

IPS FOR SPEAKER BUYERS

AUGUST 1980 • \$1.25

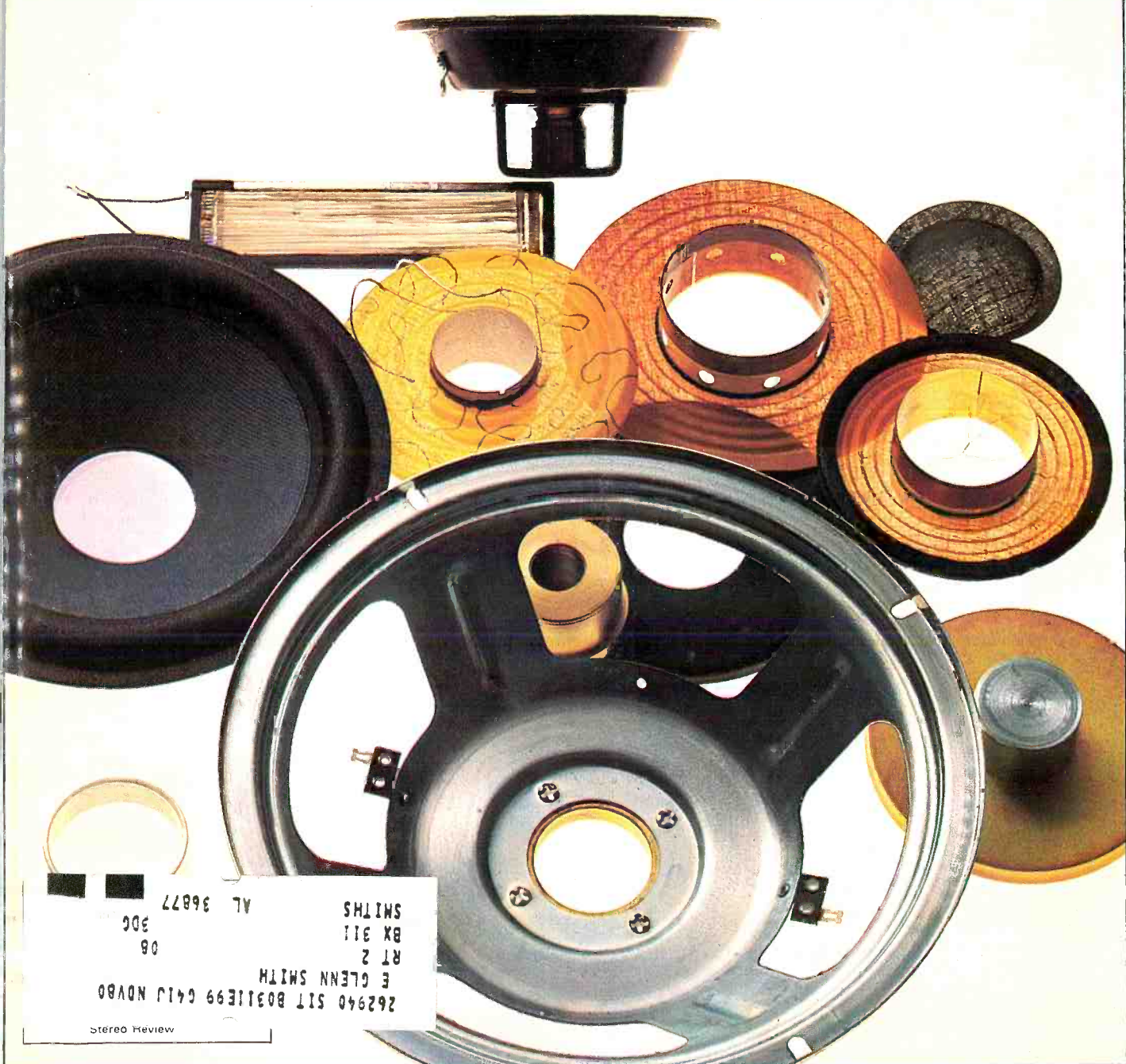
Stereo Review®

WHERE TO put your speakers • HOW TO match speakers and amplifiers

SINGER JERRY REED: one of the better of the good ol' boys

EQUIPMENT TEST REPORTS: Audio Pulse Model 1000 Time Delay
Mitsubishi DA-R20 Stereo Receiver • Nakamichi 680ZX Cassette Deck
Nikko Alpha VI Power Amplifier • Pioneer PL-400 Turntable

• SPECIAL SPEAKER ISSUE •



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Stereo Review



AND SO IS THE FIGHT ABOUT TUNERS.

At one time the struggle between amplifiers was won by the amp that had the most muscle. And the tuner that brought in the most stations also brought in the most acclaim.

Today, there's one series of amplifiers whose technology has put it in a class by itself. And now, with Pioneer's new TX 9800 tuner it's met its match.

While other tuners offer features that just sound great, every feature in Pioneer's TX 9800 helps to produce great sound.

Unlike ordinary tuners that are content with ordinary circuitry, the TX 9800 has a new Quadrature Discriminator Transformer that works with Pioneer's exclusive PA 3001-A integrated circuit to reduce distortion to 0.05% at 1 KHz and raise the signal-to-noise ratio to 83 dB. Whew!

Many of today's tuners use sophisticated low pass filters to remove the 19 KHz pilot signal that's present in every stereo broadcast. But while they're effective in removing the pilot signal, they're also effective in removing some of the music.

The TX 9800 has Automatic Pilot Canceling Circuitry that makes sure every part of the music is heard all of the time. And that distortion is veritably unheard of.

The crowning achievement of most tuners today is the sensitivity of their front end. And though it's much to their credit to bring in weak stations, it means nothing unless they can do it without spurious noise or other interference.

The TX 9800's front end has three dual gate MOSFET's that work with our five gang variable capacitor to give you an FM sensitivity of 8.8 dBf. And also make sure that your favorite music is not disturbed by what's playing elsewhere on the dial.



SIGNAL STRENGTH AND CENTER TUNING METERS FOR A DRIFT-FREE PERFORMANCE.



INSTANTANEOUS FLUROSCAN METERING THAT LETS YOU WATCH EVERY PERFORMANCE WHILE YOU HEAR IT.

And while most tuners today give you one band width for all FM stations, the TX 9800 gives you two. For both AM and FM. A wide band that lets you bring in strong stations loud and clear. And a narrow one that finds even the weakest station on a crowded dial and brings it in without any interference.

All told, these scientific innovations sound mighty impressive. But they wouldn't sound like much without an even more impressive tuning system.

The TX 9800 has a specially designed Quartz Sampling Lock Tuning System, that fortunately, is a lot easier to operate than pronounce.

Simply rotate the tuning dial to your desired station. When the station is tuned exactly right a "tune" light comes on. By releasing the tuning dial you automatically lock onto that broadcast. And automatically eliminate FM drift.

By now, it must be obvious that the same thinking that went into Pioneer's new amplifiers has also gone into their new line of tuners.

So just as Pioneer ended the class struggle between amps, they won the fight between tuners. With a technical knockout.

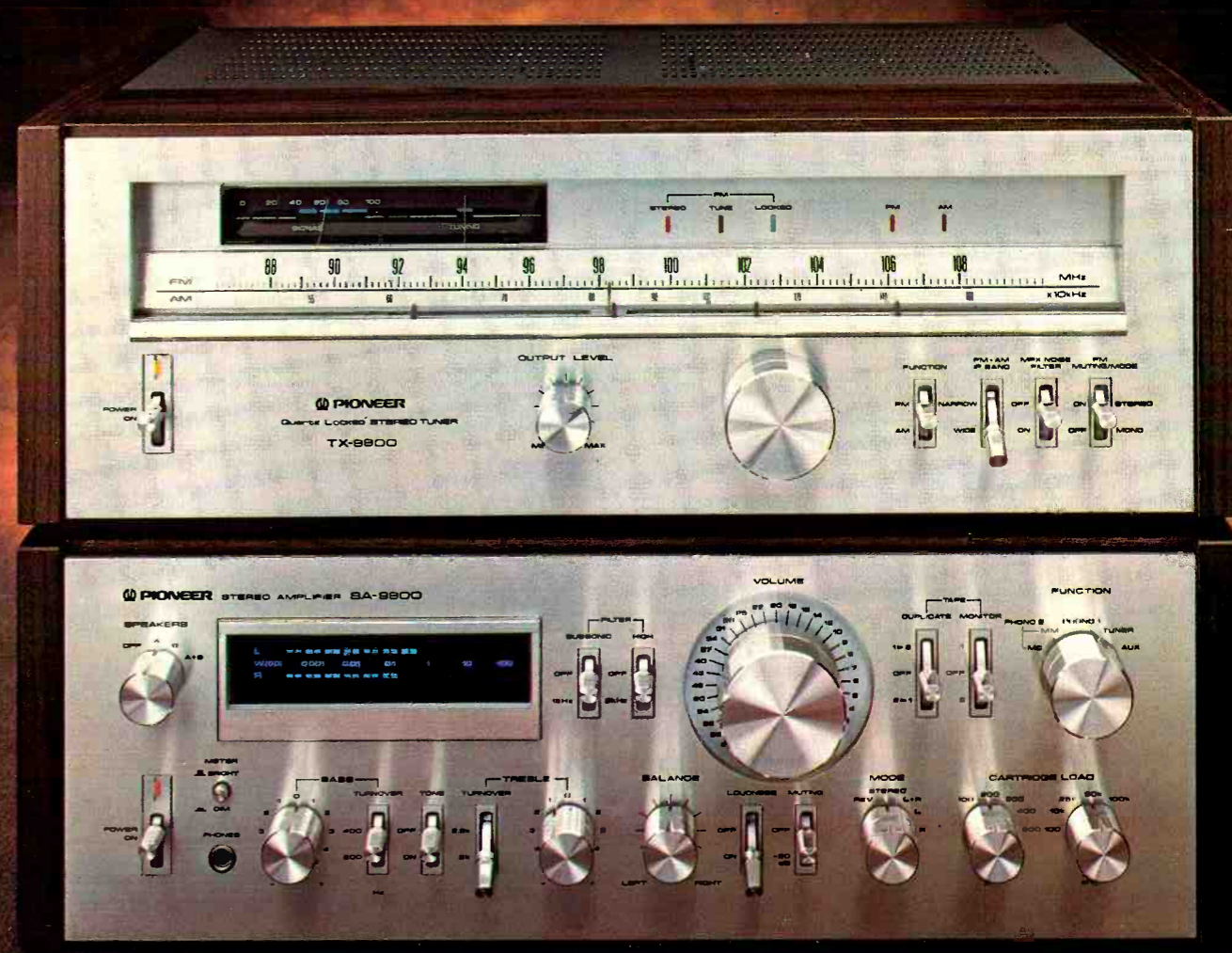
PIONEER

We bring it back alive.

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High Fidelity Components,

85 Oxford Drive, Moonachie, N.J. 07074.



THE STRUGGLE BETWEEN THE CLASSES IS OVER.

For years people have clashed over which amplifiers are best. Class A or Class B.

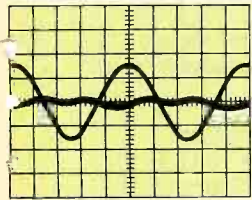
Expensive Non-switching Class A amplifiers are known to offer the lowest levels of distortion. At the same time, they also offer the highest operating temperatures.

And while Switching Class B amplifiers increase efficiency, they also increase distortion.

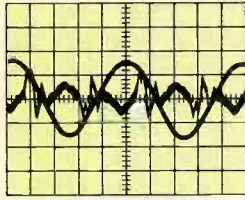
So if you're not paying through the nose for a heat-producing Class A amplifier, you'll be paying through the ear for a distortion-producing Class B.

At Pioneer, we believe most of today's Class A and Class B amplifiers are pretty much in the same class. The class below Pioneer's SA 9800.

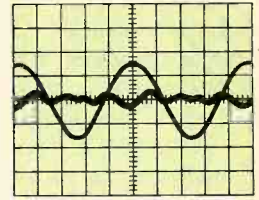
Pioneer's Non-switching SA 9800 offers the efficiency found in the finest Class B amplifiers. With a distortion level found in



CLASS A AMPLIFIER.
LEAST DISTORTION
BUT MOST HEAT.



CLASS B AMPLIFIER.
MOST DISTORTION
BUT LESS HEAT.



SA 9800.
LESS DISTORTION, LESS
HEAT, AND MORE POWER.

the finest Class A. An unheard of 0.005% at 10-20,000 hertz.

And while you're certain to find conventional power transistors in most conventional amplifiers, you won't find them in the SA 9800. You'll find specially developed RET (Ring Emitter Transistors) transistors that greatly increase frequency response. So instead of getting distortion at high frequencies, you get clean clear sound. Nothing more. Nothing less.

Instead of slow-to-react VU meters that give you average readings or more sophisticated LED's that give you limited resolution, the SA 9800 offers a Fluorocan metering system that is so fast and so precise it instantaneously follows every peak in the power to make sure you're never bothered by overload or clipping distortion.

And while most amplifiers try to impress you with all the things they do, the SA 9800 can even impress you with the one thing it simply doesn't do. It doesn't add anything to the sound it reproduces. An impressive 110dB S/N ratio is proof of it.

While these features alone are enough to outclass most popular amplifiers, the SA 9800 also offers features like DC phono and equalizer sections and DC flat and power amps that eliminate phase and transient distortion. Cartridge load selectors that let you get the most out of every cartridge. And independent left and right channel power supplies.

