclamations about "the cult of the primitive" (i.e., avant-garde jazz) and "adolescent passions" (i.e., fusion; as one who has done some musical growing-up in public—and who I hope will do some more—Marsalis should be careful with those "adolescent passion" cracks). This is followed by a more catholic introduction by Chrissie Murray, who testifies to the Harmony team's commitment to inclusiveness. All

HITTING

THE BOOKS

very nice, though there's a price to be paid for attempting range—which explains, no doubt, why there's an entry for Tony Dagradi in the main text while Wardell Gray and Kenny Clarke are relegated to an appendix of people that couldn't quite be fit in. Still, this is an impressive combination of glitzy packaging and genuine substance, not for beginners only.

Less successful is another recent British offering, **Jazz on Compact Disc: A Critical Guide to the Best Recordings** (Harmony), published in 1987. The problem here is one of trying to take a snapshot of a rapidly changing landscape. Since this book was completed, basic sides on Blue Note, Fantasy, Impulse!, and Atlantic (and other labels) have been CD'ed, seriously handicapping author Steve Harris's entries on Ornette Coleman, Art Blakey, Eric Dolphy, Dave Brubeck, Herbie Hancock, etc.

Aside from that, Harris's judgments are thoughtful if conventional, befitting a modernist centrist with a respect for and appreciation of antecedents. At one point, he surprises with his assessment of the critically acclaimed Sonny Rollins disc *Sunny Days, Starry Nights*, calling it "bloated—incoherent, messy, and claustrophobic," but then, perhaps weakening at the thought of bucking the consensus, gives it two of a possible three stars. Still, if there are no good heresies here, there are no stupidities either. Harris considers both substance and sound, but his preselection of discs he thinks are worth mentioning makes his merit ratings an ostensible exercise, with one-to-three stars merely representing varying degrees of good. Extensive browsing yielded only two definite goofs to report: pianist Marilyn Crispwell listed as a flutist, and *Out to Lunch*, rather than *Last Date*, noted as Eric Dolphy's final album. Overall, a solid but premature effort; if you want to keep abreast of the ever changing CD scene, your best bet for now is to stick to magazines (like, oh, say, **HIGH FIDELITY**).

And still they come. Just this year has seen the publication of **Jazz Portraits: The Lives and Music of the Jazz Masters** (William Morrow), a snazzy-looking bio-dictionary offering 200-plus entries on musicians without whom, authors Len Lyons and Don Perlo say, "jazz would be somewhat less than it is today." This book falls somewhere between coffee-table worthlessness and moderately helpful compendium. There are many fine pictures, and the essays average about 1½ pages of average-size print. These are standard career pieces, with negative judgments usually limited to consensus views of musicians' early shortcomings or later decline. During the course of each essay,

the details tend to get sparser the closer in time we get to the present (where consensus is less set). The lack of discographies creates a gap not always filled by the text: The Kenny Dorham entry mentions only one of his many Blue Note albums as sideman and none as leader, and Jackie McLean's only Blue Note named is *Hipnosis*.

The effects of the recent upheavals in jazz on the careers of various artists seem to elude Lyons and Perlo. Vibist Bobby Hutcherson's significant evolution from avant-gardist to neoclassicist isn't even referred to in his segment, while Herbie Hancock's change in direction is handled so facetiously it reads like a put-on: "Despite his band's critical success, Hancock's hopes for earning a living in jazz seemed dim in 1973, until the day that chanting his mantra reminded him of a longstanding desire to play r&b." The book includes a useful glossary of terms often used by jazz critics, sometimes imprudently: Here you'll find out what "head arrangement" and "modal jazz" really mean, as well as the oddly precise assertion that the word "postmodern" refers to jazz that "spans the style of hard bop of the mid-1950s to modal jazz up to 1970." After that, I guess it's post-postmodern.

Finally, we come to an attempt to ignore limits and get it all down: **The New Grove Dictionary of Jazz** (Grove's Dictionaries of Music), edited by Barry Kernfeld. This baby is awesome: two volumes, 4,500 entries, its impressively business-like small print spread over 1,360 large double-column pages. Not just bios, it includes, as Kernfeld says in his intro, "a comprehensive treatment of terminology and theory; articles on musical instruments, record labels, festivals, venues, films, institutions, and individuals who are not performers; and also an extensive bibliography." Even this doesn't quite convey it—that "venue" thing, for example, includes a 61-page entry called "Nightclubs and Other Venues," a survey of such establishments around the world. Articles on hefty topics like harmony, improvisation, and beat are as thorough as one would hope, laced with plenty of examples and illustrated by musical transcripts.

Though this two-volume dictionary is an offshoot of the four-volume *New Grove Dictionary of American Music*, only 400 of that edifice's entries are used here, "most revised, some extensively so" (Kernfeld

again). The judgments are balanced, and the writing is usually clear and sober (e.g., contemplating the music of Albert Ayler does not move the entry writer to attempt "poetic" metaphors—these are, after all, mostly gentlemen from the academy). Even the short entries usually manage to make the relevant points, though they do fail the same Bobby Hutcherson test that *Jazz Portraits* does. My only real complaint (for now—get back to me in a year or two) is that the discographies at the end of each bio tend to be a little spotty. Aside from that, and having read about two dozen of the largest entries (no, not "Nightclubs"), I've yet to come up with any beef that doesn't sound neurotically pedantic (not that that's stopped other reviewers). As far as jazz reference books go, this is really, for the time being, the final word, the one to get. Assuming that

In the end, Grove's two-volume work, including 4,500 entries spread over 1,360 pages, is the one to get.

you have a few hundred bucks to spare. Otherwise, you must visit it in the library.

Meanwhile, you could buy **Jazz: The Essential Companion** (Prentice Hall Press), a reasonably priced one-volume guide of 500 pages and 1,600 entries, published last year, that boasts of being "the first jazz reference ever to be written entirely by jazz musicians"—these worthies being the Brit writer/players Ian Carr, Digby Fairweather, and Brian Priestley (hmmm . . . maybe they really are having a revival over there). This one is mostly bios with a sprinkling of topic entries covering genres (bop, swing) and terminology ("beat," "overdubbing," uh, "swing"). Digby does the early era, Priestley propounds the '40s and '50s, and Carr corners the 1960-86 territory. Of the single-volume bio-dictionaries, this is the best of the lot, though I honestly can't see how being musicians has afforded the authors any special insights into their task. In fact, given the evidence of Feather's *Blindfold Tests*, we should probably applaud them for overcoming this handicap. □



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**Edited by Ted Libbey
and Ken Richardson**

New Regime at RCA

Many of you will remember a two-part feature by David Rubin entitled "The Fall and Rise of RCA Red Seal" that ran in the February and March 1988 issues of HIGH FIDELITY. Our decision to devote a substantial article to a label that had produced a mere trickle of new recordings over the preceding decade was prompted by RCA's appointment, in August 1986, of Michael Emmerson as president of its Red Seal division. By the time our story ran, Emmerson not only had begun to turn that division around, but had been named president of BMG Classics, with broader authority over a growing family of classical labels. ("BMG" stands for Bertelsmann Music Group, which acquired RCA's classical and popular record operations from General Electric after GE's takeover of RCA. BMG is a division of German-based Bertelsmann AG, one of the world's largest publishing and media conglomerates.)

It appeared as though Emmerson was making progress toward his declared goal of establishing Red Seal as one of the top two classical labels in the world by the late 1990s. But as the soothsayer once warned an up-and-coming Roman: Beware the ides of March. On March 15 of this year, BMG announced that Emmerson was "leaving to pursue other interests"—a euphemistic way of saying that his contract would not be renewed. Simultaneously, the firm announced that his place would be taken by Guenter Hensler, the well-liked president of Polygram Classics, U.S., and a German. Hensler assumed his new duties at the beginning of April.

Hensler, with more than 20 years of experience in the record business, is the first to give Emmerson credit for Red Seal's recovery. "I'm going to reap what he sowed," he confided the day after his appointment was announced, praising Emmerson in particular for his work in the a&r sector. But Hensler rightly feels there is a great deal still to be done, especially in the marketing department: "RCA has a glorious history, and a glorious catalog that has not been fully exploited, so that's Adventureland in itself. I see my function as bringing it into a mix."

While most of Hensler's experience has been with Polygram, he does not intend to apply the formulas that have worked for that concern to the specific issues he faces at BMG Classics. "I'm not going to ape them. You have to try a new approach in a situation like this. I want to build on the tradition of Red Seal. I also think certain things need to be improved, such as the acoustical treatment of the recordings, and the visual as well."

Summing up the difference between himself and his high-profile predecessor, Hensler added: "Things don't have to have my personal stamp on them—what works, works."

Ted Libbey

Cover and Duck

So where were we? Oh, yes: Does anybody remember laughter? Last month in this space, we looked at miscellaneous musical humor. This month, we do it again, focusing on strange collections of cover songs.

And we begin, fittingly enough, with a compilation of Led Zeppelin covers, *The Song Retains the Name* (Mad Rover; dist. by Independent Label Alliance, P.O. Box 594M, Bay Shore, N.Y. 11706). Not meant to be funny—and merely interesting when the versions are too faithful ("Good Times, Bad Times")—the set is definitely fun when obscure songs are stretched to opposite, outermost limits, as when Robert Kuhlmann & Flying Boats skulk through "Down by the Seaside" and the Earwigs graft Vegas beat and sax onto "Four Sticks." Guffaws abound on *Dig . . . ?* (DB, 432 Moreland Ave. N.E., Atlanta, Ga. 30307), wherein the Coolies do a whole LP of Simon and Garfunkel, including a morose "59th St. Bridge Song (Feel' Groovy)," a guitar-raving "El Condor Pasa," and a surfin' "Mrs. Robinson." Extra cut: Paul Anka's "(You're) Having My Baby." *Doug*, successor to *Dig . . . ?*, isn't a bunch of covers but rather a general parody of *Tommy* and the like, with specific stabs at the Who, U2, R.E.M., John Lennon, Gary Glitter, and Led Zeppelin.

Speaking of Zep again, does anybody remember that cover of "(The Ballad of) Gilligan's Island" à la "Stairway to Heaven"? Difficult to find today, but you can find ten similar forays on *Rerun Rock* (Rhino), among them a rapping "Gilligan," a Zeppelinesque "George of the Jungle," a Dylanesque "Cousins" (*Patty Duke*), and the well-known Springsteenian "(Meet) The Flintstones." Not silly enough? The Rice University Marching Owl Band attempts "La Bamba" and "Louie, Louie" on, yup, *The Best of La Bamba* and *The Best of Louie, Louie* (Rhino again—the payola has arrived). The former is too serious for our comic good, but it does have a metal version by Drive and a Mormon Tabernacle Choir version by the Mormon Tabernacle Choir. The latter has hard-core (Eddie & the Subtitles), old age (Sandpipers), Bowiesque (Les Dantz), and much more, ending with the Roche-like Impossible in "The Hallelouie Chorus."

Still, my favorite cover album is Laibach's *Let It Be* (Enigma/Mute), four Yugoslavians stomping over each track from the Beatle LP except, for some reason, "Let It Be." No, this Slavic-Germanic war drill, with Lurch on lead vocal, isn't Fascist. Yes, it is sublimely loony, and cliché notwithstanding, it must be heard to be believed.

Something that didn't fit last month: Mojo Nixon & Skid Roper's *Root Hog or Die* (Enigma). If you liked "Elvis Is Everywhere," try "(619) 239-KING." And if you like teen anthems, try "Debbie Gibson Is Pregnant with My Two-Headed Love Child." *Ken Richardson*



The Emerson String Quartet (from left, David Finckel, Lawrence Dutton, Eugene Drucker, and Philip Seizer) in front of 309 West 57th Street in New York, where Bartók lived during the last year of his life.

Blazing Away

A T B A R T Ó K

BARTÓK: String Quartets (6).

● *Emerson String Quartet. Steven Paul, prod. Deutsche Grammophon 423 657-2 (D, 2).*

Any ensemble that seeks to tame Bartók's six string quartets must first come to terms with the disparities in tone that characterize these masterpieces. The First Quartet (1908) is eclectic, composed under the twin spells of German late Romanticism and French Impressionism. Bartók's personal voice emerges in the Second Quartet (1917), especially in the growing prominence of Eastern European folk elements in the music. The Third (1927) and Fourth (1928) find the composer at the peak of his powers: In these fiercely concentrated works, he stepped closest to the formal constructivism, dissonance, and tonal dissolution of the Second Viennese School. By the Fifth Quartet (1934), the composer had begun to turn toward a more lyrical, increasingly tonal vocabulary—a trend confirmed in the Sixth (1939), which is haunted by spectres of European fascism and personal grief.

RAIPH GABBINER

For the past two decades, the performance practice of the Bartók quartets has been defined by the recordings of the Juilliard Quartet (CBS D3L-317 and CBS 13M-37857; incomprehensibly, neither has been reissued on Compact Disc). The Juilliard players chose to seek unity among the six works rather than diversity. Perhaps as a result of the overriding influence of first violinist Robert Mann, they strove for a consistently lean, strident sound in their playing, sacrificing tonal sheen for intellectual and physical force. The Juilliard's Bartók was rarely beautiful but it could be terrifyingly violent, and—despite its monochromatic cast—it seemed ideally suited to the composer's vision.