Obviously, it took revolutionary technology to build the SA 9800. But the same technology and skillful engineering that went into the SA 9800 also goes into every amplifier in Pioneer's new series.

At Pioneer, we're certain that others will soon be entering the class of 9800. And though they all may be built along similar lines, in terms of value Pioneer will always be in a class by itself.

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We bring it back alive.

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Five Important Reasons Why You Should Own This New 10-Band Equalizer.

1. Matches your system to any room.

Some rooms are acoustically "dead" due to thick carpeting and tons of overstuffed furniture. Some are acoustically "live" because of tile floors and hardwood paneling. Either environment will murder your music by altering the sound you hear by 6 decibels or more. Ordinary **broad-band** bass and treble controls can't compensate for these imbalances because they alter far too much of the audio spectrum. But the Realistic wide-range equalizer, with 10 **narrow bands** and 10 controls for each channel, gives you total command from 31 to 16,000 Hz. You can add to or subtract from the music by up to 12 dB for a complete, creative control range of 24 dB.

2. Improves records, tapes, FM.

Remove annoying record scratches from old LPs and 78s without remov-

ing the music. Just reduce the audio level at 8 and 16 kHz. Rumble is eliminated with the 31 and 62 Hz controls but the bass remains intact. Substandard audio from careless radio stations can be cleaned up by a little re-equalization on your part.

3. Improves your speakers.

Moving a speaker just 6" out from a wall can degrade bass response by 8 to 10 dB. But sometimes you have to. This equalizer restores the lost performance. And you can enhance the sound of the best speakers even

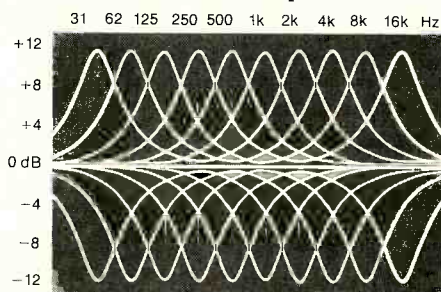
when they're perfectly placed. Electronic equalization is the only way you can extend the response of a speaker.

4. Makes you a recording pro.

Now you can record professional-sounding tapes without professionally priced equipment. Using a 3-head deck, you can monitor off the tape and adjust the equalizer for the results you want.

5. Low priced.

Lower than any 10-band design of comparable features and quality that we know of. Yet it adds value, versatility and enjoyment to your stereo system, no matter what you paid for it! Can you afford **not** to own it? Come in and let us demonstrate a little "audio magic".

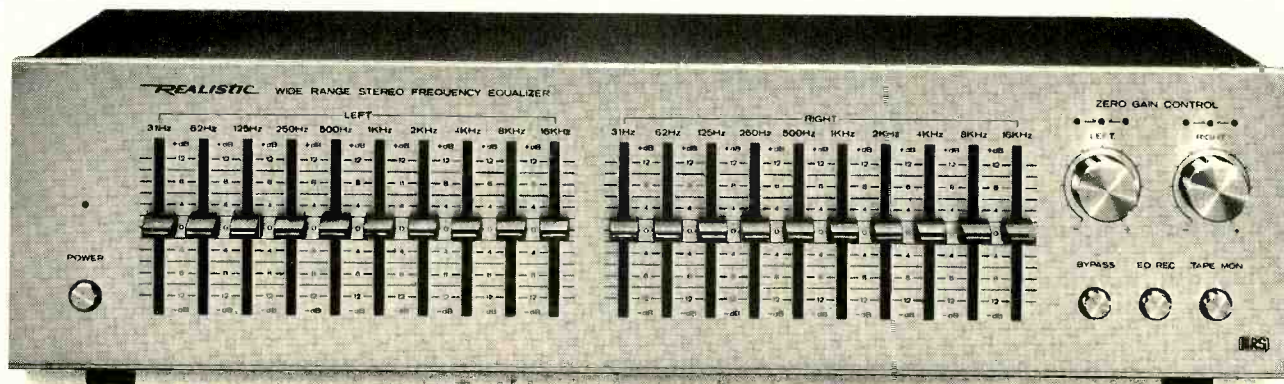


Graphic display of maximum boost and cut action

Bands: 31, 62, 125, 250, 500, 1000, 2000, 4000, 8000 and 16,000 Hz. Frequency Response: 5 to 50,000 Hz. Tone Control Range: ± 12 dB. THD: .02%, 20-20,000 Hz.

Dynamic Range: Up to 10 volts RMS, flat setting. Total Gain: 0 dB, flat setting. Electrical: 120VAC, 15 watts. U.L. listed. Size: 4 $\frac{1}{2}$ "x16 $\frac{1}{2}$ "x10 $\frac{1}{4}$ "

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The Discwasher SC-2 System. Stylus care you can finger as clearly superior.

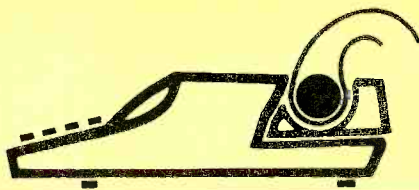


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CIRCLE NO. 13 ON READER SERVICE CARD



Edited by William Livingstone

• \$100,000 IN REWARDS WILL BE PAID by Warner Bros. for information that leads to the arrest and conviction of anyone involved in counterfeiting, bootlegging, or pirating phonograph records or prerecorded tapes. When a conviction is obtained, a panel will determine the amount of the individual reward to be drawn from the fund. Write Anti-Counterfeiting Project, Warner Communications, Inc., 75 Rockefeller Plaza, New York, N.Y. 10019. Offer expires May 1, 1981.

• THE FOURTH ANNUAL SONGWRITER EXPO will be held August 15-17 at Beverly Hills High School, Beverly Hills, California. In classes and workshops, songwriting will be treated as an art, a craft, and a business. Write to Songwriter Expo, 943 North Palm Ave., West Hollywood, Calif. 90069, or call (213) 655-7780 for information.

• ZZ TOP TOUR MAY GO TO OUTER SPACE. The Texas trio, now playing stadiums in the United States, claims greater ticket sales than the current tours of Fleetwood Mac and the Eagles. The sale of this tour's millionth ticket is expected momentarily. ZZ Top has offered its services to NASA--not as an intergalactic strike force, but to perform as the "lounge group" on the first Space Shuttle Cruise, playing such numbers as Stardust and How High the Moon. NASA has put ZZ on hold and says "perhaps in 1981."

• "JAZZ ALIVE," a show in its fourth season on National Public Radio, will continue throughout the summer. Its programs this month include three live specials from the Chicago Jazz Festival on August 29, 30, and 31. Participating artists include Dizzy Gillespie, Stan Getz, Jay McShann, and the Earl Hines Big Band with Bud Johnson. Check local NPR stations.

• CABLE TV VIA SATELLITE is now five years old. Earth stations receiving cable-TV programming have increased from two in 1975 to about 2,500 now. Cable by Satellite--the First Five Years, a brochure prepared to mark the

fifth anniversary of the first CATV satellite transmission, is available free from the Public Affairs Office, RCA Americom, 400 College Road East, Princeton, N.J. 08540.

• GOTTU GO VIDEO! Joseph A. Cohen, V.P. of the National Association of Recording Merchandisers, said at a NARM convention this year: "We are not in the music business, but in the entertainment business. We must compete for a consumer's leisure-time dollars and his time, and video is a key in that campaign. In a few years a record store will be a total entertainment center."

• THE KINKS MADE VIDEO HISTORY with "One for the Road," claimed to be the first concert recorded and released simultaneously on a record album and videocassette. Now in stores, the Arista album lists for \$12.98. In either VHS or Beta format, the videocassette can be bought in stores or ordered from Time Life Video, Harrisburg, Pa. 17105. Price: \$39.95 plus \$2 for shipping. The cassette is said to contain some rare footage of the Kinks early in their career.

• ACCOLADES. The 1980 Pulitzer Prize in music was awarded to the composer David del Tredici. Honorary doctor's degrees were given to opera singer Rosa Ponselle by the University of Maryland, to flutist James Galway and singer Mabel Mercer by the New England Conservatory of Music, and to jazz percussionist Buddy Rich and composer John Williams (Star Wars, Superman, The Empire Strikes Back, etc.) by the Berklee College of Music.

• CONSUMER ALERT: The New Wave rock band Stereo Review, which has played such classy venues in New York as the Ritz and the Squat Theater, includes neither Paulette Weiss nor Steve Simels in its personnel and has no connection at all with this magazine. The West Coast operatic tenor William Livingston is not to be confused with William Livingstone, the bass-baritone who edits this column.

Speaking of Music...

By William Anderson



CITIZEN'S BANTER

WAY back when I was too young to be told what sociology was, I remember being impressed by someone's observing that if it weren't for the movies most Americans would have no manners at all. Thanks to Hollywood, the movie theater was a kind of twilight finishing school where a nation of rubes learned how to dress, how to order a meal in a restaurant (and how, indeed, to eat it), how to tip hats (and when to doff them), to open doors for ladies—and even to hail a taxi. If movies are still performing that tutelary function today, I haven't noticed; I suspect, rather, that what manners we have left are being inculcated by TV, which perhaps explains somewhat the decline in the art of conversation, the practical disappearance of anything like sartorial elegance, and the younger generation's odd

preference for sitting on the floor, back against the wall, in a room quite likely filled with perfectly good chairs and sofas.

If TV is indeed at the root of these changes, then pop sociologists ought to be paying closer attention to what is going on there, trying to figure out what effect it will have on the nation's deportment in decades to come. For while they and their Sixties-bound constituents have been mesmerized by disco and by rock's barococo death throes, the Next Big Thing in music has been moving smoothly into position before mike and camera; it is called Country.

The now-spent *Glen Campbell Hour* was perhaps the harbinger, though hardy *Hee Haw* deserves some credit, as do any number of artists who have broadcast country-oriented specials over the years (Anne Mur-

ray, Mac Davis, and John Denver among them, with George Burns in Nashville imminent). What really tore the rag off the bush, however, was the surprise success of the good-ol'-boy sitcoms *The Adventures of Sheriff Lobo* and *The Dukes of Hazzard*; the capper is the fact that there are now three country-music award shows broadcast on nationwide TV each year.

The import of this shift in the national orientation has certainly not been lost on Hollywood. In the last year or so there has been a manic rush to get Country onto Celluloid: not one *Smokey and the Bandit* but two; *Electric Cowboy*, *Urban Cowboy*, and *Bronco Billy* (well, yes, just a bit more Western than Country); and *The Best Little Whorehouse in Texas* (D. Parton sings) and *Nine to Five* (D. Parton acts) yet to come. There's even a plan to resurrect the Mercer-DePaul *Li'l Abner* (they've already found the perfect Li'l Abner, but, though they were bustin' to get her, D. Parton is unavailable for Daisy Mae). Casting for these country/western pieces has been slightly unorthodox (John Travolta?!), but the music was no problem: Dolly Parton, Kenny Rogers, Jerry Reed, Willie Nelson, Merle Haggard, and others of the crossover persuasion were only too eager to oblige.

What does it all mean? Probably that European visitors in the Nineties will be sending home postcards describing life in these United States as one long demolition derby featuring apoplectic sheriffs in pursuit of half-dressed young scofflaws speaking a fervidly metaphorical language called Citizen's Banter. Pictured on the front will be a typical native pair: Burt "Gator" Reynolds and Polly "Kiss My Grits" Holliday. In short, nothing to get upset about. Aren't you, too, bored to the hip pockets with "designer jeans," in the mood for some old-fashioned Levis and a little pickin' music to suit? Welcome to Country, y'all. □

Stereo Review

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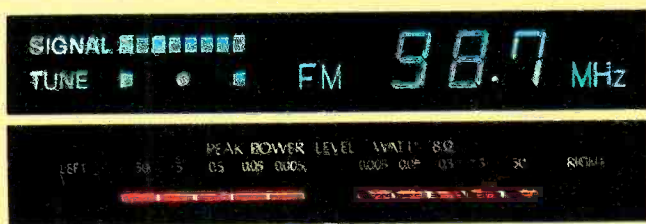
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Digital readouts and digital circuitry. Great specs. And the best price/performance ratio in the business. All the right numbers. That's the Sansui G-4700. Just look what we offer:

Double-Digital Design: The front panel of the G-4700 has a bright electronic digital readout that shows the frequency of the station you've selected; and behind the front panel is one of the most advanced tuning systems in the world.



Sansui's patented Digitally Quartz-Locked Circuit uses a precise quartz crystal time base to keep your station locked in, even through many hours of listening or if you turn the receiver off and back on again.

Conventional quartz-controlled receivers use analog phase comparison circuits that can become inaccurate because of harmonic interference. Our system uses a new LSIC (Large Scale Integrated Circuit) digital processor that actually counts the vibrations of the quartz crystal to compare to the tuned frequency. The frequency is perfectly locked in the instant you find the station you want.

With this unique Digitally Quartz-Locked system, the G-4700 delivers high sensitivity (15dBf, mono); a better signal-to-noise ratio (75dB, mono);

and a better spurious rejection ratio (70dB).

DC power amplifier: Power is ample for almost any speaker made, with 50 watts per channel, min. RMS, both channels driven into 8 ohms from 20 to 20,000Hz with no more than 0.05% THD.

And the wide bandwidth DC power amp circuit responds quickly to transient music signals for the most accurate and pleasing music reproduction. What you hear is clean and sharp, just the way it was recorded.

Electronic LED power meters: Don't worry if your present speakers can't handle 50 watts. The array of fast-acting LED's (Light Emitting Diodes) on the Sansui G-4700 lets you monitor and control the output level so you don't damage your speakers.

Electronic tuning meters: Two fluorescent readouts help to zero-in on each station with accuracy and ease. Both the signal strength and center-tune indicators operate digitally for precise station selection, and the nearby LED verifies that the quartz circuit has locked in your station.

Superb human engineering: A full complement of genuinely useful knobs, switches and jacks gives you complete control over what you hear and how you hear it.

Ask your authorized Sansui dealer to demonstrate the G-4700. Listen to the music. You'll love what you hear. Look at the numbers. You'll love what you see.

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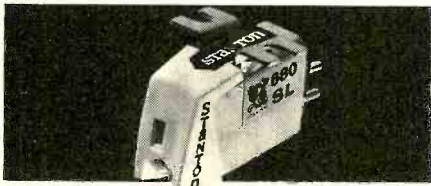
Three great reasons why a recent survey published by Billboard Magazine reveals that for the third year in a row Stanton has increased its share of the Disco phonograph cartridge market. The Stanton share has grown to an impressive 55.8%... a full 24 percentage points more than its nearest competitor.



The 500AL... great sound without sacrificing performance quality.



The 680EL... for professional disco operators.



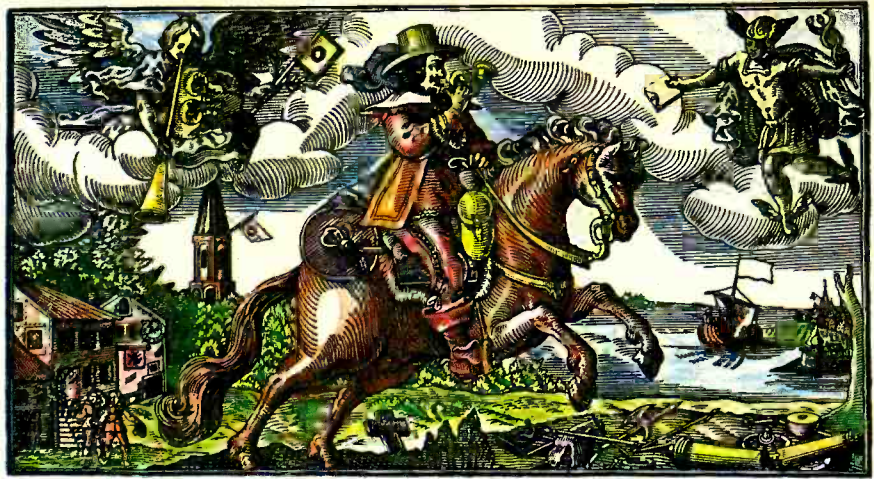
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CIRCLE NO. 41 ON READER SERVICE CARD



LETTERS TO THE EDITOR

Billy Joel

● It wasn't so long ago (1974) that Billy Joel's "Piano Man" was a STEREO REVIEW "Record of the Year." That album's *La-Di-Da-Di-Da* was good—real good—and a great start for an artist. Since then, Joel has shown that his initial brilliance was more than a flash in the pan. "Glass Houses" demonstrates his unsettling imagination and freshness. He is always covering new ground, and the performance is excellent. Peter Reilly's June "Best of the Month" review of "Glass Houses" was well deserved. Joel's music need not conform or be classified; it can stand alone. And as far as the future is concerned, Mr. Reilly could be on the right track: "Broadway Joel" is kind of catchy.

RON BONINA
Greenville, Pa.

Fidelio / Leonore

● Both the title, *Leonore*, of the Arabesque recording of the original *Fidelio* and Eric Salzman's May review of the release may leave the impression that Beethoven's opera was first given as *Leonore*. It was not. Beethoven would have preferred that title, but the directors of the Theater an der Wien, out of deference to Paër, who had composed an opera on the same subject with the *Leonore* title, decided on *Fidelio*. I quote from the review of the première in the *Allgemeine Musikalische Zeitung* of January 8, 1806: "The most notable musical event of the previous month [November] was the long awaited Beethoven opera, *Fidelio* . . ."

HENRY PLEASANTS
London, England

Mary O'Hara

● In his June review of "Mary O'Hara's Ireland," Paul Kresh lamented her decision to give up her singing for religious orders. Perhaps it would put his mind at rest to learn that Mary O'Hara returned to music with a televised concert at London's Royal Festival Hall on November 5, 1977. There

is a live recording (Chrysalis CHR 1159), and although the program is dominated by contemporary material and arrangements, the album shows that her voice didn't suffer much from twelve years of cloistered seclusion. I can only assume (and hope) that her career has gone on from there and that somewhere her harp and her crystalline singing are entrancing audiences, folk songs or no.

MARK FOWLER
Houston, Tex.

● Paul Kresh may not know that Mary O'Hara has "returned her gift of song to the world," but people who were at her Carnegie Hall concerts last winter do. Another album from her early period (she now works, alas, with a back-up combo and does such stuff as *Scarlet Ribbons*) is still available on Everest, "Traditional Irish Folk Songs" (Archive of Folk Music 344). anyhow, the back of me hand to Mr. Kresh.

RICHARD A. DUBIN
Scarsdale, N.Y.

Defective Records

● My advice to Joseph Desy, who proclaimed in his May letter that one should not smile at the record dealer ("you're miffed, right?") when returning a defective album, is "Give us a break." A simpleton could figure out that defective records are not even remotely the retailer's fault.

Everyone knows that the average sound quality of LPs in this country, at this time, is poor, but what is "defective" is relative to the listener and to the equipment on which the record is played. A disc that's "fuzzy sounding" played on a very fine system might not be so played on a cheap one, and that's exactly how the manufacturers get away with putting out shoddy merchandise. They bank on it that the copies stamped from worn masters will go mostly to people who own cheap stereo systems or who are not critical listeners.

I certainly agree that if you get a bad album you should take it back. If your record dealer gives you any trouble about it, get a new record dealer. (At our store the policy (Continued on page 10)

CAN YOU FIND OUR NEW SUBWOOFER IN THIS PICTURE?

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is to exchange a defective album as often as necessary, with no questions, until the customer gets a copy that is satisfactory to him.) But don't get all fired up at the retailers; save your anger for the major labels, the companies that actually make 80 per cent of the records.

DON FREEMAN
Manager, Kaleidoscope North
Springfield, Mo.

Puccini's Piety

For Eric Salzman to claim, in his May review of Joan Sutherland's recording of *Suor Angelica*, that Puccini didn't believe

in the "claptrap" he wrote music for is simply not to understand the man or his music. Puccini never wrote to a libretto in which he did not believe. For this opera, he relied heavily on advice given him by his sister Iginia, who as Sister Maria Enrichetta was Mother Superior of a convent in Vicopelago, near Lucca; he could never have insulted her by writing "claptrap." I suggest that Puccini believed in his opera very much, that it was his atonement or penance for the irregularities of his own life.

Moreover, to speak, as Mr. Salzman does, of a "paucity" of recordings of *Suor Angelica* is simply to ignore the facts. I have four complete recordings of it, and I am sure there are others; this is as good as,

or much better than, the record companies have done with Puccini's *Fanciulla del West*, *Il Tabarro*, *Edgar*, *Gianni Schicchi*, *La Rondine*, *Le Ville*, and maybe even *Manon Lescaut*. Besides, I have recordings of the principal aria by Rosa Ponselle, Victoria de los Angeles, Mirella Freni, Maria Callas, Virginia Zeani, Montserrat Caballé, Renata Scotto, and Licia Albanese. Is this paucity?

RALPH NATHANSON
Oakland, Calif.

Eric Salzman replies: If Mr. Nathanson really believes that Puccini wrote Suor Angelica as an atonement for his sins, then I think he should go on believing it. I agree that "paucity" was perhaps the wrong word; there are two other recent recordings in the catalog plus an old Tebaldi one.



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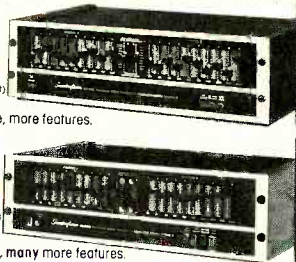
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Audio Education

In his May "Audio Basics" column on audio education, Robert Greene observed that "... one can't (yet) go to college for a degree specifically in recording engineering. . . ." I would like to point out to readers that Berklee College of Music, a fully accredited four-year college long known as a bastion of jazz education, has recently expanded its major-field offerings for the Bachelor of Music degree to include audio recording. A catalog and further information may be obtained from the Office of Admissions, Berklee College of Music, 1140 Boylston Street, Boston, Mass. 02215.

WILLIAM J. MALOOF
Chairman, Composition Dept.
Berklee College of Music
Boston, Mass.

Robert Greene replies: To Mr. Maloof and to others who wrote, the point of the original statement was not that education was unavailable but that a degree in recording engineering as such is not yet available.

Rupert Holmes

For several months I've been reading in various leading publications of Rupert Holmes' songwriting genius, as in Rick Mitz's April review of Holmes' "Partners in Crime" album. But now that Holmes is being nationally recognized as a fine performer/songwriter and everyone is recalling his past accomplishments, why is it that no mention is made of what is probably his most famous early song, *Timothy*? Although the song was recorded by a Wilkes-Barre, Pennsylvania, group called the Buoy and was not generally ascribed to Rupert Holmes at the time, ten years later is not too late for him to take his bows.

DALE STROUPHAUER
Okinawa, Japan

Correction

The "New Products" item on Radio Shack's Optimus T-70 speaker system in the May issue incorrectly stated the frequency-response specification. This specification should have read "55 to 20,000 Hz ± 3 dB," not " ± 8 dB."

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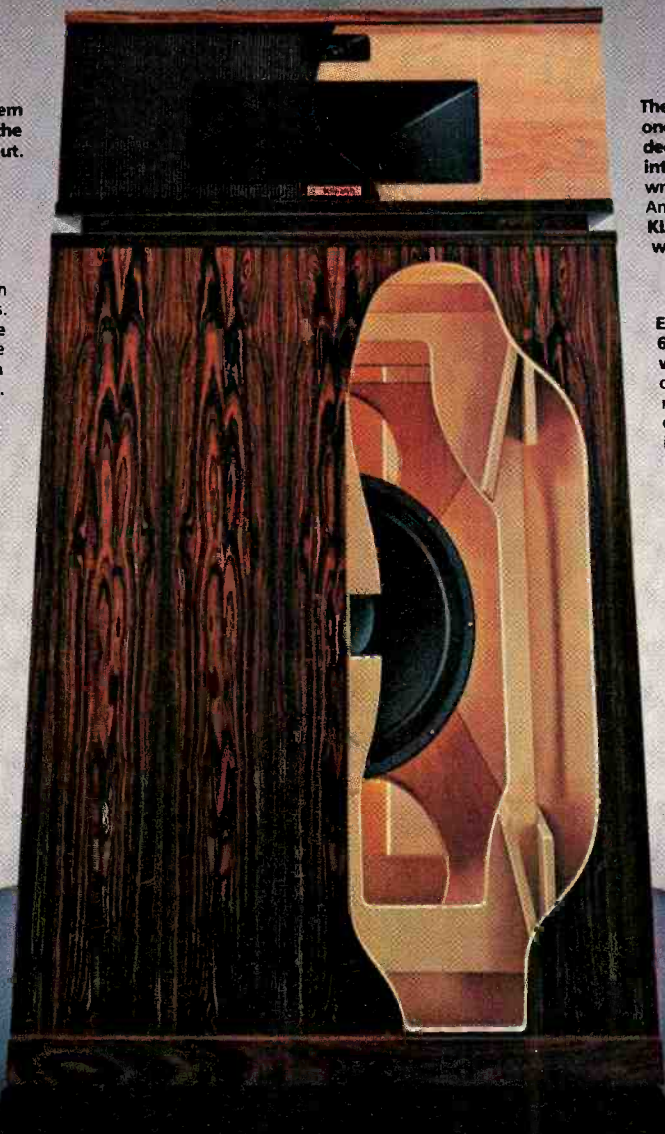
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SR

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Parts Two and Three.



TDK's philosophy of constant improvement has brought you the most advanced tape formulation on the market. Yet, the best tape in the world is only as good as the highly complex transport system that guides it past the heads of your deck. So the next parts of our story begin where the tape starts. *Part Two*, the special TDK hub/clamp

assembly. And *Part Three*, the leader. TDK discovered that if a hub/clamp isn't perfectly round, the tape gets wrinkled at regular intervals, leading to crinkling and uneven winding.

These become problems you can hear. Like wow and flutter, poor head contact, loss of highs and actual dropouts in the music.

These imperfections are exaggerated by second-rate clamps. Some manufacturers jam a pin into a notch to secure the tape. The result is a dip that's passed on through successive tape layers. A hub/clamp assembly off by as little as the thickness of this paper can multiply problems in a dozen layers of tape.

TDK uses computer-designed molding equipment and the very best materials to produce a unique

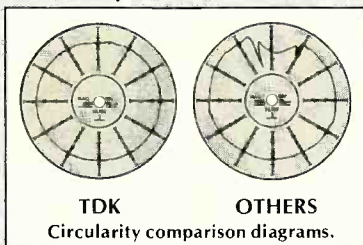
45° "W" double clamp with a special double purpose. The inner surface secures the leader flawlessly to the hub. The outer clamp section completes the circle, which is then checked for roughness and circularity on a machine that enlarges 100 to 10,000 times. As a result winding is always precise. Tape is off to a

smooth start. The colored clamp acts as a moving tape indicator. You'll see tape direction and running stability at a glance.