It is against the Juilliard's standard that the Emerson Quartet must be measured. And the Emerson fares so well that future recordings may well be judged against *it*. Part of the foursome's success comes from its experience of playing all six quartets in single-evening concerts—an endurance test that the group took upon

itself in 1981 and again in 1988. (Unfortunately, the chronological sequence that was preserved at the concerts is ruined on the CDs, but that is the price we must pay for squeezing six works onto two 70-minute-plus discs.) In the process of preparing their Bartók marathons, the Emerson undoubtedly realized that holding the attention of an audience would require emphasizing stylistic diversity rather than unity. The results are spectacular, yielding no less than a redefinition of the standards for Bartók quartet performance.

The differences between the Emerson and the Juilliard approach are already apparent in the First Quartet. The Emerson, by stressing the lush, perfumed lyricism, succeeds to an unprecedented degree in placing the First within the orbits of Strauss, Schoenberg, Debussy, and Ravel. The Emerson players revel in breadth of gesture and tonal suavity, whereas the Juilliard never attempted such sensuousness. The Emerson's refusal to downplay Bartók's moments of lyricism is also noticeable elsewhere in the set—such as in

the rhapsodic "night music" of the Fourth Quartet and in the wrenchingly poignant *meso* refrain of the Sixth.

But can the Emerson match the unbridled ferocity of the Juilliard? To a great extent, yes. And if the four seem unwilling to turn quite as scrappy in tone, they are every bit as forceful and pointed in articulation. The barbaric second movement of the Second Quartet, and first movement of the Fourth, emerge with all their brutality intact. And everywhere one senses an uncanny unity of purpose: Even the Emerson's routine alternation of first violinists in no way detracts from the illusion that these performances are the work of a single entity.

Although I remain devoted to the Juilliard's Bartók, I think that the Emerson Quartet, by demonstrating the interpretive range possible among these six works, has performed a valuable service. In so doing, this traversal not only sets a new standard, but offers a model for countless youthful quartet players—all of whom will be inspired by these recordings to discover their own personal path through Bartók. Playing time: 149:05.

K. Robert Schwarz

BARBER: Orchestral Works (6).

① *Saint Louis Symphony Orchestra, Slatkin. Joanna Nickrenz, prod. Angel EMI CDC 49463 (D).* □

Adagio for Strings, Op. 11; Essay for Orchestra, Op. 12; Second Essay, Op. 17; Third Essay, Op. 47; Medea's Dance of Vengeance, Op. 23a; Overture to "The School for Scandal," Op. 5.

BARBER: Concerto for Cello and Orchestra, Op. 22.

BRITTEN: Cello Symphony, Op. 68.

① *Ma; Baltimore Symphony Orchestra, Zinman. James Mallinson, prod. CBS Masterworks MK 44900 (D).* □

As a composer, Samuel Barber was an anachronism, and he knew it. He was that genuine rarity, an heir to 19th-century Romanticism who managed to bring the tradition into the 20th century without violating its essential spirit. Although an impeccable craftsman, Barber saw music as a vehicle for the expression of human emotion. It was no wonder that, during the turn to serialism in the 1950s, his work was mocked as a cultural throwback.

Barber, who died in 1981, did not quite live to see his music come back into fashion. But today, when our ears are inundated by the pretensions of latter-day neo-Romantics, Barber's music seems more



Leonard Slatkin caresses Barber's phrases, without exaggerating the music's lyricism.

honest, more finely crafted, more expressive than ever. The composer's refusal to renounce his very personal brand of lyricism seems, in retrospect, to border on the heroic.

That is not to say, as some have, that Barber's music is all of a piece. True, he never deviated from the tonally founded, lyrically motivated style already apparent in his *Adagio for Strings* (1936–38). But side by side with his emotive Romanticism appears a very modern strain of forceful dissonance and lean counterpoint. Just listen to the spiky, Bartókian neo-Classicism of the outer movements of the Cello Concerto (1945), and then realize that Barber as a composer cannot be summarized by the famous *Adagio*.

But Barber's music is not easy to interpret. Outwardly, the rhetoric seems so comfortable, so close to Romanticism, and yet it is neither derivative nor sentimental. On their respective recordings, Leonard Slatkin and Yo-Yo Ma succeed in capturing an elusive balance: They honor Barber's Romantic spirit, yet never allow his music to veer toward maudlin emotionalism—so foreign to the composer's classic sense of proportion.

Slatkin's disc assembles nearly a half-century of Barber's orchestral music, from the youthful Overture to *The School for Scandal* (1931) to the Third Essay (1978), the composer's last completed composition. Clearly this recording is a labor of love for all concerned. Without stooping to exaggeration, Slatkin flavors nearly every measure, adding caressing, subtle inflections of dynamics and tempos. In the famous *Adagio*, his careful pacing and expressive fluidity allow the work to emerge as one unbroken, grief-stricken utterance. One might wish that Saint Louis's strings were lusher in tone, but their lean sound may be Slatkin's personal antidote to a potential overdose of lyricism.

Like Slatkin, Ma emphasizes restraint rather than excess. Although he never hesitates to mine Barber's vein of tender, yearning lyricism, he maintains a certain reserve that is entirely appropriate in this rhythmic, often percussive concerto. That same spirit of Romantic expression tempered by classic propriety informs the performance of Britten's *Cello Symphony*, a dark, grimly powerful work cut from the same cloth as the *War Requiem*. How ironic that Barber and Britten, both so out

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K. Robert Schwarz

CHOPIN: Ballades (4); Barcarolle, in F sharp, Op. 60; Fantasia, in F minor, Op. 49.

● Zimerman. Hanno Rinke, prod. Deutsche Grammophon 423 090-2 (D). ☐

Ballades: No. 1, in G minor, Op. 23; No. 2, in F, Op. 38; No. 3, in A flat, Op. 47; No. 4, in F minor, Op. 52.

LISZT: Totentanz; Piano Concertos: No. 1, in E flat; No. 2, in A.

● Zimerman; Boston Symphony Orchestra, Ozawa. Hanno Rinke, prod. Deutsche Grammophon 423 571-2 (D). ☐

Here are two of the finest piano recordings to be released in quite a while. Krystian Zimerman is a splendid artist, and it's wonderful to hear what he can do when he is not shackled to Leonard Bernstein's perverse accompaniments in the Brahms piano concertos (until these, the most recently issued of the pianist's recordings). Zimerman's Chopin is simply exquisite, and his Liszt is technically astonishing.

The problem with Chopin—aside from the fact that there are already dozens of wonderful recordings of whatever work happens to be on the docket—is that the music demands poetry, but only in certain respects. It's perfectly fine, indeed essential, to play about with rubato and make all sorts of rhetorical points, provided that the long, singing line never loses impulse or shape. Zimerman clearly understands this. He is a master of this music's filigree: Listen to the flawless trills that decorate the Barcarolle. His sense of touch is such that the piano sounds like an instrument totally without hammers; yet he can float the lilting rhythms at the beginning of the Second Ballade, or in the central episode of the Third, with just the right sense of propulsion.

Best of all, he isn't afraid to let go when the music demands it, as in the second Ballade's passionate outbursts. Just about the only thing that might excite some controversy is Zimerman's very slow tempo at the start of the *Fantasia*, Op. 49. Personally, I like the sense of funereal gloom he imparts to the music, as well as the taut rhythmic profile—but this is very much a matter of taste.

Zimerman's Liszt is equally successful, and may in its way represent the greater achievement, since the music is so problematic. Put simply, Liszt's works inhabit the middle ground between great music and bad. *Totentanz* is good bad music, while the piano concertos are bad good music. Each type requires a different approach. Good bad music, like a classic grade-B film, needs to be played with total conviction and gusto, every vulgar ca-

dence and raucous phrase relished for the tawdry display that makes the piece so much fun. Zimerman and Ozawa bang out *Totentanz* as if their lives depended on it, and with absolutely hair-raising results.

Bad good music is another problem entirely. Passages of virtuoso display will take care of themselves, while the more reflective passages need character more than refinement. There's no point in affecting poetry when the composer wrote prose, and Zimerman appreciates the function of Liszt's quieter passages in the concertos as moments of calm between pianistic storms. He relishes the quiet but, like a boxer in his corner between rounds, maintains the tension necessary for his next flurry of activity. Zimerman rips into the First Concerto with all the bravura one could ask for; he plays the musically less interesting Second with imperious poise.

Ozawa and the Boston Symphony provide ideal accompaniments, and Deutsche Grammophon's sound in both recordings is excellent. Despite the fact that most collectors will already own various versions of most, if not all, of this music, these performances deserve the highest recommendation. The Liszt in particular provides an economical way to acquire the best of this composer's works for piano and orchestra. Playing times: 59:55 (423 090-2); 55:48 (423 571-2).

David Hurwitz

COPLAND: Concerto for Clarinet and String Orchestra*; Music for the Theatre†; Quiet City‡; Dance Panels.

● Shifrin*†, Hill†, Baum†; New York Chamber Symphony, Schwarz. Patti Laurson, prod. Angel EMI CDC 49095 (D). ☐

It seems safe to say that a Copland revival, long overdue, is now firmly under way. Some raise their eyebrows at such a notion. After all, how could the composer of *Fanfare for the Common Man* or *Billy the Kid* possibly need a revival? But that is precisely the point: Copland is known primarily for a few greatest hits, while dozens of other scores languish in obscurity.

In recent years, the composer's entire output has been reexamined, leading to recordings of such lesser-known gems as the *Short Symphony* (1933; Pro Arte CDD 140), the *Sextet* (1937), *Piano Variations* (1930), and *Piano Quartet* (1950; all three on Nonesuch 79168), and *Connotations* (1962; New World NW 368). What these recordings have reinforced is the unpromising unity of the composer's output. The supposed stylistic schism between his "difficult" and "popular" works simply does not exist; instead, as the composer insisted all along, the two tendencies merely represent opposite sides of the same coin.

Now we are offered a new recording of *Music for the Theatre* (1925), the *Clarinet Concerto* (1948), *Dance Panels* (1959, rev. 1962), and *Quiet City* (1940), which follows close on the heels of Dennis Russell Davies's recent Musicmasters disc containing several of the same works [review, April 1989]. Although conductor Gerard Schwarz approaches the music in an altogether different fashion from Davies, the accounts he fashions here with the New York Chamber Symphony are no less superb. Schwarz emphasizes Copland's tender, yearning lyricism, so it is not surprising that clarinetist David Shifrin produces a warm, mellow, vibrato-laden tone in the *Clarinet Concerto*. Like Davies, Schwarz offers a genuine rarity among the more familiar works; in his case, it is the ballet *Dance Panels*, a seven-movement score that embraces both the simple, white-note diatonicism of Copland's 1940s style and the acerbic dissonance of his 1950s manner. Yet it is still vintage Copland, instantly recognizable as being by the same composer who wrote *Music for the Theatre*.

Despite the overlapping repertory, Copland fans will want to purchase this recording even if they already have the Davies. The presence of *Dance Panels* would, in my mind, be reason enough. Nevertheless, the differing visions of Schwarz and Davies of the other works are equally fascinating. In any event, I can think of far worse fates than to be forced to listen twice to the glorious *Clarinet Concerto*. Playing time: 71:41.

K. Robert Schwarz

ELGAR: Symphony No. 2, in E flat, Op. 63.

● Philharmonia Orchestra, Sinopoli. Günther Breest, prod. Deutsche Grammophon 423 085-2 (D).

Giuseppe Sinopoli seems to be under siege in Britain, where critics have apparently gone so far as to question his musical competence. Under the circumstances, then, it was certainly bold of him to seize the bull by the horns in choosing to record this Elgar symphony. The results, let it be said immediately, are fascinating, even if only partially successful. Sinopoli has definite ideas about how this music should sound,

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and he communicates them clearly to the Philharmonia, which plays magnificently. Deutsche Grammophon has also provided sonics that are as rich as could be desired in this luxuriantly scored symphony.

Sinopoli's treatment of the first movement brings the major disappointment in this performance. His overall tempo is exceptionally slow, with no hint of the *vivace* Elgar demands. The sluggish speed alone is not, however, as problematic as is Sinopoli's tendency to underplay the rhythmic syncopations and dislocations that propel the music forward. Naturally, there are compensations to be gained in terms of melodic shaping and textural detail, and the haunting episodes in the development featuring what the composer called "a malign influence" have never sounded so creepy and decadent. But these moments of repose need to be contrasted with more boisterous activity, and there is no question that Sinopoli mistimes the climax that ushers in the recapitulation, robbing the moment of its power.