The high-visibility TDK leader also has a dual purpose. It's matched perfectly to the tape and precisely spliced with a strong adhesive. Its special design protects the tape from stress and doubles as a head cleaner. TDK leader actually cleans recorder heads in a single pass without causing wear. The special timing

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**3D Acoustics'
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□ A new loudspeaker system from 3D Acoustics consists of a pair of smallish satellite units, one for each stereo channel, and a single woofer unit. Each of the satellites contains a 6-inch driver and a 1-inch cloth-dome tweeter along with the appropriate crossover network. The woofer unit contains a 10-inch driver that handles both channels simultaneously through two independent crossover networks. At a nominal impedance of 8 ohms for the system, frequency response is 32 to 20,000 Hz, with crossovers at 100 and 2,000 Hz. Minimum and maximum recommended power-handling figures are, respectively, 30 and 150 watts per channel. The satellites are acoustic-suspension enclosures; the woofer cabinet is a resistively loaded tuned-port arrangement. The finish is oiled-walnut veneer. The satellites measure 14 x 7 $\frac{1}{4}$ x 8 $\frac{1}{2}$ inches and weigh 15 pounds each; the woofer is 24 x 13 $\frac{3}{4}$ x 16 inches and weighs 44 pounds. Price: \$400 (West Coast, \$450). 3D Acoustics, Dept. SR, 5 Sunrise Plaza, Valley Stream, N.Y. 11581.

Circle 120 on reader service card



**Soundcraftsmen's
Signal-processor
Preamplifier**

□ The Model SP4000 preamplifier from Soundcraftsmen incorporates three external

processing loops (one accessible from the front panel), a subsonic filter, switching for two tape decks, two separate phono preamps, and tuner- and auxiliary-input switching. The switching also allows recording and monitoring of a processed signal. There are no tone controls. The volume control is a stepped potentiometer. Two headphone outputs are driven by separate headphone amplifiers for headphones having from 8 to 2,000 ohms in impedance. Phono-preamp frequency response is given as 20 to 20,000 Hz \pm 0.5 dB; total harmonic distortion (THD) is less than 0.01 per cent. Specifications for the high-level section of the SP4000 include a 109-dB signal-to-noise ratio, THD of less than 0.007 per cent, typical intermodulation distortion of 0.002 per cent, and a frequency response of 5 to 50 kHz \pm 0.25 dB. Dimensions are 5 $\frac{1}{4}$ x 19 x 11 $\frac{1}{4}$ inches. Price: \$399.

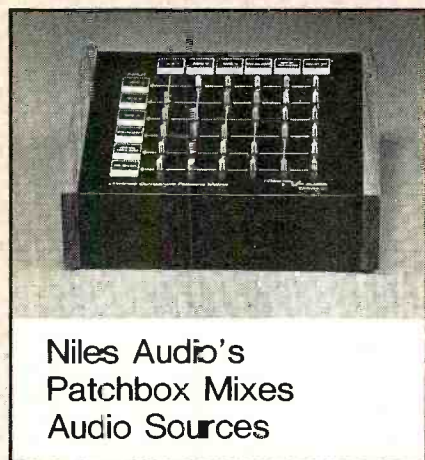
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**Audio Furniture
From Mariani**

□ The Mariani Carini Model 6302 cabinet provides 56 $\frac{3}{4}$ inches of internal vertical storage with space for a complete audio component system and up to two hundred records. The 6302 comes with tempered safety-glass doors, chrome fixtures, magnetic latches, and a fine-grain oak finish. The top shelf is 62 $\frac{3}{4}$ inches from the floor and measures 24 x 19 inches. Internal shelves are 22 $\frac{1}{4}$ x 16 $\frac{7}{8}$ inches. Price for the ready-to-assemble unit: \$379. Mariani Audio Furniture, Dept. SR, 6859 Lemongrass Loop, S.E., Salem, Ore. 97302.

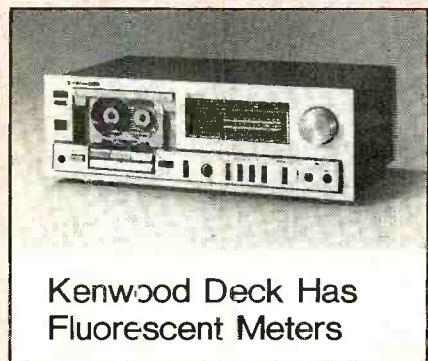
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**Niles Audio's
Patchbox Mixes
Audio Sources**

□ The Niles Audio CPM-31 component-patching matrix contains switching to connect a receiver or preamplifier with up to five other components. It connects to the tape-monitor loop of a receiver or preamp while all other line-level system components connect to the CPM-31. By pressing buttons on the unit, each component can be connected to one or more different components. Internal networks insert 3,300-ohm resistors in each component's output lines to permit passive mixing. Switch contacts are silver-plated and are mounted on a printed-circuit board. The CPM-31 weighs 5 pounds and measures 10 $\frac{1}{8}$ x 8 $\frac{3}{4}$ x 4 $\frac{1}{16}$ inches sloping to 2 $\frac{7}{8}$ inches. Price: \$199.95. Niles Audio Corp., Dept. SR, P.O. Box 160818, Miami, Fla. 33116.

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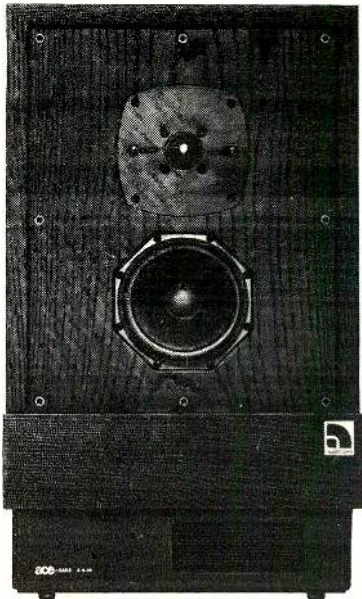


**Kenwood Deck Has
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□ The Kenwood KX-500 uses fluorescent peak-reading meters and has a transport controlled by "soft touch" pushbuttons. The drive system uses a dual-belt configuration. Wow and flutter is given as 0.05 per cent weighted rms. A four-position tape switch selects normal, FeCr, CrO₂, and metal-tape bias and equalization settings. A bias-adjust control optimizes the setting for each tape type. Frequency response is stated as 30 to 16,000 Hz with a signal-to-noise ratio of 64 dB. Other features include a recording-mute switch, pause control, timer-standby

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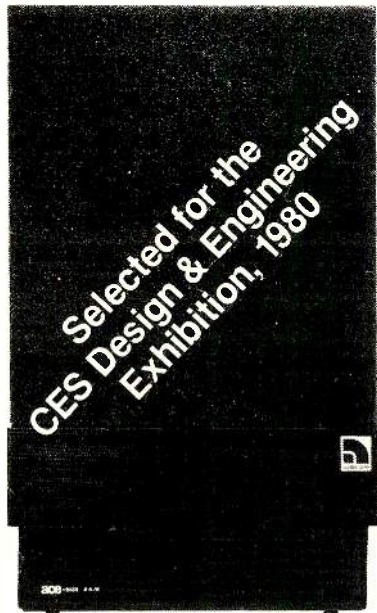
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Philips' New
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At the head of a new line of three air-suspension loudspeaker systems from Philips is the three-way AH477. Its complement of drivers consists of a 12-inch woofer, 2-inch dome midrange, and 1-inch dome tweeter. Crossover points are at 1,500 and 5,500 Hz; midrange and tweeter controls are mounted on the front and accessible with or without the removable black grille in place. The AH477 is capable of handling 80 watts rms, and its frequency response is 32 to 20,000 Hz. Finished in an oiled-walnut veneer, it measures approximately 27 $\frac{3}{4}$ x 15 $\frac{1}{2}$ x 14 $\frac{1}{4}$ inches. Price: \$319.95.

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The O1 series of SAE power amplifiers has been specifically designed to handle complex speaker loads and the complex asymmetrical waveforms of music. Units in the O1 series are said to be able to drive 8-ohm loads with a maximum of 0.026 per cent THD from 20 to 20,000 Hz. Typically, the 100-watt-per-channel 2201 will have a

current-change capability of 24 amperes per microsecond. The 175-watt Model 2301 and the 250-watt Model 2401 (shown) each have current-swing specifications of 20 amperes per microsecond. These figures are said to indicate the ability of the units to handle the full current and voltage swings required by musical material into the lowest or most reactive of loads. Each amplifier is rack-mountable and has a LED output-level display. Prices: Model 2401, \$950; 2301, \$750; 2201, \$550.

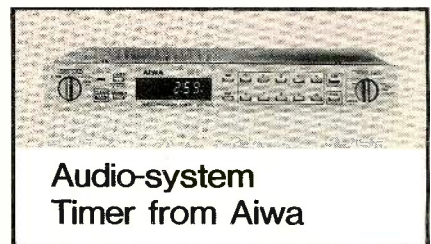
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Inexpensive Sharp
Deck Handles
Metal Tape

Sharp Electronics' RT-30 metal-capable cassette deck has a twelve-segment peak-level display, switchable microphone/line inputs, switchable Dolby circuitry, high/low bias control, 70- and 120-microsecond equalization, a metal-tape switch, and an automatic program-search system. Wow and flutter is specified as 0.075 per cent. Frequency response is given as 30 to 17,000 Hz (metal tape). Signal-to-noise ratio with the Dolby circuits on is given as 66 dB. Price: \$199.95.

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Audio-system
Timer from Aiwa

The Aiwa MT-50U Quartz Digital Audio Timer is intended to provide several convenience functions when used with specialized Aiwa components. The MT-50U can switch connected equipment on and off twice in a 24-hour period; the three built-in a.c. outlets have a total capacity of 500 watts. When used with an appropriate Aiwa tuner, the MT50U can be set to switch the

(Continued on page 16)

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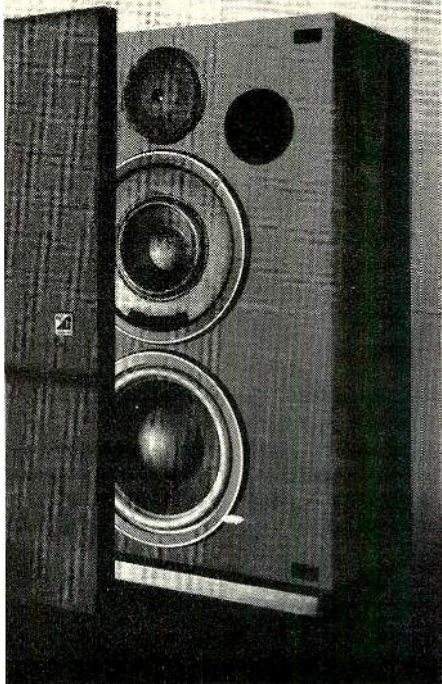
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system on and tune in up to six different stations at specified times; when used with Aiwa's SD-L50 cassette deck, the timer will display the remaining tape time in minutes and seconds. As a clock, the MT-50U is claimed to be accurate within 15 seconds per month, and it has an alarm tone. The MT-50U measures 9⁷/₈ x 17¹/₆ x 10³/₆ inches and weighs 3¹/₂ pounds. Price: \$160.

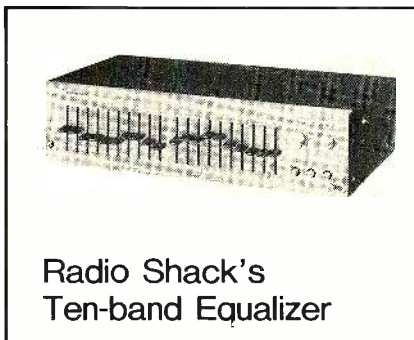
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Sparkomatic's New
Graphic Equalizer
With Amplifier

□ As part of its new SPX series of stereo equipment for the car, Sparkomatic has introduced the GE-1000 graphic-equalizer/amplifier. Featuring a series of LED level indicators (in three colors) to show changing levels for each channel, the GE-1000 has seven slide controls, each of which covers a ±12-dB range at its given frequency. Power output of the unit is 50 watts per channel at a total harmonic distortion of 0.01 per cent and frequency response is 20 to 20,000 Hz. The GE-1000 incorporates a relay circuit said to protect speakers used with the unit, as well as a fader control for front-to-back speaker adjustment and a switch for bypassing the controls entirely. The GE-1000 measures 2¹/₂ x 9¹/₄ x 7¹/₄ inches; price is \$190.

Circle 129 on reader service card



Radio Shack's
Ten-band Equalizer

□ Radio Shack's Realistic Model 31-2000 stereo equalizer features ten slide controls

for each channel, each with a range of ±12 dB calibrated in 4-dB increments. Independent left- and right-channel unity-gain controls with LED indicators simplify channel balancing and level setting. One switch allows recording of the equalized signal, another provides a tape-monitor function, and a third bypasses the equalizer altogether. Frequency response is stated as 5 to 50,000 Hz +0.5, -1 dB (with the equalizer controls set to flat). Distortion is 0.02 per cent at 0.775 volt output level; hum and noise are 80 dB below the same level. Band-center frequencies are 31, 62, 125, 250, 500, 1,000, 2,000, 4,000, 8,000, and 16,000 Hz. Input impedance equals 60,000 ohms; output impedance is 10 ohms. Dimensions of the Model 31-2000 are 16³/₄ x 29⁷/₈ x 4 inches. Price: \$179.95.

Circle 130 on reader service card

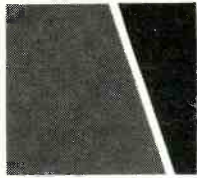


Record and Stylus
Cleaning Kit from
Empire Scientific

□ The latest addition to the Cecil Watts (of Dust Bug fame) line of record-care equipment is the three-piece Record and Stylus Care Kit. Designed to introduce the record collector to the Watts "non-liquid" system of record care, the kit includes a Parostatik Disc Preener, Parostatik Anti-Static Fluid, and a Watts Stylus Cleaner. The system is called "non-liquid" because so little fluid is used that a record is only very slightly moistened rather than being washed. The manufacturer claims that this method leaves no surface residue. Price: \$13.95.

Circle 131 on reader service card

don't be
penny-wise
and
sound
foolish



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protect your
valuable
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pleasure

with a
GENUINE
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GENUINE
SHURE

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Audio Q. and A.

By Larry Klein

Technical Director Klein, in England, inspects the assembly line for B&W's DM 12 loudspeaker systems.



YES, BUT IS IT REAL?

ANOTHER August, another Special Speaker Issue. I am therefore, even in the absence of a properly inspirational direct question, seizing this once-a-year opportunity to engage in a somewhat free-flowing discourse on my favorite audio topic: loudspeakers and the replication of sonic reality. Why "favorite"? For me—and, I'm sure, for others—loudspeakers (and their interfacing with the listening room and with the ears of the listener) represent a wonderful and complex conflation of the objective sciences of physics and acoustics and the subjective arts/sciences of psychoacoustics and aesthetics, as well as (surprise, surprise!) marketing psychology.

It is difficult for someone like me, who tries to maintain a modicum of rationality in my dealings with hi-fi matters, to get terribly excited by each newly announced loudspeaker "breakthrough." My lack of enthusiasm does not necessarily relate to any doubt that some technically desirable goal has been achieved, but rather to my view that most such improvements do not address themselves to the core of the high-fidelity reproduction problem: the achievement of an effective I-am-there (or they-are-here) sonic illusion. I hasten to add that I am not really concerned with the exact replication of some previously existing concert-hall or recording-studio sonic reality. My requirement is far more modest. All I want is that the sound reaching my ears be *plausible*, meaning that what I hear *could*

have existed at some time or other in some acoustic space. Or, to put it a simpler way, I want what I hear to sound "real."

It should be evident, considering how rarely it is achieved, that the simulation or reproduction of an acoustic reality is a *very* difficult task. The difficulty is compounded (in my view) when engineers (and reviewers) focus their attentions on technically irrelevant matters. Reality in reproduction will *not* be achieved by further lowering of distortion, extension of bandwidth, or any other of the commonly promoted (advertised) procedures. Such efforts are a wild goose chase up a blind alley. It is evident to me that even our very best records and tapes, played through the finest conventional equipment, at best provide only a simulation of reality on the level of, say, a beautifully photographed country scene: the color values may be exact, the details precise, and the enlargement life-size, but when you look at such a photo you *know* you are looking at a picture and not through a window.

In a very real sense, most of the design efforts in high fidelity are analogous to the efforts to improve lenses in photography. Certain photographic goals are achievable (better detail, less distortion, improved color rendition), but a visual facsimile of reality isn't among them. In audio, too, it is frequently possible to make a system sound *better*, but to make it sound *real* is a much more elusive matter. Why? It is clear (to me, at least) that two conventionally re-

corded and played-back channels do not provide the proper sonic information required to establish psychoacoustically a plausible sense of real acoustic space. The necessary information is either missing or confused. To repeat my earlier point, *no* improvement in frequency response, distortion, or any other aspect of the technical performance of your equipment is going to make the magic difference between real and unreal.

This is not meant to be a put-down of anyone's efforts to upgrade an existing hi-fi system. If your present speakers are unable to reproduce music with the frequency range you want, with the response flatness you desire, and as loud as you want to hear it, then obviously an upgrading is in order. Likewise, if there is some clear defect in performance or in convenience, then repair or replacement is in order. And, of course, better equipment provides better sound under "stress" situations. For example, a better tuner will pick up more stations with less noise and distortion in poor-reception fringe areas; it will also probably be more resistant to multipath problems in metropolitan areas. And higher-power amplifiers will sound less strained when driving low-efficiency speakers to high volume levels.

BUT how about those "subtle nuances of reproduction" that are the stock in trade of the esoteric equipment manufacturers and the main concern of the super audiophiles? My experience has been that most of the differences, when they really exist, are quite trivial, representing easily corrected frequency-response differences (of perhaps 0.5 dB or less) usually arising from minor interfacing mismatches. I suspect that many dedicated but technically unsophisticated audiophiles have shelled out extra hundreds, if not thousands, of dollars for various highly touted esoteric components that gave them nothing more than frequency-response curves slightly different from the ones produced by the equipment to which they were being compared. It cannot be repeated too often: even very slight frequency-response differences translate easily into subjectively negative or positive judgments of glassiness, brittleness, transparency, detail, and so forth. This is not to say that some truly inferior (and usually inexpensive) components do not sometimes sound—and test—bad, but that is not what we are talking about here.

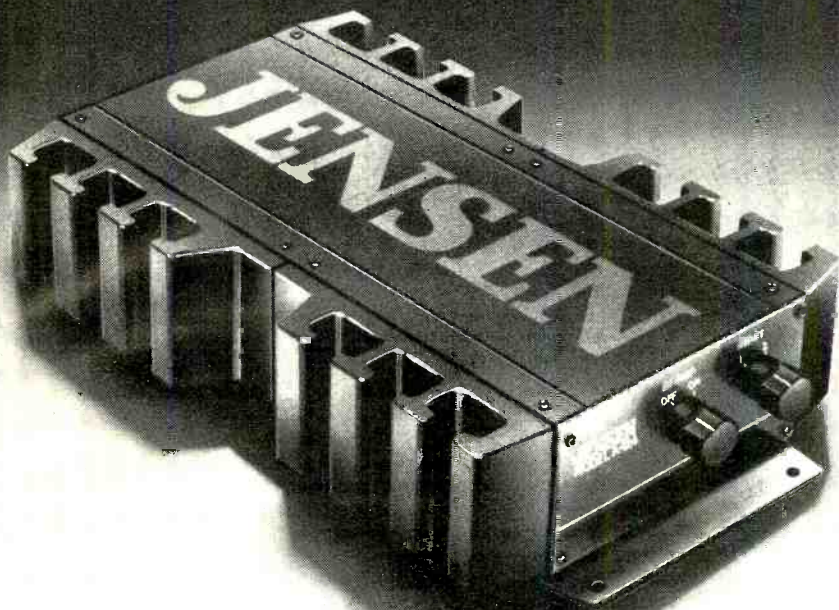
To return to my point about replicating sonic reality: since the information that sup-

(Continued on page 20)

"... Then it's agreed, gentlemen. We cut back 30 per cent on our speaker breakthroughs in the coming year. . . ."



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That's the Jensen A-124 Car Stereo Power Amplifier, all right. Distributing an F.T.C. Continuous Average Power Output of 100 watts into 4 ohms.

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A 4-speaker, bi-amplifiable unit.

The A-124 amp is an ideal low distortion power source for 4-speaker car stereo systems. Imagine a frequency response of 20 Hz to 50,000 Hz, ± 1.5 dB.

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So get the most out of your music...by getting the most out of your car stereo system. With the Jensen A-124 Amplifier.

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audio-technica.

plies the necessary spatial cues to our brain is either missing or confused in conventional stereo recording and reproduction, a number of devices and techniques have been developed in an effort to set things right. These include ambiance synthesizers, time-delay units, four-channel discrete and matrix decoders, and, lately, "crossfeed-cancellation" devices (such as the Carver "Sonic Holograph"), all of which, with varying degrees of sophistication and success, process the audio signal reaching the listener's ears so as to provide a psychoacoustic step in the direction of improved spatial reality. Such processing can be done either electronically or acoustically—which brings us back to loudspeakers once again.

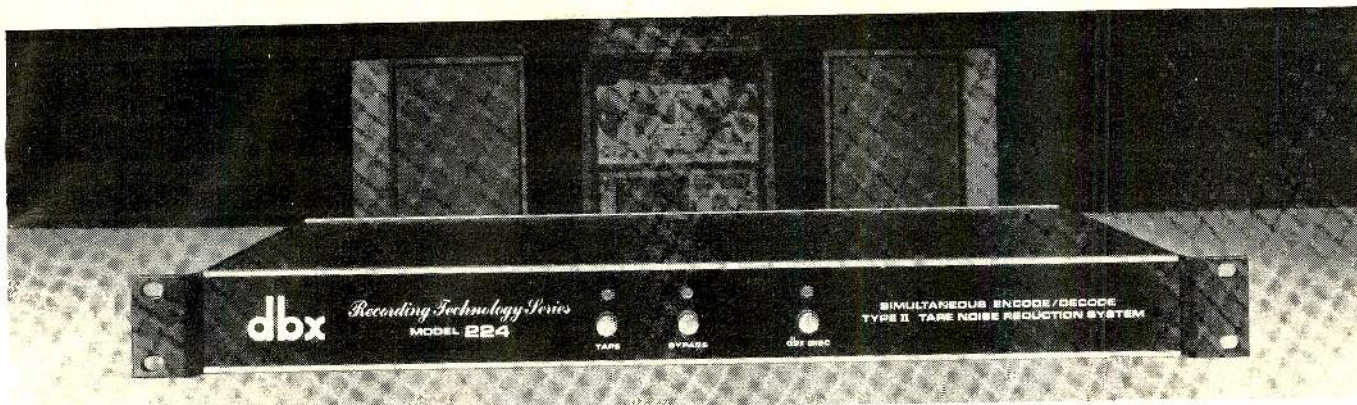
Over the years, I've had several changes of mind on what polar-radiation characteristics are desirable in a speaker in regard to stereo imaging. At one time I was quite partial to multidirectional systems. The reason, as I later learned, was that the 10- to 30-millisecond delays that occur when the sound bounces off nearby rear and side walls produce a psychoacoustic phenomenon that acoustic researcher Helmut Haas has referred to as "a pseudo-stereophonic effect." The sound source seems to broaden and open up. (The effect can be achieved with a single channel feeding closely spaced speakers with an electronic time delay between them—or a forward-facing and a rear-facing speaker with their spacing arranged for the proper acoustic delays between the direct and reflected sound.) In any case, impressive results can be obtained from omni- and multidirectional speakers, but the placement of such systems for optimum performance is obviously critical. On the one hand, you want the short time delays from rear- and side-wall reflections, but on the other you also need to minimize the colorations that may result from frequency cancellations and reinforcements as the reflected waves impinge upon the directly radiated ones.

I'm beginning to come around to the view that the way to go is toward a "controlled-directivity" speaker whose radiation pattern is somewhat short of 180 degrees but which maintains that dispersion evenly over a very wide frequency range. Such a system is likely to provide excellent stereo imaging and to be relatively independent (in its high-end performance) of the acoustical vagaries in its immediate environment. Excessive reflections in a room are death on stereo imaging simply because too much direct and reflected left-channel information reaches the right ear (and vice versa) after unknown but excessive amounts of delay. The Carver "Sonic Holograph" technique (reported on in the May 1979 issue of STEREO REVIEW) works to neutralize normal amounts of acoustic crosstalk at the listener's ears—which is why the listener's position relative to the acoustic wavefront from the speakers is so critical.

One more thought: for years we've been told that the ideal speaker would be a pulsating sphere, but, alas, such a device is impossible to manufacture. Now I'm beginning to believe that even if that theoretical ideal *could* be achieved it wouldn't sound very good playing in a real-world hi-fi listening room. □

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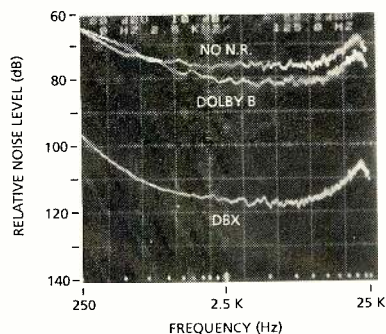
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As for noise reduction, nothing on the market comes close to the Model 224.



Dolby reduces noise by only 10dB at best, and only in the high frequency range. dbx virtually eliminates tape hiss, reducing it by more than 30dB across the entire frequency range. (Unretouched laboratory photograph. Data from "The Importance of Dynamic Range," Audio Magazine, January, 1980. For a copy of the article, write dbx.)

The Dolby[®] system you've been putting up with certainly doesn't. It only reduces tape noise by 10dB at the most, and only in the high frequency range.

Compare that with the dbx Model 224, which reduces tape noise by more than 30dB across the whole frequency range. It virtually eliminates tape noise, without adding any audible distortion or changing the tonal character of the sound.



The result is a difference you can easily hear. In fact, you'll be able to record quiet music passages that would be lost in tape noise with any other system.

Conventional tape recorders limit dynamic range. With the dbx Model 224, you can get the dynamic range approaching that of a live performance.

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Dynamic range is the difference in volume between the loudest and quietest passages in a piece of music. It's just as important to the realism of music reproduction as flat frequency response, or accurate spatial perspective.