The remainder of the symphony goes very well. The second movement, while also extremely slow, works well at this appropriately funereal pace. Although the third-movement rondo is up to tempo, Sinopoli could have treated the crushing central episode with more vehemence. But the finale, which seems to sound fine at virtually any speed at all, makes ample amends, providing a culmination at once noble and elegiac. Indeed, "elegiac" is the word that perhaps typifies Sinopoli's whole approach: He clearly seems to be relating the symphony to the world-weary products of Elgar's Continental contemporaries. Unfortunately, in doing so Sinopoli presents a less than complete picture of the range of moods that are so eloquently expressed by Elgar in this compendious piece.

Despite these reservations, Sinopoli's



Giuseppe Sinopoli: continental Elgar?



Oscar Shumsky delivers a technically secure, satisfying performance of Glazunov's concerto.

Elgar impresses me as a worthwhile supplement to the more traditional performances, such as those by Adrian Boult, Vernon Handley, and Bernard Haitink (all on EMI), in at least two respects. First, he emphasizes a side of the composer too often slighted by British conductors, whose innate reserve renders them constitutionally incapable of pushing this music to the limit. Second, while British critics often lament the lack of truly international stature accorded Elgar's music, they have themselves been a cause of this phenomenon in their steadfast refusal to consider with equanimity the validity of alternate, non-British points of view. Expect this performance to be vilified in the English press, and hope that Sinopoli ignores any adverse comment and proceeds to give us more of his perspective on Elgar's infinitely rich muse. Playing time: 65:23.

David Hurwitz

GLAZUNOV: The Seasons, Op. 67; Concerto for Violin and Orchestra, in A minor, Op. 82*.

● Shumsky*; *Scottish National Orchestra, Järvi. Brian Couzens, prod. Chandos CHAN 8596 (D).* □ □ (Dist. by Koch Import Service.)

Alexander Glazunov's ballet *The Seasons* is an enchanting score, filled with some of the composer's finest ideas. There is not a page that is not melodic and richly orchestrated, and the music of the final Bacchante, representing autumn, is the equal of any in the Russian ballet repertory. There have been a number of fine recordings of *The Seasons* over the years; some collectors may remember versions by Robert Ir-

ving, Albert Wolff, Ernest Ansermet, and Evgeny Svetlanov, the latter available on Compact Disc (Angel EMI CDC 47847) coupled with the composer's two concert waltzes. For more than a decade, the Melodiya recording with the Large Moscow Radio Symphony Orchestra directed by Boris Khaiken has been a favorite of mine, but it is not yet on CD.

Neeme Järvi's new Chandos recording is superb. The Estonian conductor has a flair for this repertory, and offers a sprightly interpretation that also gives full attention to the score's more reflective moments. For a filler, Chandos offers Glazunov's Violin Concerto, with Oscar Shumsky as soloist. Shumsky is now in his seventies, yet his technique remains secure. His performance may not be as suave as Heifetz's (RCA RCD1 7019), but it is satisfying on all counts. The sound is typical of Chandos's recent offerings: rich, a touch over-reverberant, but very pleasing. I prefer it to the sonics on Angel's Svetlanov issue, which are more diffuse. There are 15 cueing bands for *The Seasons*, plus one for each movement of the concerto. Playing time: 56:32. Robert E. Benson

HANDEL: Carmelite Vespers.

□ □ Feldman, Kirkby, Van Evera, Cable, Nichols, Cornwell, Thomas; *Taverner Choir, Taverner Players, Parrott. David R. Murray, prod. Angel EMI CDCB 49749 (D, 2).* ●

Those who dismiss musicologists as dry and dusty pedants should remember not only the critical role that scholars have played in the early-music revival, but the many times that patient research has led to

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a particularly spectacular performance. Such is the case with Handel's *Carmelite Vespers*. Handel, who visited Rome in 1707, provided music for a Carmelite festival, but no documents survive to indicate which of his extant Latin settings might have been composed for that occasion. How, then, is it possible to recapture what would seem to be an irrevocably lost moment in music history?

Enter the musicologists, who have succeeded in making a creditable reconstruction of a Carmelite Vesper service consisting almost entirely of Handel's music. By pulling together the Latin psalms and motets that Handel is known to have composed in Rome, and filling in the gaps with psalms and antiphons in Carmelite plainchant, an entirely new "Handel" work materializes before our very ears. Anyone who loves the composer's oratorios will be fascinated with this early Roman concoction, for it proves that his masterly vocal writing and his grandiose, dramatic choral effects preceded his arrival on British soil.

Handel's dramatic strokes would hardly seem so vivid if not for the inspired direction of Andrew Parrott. Although the conductor opts for ferociously fast tempos, he is far from motoric in maintaining them, favoring elastic hesitations and elongations in the service of musical or textual expression. The singers of the Taverner Choir make the most of the music's pictorial effects; their biting accentuation, nimble articulation, and broad dynamic range convey the meaning of every poetic nuance. This is an ensemble of genuine virtuosos, able to negotiate Parrott's rapid tempos with surprising agility; I'd love to hear it sing *Israel in Egypt*.

No less impressive are the Taverner Players, performing on historical instruments. Handel's string parts are filled with scurrying sixteenth notes, which are played with grace and precision. Long hours of rehearsal must have gone into achieving the impeccable coordination of instrumental and vocal forces heard here.

Parrott demands a pristine purity of tone from all his performers, so both chorus and orchestra employ the barest minimum of vibrato. The soloists, however, are less consistent in their approach. Some of them aim for a nearly uncolored sound, shunning vibrato almost entirely, while others apply it too frequently and too broadly. Soprano Jill Feldman, with her pinched tone and insecurity of pitch, is representative of the latter category.

Yet the overall effect of this reconstruction of Handel's *Carmelite Vespers* is stunning. Not only are we treated to a collection of masterpieces from the composer's twenty-third year, but we find them presented in an intelligent, musically compelling manner. While not neglecting scholarly concerns, Parrott understands

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that expressive insights are every bit as important to this music as accuracy of execution. The resulting marriage of musicology and intuition is a winning combination indeed. Incidentally, Angel announces that the Boston Early Music Festival has scheduled a performance of the *Carmelite Vespers* for late May this year. Playing time: 120:39. *K. Robert Schwarz* [A note about formats: Mr. Schwarz listened to pre-release cassettes of this recording supplied by Angel; the commercial release is on Compact Disc only.—Ed.]

KOECHLIN: Les Heures persanes, Op. 65.
• *Henck. Andreas Heintzeler, prod. Wergo 60137-50 (D).* (Dist. by Harmonia Mundi, U.S.A.)

This music comes unexpectedly from this pianist and this label, both of them more frequently associated with such composers as John Cage, Pierre Boulez, and Karlheinz Stockhausen than with French post-Impressionism. Charles Koechlin today has only a small but intensely devoted following, for whom this release will come as a real find.

Born into a rich Alsatian family in 1867, Koechlin spent time in Algeria convalescing from tuberculosis; and although he never made it eastward to Persia, that country fascinated him and he read up on it extensively. A book entitled *Towards Ispahan*, by Julien Viaud, a former naval officer who wrote fiction as Pierre Loti, particularly impressed him. So, too, did Rudyard Kipling's *Jungle Book*, which also moved Koechlin to compose a suite.

Koechlin never quite made it to the top as a composer, in spite of excellent training with both Massenet and Fauré. In 1909, he joined with fellow anticonservatives Fauré, Ravel, Jean-Jules Roger-Ducasse, André Caplet, and Florent Schmitt to found the Société Musicale Indépendante, and in 1918 Satie invited him (along with Milhaud and Roussel) to join a new group called Les Nouveaux Jeunes. But when Les Six came into existence the following year, Koechlin and Roussel both found themselves on the outside.

Koechlin composed more than 200 works, many of them still unpublished and rarely performed. This suite, the original version of the suite for orchestra dating from 1921, didn't get published until 1986, 36 years after the composer's death. Each of its 16 sections has a programmatic title; altogether they depict the passage of two sultry, atmospheric days in the Persia of Koechlin's colorful imagination. Most of the time, the music reflects an indolent tranquillity befitting such a torrid climate, but such movements as the final one ("Dervishes in the Night") provide for variety. German pianist Herbert Henck contributes not only a consummate performance but exceptionally good and infor-

native notes as well. Playing time: 69:48.

Paul Moor

MAHLER: Symphony No. 1, in D.

• *Amsterdam Concertgebouw Orchestra, Haitink. Philips 420 080-2 (A).*

MAHLER: Symphony No. 1, in D.

• *Berlin Philharmonic, Haitink. Ezio Servolo, prod. Philips 420 936-2 (D).* □

Only in an industry as thoughtlessly run as the classical-recording business could the above phenomenon be possible: the same piece with the same conductor leading different orchestras, both available at full price on the same label. Nevertheless, whatever the peculiar marketing theory that led to this state of affairs, a comparison of these—Bernard Haitink's second and third recordings of the music—proves to be highly instructive.

The Berlin Philharmonic has never been known as a Mahler orchestra, while the Concertgebouw boasts a tradition in Mahler's music that dates back to the composer himself. The differences certainly show, for the Amsterdam recording is everywhere superior, more idiomatic as well as more technically assured.

In the first place, the Concertgebouw has one of the finest woodwind sections in the world. The birdsong chirpings in the first movement, to say nothing of the parodistic noises sprinkled throughout the "Funeral March," have a freshness and character that totally elude the Berliners. Similarly, the Concertgebouw trombones and percussion supply the vulgarity essential to the beer-hall tunes in the third movement, while the Berlin players merely sound embarrassed.

The only area in which the German orchestra might be said to have the advantage over the Dutch is in its horn section, and indeed these Berliners make some uproarious noises. Unfortunately, although these are the right sounds for the music, the playing lacks precision—witness the concluding chorale with its cracked notes. Now and then the Berlin musicians get the right feeling, but their success at these points gives a misleading impression: The presence of a few idiomatic sounds (like the seedy-sounding double-bass solo at the beginning of the "Funeral March") in an otherwise alien environment tends to point up the orchestra's ineptness in the surrounding music rather more than it serves to characterize the piece.

And where is Haitink in all this? He has made himself a reputation as a conductor of Mahler, but it now seems obvious that he has been coasting along on the traditions carried over by the Concertgebouw Orchestra. His Mahler has always made its points through refinement and understatement—often, as in the case of his Amsterdam recordings of the Second Symphony and the Third, very effective-

ly. His tenure with the Dutch orchestra should have taught him that Mahler requires absolute equilibrium in the treatment of the four main sections of the orchestra. It's therefore quite disturbing that, when faced with a group for whom the correct playing style is obviously foreign, he does not insist on an idiomatic response.

But Philips is apparently intent on a new Mahler cycle with Haitink and the Berlin. By the time this review appears in

cedes after his death" in 1943.

The notes also introduced to me an interesting quotation from an interview Rachmaninoff gave *The Etude* two years before he died: "In my own compositions, no conscious effort has been made to be original, a Romantic, or Nationalist, or anything else. I write down on paper the music I hear within me, as naturally as possible. I am a Russian composer, and the land of my birth has influenced my temperament and outlook. My music is

RACHMANINOFF: Symphony No. 3, in A minor, Op. 44; The Rock, Op. 7.

Ⓢ *Stockholm Philharmonic Orchestra, Berglund. Brian Culverhouse, prod. RCA 7902-2 (D).* □

It is good to see Rachmaninoff's late works, such as the Third Symphony, the *Symphonic Dances*, and the Fourth Piano Concerto, receiving increased attention. For in spite of the composer's popularity, he remains a focus of disdain among many supposedly sophisticated musicians and listeners. His music has, for all its instant recognizability, tremendous range. (It is quite a step, for example, from the morbid decadence of *The Isle of the Dead* to the austere beauty of the *Vespers* for unaccompanied chorus.) As a master of classical forms, particularly variations, Rachmaninoff was leagues ahead of Tchaikovsky, though he unquestionably lacked some of his older compatriot's sense of elegance and poetry. As was also the case with Tchaikovsky, Rachmaninoff's reputation as a melodist has blinded many to his other musical gifts, nowhere more so than in the case of the Third Symphony.

Naturally, any work by this composer will contain at least one really delicious tune; here, it is the first movement's second subject. But the score succeeds equally well as a perfectly balanced piece of musical architecture. The quick first and last movements surround an Adagio that in turn embraces the scherzo, giving the whole a sort of arch form that Bartók would have admired.

The piece is an excellent vehicle for Paavo Berglund's interpretive abilities. He is a conductor of that self-effacing school whose greatest current practitioner, arguably, is Bernard Haitink. But unlike Haitink, Berglund isn't afraid to make an appropriately startling noise where necessary, and he never underplays the music—witness his trenchant recordings of Shostakovich. The result here is an effortlessly organic performance of the Third that has its greatest strengths just where the music needs them the most. The scherzo has both lightness and bite and emerges inevitably out of the slow music that precedes it. In the finale, Berglund keeps things moving at an ideal pace, one that allows detail to register without causing the music to bog down.