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MAKING GOOD SOUND BETTER
 CIRCLE NO. 10 ON READER SERVICE CARD

Audio Basics

By Robert
Greene



SELECTING A SPEAKER

Of all the parts of a stereo system, loudspeakers are not only the most difficult to choose but also the most likely to make the difference between good, so-so, and downright rotten sound. How, then, do you go about making the right decision? To make the process just a little less ominous, understand right off that there is no one "right" decision. Unless your situation is most extraordinary, you would probably find a number of speakers quite satisfying.

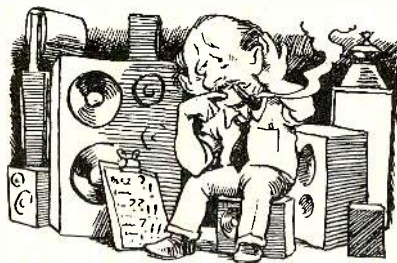
Before you go out shopping, however, get into the game forearmed; read up on speakers, particularly reviews in the hi-fi magazines. If all the technical jargon is beyond you, don't worry, just read the nontechnical portions where the reviewers give a general statement of how they feel about the unit in question. This preparation will at least give you an idea of what to expect from systems of various levels of complexity and price. (Note, however, that *not* finding a review of any given speaker doesn't necessarily indicate that it's not worth considering. It's impossible for more than a small percentage of the available models to be covered.)

In addition to reviews, scan the advertisements in this and other national magazines (not local retail ads) to become familiar with brand names. This is not to say that everything made by national advertisers is equally good or equally suited for you, but such companies have reputations to protect and you can reasonably expect help from them in the unlikely event of trouble with any of their products. Be wary of speakers with an unknown brand name or those sold by only one store; these may be so-called "house-brand" or "private-label" speakers. You might happen on some that are just dandy, but it's not unheard of for a dealer to have such speakers made up inexpensively to be sold at a huge "discount" or to lower the cost of a "package" that includes other, name-brand components.

Don't let yourself be impressed just because one system has more drivers in it than another. A four-way system will not *automatically* produce better sound than a three- or even a two-way system. All of the components in the cabinet may be there for sound engineering reasons, but one or two of the drivers might have been included

merely to make the system seem more "technically" attractive—or to permit charging a higher price. Given any two speaker systems, the simpler or less expensive one *might* be more accurate than its higher-price competitor. "Accurate" is the operative word here; "better" and "worse" are subjective matters, but accuracy—meaning correspondence of the speaker's acoustic output with the electrical audio signal from the amplifier—is not. Of course, not everyone will *prefer* a more accurate speaker, but *experienced* listeners will always go for an accurate speaker over one designed for boom and sizzle.

Since your listening room effectively becomes an acoustic part of any speaker system played in it, and because speakers interact differently with different rooms, the ideal way to select a speaker is to audition the possible choices in your home before you buy. Failing this, try listening to how your friends' systems sound in their homes. This will at least give you some experience in critical listening.



At some point you'll have to visit a dealer. But before you do, measure your listening room's dimensions (including height) and determine its acoustic character—"live" and bright (lots of hard surfaces) or "dead" (lots of soft furniture, heavy carpets, drapes, etc.). Stand in the middle and clap your hands a few times. In a live room the sounds will "ring" or reverberate back at you; in a dead one they will, naturally, die out immediately. Also try to determine where you would put the speakers: on the floor or up on shelves and near or far from adjacent walls.

All this information will help a dealer to assist you in choosing a speaker from among those he stocks. It will also help him figure out how powerful an amplifier or receiver you'll need to drive the speakers you decide you want in the room where you'll be listening to them. It's at this point that the question of speaker efficiency comes up. *Efficiency* is often confused with *quality*, but it is only an indication of how much power is needed to drive the speaker to a given volume (or sound-pressure) level. All else being equal, a relatively efficient speaker (none is *very* efficient) will require less power from the amplifier. Your listening habits enter into this too, since a chamber-music aficionado isn't likely to require the same power levels as a rock or disco fan.

ONCE you're actually at the point of selecting speakers in a store, there are some precautions you should bear in mind. *Don't* try to compare more than two sets of speakers at one time; you'll only confuse yourself. Some people even suggest auditioning single speakers—with the amplifier's controls set to mono—rather than stereo pairs. (This also gives you the option of later switching to the opposite member of a stereo pair to judge how much the room position might be influencing your evaluations.)

Listen to several *male* announcers on different FM stations. One or two may sound boomy because of drawbacks in the stations' facilities, but if *all* of them do then the speaker you're auditioning is probably putting out too much volume at around 100 Hz. This may make for a nice heavy bass in pop or rock music, but it's at the cost of clarity in the upper bass—and probably a lack of really *low* bass too. Another indication of good low-end performance is if the speaker lets you hear the differences between similar-sounding bass instruments.

The midrange frequencies (brass instruments, etc.) should not be shot out into your lap or recede too far into the background; the former indicates a boost in that area and the latter an attenuation. A boosted midrange will also tend to make female voices sound nasal or "honky," while too subdued a midrange will make them sound distant or withdrawn.

For the high frequencies, listen to recordings that include cymbals and triangles. These instruments should appear to "shimmer" and sound bright and airy. Also, normal tape hiss and record-surface noise should be audible but not exaggerated. (A speaker that shows up *no* flaws in ordinary program material is probably obscuring desirable sonic details.)

Except for the announcer test mentioned earlier, *don't* use FM radio as a program source for auditioning speakers; you have no way of knowing the quality of the broadcast material or the transmission at any given time, and both can vary widely. To introduce at least one constant into a situation otherwise made up entirely of variables, carry your own test records with you. Try not to use anything too flashy, as this might be deceptive.

Finally, keep in mind that a speaker system should not intrude itself on your listening; the best thing that could be said of a loudspeaker is that, once it's installed, you simply forget that it's there and listen to the music. □

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CIRCLE NO. 1 ON READER SERVICE CARD

Tape Talk

By Craig
Stark



Contributing Editor Stark checks out a 3M digital mastering recorder.

Take-up Torque

Q. *On my cassette deck the take-up reel seems to rotate much faster than necessary when playing a tape. After an hour or so the take-up-reel pulley starts to slip and makes a constant dull ticking noise. However, my local serviceman checked out the deck and said nothing was wrong with it. Is he right?*

DAVID S. MARRA
West Haven, Conn.

A. On a properly designed tape transport the take-up reel *must* move slightly faster than the tape being fed toward it from between the capstan and pinch-roller or, obviously, the tape will loop and then jam. The case you describe seems to involve an excessive amount of take-up torque, but it could also be the result either of too much hold-back force or of too little pressure between the capstan and the pinch-roller. Your diagnostic instincts are probably correct, however, suggesting that your next move is to find a more competent service technician.

What Is Impedance?

Q. *Tape-deck manufacturers' specifications always seem to mention input and output "impedance." What is it, and do larger or smaller numbers make one tape deck better than another?*

ROGER CHERNEY
Chicago, Ill.

A. In any electrical circuit, from a flashlight to a tape recorder, there are three basic, interrelated characteristics: *voltage* (the force that causes electrons to move through the circuit); *current* (the number of electrons that flow through a point in the circuit in a given time); and *resistance* (which determines just how much current will flow when a given voltage is applied). If you increase the resistance in a circuit, less current will flow if the voltage remains the same; if you raise the voltage, more current will flow unless you also raise the resistance, and so forth.

Resistance and impedance are basically the same thing (both are measured in

ohms), but with this difference: impedance is the resistance to a flow of alternating current (a.c.), of which, of course, audio signals are an example. Resistance to current flow is a fixed quantity when you're dealing with direct current (d.c.), but it varies with frequency when there are coils and capacitors involved—as there always are with hi-fi equipment. A "scratch filter," for example, progressively attenuates the signal as the frequency gets higher and higher, but its d.c. resistance is fixed. Since it's useful to express impedance as a single number, a frequency of 1,000 Hz (1 kHz) is normally used for impedance specs.

"Improper" match-ups between impedance ratings can cause frequency-response and distortion problems when two components are connected, the output of one feeding the input of the second. In the design of *professional* equipment care is often taken to ensure that input and output impedances will be the same (usually 600 ohms), for this results in maximum power transfer between components. Most home equipment, however, is designed so that the output impedance of a component will be low and the input impedance of the next component in the chain will be high. This minimizes high-frequency losses in the connecting cables and eliminates loading effects which could cause distortion and signal loss.

With home tape recorders it is important to make sure that you use a microphone with a "rated impedance" roughly equal to that recommended by the deck manufacturer. With the rest of the connections to your deck you will invariably find that output impedances will be at least ten times lower than the input impedances to which they will be joined.

Multiple Noise Reduction

Q. *I recently obtained a dbx II 122 noise-reduction system and would like to know: (1) why it's not recommended to use both the dbx encode and Dolby (or ANRS) systems, decoding them together; (2) whether I can decode a dbx-encoded tape and use my Philips DNL (Dynamic Noise*

(Continued on page 26)

HIGH PERFORMANCE HIGH BIAS.



AMPEX GM II HIGH BIAS TAPE.

When you're recording music that's rich in high frequencies, you need a high performance tape. Ampex GM II high bias cassettes. They retain and release every note and nuance. Especially those found in highly amplified electronic music.

GM II's high performance begins with the magnetic particle. The ones we use are smaller, permit higher volumetric loading and greater uniformity of dispersion on the tape surface. This produces a more consistent energy, increased output sensitivity, and a substantial reduction in the third harmonic distortion level. Our unique oxide formulation and new processing techniques extend the high end while they lower the noise floor (-62.8dB @ 333Hz). And to make certain that tape-to-

head contact is precise, we use our exclusive Ferrosheen™ calendaring process to give the tape an ultrasmooth, glossy surface.

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GM II high bias, high performance tape. Use it next time you're recording a passage that's rich in high frequencies. You'll hear what a difference it can make when your high bias tape delivers high performance.

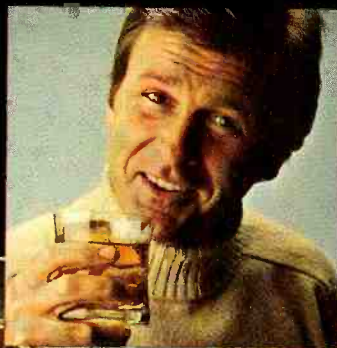
For complete information and specifications on all Ampex premium tapes, write us for a copy of our Full Line Brochure.

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Limiters) at the same time; and (3) whether it is necessary to encode the tape when dubbing digitally mastered or direct-to-disc records?

VINCENT LLORCA
San José, Costa Rica

A. The dbx and Dolby noise-reduction systems both use some high-frequency boost during the record cycle (with a complementary reduction during playback), so it is possible that using them together *might* result in treble-frequency response problems that would affect the decoding process of either or both systems.

As to your second question, the DNL noise-reduction system does not involve *encoding* the tape (it works only in playback). To use DNL (or any playback-only signal processor) with any complementary noise-reduction system such as Dolby B, dbx, or ANRS, the DNL must come *after* the noise-reduction system's decoding stage. On decks that have a noise-reduction system and DNL already built in, this is the arrangement used. But on those units it is generally not possible to connect an *external* noise-reduction system before the DNL circuitry.

In response to your third question, I would suggest that it is *particularly* important to dub direct-to-disc or digitally mastered discs with a noise-reduction system because the main reason for these techniques is the wider dynamic range they provide by extension of their "loudness" headroom and the reduction of noise. The purpose of a Dolby or dbx or ANRS noise-reduction system is, similarly, to give the cassette recorder a wider range between the loudest signals and the inevitable tape or electronic hiss. Thus, the better the quality of the source material (the disc), the more is required of the tape deck if the sound is to be captured without audible deterioration.

Tape Types

Q. My new deck has pushbuttons for Metal, CrO₂, FeCr, and Low-Noise tapes. Does this mean I cannot use a normal-bias cassette? Or does it mean that I can use low-noise cassettes sold for \$2.95 for a package of three?

MARK KONIER
Albuquerque, N.M.

A. No one, with the possible exception of a manufacturer producing cassettes for internationally standardized laboratory testing, wants to produce a "standard" cassette. Putting it the other way around, if you were offered, at the same price, a choice between a "regular" cassette and one that was billed as "super-low-noise/high-output" which would you buy?

Unless there are two switch positions, one marked "LN/HO" (or similarly) and the other marked "STD," you are reasonably safe in assuming that your deck has been adjusted for a high-quality ("low-noise/high-output") ferric tape—which is more or less "standard" for audiophiles—in its "low-noise" setting. As to the tapes you can get for a buck apiece, *whatever* their manufacturers' descriptions, you're safe in assuming they're worth as much as the dollar will be ten years hence. □

Technics

Everyone knows what Technics direct drive does for performance and accuracy in our turntables. That's why 73 of the top 100 radio stations that use turntables use Technics direct-drive turntables. Now, for only \$330* you can record your cassettes with the accuracy of Technics direct drive. And that says a lot about the Technics RS-M45.

So does its tape transport system. Especially when you consider what the RS-M45 has going for it: An FG servo DC direct-drive capstan motor. And while 0.035% wow and flutter can tell you a lot about our direct-drive performance, the world's only limited 3-year motor warranty† tells you a lot more.

Equally impressive are the RS-M45's solenoid controls. They not only make switching from one mode to another simple and accurate, they also put minimal strain on the tape transport system.

And to put minimal strain on you, there's the optional RP-9645 remote control unit. With it, all transport functions, as well as record mute, can be operated from your easy chair.

Just as special are the RS-M45's fluorescent VU meters with auto-reset peak hold. They're fast, electronic and highly accurate. You'll also like Dolby's NR and a S/N ratio of 68 dB.

And if our SX record and playback heads make CrO₂ tape sound great (20 Hz-18 kHz), wait until you hear the increased frequency response (20 Hz-20 kHz) and extended dynamic range of metal.

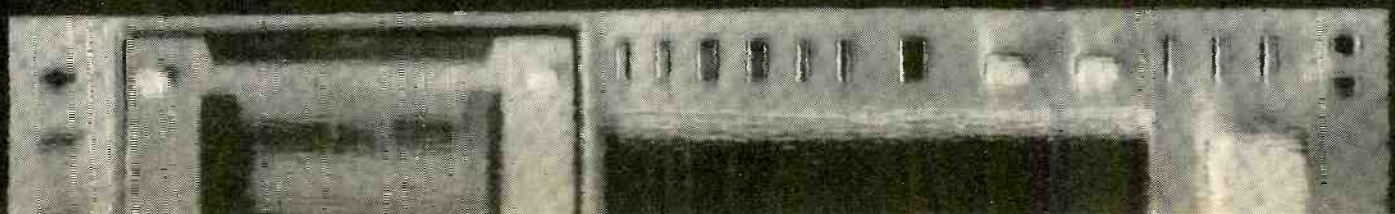
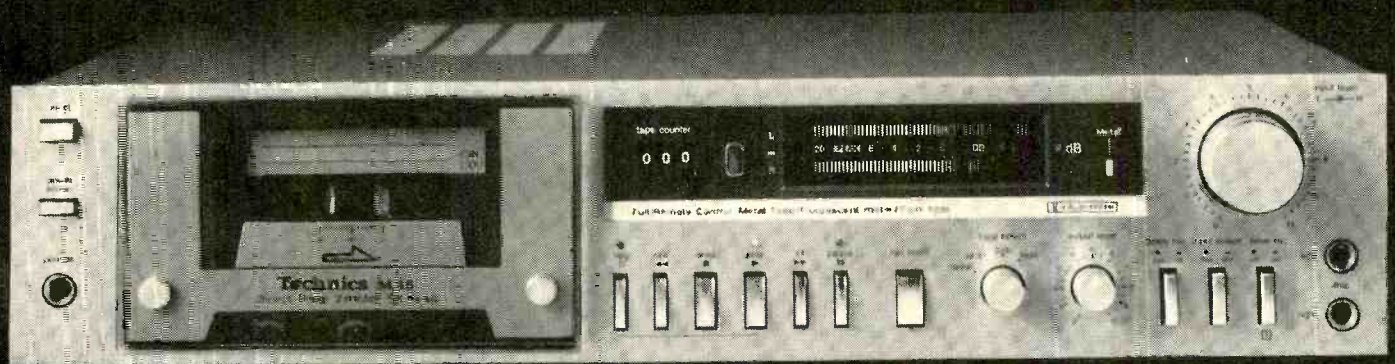
Technics RS-M45. Direct drive and solenoid controls say it isn't your typical \$330 cassette deck. In fact, compared to the leading brands, it's one of a kind. And that's very typical of Technics.

* Technics recommended price, but actual price will be set by dealers.

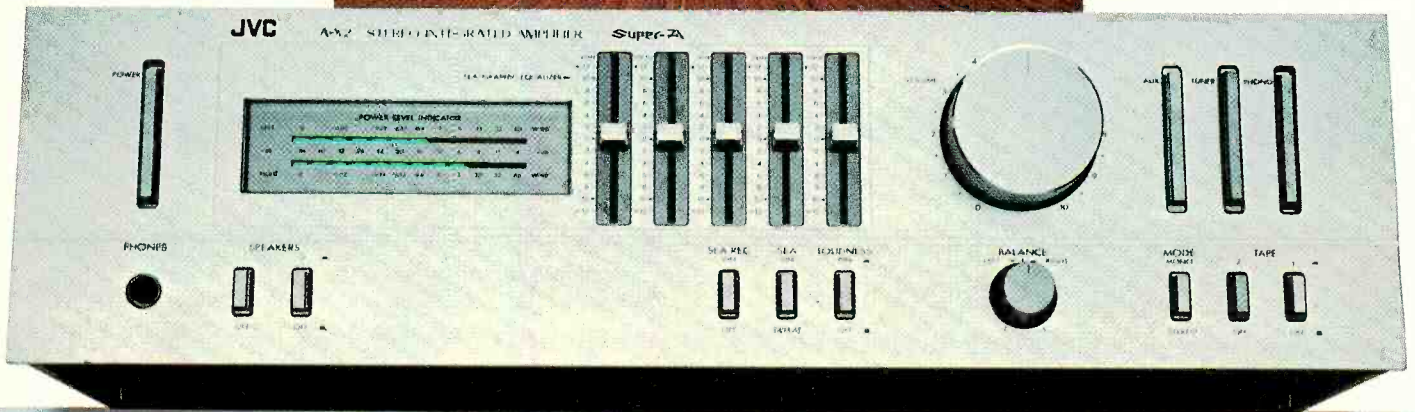
† Limited 3-year warranty on the direct-drive motor and limited 2-year warranty on the deck, includes labor and parts. Carry-in service. Proof of purchase required. Warranty is void for commercial use. ‡ Dolby is a trademark of Dolby Laboratories.

CIRCLE NO. 44 ON READER SERVICE CARD

How to tape your records as accurately as Technics direct-drive turntables play them.



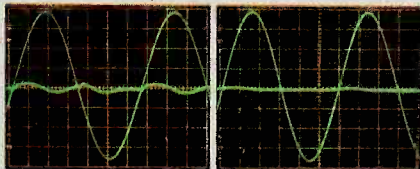
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JVC Super-A.**



Super-A
A-X2
Integrated Amplifier

For years, audiophiles have praised the purity, depth and naturalness of Class-A amplifiers.

But they haven't been wild about the heat, weight, power limitations and high cost that go hand-in-hand with Class-A's low efficiency and high idling currents. That's why Class-A has remained a rare, esoteric design



Class-AB Jagged center line indicates switching distortion.

JVC Super-A Minimal distortion in output waveform.

chosen by the few who were willing to pay for its fidelity and put up with its limitations.

JVC Super-A design brings together the purity of Class-A and the efficiency of the more common Class-AB. By eliminating most of the measurable switching and crossover distortion, Super-A achieves the kind of sound that has distinguished Class-A designs of the past.

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capabilities. What's more, the A-X2 Super-A amplifier shown here includes a 5-band graphic equalizer for both normal playback and recording EQ, LED power meters, "direct power supply" which yields high damping factor at all frequencies, and JVC's Triple Power Protection system.

All this comes with plenty of power behind it: *40 watts per channel continuous (RMS) power into 8 ohms, from 20-20,000 Hz, with no more than 0.007% total harmonic distortion.* When you put everything together, and compare our power and price with the competition, you'll discover you're getting the benefits of Super-A and graphic equalization practically for nothing.

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CIRCLE NO. 46 ON READER SERVICE CARD

Technical Talk

By Julian D. Hirsch

Contributing Editor Hirsch (left) and Larry Zide, publisher of db magazine, in the production-line anechoic chamber of B&W Loudspeakers in Worthing, West Sussex, England.



• Speaker Design in the Digital Age •

LAST spring I visited two British loudspeaker manufacturers noted for the quality and musical accuracy of their products. Both companies are small in comparison to most of the Japanese giants or to some of the major American speaker manufacturers, yet they are second to none in the sophistication of their design and quality-control methods. The two companies—B&W Loudspeakers and KEF Electronics—are strong rivals for their share of the quality speaker market, so it was interesting to discover that the similarities between their philosophies and the sound qualities of their products were much more apparent than the differences between them!

Each manufacturer uses computers extensively to achieve very tight control of speaker response in the initial design and to maintain that quality in production. Not too many years ago, speaker “design” consisted of installing two or three mass-produced drivers in a rectangular wooden box, with the selection of the crossover frequencies and slopes and the adjustment of the driver levels all done to suit the ear of the designer. The final results varied from surprisingly good to terrible, depending on the designer’s taste. No doubt many speakers are still created by such a process, but not at B&W or KEF. Nonetheless, it was reassuring (though not really surprising) to learn that their *ultimate* criterion for the acceptability of a speaker design, or even of a design improvement, is still the listening judgment of skilled speaker designers.

I was most impressed by the sophistication that both companies have brought to bear on the design of crossover networks,

which are among the most critical parts of a speaker system. When you have gone to great pains to develop drivers with the desired frequency and phase-response characteristics, it is necessary to design crossover systems that will complement the drivers and give smooth transitions between them, free of phase or response anomalies. This is easier said than done, though the computer design programs I saw in operation at both companies made it *look* easy.

With the measured response and electrical characteristics of both drivers stored in its memory, the computer did the work of synthesizing a crossover network that would match the two to create the desired final response. The response of such a network must be controlled well beyond the immediate crossover region in order to achieve the quality of performance expected of these systems. The resulting network can be surprisingly complex, but to a degree that is quickly justified when one sees the computer plot, on its video monitor, a combined driver-crossover response that matches the goal within a fraction of a decibel! The computer requires only a minute or so to do its design and present the final results; designing such networks without a computer would probably be economically unfeasible if not downright impossible.

THE premier products of both companies, the B&W Model 801 and the KEF Model 105 Series II, are worthy competitors from the standpoint of listening quality and general attention to detail. They are also very expensive (well over \$1,000 per speaker in this country), not too surprising considering

what has gone into their creation. I noted two relatively minor features common to both that serve to illustrate the similar response of each company’s designers to problems most speaker manufacturers simply ignore—or perhaps deem just too expensive to solve, considering the slight additional return such improvements are likely to bring in a highly competitive market.

One feature attacks cabinet vibration, which has long been known to color the sound of any enclosed speaker. The customary treatment is to use the most rigid cabinet construction possible, with liberal internal bracing to minimize vibration (more exotic, though effective, approaches have included using cast concrete, brick, or sand-filled enclosure walls). In the case of KEF, the designers had been aware of a slight lower-midrange coloration in the sound of their original Model 105 and set out to determine its cause and eventually its cure.

To isolate the cause, they positioned a large number of accelerometers (over 130, as I recall) on the outer surface of the bass enclosure of the Model 105, which was then placed in their anechoic chamber. With the speaker driven by suitable test signals, the outputs of the accelerometers were fed to the computer, and after considerable processing it created a graphic display on its monitor screen. The speaker enclosure, which appeared in an isometric projection (see next page), bulged and flexed in a most alarming manner (the microscopic movements of the real enclosure were greatly magnified by the computer).

One result of this analysis was the realization that flexing of the front speaker-

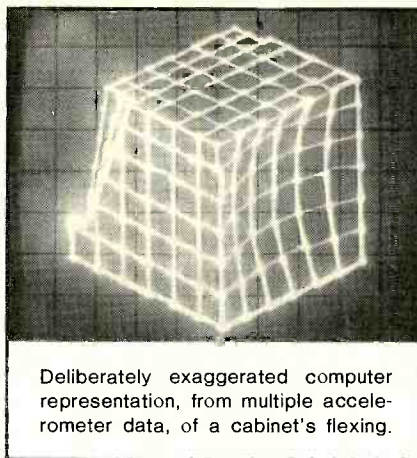
Tested This Month

Pioneer PL-400 Turntable • Audio Pulse Model 1000 Time Delay
Mitsubishi DA-R20 Stereo Receiver • Nikko Alpha VI Power Amplifier
Nakamichi 680ZX Cassette Deck

mounting board, on which the bass driver was located, was due in large measure to direct transmission of vibrations from the rim of the metal driver "basket" and could not be reduced significantly by any practical amount of internal stiffening. The ultimate solution was to redesign the frame of the 12-inch bass driver for a three-point mounting and to hold it away from the wooden surface by rubber vibration isolators. A gasket between the woofer rim and the mounting board provided the necessary airtight seal. With that modification, the vibration portrayed on the computer monitor was radically reduced. That change was one of those incorporated in the Series II version of the KEF Model 105 speaker.

Having been shown how KEF arrived at their solution to this problem, I was intrigued to find that the rival B&W Model 801 had its woofer mounted on vibration isolators from its inception (though it is a more recent design than the KEF speaker). It appears that both design efforts were carried out independently and probably nearly simultaneously. Clearly, when a speaker design has reached a certain level of refinement, the engineers begin to become aware of more subtle problems, which had previously been masked, and proceed to their solution. No doubt in each case there were many other fine details that contributed to the end result in equally subtle ways, but anyone who has listened to one of these speakers for some time will have no doubt of their superiority to more "run of the mill" designs.

The other feature common to both models has nothing to do with sound quality per se. As the dynamic range of available pro-



Deliberately exaggerated computer representation, from multiple accelerometer data, of a cabinet's flexing.

gram material increases, the natural reproduction of music requires much more amplifier power than previously. The amounts of power needed are, in many cases, prodigious—quite unbelievable for the average audiophile, to whom a 200-watt amplifier may seem to be a case of "overkill." At KEF, we listened to the playback of a digital tape recording made in their anechoic chamber with single small percussion instruments (blocks, bells, and the like). The listening room was of average size, and the reproducers were a pair of Model 105 Series II speakers. Peak-power lights showed the amplifier output level at all times in terms of watts fed to 8-ohm loads.