The Rock dates from the very beginning of Rachmaninoff's career, yet could hardly have been written by anyone else. Its melancholy sensuality at once proclaims the composer's unique voice. Again, Berglund's performance is unobtrusively fine. The Stockholm Philharmonic gives the conductor all that he requires; it is a tribute to Berglund that although virtually all of his recordings have been made with second-rank ensembles, he has never yielded anything to his



Bernard Haitink's 1972 Concertgebouw account of Mahler's First remains the one to have.

print, the Fifth Symphony should be available. It may be that the Philharmonic will have an easier time with a less coloristic score, but there is no question that this First provides a singularly inauspicious start to the new series. Philips's sound is also markedly superior in the 1972 Amsterdam recording. Whatever prompted the perverse decision to offer both discs at full price, the older version is still the one to have, even if the new one seems to prove that the success of that performance owed more to the orchestra than the conductor. Playing times: 56:14 (420 080-2); 57:02 (420 936-2).

David Hurwitz

RACHMANINOFF: Études-Tableaux, Opp. 33 and 39.

Ⓢ *Shelley. Andrew Keener, prod. Hyperion CDA 66091 (D).* □ □ (Dist. by Harmonia Mundi, U.S.A.)

Howard Shelley obviously makes something of a specialty of Rachmaninoff (Hyperion has already issued four recordings of the composer's music by him). This makes him something of a missionary, for, as Robert Matthew-Walker's notes point out, "the majority of [Rachmaninoff's] works remained virtually unknown for de-

the product of my temperament, and so it is Russian music; I have never consciously attempted to write Russian music, or any other kind of music. . . ." Rachmaninoff already had such mature masterpieces as his Third Concerto behind him when he wrote the first of the two sets of *Études-Tableaux*, each comprising nine pieces, most of them intimidatingly difficult. After completing the second group, he left his native land for good.

In spite of the "pictures" the title refers to, Rachmaninoff balked at giving details. He did disclose that two of them (Op. 33, Nos. 1 and 8) had their origins in pictures by the Swiss painter Arnold Böcklin, whose work also inspired *The Isle of the Dead*, but otherwise he wanted listeners to use their own imaginations.

Shelley has a limited amount of the flash of the customary Rachmaninoff specialist, but technically he does remain thoroughly in control and fully realizes the music's considerable Romantic, poetic content. Having the entire collection all together will almost certainly introduce you to some *Études-Tableaux* you never heard before. Playing time: 58:50.

Paul Moor

more famous colleagues in terms of his ability to demand and get first-class instrumental execution. His recordings have invariably benefited from lifelike sound as well, and this one is no exception. Indeed, it's hard to imagine another conductor whose work on disc has been as consistently reliable in all areas of accomplishment. Playing time: 55:11. *David Hurwitz*

RAMEAU: Harpsichord Works (10).

● *Fuller. J. Tamblyn Henderson, Jr., prod. Reference RR 27CD (D).* ◻ ◻

La Cupis; Les Cyclopes; La Dauphine; L'Enharmonique; L'Entretien des muses; La Livri; Menuets (2); Les Sauvages; Suite in A.

Reference, a small, quality-oriented San Francisco firm, concentrates on a few occasional releases of superior merit in every regard. The love and devotion that went into this recording from all participants make it something special for lovers of harpsichord esoterica.

Albert Fuller comes unusually well prepared: In 1962 he made the first recording ever of Rameau's complete harpsichord works, on Cambridge Records, and ten years later rerecorded part of them for Nonesuch. Here he plays a William Hyman instrument made in 1974 (patterned after one made by Rameau's contemporary François Étienne Blanchet), strung with Malcolm Rose wire, tuned to A = 395, and coddled during this recording (in San Francisco's Mission High School auditorium) by Edgar Rebich. Fuller plays everything with impressive taste and technical verve.

If I have any cavil about this recording even worth mentioning, it would be that the instrument sounds the way a harpsichord does when you actually play it, not when you sit at a distance from it, listening. In an interesting note, the producer says he found a "magic 'sweet spot,' quite close. . . . From that perspective, one heard a three-dimensional terrain of fascinating sounds: the highest strings to the near left, midrange in the middle distance, centered, and bass—quite dramatic in its strength—farther away, to the right. . . . This is not at all how a harpsichord sounds in concert. . . . What you hear may not be what you expect; the perspective, like the performance, may alter your view of Rameau." Certainly it will enrich it. Playing time: 63:57. *Paul Moor*

SCHUBERT: Quintet for Strings, in C, D. 956.

● *Juilliard Quartet, Greenhouse. Steven Epstein, prod. CBS Masterworks MK 42383 (D).* ◻

In the first third of this work's second-movement Adagio, Franz Schubert wrote five minutes of the most celestially beautiful music ever set down on paper. The por-

tions of the first movement involving the second subject (mainly in sixths and thirds) rank only close behind. Schubert didn't live to hear this masterpiece. In a world electronically less endowed than today's, I had to wait 29 years to discover it—but what a discovery, especially as performed by an ad hoc quintet composed of Isaac Stern, Alexander Schneider, Milton Katims, Pablo Casals, and Paul Tortelier (immortalized on Columbia ML 4714, and worth a search).

The present performance heavily emphasizes the Romantic approach, manifest in such details as cadential sighing and the use of different tempos for different subsections of individual movements. Nobody could ask for a more beautiful realization of that heavenly five-minute section of the Adagio, but in its reprise, where these performers relegate the melody to the background, they overlook the natural principle that the busier the material, the more it will seize attention anyway. As a result, the accompanimental material elbows its way unbecomingly into the spotlight.

I salute these artists for one nice, characteristic detail: During one wholly suitable passage in that Adagio, the melody instruments jettison all vibrato. You won't find many string players today with that kind of imagination and conviction. Playing time: 55:33. *Paul Moor*

SIMPSON: Symphonies: No. 6; No. 7.

● *Royal Liverpool Philharmonic Orchestra, Handley. Andrew Keener, prod. Hyperion CDA 66280 (D).* (Dist. by Harmonia Mundi, U.S.A.)

Robert Simpson, a noted authority on Bruckner and Nielsen, is also a composer of some repute. His Fifth Symphony was once available on the Unicorn label in a performance conducted by Jascha Horenstein, no less. The present works, both single-movement symphonies, were composed in 1977, yet they sound quite different from one another.

Although works dedicated to men of medicine have some historical precedent (Rachmaninoff's Second Piano Concerto is the most famous example), Simpson's Sixth Symphony is the first I've ever come across dedicated to a gynecologist. Simpson claims that his medical friend inspired him by suggesting a symphony that evolves from a few cells, like a human being from a fertilized ovum. Though the music undoubtedly does what Simpson intends, at least on paper, it doesn't sound like it, owing to the extremely uninteresting thematic material. Michael Tippett's Fourth Symphony covers much the same conceptual ground in vastly more powerful terms, even though Simpson's final peroration is admittedly impressive.

Simpson's Seventh Symphony is stuck

with even drier musical components than his Sixth. Its language is harsher, more austere, and the score proceeds toward an ambiguous ending that lacks inevitability. Like Nielsen, Simpson organizes his music around the conflict between significant tonal centers, and his command of movement is often impressive. But, as is frequently the case with contemporary composers of conservative, tonal orientation, Simpson seems unable to exploit the tension generated by his structure because he cannot create memorable materials that define the developmental process. Nielsen and Bruckner had no such difficulties. For them, tonality was a stage, and the themes were actors. But Simpson's musical language resembles that of the American composer William Schuman, another formulaic composer whose technical facility is impressive but whose ability to communicate through the medium of music remains modest at best.

Vernon Handley's performances seem authoritative, the Royal Liverpool Philharmonic plays well, and the sound is excellent. Hyperion's cover art consists of a photo of a three-day-old human embryo following in-vitro fertilization. The notes, which relate the music of the Sixth Symphony to DNA molecules, birth spasms, and pre- and postnatal episodes, make the whole enterprise sound as silly as Simpson is undoubtedly serious. Playing time: 58:53. *David Hurwitz*

TCHAIKOVSKY: Suites for Orchestra:

No. 1, in D, Op. 43; No. 2, in C, Op. 53.

● *Stuttgart Radio Symphony Orchestra, Marriner. Peter Laenger, prod. Capriccio CD 10227 (D).* ◻ (Dist. by Delta Music, Inc.)

Tchaikovsky composed his First Suite on the heels of his Fourth Symphony. That makes it definitely mature Tchaikovsky, from his richest period of creativity. Kiril Kondrashin loved the Third Suite with a real passion, and I think one of our dance companies turned the Fourth (which merely orchestrated some Mozart pieces) into a ballet; but in general all four suites have suffered unjustified neglect outside the composer's homeland.

In like manner, Sir Neville Marriner has for some mysterious reason suffered comparative neglect since taking over as musical director of this excellent orchestra, where the legendary Sergiu Celibidache preceded him. (Another English conductor, Sir Colin Davis, now heads the Bavarian Radio Symphony in neighboring Munich, and Sir John Pritchard is in charge of the Cologne Opera. Has England, at least musically, finally won World War II?) Marriner and his Swabians have already made a three-CD Schumann set (Capriccio CD 10997) worth looking into: the four symphonies plus the early *Zwick-*

au Symphony, the *Manfred Overture*, and the wonderful *Overture, Scherzo, and Finale*. Marriner continues, in Stuttgart and for this smaller recording firm, to do work just as outstanding as ever he did in London for mighty EMI.

If you love Tchaikovsky, you owe it to yourself to look into these fine performances, which Capriccio has recorded with its customary high standards. You will probably discover some unexpected aspects of Russia's melancholy, tragic, greatest composer. In the Second Suite I listened hard but in vain for the four accordions that Ingo Harden's notes say Tchaikovsky "daringly specified" in the *Scherzo burlesque*, but even without them his use of jolly folksong material turns that movement into quite a hoot. Playing time: 70:41. *Paul Moor*

TCHAIKOVSKY: Concerto for Violin and Orchestra, in D, Op. 35.

WIENIAWSKI: Concerto for Violin and Orchestra, in D minor, Op. 22.

① *Bell; Cleveland Orchestra, Ashkenazy. Andrew Cornall, prod. London 421 716-2 (D).* ☐

When I compared Joshua Bell's and Nadja Salerno-Sonnenberg's recordings of the Mendelssohn Violin Concerto [review, August 1988], I observed that the twenty-two-year-old Bell still seemed somewhat bound by convention. Despite flawless technique and musical sensitivity, his performance hardly broke new interpretive ground.

That judgment is still valid for Bell's new recording of the Tchaikovsky and Wieniawski concertos—even though, in fairness, it is a very fine recording indeed. Although Bell commands a sumptuous tone, he delights in varying his timbre from dark-hued opulence to radiant brilliance to elfin transparency. He phrases flexibly, and has an innate musicianship that embraces tempo hesitations and dynamic gradations without their ever seeming mannered. He is a gutsy player, who can be vigorous in articulation but is never rough in his bow stroke. And he is as adept at lyricism as at pyrotechnics; this is one violinist who is not ashamed to wring a phrase for all its expressive worth or to revel in the visceral thrills of sheer virtuosity.

Yet one cannot help feeling that, for all his technical and musical abilities, he has still not developed into a distinctive interpreter. His account of the Tchaikovsky is infinitely more conventional than, say, Nigel Kennedy's eccentric reading (Angel EMI CDC 47623); in fact, many of his mannerisms seem drawn from long-honored conventions. Only time will tell whether Bell will develop from what he is now, an immensely talented violinist, into a probing, original musician. Meanwhile,

there is much to praise in this recording—not the least of which is the Cleveland Orchestra's flexible, perfectly balanced, genuinely enthusiastic accompaniment. Playing time: 58:39. *K. Robert Schwarz*

VAUGHAN WILLIAMS: Concerto for Oboe and Strings, in A minor*; Pastoral Symphony†.

① *Theodore*, Kenny†; London Symphony Orchestra, Thomson. Brian Couzens, prod. Chandos CHAN 8594 (D).* ☐ *ABRD 1289.* ☐ *ABTD 1289.* (Dist. by Koch Import Service.)

This curious, rarely performed symphony contains perhaps the gentlest, also the most perplexing, music Ralph Vaughan Williams ever composed. No wonder it shocked his admirers when he followed it up with the aggressive, almost raucously dissonant Fourth.

Vaughan Williams marked his four movements *Molto moderato, Lento moderato, Moderato pesante*, and *Lento*; thus none, not even the substitute for a scherzo, has a tempo faster than *moderato*. We find a reason for this in the fact that the composer began work on the symphony during

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his service as a forty-four-year-old ambulance driver in France during World War I. Can you imagine a sensitive, overage composer involved in the more sanguinary episodes of *M.A.S.H.*? During this period, Vaughan Williams used to seek respite from the barbarous insanity of his duty hours by climbing a hill near Écoivres at sunset to enjoy the "Corot-like landscape." There he sometimes heard an inexperienced bugler practicing, aiming at the octave but occasionally missing and playing a flatted seventh instead. That clinker gets touchingly memorialized here in the second movement's trumpet solo. Wordless passages for soprano, opening and closing the final movement, enhance the overall air of tranquil mystery. This unusual symphony, which by its very nature skirts the quicksand of torpidity, presents the conductor with an intricate problem, but Bryden Thomson never loses control, and the London Symphony Orchestra responds wholeheartedly.

Vaughan Williams wrote his oboe concerto for Leon Goossens (1897-1988), the Heinz Holliger of his day. It offers the soloist unusual latitude to demonstrate his instrument's capabilities, which David Theodore does here with suavity and class. Playing time: 56:07. *Paul Moor*

Recitals and Miscellany

ENSEMBLE ORGANUM: Codex Chantilly: *Airs of the 14th-Century Court.*

● *Ensemble Organum, Pérès. Jean-François Pontefract, prod. Harmonia Mundi France HMC 901252 (D).* ☐ HMC 401252. (Dist. by Harmonia Mundi, U.S.A.)

If you know what that uniquely sumptuous late-medieval illuminated manuscript known as *Les Très Riches Heures du Duc de Berry* looks like, you have a good idea of what these twelve selections from the Chantilly Manuscript sound like.

Musicologists know the Codex Chantilly (Musée de Condé 564) as an ornate collection of ballades, rondeaux, virelays, and isorhythmic motets—some anonymous, some by known composers, some by composers identified only by their first names—all dating from the second half of the 14th century. Among those composers, Guillaume de Machaut remains the best known; others served the courts of Foix and Aragon, the Papal Palace at Avignon, or the Duc de Berry himself.

The contents of the codex present formidable obstacles to realization in performance. Scholars regard it as the work of some copyist who obviously didn't understand what he copied—probably an Italian working from a French original—and that circumstance has resulted in all sorts of mistakes in both language and no-

tation. We know from Machaut himself that contemporaneous performers cavalierly regarded such manuscripts as mere vehicles for their own creativity. If they read from a defective copy, they had the expertise to correct it as they went along.

France's Ensemble Organum consists of countertenor, tenor, baritone, and bass, plus a viol and the instrument known in France as the *clavicythérion*. They perform these selections with unostentatious expertise and conviction—making the music austere but elegant, antique but viable—and are the beneficiaries of sonic engineering that is above reproach. Concise scholarly notes by Ursula Günther and Marcel Pérès (plus all the texts, in Old French only) round out this musicological gem. Playing time: 54:10. *Paul Moor*

Theater and Film

BERNSTEIN: "The Bernstein Songbook."

● *Comden, Green, Von Stade, Karloff, various other artists; various choruses and orchestras, Bernstein, Engel, Goberman, and others. Goddard Lieberman, John McClure, and Robert Lewis Shayon, prods. CBS Masterworks MK 44760 (A).* ☐ ☐

"*Candide*": *Best of All Possible Worlds; Glitter and Be Gay; Make Our Garden Grow; Oh, Happy We.* "*Mass*": *A Simple Song.* "*On the Town*": *Carried Away; Lonely Town; New York, New York; Some Other Time.* "*Peter Pan*": *Build My House; Plank Song.* "*1600 Pennsylvania Avenue*": *Take Care of This House.* "*Trouble in Tahiti*": *I Was Standing in a Garden; What a Movie!* "*West Side Story*": *America; Maria; Somewhere; Tonight.* "*Wonderful Town*": *Congal; Ohio; Wrong Note Rag.*

Leonard Bernstein's seventieth birthday last August prompted a number of record companies to reissue and repackage his music—none to better advantage than in this cavalcade of vocal highlights from his scores for the musical stage, drawn from the CBS collection of original-cast albums. Accompanied by notes headed up by a birthday letter from Betty Comden and Adolph Green (who wrote the book and lyrics for both *On the Town*, the World War II musical about three sailors on leave in Manhattan, and *Wonderful Town*), the program starts off with "New York, New York." There are four excerpts from the high-spirited *On the Town* in all, and the rest of the disc is at the same high level. Even "Take Care of This House" from that unfortunate disaster *1600 Pennsylvania Avenue* proves breathtaking the way Frederica von Stade deals with it; in truth, there isn't a lemon in the lot.

For Bernstein fans, many an old favorite turns up: the entire scene, for example, about the South Sea Islands movie from

Trouble in Tahiti; Boris Karloff inimitably delivering the "Plank Song" from Bernstein's music for the 1950 Broadway version of *Peter Pan*; Rosalind Russell punching out three showstoppers from *Wonderful Town*, including that extravagant business with the Brazilian navy and the conga. Here, too, are Max Adrian, Barbara Cook, and Robert Rounseville in four glorious numbers from that first, fabulous recording of *Candide*; and Chita Rivera, Larry Kert, and Carol Lawrence, to remind you of what *West Side Story* sounded like when it was properly cast. And from the *Mass* (1971), "A Simple Song," one of that score's loveliest moments.

It is in his music for the theater, after all, that Bernstein has shone most brilliantly as a composer, applying all his considerable technical resources and inventiveness to songs sometimes scintillating, sometimes scathingly satirical, sometimes wistful or just plain moving. This is certainly a generous sampling of the best of them, superbly and authentically performed and beautifully remastered and assembled. It's an ideal introduction to the Bernstein way with a tune and a lyric—say, for any visitor just arrived from Mars or otherwise unacquainted with these treasures, which seem destined to survive their era. Playing time: 73:11. *Paul Kresh*

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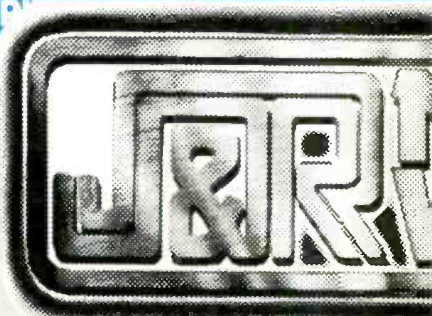
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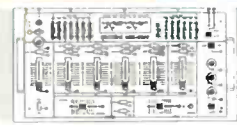
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MINI-REVIEWS OF THE LATEST COMPACT DISCS

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

WALTON SYMPHONY NO. 1: LONDON SYMPHONY, PREVIN

At last, the real thing: André Previn's 1966 recording with the London Symphony Orchestra of William Walton's Symphony No. 1, in B flat minor. A fast, taut, no-nonsense interpretation played with dazzling virtuosity, this performance has been correctly regarded as definitive ever since its initial release. It puts every other recording of the Walton First in the shade—including Telarc CD 80125, Previn's own digital remake with the Royal Philharmonic. Even if you have your doubts about Walton's brand of dissonant neo-Romanticism, give this recording a try. It just might change your mind. The filler is a fine performance of the Overture to Vaughan Williams's incidental music for Aristophanes' comedy *The Wasps*. Playing time: 52:14. (RCA 7830-2.) *T.T.*

NIELSEN SYMPHONY NO. 3: DANISH NATIONAL, EHRLING

Sixten Ehrling is one of the greatest Nielsen conductors of our age, and everyone who loves this music should be grateful to Audiofon for making such a magnificent performance available on CD. Recorded in concert at Washington's Kennedy Center in May 1984, this version of Nielsen's ebullient Third Symphony (*Sinfonia espansiva*) preserves all of the panache and electricity of a live event, with very little audience noise. The Danish National Orchestra plays this music as only it knows how, Ehrling judges the tempos to perfection (especially in the problematic finale), and Audiofon's sonics are wonderfully warm and detailed. The charming *Mas-karade* Overture makes a delightful bonus. Playing time: 41:01. (Audiofon CD 72025. Dist. by Allegro Imports.) *D.H.*

STRAVINSKY "SACRE DU PRINTEMPS": CZECH PHILHARMONIC, ANČERL

The current SCHWANN CD catalog lists more than two dozen orchestral recordings of *Le Sacre du printemps*, including memorable interpretations by Pierre Boulez, Colin Davis, Antal Dorati, Herbert von Karajan, Pierre Monteux, and the composer. Yet, for those who cherish this music, Supraphon's midprice reissue of the stunning early-1960s account by Karel Ančerl with the Czech Philharmonic Orchestra is a necessity.

Ančerl's reading is direct and propul-

sive, with generally lean orchestral textures. And his interpretation is in many ways unique. For example, in the "Glorification of the Chosen One" he emphasizes the eighth notes in the timpani more than any other conductor I know of, and the player creates an exciting effect with what sound like wooden sticks. The "Evocation of the Ancestors" is played more slowly than I have ever heard it done, imparting an ominous imperiousness to the music that you will not find in other accounts. Timpani again are outstanding during the melee preceding the final pages; no other performance so clearly defines the cross-rhythms. The coupling, *Petrouchka*, is very well played, though not as distinctively as *Le Sacre*. The sonic quality on the disc is more than satisfactory, and there is fine stereo spread and impact. Playing time: 67:40. (Supraphon DC 8036. Dist. by Denon.) *R.E.B.*

BÖHM HARPSICHORD WORKS: WOOLLEY

Georg Böhm (1661–1733), an all-but-forgotten name today, was a highly respected composer of sacred and keyboard works in the generation before Bach, and is believed to have known and influenced the young Bach during his student days, particularly in the area of chorale writing. Böhm is perhaps best known to organists, but this new recording of harpsichord works should win him many new converts. Robert Woolley's program begins with the striking Capriccio in D, a fantasialike piece filled with unpredictable twists and chromaticisms. Woolley's treatment is invigorating, highlighting the contrasts in the music and positively attacking the challenging bravura sections.

The four suites on the disc combine the lively French dance sequence (allemande, courante, sarabande, and gigue) with Böhm's more cerebral Germanic style, yielding consistently pleasing results. Each suite has its own distinct flavor, yet most impressive of all is the Prelude, Fugue, and Postlude in G minor, a powerful work that practically assaults the listener with its vigorously hammered repeated chords and the unremitting intensity of its argument. Woolley's playing is both captivating and stylistically sensitive throughout, and he is aided by a wonderfully rich instrument and near-perfect recording. The indexing of the move-

ments is helpful, though the very meager sleeve note is a disappointment. Playing time: 52:24. (Meridian CDE 84087. Dist. by Harmonia Mundi, U.S.A.) *C.R.*

LOUIS FERDINAND CHAMBER WORKS: GÖBEL TRIO, BERLIN RADIO

Had he lived a longer life, the Prussian prince Louis Ferdinand might now be a musical monarch better known than his flute-playing uncle, Frederick the Great. Louis Ferdinand, alas, died doing battle with Napoleon's army in 1806; he was only thirty-four, old enough to have established a reputation as a brilliant pianist but too young to have composed more than a dozen or so works in the various chamber and orchestral forms common to the early years of music's Romantic era.

In 1981 the West German Thorofon label recorded and released all 13 extant Louis Ferdinand compositions in a six-disc set. His Opuses 3, 4, and 7—a piano trio, a set of variations for piano quartet, and a fugue for solo piano—were shortly afterward released on a single LP. Now three more pieces from that original album—the *Notturmo* for piano, flute, violin, viola, cello, and two horns, Op. 8; the Piano Trio in E flat, Op. 10; and the *Larghetto varié* for piano, violin, viola, cello, and double bass, Op. 11—have been brought out on CD. This is worthy music, the product of a major talent unfortunately nipped in the bud. The performances, by the Berlin-based Göbel Trio and members of the Berlin Radio Symphony Orchestra, are both refined and insightful, and the quality of the digitally recorded sound is first-rate. Playing time: 67:58. (Thorofon CTH 2016. Dist. by Qualiton Imports, Ltd.) *J.W.*

HANDEL "ROYAL FIREWORKS," "WATER MUSIC": STOKOWSKI, SZELL

Two recent budget-price reissues have joined the ample selection of CD performances of Handel's *Music for the Royal Fireworks* and *Water Music*. George Szell uses Sir Hamilton Harty's arrangements (adapting that of the *Water Music* Suite) in his performances with the London Symphony Orchestra, on London, while Leopold Stokowski's RCA Victor Symphony Orchestra accounts make use of the conductor's own transcriptions of longer suites from both works.

Stokowski's recording was made in

1961 in New York with what at the time was called "the largest recording orchestra ever used," including 24 oboes, 12 bassoons, and an expanded string section, for a total of 125 players. It is an example of Stokowski at his most willful, and purists doubtless will be appalled by his tempo changes and heavy-handed approach. However, there is good fun to be had here, and RCA's recording is exceptionally broad and spacious. The original LP issue included actual fireworks during the finale of the *Music for the Royal Fireworks*; fortunately, these have been eliminated on the CD. Szell's more standard treatment of the suites, recorded in 1971, is coupled with the Minuet from *The Faithful Shepherd* and the Largo from *Xerxes*. Playing times: 44:53 (Stokowski: RCA 7817-2); 42:25 (Szell: London 417 694-2). *R.E.B.*

EMMA KIRKBY: ELIZABETHAN LUTE SONGS

In this sort of repertory, Emma Kirkby has few, if any, rivals. Her cool soprano voice—almost, but not quite, as pristine and free of overtones as a boy soprano's—suits the music to perfection, especially when she joins forces with a lutenist as good as Anthony Rooley. The informative, scholarly notes Kirkby has written reflect the exceptional intelligence of her performances.

Hyperion has recorded this collection, entitled *Time Stands Still*, with its customary finesse, but once or twice one notices what sounds like an eccentric bit of absent-minded studio noise in between songs. That becomes clear at the very end, when a theretofore almost breathless audience breaks into enthusiastic applause. The recording preserves a recital given at Forde Abbey in Dorset. Playing time: 46:27. (Hyperion CDA 66186. Dist. by Harmonia Mundi, U.S.A.) *P.M.*

BRAHMS SYMPHONIES NOS. 1-4: CLEVELAND, SZELL

The best Brahms symphony cycle is still Toscanini's with the NBC Symphony, but of that one, only the Fourth, plus fillers, is available on CD. Until the rest of it comes along, George Szell's mid-1960s cycle (reissued on CBS's Great Performances budget line) will do very nicely. The wonderfully clean and lithe playing of the Cleveland Orchestra is still a pleasure to hear after a quarter of a century, and though Szell's conducting lacks the intensity that made Toscanini's Brahms so memorable, his interpretations are intelligently shaped and carefully judged, with the exception of the oddly static first movement of the Fourth Symphony. (Toscanini gets this movement exactly right in his thrilling 1951 recording, available on RCA 6216-2.)

The fillers are standard: the *Tragic* and

Academic Festival overtures and the *Variations on a Theme by Haydn*. If you like your Brahms sweet and lovely, stick with Bruno Walter or Wilhelm Furtwängler. Szell's Brahms is lean and arresting—and classical. The *Haydn Variations* are neither indexed nor banded internally. Playing times: 43:36 (Symphony No. 1: CBS Masterworks MYK 37775); 54:20 (Symphony No. 2, *Tragic Overture*: MYK 37776); 52:08 (Symphony No. 3, *Haydn Variations*: MYK 37777); 54:49 (Symphony No. 4, *Academic Festival Overture*: MYK 37778). *T.T.*

MAHLER SYMPHONY NO. 3: LONDON SYMPHONY, HORENSTEIN

Playing through a Mahler symphony at the piano, the dissonances sometimes startle you; in performance, the composer's Romantic orchestration tends to render them much less aggressive. Jascha Horenstein, unlike most conductors, seems to lie in wait for the dissonances and then, whenever they come along, brandish them at you like some threatening weapon. As a result, he emphasizes the ample conflictual material packing this wonderful work, until the final movement resolves everything on a note of rapturous exaltation. That movement booby-traps many conductors; some render it square and dull with rhythmic inflexibility, others "interpret" it to death and pull it all out of shape. Horenstein takes a middle path—to my way of thinking, ideal. He also realizes Mahler's unorthodox but unequivocally indicated string glissandos more faithfully than any other conductor I've heard.

Norma Procter's rich contralto suits the introspective fourth movement beautifully; she makes it suitably melancholy but not oppressive. The London Symphony Orchestra, the Wandsworth School Boys' Choir, and the Ambrosian Singers outdo themselves. This brilliant reissue—on two CDs—makes the 1970 recording sound far more recent. Playing time: 97:15. (Unicorn-Kanchana UKCD 2006/7. Dist. by Harmonia Mundi, U.S.A.) *P.M.*

ORFF "CARMINA BURANA": DEUTSCHE OPER BERLIN, JOCHUM

It was with the composition of *Carmina burana* in 1937 that Carl Orff embarked on a career noted for its debts to Stravinsky's *Les Noces*. Several million percussive ostinatos later, *Carmina* remains his freshest and most popular work. Eugen Jochum's 1968 account, featuring the solo voices of Gundula Janowitz, Gerhard Stolze, and Dietrich Fischer-Dieskau, has reigned virtually unchallenged for 20 years as the finest recorded performance of the work; its reappearance on CD (at midprice, with texts included) confirms its preeminence. Jochum and the chorus and orchestra from the Deutsche Oper Berlin

find an extra joy and beauty in Orff's simple but attractive tunes. Often, as in the chorus *Ecce gratum*, Jochum reveals unexpected details in even the most basic sustained chords, preventing Orff's repetitions from wearing out their welcome. If there is room in your collection for only one recording of *Carmina burana*, this one, without a doubt, should be it. Playing time: 56:09. (Deutsche Grammophon 423 886-2.) *D.H.*

TELEMANN SONATAS FOR TWO OBOES: GORITZKI, GLAETZNER

The title of this album is something of a misnomer. Of course, even though the six *Sonatas sans basse* that Telemann published in 1727 were earmarked for flutes and, alternatively, for violins or recorders, the composer probably would not have minded if they had been played on, say, tubas, synthesizers, or oboes. Whatever their instrumentation, these are well-made pieces that democratically divvy up the material among both players and amazingly convey a full sense of harmonic motion in spite of the absence of Baroque music's ubiquitous basso continuo. The sonics on this CD are just fine; the playing of West German oboist Ingo Goritzki and his East German partner, Burkhard Glaetzner—thoroughly modern in approach as well as in sound—is remarkable only for its technical precision. Playing time: 64:16. (Claves CD 50-8801. Dist. by Qualiton Imports, Ltd.) *J.W.*

ADAM "GISELLE": VIENNA PHILHARMONIC, KARAJAN

The brief notes that accompany this mid-price reissue make no mention of the circumstances of the original recording, which were outlined by producer John Culshaw in his 1981 book, *Putting the Record Straight*. In 1961, Decca/London wanted a recording of *Giselle* and asked Herbert von Karajan to do the job. He had never seen the music before, and when the score arrived from Paris, the music was in "a state of utter disarray . . . the pages were either not numbered or did not follow in any kind of meaningful sequence; the instrumentation had been changed by heaven knows how many hands, and the orchestra parts did not match the score." All of the material was pieced together by the parties concerned; reportedly, nobody took any of it seriously. Culshaw was always amused in later years when a critic would refer to Karajan's "definitive if incomplete version" of *Giselle*.

In spite of its makeshift origins, this recording is most enjoyable. The Vienna Philharmonic is luxuriant in this music and has been recorded with the richness and tonal beauty typical of Culshaw's work. There are 19 cueing bands. Playing time: 60:15. (London 417 738-2.) *R.E.B.*



Needed: More Kreisler, Caruso . . .

By Terry Teachout

While the number of historical recordings available on Compact Disc has increased dramatically in the last couple of years, there is still an enormous amount of ground to be made up. After a few false starts, Angel EMI has finally gotten its Great Recordings of the Century series up and running, and the systematic transfer to CD of the vast EMI catalog is proceeding at a rapid pace. Unfortunately, reissue policy at the other major labels ranges from haphazard to nonexistent. (CBS, whose entire historical-reissue catalog presently consists of *Levant Plays Gershwin*, is by far the worst offender.)

In order to provide a little guidance for well-meaning corporate executives who may be in over their heads when it comes to great classical recordings of the past, I've put together a list of selected artists whose best pre-LP recordings are of permanent importance and should be transferred to CD as soon as possible:

Artur Schnabel (EMI). Under license from EMI, Arabesque has released complete sets of Schnabel's Mozart and Schubert recordings, together with his first Beethoven concerto series. But Schnabel's Beethoven sonatas and variations have somehow been overlooked—which is like publishing a volume of Shakespeare's plays without including *Hamlet* or *King Lear*.

Sergei Rachmaninoff (RCA). Now that all of Rachmaninoff's concerto recordings are available on Compact Disc, at least two more CDs of solo performances—including the pianist's inimitable performances of the Chopin Sonata in B flat minor, Op. 35, and Schumann's *Carnaval*—are needed.

Fritz Kreisler (RCA). RCA's first Kreisler reissue—containing music of Paganini, Beethoven, Dohnányi, and Kreisler himself—was badly botched by inept engineering. It should be withdrawn in favor of a decently mastered two-CD set of acoustic and early electric encores.

Victor vocal recordings (RCA). With the exception of a single Enrico Caruso aria recital, RCA has left the battle of the Red Seals to Pearl. Not good enough. For openers, RCA should release well-planned recital discs devoted to Rosa Ponselle, Kirsten Flagstad, Lauritz Melchior, and Titta Ruffo—plus a comprehensive Caruso series.

HMV vocal recordings (EMI). The Great Recordings of the Century series has yet to get around to Conchita Supervia, Alexander Kipnis, Claire Croiza, and Mattia Battistini. Also needed are lieder recitals by Elena Gerhardt, Elisabeth Schumann, and Richard Tauber.

Joseph Szigeti (CBS, EMI). The complete *Art of Joseph Szigeti* set (CBS M6X-31513), with its matchless electric recordings of the Brahms, Mendelssohn, and Beethoven violin concertos and the Prokofiev D major concerto, should be transferred to CD promptly, along with the best of Szigeti's other 78 recordings—including his versions of the Brahms D minor and Mozart E minor sona-

tas and Stravinsky's *Duo concertant*.

Adolf Busch and Rudolf Serkin (EMI). EMI issued three Adolf Busch LP boxes devoted to the chamber music of Brahms, Beethoven, and Schubert. All of this material should be reissued on CD. Rudolf Serkin never played better than he did with Busch, and the Busch Quartet's Beethoven remains incomparable.

Emanuel Feuermann (RCA). The cellist's recordings for RCA—of Strauss's *Don Quixote*, Bloch's *Schelomo*, the Brahms Double Concerto with Heifetz, and the trio recordings with Heifetz and Rubinstein—would make a good two- or three-CD set.

Jacques Thibaud, Pablo Casals, and Alfred Cortot (EMI). EMI has released their recordings of the Schubert Trio in B flat and Beethoven's *Archduke* Trio, a perfect coupling. But *each* of these great artists (who recorded separately and in various combinations) deserves extensive reissue attention.

Budapest Quartet (EMI, CBS). CBS issued a four-disc set of Budapest Quartet recordings from the 1930s on Odyssey Y4-34643. These brilliantly virtuosic recordings, as well as others from that period, belong on CD.

Arturo Toscanini (RCA). The reissue of the conductor's NBC Symphony recordings has fallen by the wayside. It should be resumed. RCA should also reissue his New York Philharmonic and Philadelphia Orchestra recordings in a pair of CD sets.

Leopold Stokowski and Serge Koussevitzky (RCA). These two great conductors and the ensembles they built, the Philadelphia Orchestra and the Boston Symphony, were largely left out of the second great wave of 78 reissues that took place in the late 1960s and early 1970s. That mistake should be rectified at once.

Vladimir Horowitz (RCA). A concerto box would be a good start. Also a Liszt CD. Also a Chopin CD. Also the Samuel Barber Sonata. Also the live version of *Pictures at an Exhibition*.

Wanda Landowska (EMI). Her prewar recordings of Scarlatti, Couperin, Handel, and Rameau are essential.

Igor Stravinsky (CBS, EMI, RCA). His 78 recordings are invariably fascinating and, in many cases, superior to the stereo remakes that later appeared on CBS. They belong on CD, as do the best recordings of the other 78-era composer/performers: Strauss and Elgar as conductors, Hindemith as violist, Bartók and Grainger as solo pianists, Poulenc and Britten as accompanists. (And don't forget such famous one-shot efforts as Holst's *The Planets*, Schoenberg's *Pierrot lunaire*, Copland's *Piano Variations*, Thomson's *Four Saints*, and Barber's *Dover Beach*.)

Now that I've had my say, how about you? I invite you to send me your recommendations for historical reissues on Compact Disc. Keep them down to the contents of a single 75-minute CD or, at most, a two-CD set. The most provocative ones will appear in future columns. □

YOU CAN EVEN



Happenings ten years time ago: Randy, Curtis, Michael, and Vanessa at the Rat in Boston in 1979

PYLON: Hits.

● *Various prods. DB Records 91. (432 Moreland Ave. N.E., Atlanta, Ga. 30307.)* There was a time—oh, 'round about 1980 to 1983, in the long wake of disco—when I merrily would have throttled the next person who suggested, “Let’s dance.” *Saturday Night Fever* had spawned *Flashdance*, *Footloose*, and, er, *Staying Alive*. Those early Bee Gees binges had kept company with the likes of Elton John drummer Nigel Olsson puttin’ on his “Dancin’ Shoes,” and by the time we reached 1984, none other than Bruce Springsteen was making an audio-video fool of himself “Dancing in the Dark.” It seemed everyone felt the urge to hit the floor: Even punks, who trashed disco, did the pogo. Metalheads danced “the night away” with Van Halen; new-wavers, not to be outdone, danced “all night” with the Cars. And rock critics—those notorious non-dancers—ended review after review with some form of that happy line, “It’s got a great beat, and you can . . .” *Aaarrgh*.

There was, however, a great exception to all this, and its name was Pylon. Shortly after the B-52’s left Athens, Georgia, but long before R.E.M. made the town famous, local students Pylon released 1980’s

best single, “Cool” b/w “Dub.” The music matched the hook-a-rama of the B-52’s with the scraping tension of early Gang of Four (with whom Pylon had already toured), and it compelled you to . . . dance. Or thrash at your air guitar. Or just tap your foot. But you had to move, because there simply was no other way around, or through, the music. In effect, Michael Lachowski’s bass and Curtis Crowe’s drums *were* the music, pounding out each riff over and over and over again, while somewhere above, Randy Bewley’s guitar and Vanessa Briscoe-Hay’s vocals stuttered, quipped, and charged.

The band’s debut album, *Gyrate*, was also released in 1980, with nary a bad cut among the record’s 11 new tracks. And for the first time, with the help of the enclosed lyric sheet, you could actually understand what came out of Vanessa’s mouth—and what a revelation it was, the deadpan focus on everyday life teasing the fury of the music: “Fell in the lake, I didn’t drown/I had on my life preserver/Lots of mosquitos, I got no bites/I had on my insect repellent” (from “Precaution”). Two more sensational 45s, “Crazy” and “Beep,” followed in 1982 before the band released its disappointing 1983 album, *Chomp*, cheapened

by the inclusion of only eight new songs (the other four being “Crazy,” “Beep,” and their B-sides—and this “Crazy” was a puffy remix) and diluted by the wishy-washy production/engineering of Chris Stamey, Gene Holder, and Mitch Easter. At the end of the year, pressured by a business they had originally entered only for fun, Pylon quit—but not, as it turns out, for good. More on that later.

Our immediate attention goes to Pylon’s brand-new CD-only compilation, dryly called *Hits*. The helpings are generous: 70 minutes, 20 tracks, and three vintage band photos plus all the lyrics in an eight-page foldout booklet. The songs include every cut from *Gyrate* except “Precaution” (you do get both “Driving School” and “Recent Title,” each of which has been found leading off Side 2 of certain versions of the LP, depending on whether they’re foreign or domestic pressings), all A-sides and B-sides of the three singles (yes, the hard “Crazy,” not the remix), and three of the eight new tracks from *Chomp* (an album that disappointed the band, too). Along with “Precaution,” then, those five remaining *Chomp* cuts are the only songs missing from Pylon’s entire recorded output. True, the 20 or so min-

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utes all six represent wouldn't have fit, but "Precaution" really should be here, and I do miss two *Chomp* tracks that could have been squeezed in as well, "Italian Movie Theme" (the mystery song heard during the closing credits to the film *Athens, Ga.—Inside/Out*) and "Buzz" (which, after all, leads off the LP's second side and furthermore remains in the band's current show—but more on that later).

Much more important than quibbling about the content of this CD is coming to terms with its sound. Remember, in the early '80s, a band like Pylon cared little about making state-of-the-art recordings: The point was to get the raw performance down as honestly as possible, imperfections intact. How does this translate to the digital format? For most of *Hits*, quite well. Indeed, two of the tracks from *Gyrate*, "Weather Radio" and "Driving School," are nearly identical to their LP versions in clarity and tone. Comparisons are similarly close for most of the *Gyrate* material; the treble is emphasized in some cases, but usually not at great expense to the all-important bass. On these songs, the CD is a faithful reproducer of Pylon's original intent. On three other occasions, the CD does make necessary improvements to recordings hampered by their original vinyl placement. "Read a Book" and "Stop It," *Gyrate's* Side 1 and Side 2 closers, always suffered from end-of-LP distortion. Here, the sound is much fuller, with Vanessa's voice and Randy's guitar sorted out and made sharp. And "Crazy," muffled on 45, is now a model of loud and clear, Vanessa leaping from the mix.

However, something went wrong—or someone made a bad decision—in the transfer of material from *Chomp*. "K," "Yo-Yo," and "No Clocks" now have an exaggerated high end that gives an annoying sibilance to vocals, hi-hat, and cymbals. On "Yo-Yo," this combines with newly unearthed tape hiss to form a continuous sound of frying hamburgers. Even "Altitude," which first appeared as the B-side of "Beep" and then at the end of *Chomp's* second side, has its worst showing on CD. The idea may have been to resurrect Vanessa and Curtis from the LP's original production, but the result is a further weakening of already limp recordings. Of no help is the nonchronological ordering of the tracks. No doubt meant to mix the *Chomp* stuff with the stronger material, this strategy instead makes "Altitude" sound downright fuzzy between *Gyrate's* "Volume" and "Gravity" and also

robs a lot of power from "No Clocks" between "Read a Book" and "Recent Title."

Of course, if your CD player is programmable, you can reorder the tracks according to their 45/LP lineups. Or if your player is equipped with random play, you can let the machine do the choosing. Whatever your digital hardware, if you've never heard Pylon, you owe it to yourself to buy *Hits*, despite the shortcomings. You also owe it to yourself to see the band live. More on that now: A bit bored with their jobs (building cabinets, fixing bikes, managing a Kinko's copy center) and urged out of musical retirement by R.E.M. (who have repeatedly deferred to Pylon as this country's best band), the four original

FORMAT KEY

- Ⓢ LP/EP
- Ⓢ Videocassette
- Ⓢ Cassette
- Ⓢ Videodisc
- Ⓢ Compact Disc

Large symbol at left margin indicates reviewed format. Small symbols following catalog number of reviewed format indicate other available formats (if any). Catalog numbers of formats other than the reviewed format are printed only if their basic numbers differ substantially from that of the reviewed format.

"In Short Order": Note that these mini-reviews provide only the reviewed format and its catalog number.

Arabic numeral in parentheses indicates number of items in multi-item set.

members have indeed regrouped, ready to coexist with the Record Biz.

Any doubts I might have had about such a recycling were trounced late last year when Pylon made it to New York. The band's 25-song set included every track from *Hits* (except "Yo-Yo") as well as three fine new numbers going by the names of "There It Is," "Chug," and "Catch," which may find their way onto an album Pylon is thinking of making. Best of all, the band members attacked each song as if they were kids—Curtis especially, drumming himself into exhaustion, as always. And speaking of kids, it didn't take long before yours truly was feeling like one again, bouncing all over the floor. Unfortunately, most in the audience were young trendies, drinks in steady hands, merely observing what it all was/is about. Still, Vanessa whirled and bopped and darted to the mike to shout those memorable lines from "Volume": "Don't be discouraged/You can even dance." Gladly. *Ken Richardson*

PATSY CLINE: Her First Recordings: Walkin' Dreams (Vol. 1). Hungry for Love (Vol. 2). Rockin' Side (Vol. 3).

Ⓢ Owen Bradley, prod. Rhino R1 70048, 70049, and 70050. Ⓢ

The conventional wisdom, which the liner notes to these three separate LPs struggle mightily to uphold, is that Patsy Cline arrived in Nashville a full-blown artist with a fully realized style, and that her career was stalled for several years by a tyrannical record exec (Bill McCall of 4 Star) who made her cut lousy material he owned. Unfortunately, the pre-Decca sides collected here don't fully bear that out.

One album supposedly gathers her rocking material. The problem is that while some of it is nice, it's simply up-tempo: None of it really rocks, not even by the standards of late-1950s Nashville (let alone, say, Memphis). Patsy was not a rocker in either sound or spirit, though "Never No More" offers some sexy midnight sway and "Too Many Secrets" is a perfectly acceptable swing-boogie period-piece. Saddled with teen themes like "I Love You, Honey," she sounds uneasy.

The other two albums arrange early Patsy chronologically, starting with "A Church, a Courtroom, and Then Good-bye" (June 1955) and running to an unlikely, and truly inspired, reading of the traditional mountain spiritual "Life's Railway to Heaven" (July 1959). The best-known track is "Walkin' After Midnight" (*Vol. 1*), cut late in 1956 and a hit the next year—her only hit, in fact, until 1961. The material (much of it written by McCall as W. S. Stevenson) is indeed erratic, but so are Patsy and producer Owen Bradley, who while definitely reaching for a trademark sound and style, get it some of the time and miss it some of the time.

On *Vol. 2*, "Hungry for Love" is assertive, growling, full-throttle Patsy; "Just Out of Reach (Of My Two Open Arms)" features a perfectly understated vocal and Bradley's most sympathetic production. Back on *Vol. 1*, "Three Cigarettes in an Ashtray" is a striking image and a startling performance; "I've Loved and Lost Again" is one of the penultimate weepers. It's easy enough to see why she and Bradley are usually credited with simultaneously inventing the Nashville Sound and bringing it to its greatest fruition in the few short years she was alive. But there's more than a little forgettable music here, too, and that's often because of the performance ("I Cried All the Way to the

Altar" on *Vol. 1*) as much as it is the song. Patsy is uncertain in places; Bradley likewise can't quite decide what to put in and what to leave out. Most of her vocal filips—the rasps, growls, and sighs—are here, but they (and she) just don't come across with the force that they would later.

Patsy Cline did with country and pop what Billie Holiday did with blues and pop, and it's always good to see her get her due with classy packages like these. But I can't help thinking that with these albums now out there for completists, she'd be best served by taking the top 12 of these 37 sides and putting them on yet a fourth album for everyone else. *John Morthland*

XTC: Oranges & Lemons.

● *Paul Fox, prod. Geffen 24218-2.*
 ○ (2). □

It's possible for XTC's new double-LP/single-CD extravaganza to charm you into thinking it's a lightheartedly benign bauble. The components of the disc's well-crafted and pleasurable surface—the Beatlesque constructs (late-period division), the pure pop force of the melodic hooks and harmonic resolutions, the way the group's basic guitars-bass-drums configuration is extended and augmented with an eye (or an ear) to maximum playfulness—all conspire to elicit a smiling response. They also tend to obscure the fact that the group's songwriters, Andy Partridge and Colin Moulding, are often in a bad mood. Moulding's three songs are especially bugged: He has eyeballed the Thatcherite/Reaganite landscape and decided that the operative word is "cold."

Partridge gets 12 shots and so displays a wider range of moods, though for most of the disc, self-righteous but not off-the-mark sermonettes ("Here Comes President Kill Again," "Scarecrow People") alternate with laissez-faire humanism urging us toward as much tolerance as we can bear ("Garden of Earthly Delights," "The Loving"). There might seem to be a conflict here—mixing the proper note of disdain with the proper note of forbearance—but it's a contradiction that comes with the territory, falling squarely in the Lennonist tradition of the misanthrope who rises imperfectly above his natural predilection and espouses universal love. Partridge's confusion of feeling seems like another homage to the Sixties.

Although the *White Album*-style licks are clever and affecting, the best songs here are the ones that break rank with the overall concept: "Hold Me My Daddy," a primal plea that Partridge's always uneasy voice fits like a glove; "Pink Thing," a funny paean to onanism done in the style of recent Talking Heads; and "Miniature Sun," a jazzy curveball resembling the Beach Boys playing fusion, a kind of number that's becoming an XTC staple. Be-



XTC: Dave Gregory, Partridge, Moulding

sides, the group has paid its respects to the great lost decade in more rewarding fashion elsewhere, and those listeners attracted to the idea are directed to the CD called *Chips from the Chocolate Fireball*, which combines the EP *25 O'Clock* and the LP *Psonic Psonspot* made by the boys' alter egos, the Dukes of Stratospear. Safe behind the ducal guise (and a protective layer of irony), Partridge and Moulding are encouraged to loosen up musically and lyrically, spoofing hippie clichés and happily cluttering their music with tacky organ, sitar, and God knows what. It's a blissfully self-indulgent effort that finds them temporarily slipping free of their tendency to think the worst of people while hoping for the best. *Richard C. Walls*

THE PROCLAIMERS: Sunshine on Leith.

● *Pete Wingfield, prod. Chrysalis VK 41668.* ○ □

Much has been made lately in critical circles of rock 'n' roll's marked loss of innocence during the past decade, but I'd wager that even the most jaundiced eyes in the house will have a hard time keeping dry when confronted with the refreshingly joyous music on the Proclaimers' new album. Scottish twins Craig and Charlie Reid sounded a wee too folksy tame on their 1987 acoustic debut, *This Is the Story*, but now, with a full band behind them, they sound like kids who've suddenly been told to throw the bicycles away and take the keys to a sports car.

On virtually every track here, one senses the Reids absorbing the power of the beat and the strength of tightly knit, multi-instrumented arrangements, and because most of the songs the brothers write deal with the initial stirrings of various passions (love, parenthood, political

zeal), the impact is truly remarkable. From "I'm Gonna Be (500 Miles)," the first true "love march" these ears have heard since "Waltzing Matilda," and the breathless "Then I Met You" to the frantic "Oh Jean" ("You let me get lucky with you") and the breathtaking, stately title track, the Proclaimers make you believe that kind hearts and righteous spirit can indeed reclaim the world's soul. And that rock 'n' roll can keep us young and innocent forever. *Billy Altman*

JAZZ

MARCUS ROBERTS:

The Truth Is Spoken Here.

○ *Delfeayo Marsalis, prod. Novus 3051-1.* □ ○

There's a type of critic who, having barely listened to a musician's debut, cavalierly dismisses him as immature. Later, if the critic (or another) finds this young creature startlingly good, he pronounces him suddenly matured. The musician may not have changed: The critic merely awoke.

This is not exactly a confession. I have paid attention to pianist Marcus Roberts in his years as sideman to Wynton Marsalis, and I have found him impressive. I was just unprepared for how truly impressive he has become: *The Truth Is Spoken Here*, his debut as leader, is a distinguished recording by almost any standard. One sign that it's also a mature one is the opening number, a charming melody called "The Arrival," which begins with the pattering of Elvin Jones's brushes—he manages to be confidential and thrilling at the same time—and continues with a break by Marsalis. Roberts doesn't even solo first.

When he does, he shows that he's as serious about music as he is about piano-playing. His thoughtful lines are clear, never flashy, and he has extraordinary poise and bounce. The 25-year-old Roberts knows history: His sparkling playing on "Nothin' but the Blues" moves from simple, soulful melodies to an increasingly wide-ranging series of choruses. His model may be Thelonious Monk, but when Roberts plays a solo rendition of "Blue Monk," he goes back to that pianist's own source, James P. Johnson, to enliven the performance. Roberts's other solo turn, Duke Ellington's "Single Petal of a Rose," harks back to Ben Webster's classic take.

The Truth Is Spoken Here includes tenor saxophonist Charlie Rouse's last session work. It also has some of the best Marsalis on record, as well as the constantly invigorating Jones. I admire everything here except the relatively dull title ballad. Roberts's ambition, he says, is to become a master of that "noble, sophisticated instrument," the grand piano. I believe he's on his way. *Michael Ullman*

GUY CLARK: Old Friends.

© *Sugar Hill SH 1025.* (P.O. Box 4040, Duke Station, Durham, N.C. 27706.)

Like announcing the headache remedy of choice—which, after a fashion, Guy Clark is—nine out of ten songwriters swear by this veteran Texas craftsman. Their interests are professional and a tad parochial, but you might consider the endorsement. Clark's first LP in six years, simultaneously relaxed and serious, is chock full of well-wrought songs brought to life by his rich, weary, and intimate baritone (highlighted by an old-friends chorus) and quiet but sophisticated acoustic music. The funny-as-hell talking-ish blues "Doctor Good Doctor," or Townes Van Zandt's "To Live Is to Fly" (with Emmylou Harris up above), or "Come from the Heart" (with the Cash-Crowell Family Singers), is as good as Austin-folk gets. *Jeff Nesin*

TOM HARRELL: Stories.

© *Contemporary C 14043.*

This is Tom Harrell's major-label debut as leader. A trumpeter best known for his work in Phil Woods's quintet, he plays flugelhorn exclusively here, and the instrument is an apt vehicle for the deep romanticism of his concept: Poised, concentrated, with a compact melodic sense, he imparts a feeling of watchful stillness on originals like "The Mountain" and "The Water's Edge." Co-horn Bob Berg's tenor is contrastingly earthy, with the rough edge of the experienced fusioner. Somewhere in between, guest guitarist John Scofield seems as concerned with sound as with line: On "The Water's Edge," his strings grow more plump as his solo progresses. On the surface, this is a workmanlike postbop-shading-into-freedom set, but the distinct personalities of the players—their different ways of responding to the sweetly sad contours of Harrell's compositions—give it a resonant richness.

Richard C. Walls

DIRTY DOZEN BRASS BAND: Voodoo.

© *Columbia FC 45042.*

This perpetually promising Hot Eight's been threatening to muss up the sleeves of their stainless Satchmo suits ever since their good-hit-no-field 1984 debut, and this time they halfway pull it off, mainly by having assorted gumbo-gobbling buddies sit in. But Dr. John's spot in "It's All Over Now" is no match for the Stones or John Anderson or even Molly Hatchet (!), and if inviting Wynton Marsalis's brother to blow some Bird is some kinda cute neo-

con joke, I'm not laughing. Grammy Lifetime Achiever (read "noted washed-up has-been") Dizzy Gillespie fares better, scating almost as silly as Paula Abdul or Axl Rose in the otherwise comatose "Oop Pop a Dah," and the title cut works okay as Lester Bowiesque stepped-on-duck squawkitude. The remainder's your usual dirge-or-dance Bourbon Street backatcha, archival and therefore impotent. At least Henry Threadgill knows that to conjure the Old South this late in the century, ya gotta slash it up some first. *Chuck Eddy*

GEORGE STRAIT: Beyond the Blue Neon.

© *MCA 42266.*

George Strait's high-gloss revisions of Western swing and honky-tonk by now seem conservative in a field replete with new traditionalists, but conservative in country attracts investment, and Strait is as bankable as Lionel Richie. George picks only those songs he knows suit him (lots of tears, but they never mess up that pretty cowboy shirt), and with the best Nashville sessionmen behind him (Johnny Gimble, Floyd Domino), he just can't fail. Although I prefer music with more of an edge, the nostalgic pull of that Texas fiddle and steel guitar keeps luring me onto the dancefloor. *Joe Blum*

THE WASHINGTON SQUARES:

Fair and Square.

© *Gold Castle D1 71319.*

The Washington Squares' concern for social justice recalls that of their '60s mentors Peter, Paul, and Mary, but this folk trio's harmonies sound uncannily like those of the Seekers. So, too, the chirpy "Georgy Girl" melodies of Lauren Agnelli's "Charcoal" and Bruce Jay Paskow's "The Other Side of Sin." Tom Goodkind's freedom-rousing "All Over the World" and "Join Together" contrast with Paskow's sad "Neal Cassady" and the group's fresh arrangement of the chestnut "My True Love and I." A fine second outing from these modern-day beatniks.

Kate Walter

FIRE TOWN: The Good Life.

© *Atlantic 81945-2.*

Ah, lots of punchy, jangly guitar pop—haven't we heard this before? Well, yes and no. Fire Town does appropriate the sound of the dB's and Dreams So Real, but this Wisconsin trio packs some heavy heart-country proverbs into tunes that may seem to be simply popcorn. The upbeat chorus of "The Good Life" is belied

by a chilling portrait of an American dream gone awry. "She Reminds Me of You" turns a compliment on its head to become a cynical plea for release from another stultifying romance. "Miles Away" is an incredibly hummable song of separation. This is the group's second LP, and producer Michael Frondelli's better mix of keys and guitars makes Fire Town a band to be reckoned with. *John Everson*

OLIVER LAKE: Otherside.

© *Gramavision 18-8901-1.*

Alto saxophonist Oliver Lake's non-Jump Up sides are a yearly event that fans of cutting-edge post-Ornette jazz have come to anticipate with pleasure. On his third such effort, Lake continues his exploration of freedom's reach and responsibilities with (on Side 1) a quintet that includes new star Geri Allen on piano and modernist pioneer Andrew Cyrille on drums. While trad genres are duly homaged on "Gano Club" and "Hymn for the Old Year," the centerpiece is "Whitestone," named for Lake's childhood church; its outre construction creates a free-floating otherworldly feel that's more subtly spiritual than a conventional gospel nod might be. Side 2 is a significant changeup, a 19-piece big band featuring hot blowouts and clambering melodies; the highlights here are trumpeter Stanton Davis reaching back to the Elders for sonic tang, and a squealing climactic statement from Lake—both on "Dedicated to Dolphy." Once again, the anticipation has been justified. *Richard C. Walls*

FINE YOUNG CANNIBALS:

The Raw & the Cooked.

© *I.R.S. IRSD 6273.*

Any band cool enough to cover "Suspicious Minds" is, well, cool enough. Waiting three years to release a second album (and copping the title from Levi-Strauss) verges on too cool. But working with Prince vet David Z and minding the Motown maxim "Keep It Simple, Stupid," Fine Young Cannibals once again have pierced the Top 20 with ten tracks of minimalist popcraft at its best. Roland Gift's echoed, urgently attenuated, from-a-rumble-to-a-wail voice continues, astonishingly, to carry the dizzying weight of almost too many important influences. Can chop-shop pastiches of Sam Cooke, Paul Revere and the Raiders, the Supremes, and the Stones drive straight? Can a black man with that white feel make a billion? Looks like it. Cool, indeed. *Jeff Nesin*

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THE QUEST FOR SPEAKERS

(Continued from page 40)

models can sound so different. After all, aren't the design objectives for a "high fidelity" loudspeaker the same everywhere? Not necessarily. Speaker design is a medium of personal expression, like all engineering. Although it has some clearly defined goals—in sound quality or price level—and engages science-derived processes and methods, speaker design is, like all expressions of creativity, a passionate enterprise. It shouldn't be such a shock that designers will pick and choose in a highly personal way among various alternative design approaches.

An outstanding example of such alternative approaches is also a source of fundamental differences in sound quality among different speakers: overall radiation pattern. A speaker can radiate its sound in one of three basic modes: frontally (Fig. 2), from both front and back (Fig. 3), and multidirectionally (Fig. 4). Front-radiating speakers are the most common at the popular price levels; most bookshelf-size speakers are of this type. Bidirectional speakers typically are more expensive units, usually of flat-panel design, and possibly incorporating unusual driver technologies (electrostatic, ribbon, etc.).

There are various degrees of multidirectionality, not merely the donut-shaped pattern shown here, and some models have very specifically shaped radiation patterns in order to enhance some imaging-related effect.

Even with "everything else being equal," speakers having widely disparate radiation patterns simply cannot sound alike in a listening room: The sonic differences between them are absolutely irreconcilable. Each of these radiation patterns directs a different proportion of its energy directly toward the listener and a different amount of energy in other directions in the listening room. The resulting audible differences, beyond any possible alterations in tonal balance, lie principally in sonic perspectives. Front-radiating and some bidirectional units are capable of the tightest possible imaging. Some multidirectional models have less precise imaging but a superior presentation of acoustic space and depth, or maintain their imaging over a wider listening area. If you want to compare models from separate radiation-pattern categories, you'll also have to choose the sonic perspective that is most pleasing (or accurate, or realistic, etc.). See "Ignorance as Bliss," p. 35, for more on radiation patterns.

The choice is less clear-cut when con-

sidering such questions as whether there is such a thing as a "rock speaker" or a "classical speaker," or whether there is a "New England" sound, or a "British" (Olde England?) sound. The answers to any such questions should properly be of no concern to the beginner; learning to listen is far more important than naming sound characteristics, though learning the lingo can be fun.

However, a good loudspeaker should be able to reproduce well (within its limits of low-frequency response and maximum volume level), any music—indeed, any recorded sound—fed to it. By "well," I fall back on a specific interpretation of the term "high fidelity": with great faithfulness to an original sound. Speakers that are said to be good for certain types of music usually alter the original sound quality by having colorations that, although they may be acceptable or attractive at first hearing, may pale with repeated listening to different recordings—especially poorly made ones.

You don't want to buy a speaker you can't live with the next day. Instead, through careful listening and self-education, you should be able to select something you can live with, if not for eons, then at least until you can afford your next pair. □

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(Continued from page 13)

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There. In the grillcloth.
That 1½" diameter hole is actually the woofer
in our full-range, bookshelf-sized AST-1 speakers.

Really. A clean 20,000Hz all the way down to
a window-rattling 28Hz, without an oversized bass
driver or big, clunky
subwoofer to stash
under a couch or
behind a curtain.



*Our AST system comes with two AST
speakers, an AST amplifier, an AST
cartridge, and an additional cartridge
that allows the use of conventional speakers.*



Made possible
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Active Servo Technology.

Our patented AST combines the superior
imaging and point source characteristics of small-
enclosure speakers with the superb bass response
of large-enclosure speakers.

Giving you the largest possible sound in the
smallest possible space.

Explained quite simply, we created a speaker,
amplifier and processing cartridge system that
provides negative impedance drive to help overcome
inherent voice coil resistance, thereby mechanically
damping the cone, so that even a slight vibration
will excite the air in the enclosure, in essence creat-
ing an air-woofer, and...

On second thought, this is perhaps not the
time or place for a full explanation.

The proper time and place is, however, as
soon as you can get to your authorized Yamaha
audio component dealer.

He'll give you a full explanation of the tech-
nology behind our remarkable new AST-1 full-range
bookshelf speakers.

And if you're not sure you'll understand, you
can always rely on two other
remarkable pieces of technology. **YAMAHA**
Your ears.

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11¾" high. 7½" wide. 28Hz deep.



Check Your Speakers For Holes.

If you're looking for great bass, we suggest you look behind your speakers.

For a hole about the size of a Q-ball. Or a tortilla.

Because a speaker that's tuned and "ported" to, say, 30 Hertz, is a full 3 decibels louder in the low frequency range. Which may not sound like much. On paper.

But an increase of 3 decibels is equal to doubling the amplifier power at the tuning frequency (30 Hertz).

And reduces what's known as "cone excursion." Because with the added sensitivity, the woofer requires less cone movement to generate low frequency sounds.

So what you'll hear is clean, loud and, yes, throbbing bass.

Of course, with a vented speaker, there is one thing you'll miss.

Distortion.

Simply, a vented Cerwin-Vega speaker can reproduce more undistorted bass than a comparable "sealed system." Using less input power and thus, putting less stress on the woofer. And your amplifier.

Now remember, this is science, so there's more here

than just drilling holes. optimum bass performance and efficient air movement. Not to mention, the best sound.

All of which means that if your speakers don't have holes, you might want to talk to a Cerwin-Vega dealer.

And get the hole truth.



Now that you know what to look for in a speaker, this is the speaker you should be looking for.

than just drilling holes.

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