For many of the instruments, a convincingly natural sound level required peak

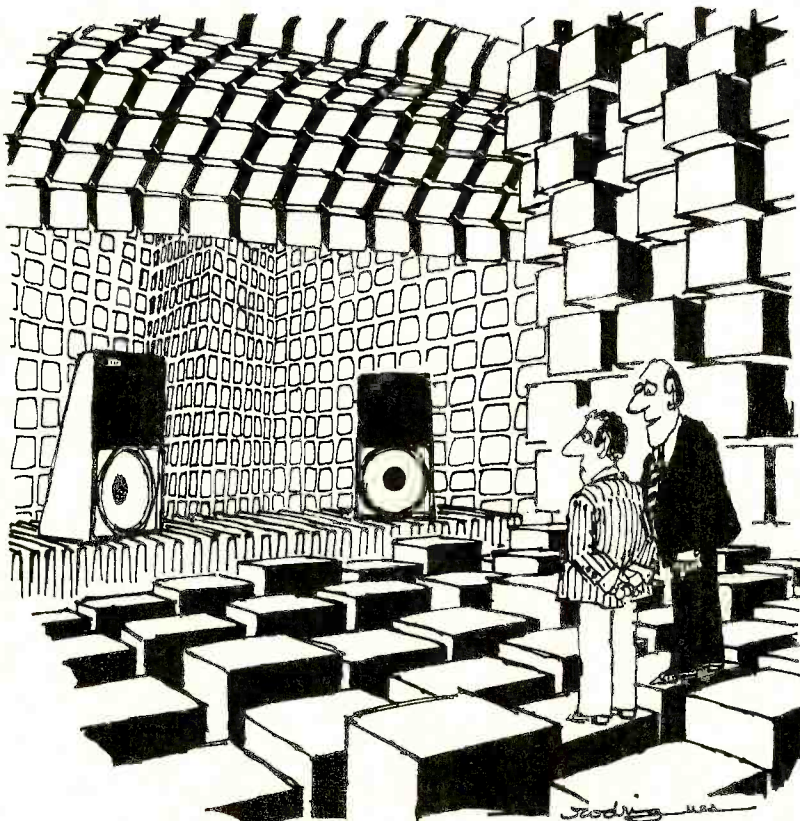
powers of 50 or 100 watts, rarely more than 200 watts (the sound level was by no means loud, since the *average* power was only a watt or so). However, for some of the instruments, it was necessary to use a bridged amplifier connection that could deliver 600 watts before the sound seemed to be at a natural level (and still with an *average* power of a few watts).

QUITE apart from the effects of such peak levels on one's family, neighbors, and pets, what about the speakers themselves? Many good speakers (including the KEF Model 105 Series II and the B&W Model 801) are capable of handling enormous peak powers for very short intervals, which is all that is required most of the time. But what about the occasional sustained signal from a full orchestra, pipe organ, or synthesizer? On many speakers, fuses protect the drivers (usually only the tweeters) against severe overloads. Apart from the question of how effective fuses are in protecting a speaker against various types of abuse, I can testify from long experience that it is very *annoying* to have to replace fuses frequently, especially when they are of an odd type or value. More sophisticated protection systems are needed, and both companies have developed electronic safety circuits that are similar in their effects if not in their detailed operation.

KEF's system protects against excessive peak signals, thermal overload due to sustained high-level operation, and excessive woofer excursion. It is a frequency- and time-sensitive circuit that gives each driver the protection it needs. It is also signal-powered, operating from voltages obtained by rectifying the audio input to the speaker. When it operates, a fast-acting relay attenuates the signal but does not remove it completely. One hears the sound level drop only momentarily; normal volume is restored automatically when the overload is removed.

The B&W protective device apparently operates in a similar manner and provides the same kinds of protection to their drivers. However, it is battery-powered (the very low current drain of the circuit results in normal life for the battery), and when the circuit operates the speaker is fully silenced (a light glows to alert the user to the cause). It is necessary to push a reset button to restore speaker operation.

BOTH systems appear to be able to protect the speakers against almost any conceivable overload, so that one should be able to enjoy new wide-dynamic-range program sources without fear of damaging an expensive speaker. This represents considerable foresight on the part of both KEF and B&W, since few signal sources available when these speakers were designed were likely to overstress any good speaker of the time. That situation is changing rapidly now, however, and will continue to do so at an accelerating rate. These speakers should be able to do justice to forthcoming digital, dbx, and other very-wide-range program sources. We also have no doubt that the lessons learned in the development of these premium-quality speakers will result in corresponding improvements in the companies' speakers at the lower price levels. □



"... Of course you realize it won't sound exactly the same in your listening room, sir. ..."

Test Reports start on page 32

High technology takes a low profile.



Feast your eyes on our new Slimline™ separates. We took our high technology and gave it a sleek, low profile. This is high performance with a well developed sense of style.

HI-SPEED™

The KA-80 integrated DC amplifier features our unique Hi-Speed™ circuitry, which allows the amplifier to react faster to the musical input signal. The result is super-clean sound reproduction with superior depth, definition and stereo imaging. And an incredible frequency response of DC-450,000 Hz (-3dB).

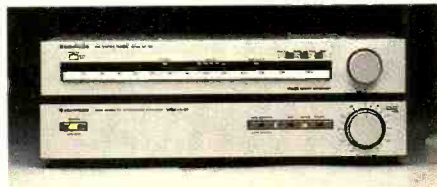
But don't let its slim profile fool you. The KA-80 has plenty of power. 48 watts per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to

20,000 Hz with less than 0.02% total harmonic distortion.

Look behind its stylish tilt-down front panel and you'll find an array of sophisticated controls including a DC coupled/toner switch that provides either laboratory-flat response or subsonic filtering with complete bass and treble control.

PULSE COUNT DETECTOR

Its matched companion is the KT-80 FM Stereo Tuner, which uses Kenwood's exclusive Pulse Count Detector circuitry to digitally reproduce a linear FM signal



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There's even a built-in record-calibration tone for optimum taping off the air.

Kenwood Slimline separates. High performance audio never looked better.

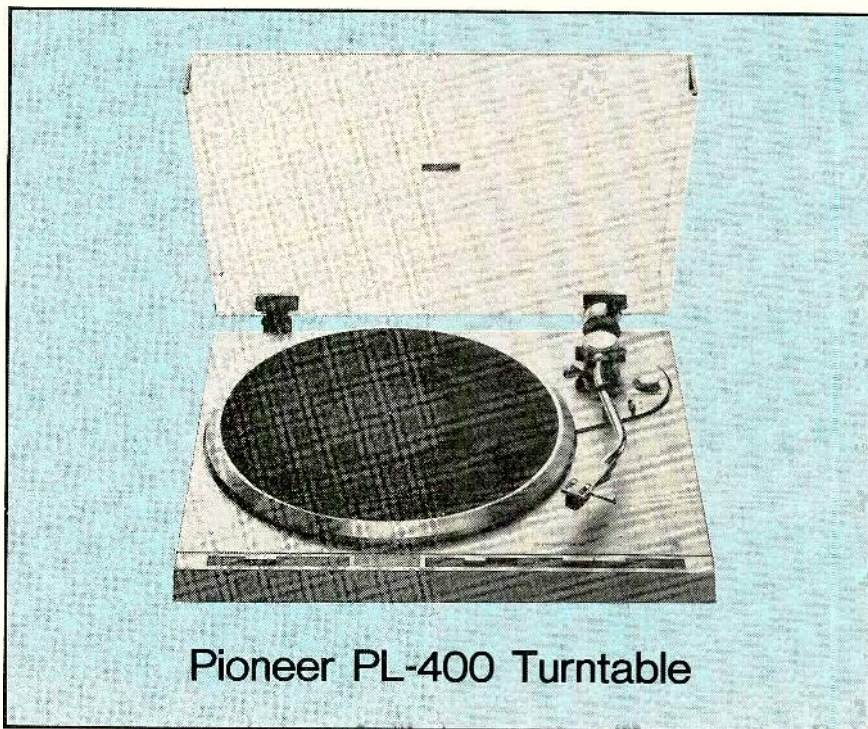
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Equipment Test Reports

By Hirsch-Houck Laboratories



Pioneer PL-400 Turntable

THE Pioneer PL-400 is a compact, moderate-price, two-speed, single-play, automatic turntable featuring "low-profile" styling. With its hinged plastic dust cover lowered, the PL-400 measures 16½ inches wide, 14¾ inches deep, and only 3¾ inches high. All the operating controls (except the cueing lever) are on the upper front edge of the gray molded-plastic base, where they are accessible to the user even with the cover down. The PL-400 weighs 14 pounds, 5 ounces.

The two-speed, direct-drive motor is phase-locked to a quartz-controlled reference frequency that gives it an absolute accuracy within 0.002 per cent of the selected speed (either 33⅓ or 45 rpm; there is no vernier speed adjustment). The cast aluminum-alloy platter, with its rubber mat, weighs 2¾ pounds. The motor, platter, and tone arm are rigidly mounted on a separate subchassis isolated from the main base of the record player by compliant springs. The mounting provides the necessary isolation of the turntable components from external vibration so that the outer base can rest firmly on the supporting surface. This results in a stable unit whose controls can be operated without risk of jarring the pickup when it is playing a record.

The S-shaped tone arm of the PL-400 is fitted with a standard four-pin plug-in cartridge shell and a rotating counterweight whose tracking-force scale covers a 0- to 3-gram range with calibrations at rather widely spaced intervals of 0.5 gram. The

cueing lever and antiskating dial are mounted on the arm base.

Pushing in the SPEED selector button at the left of the control panel changes the turntable speed from 33⅓ to 45 rpm. The button position is the only indication of operating speed, since the turntable stroboscope pattern (viewed through a window on the control panel next to the speed button) consists of a single row of marks. Being illuminated by a light synchronized with the quartz-crystal oscillator instead of the a.c. power line, the pattern is always stationary when the platter is turning at a selected speed, but it gives no indication of *which* speed that is.

A three-position record SIZE switch selects the tone-arm indexing diameter of 7, 10, or 12 inches. The PL-400 is put into operation by momentarily pressing the flat START/CUT button at the right of the front panel. This turns on the motor and causes the arm to index to the selected diameter and descend to the record surface. At the end of play, or when the START/CUT button is pressed a second time, the arm lifts and returns to its rest, shutting off the motor. If the adjacent REPEAT button is pressed, the record will be repeated indefinitely, until REPEAT is pressed a second time. The PL-400 can also be operated in a fully manual mode, since lifting the tone arm from its rest starts the turntable motor (the automatic shut-off at the end of play remains effective, however). The suggested retail price of the Pioneer PL-400 is \$199.

● **Laboratory Measurements.** We tested the Pioneer PL-400 with a Shure V-15 Type III HE cartridge installed in its tone arm. The measured capacitance to ground of the tone arm and signal-cable wiring was 112 picofarads per channel, and the inter-channel capacitance was a low 1.5 pF.

The actual tracking force was typically about 0.1 gram higher than the setting of the dial on the counterweight. (This is a function of how well the arm balance was adjusted and might vary somewhat from one installation to another; in practice, a higher accuracy than this is nearly impossible to guarantee, nor is it necessary.)

The tracking error, with the cartridge installed in the recommended position, was a low 0.4 degree per inch at a 2.5-inch radius and less than 0.3 degree per inch over most of the record. Although the antiskating adjustment was not critical, best results were obtained with a 2-gram setting when the Shure cartridge had a 1.25-gram tracking force. The cueing device worked smoothly, with no detectable shift in the arm's position when it was raised and lowered. The effective mass of the tone arm (not including the cartridge) was 22 grams, a relatively high value, but one found in many Japanese record players. In the PL-400 arm, the rather compliant Shure cartridge resonated at 7 Hz with an amplitude of 5 dB; this is toward the low-frequency end of the acceptable resonance range, but it caused no audible difficulties.

Touching the START/CUT button brought the platter to exact speed in about 0.5 second, and some 13 seconds later the pickup touched down on the record. When the CUT cycle was initiated, either manually or automatically, about 8 to 10 seconds were required for the motor to shut off completely. The high torque of the PL-400's direct-drive motor was shown by the fact that only 0.5 second was required to change speeds.

The weighted-rms flutter (JIS) was 0.05 per cent, and a weighted-peak measurement (DIN) yielded a ±0.08 per cent reading. These are about as low as we can measure with the test records at our disposal because of unavoidable record warps and eccentricities. The lower figures quoted by some manufacturers are usually obtained by using special lacquer discs (which are flatter than vinyl pressings) or even by indirect means, through measurement of the motor-to-amplifier feedback control signal. The flutter frequencies were mostly below 10 Hz.

The rumble was -28 dB (unweighted) and -55 dB with ARL weighting. Except for a discrete peak at about 22 Hz, the rumble was confined to frequencies under 5 Hz. The suspension system of the motor and arm gave only average isolation (for a direct-drive turntable) from audio-frequency vibration conducted through the base. Major transmission frequencies appeared to be at 37 and 55 Hz. (Continued on page 34)

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Now, we're making brilliantly engineered, but affordable, receivers. Receivers that offer so much more for the money, they simply cannot be overlooked.

Because our new \$390* R10 and \$560* R20 (R20 shown) share much of the technology in our highly respected separates, they give you more power and meaningful features than anything else in their price range.

Like a switchable IF bandwidth control that lets you match

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Like 65 watts per channel (R20) and 45 watts per channel (R10) minimum RMS at 8 ohms from 20Hz to 20kHz with no more than 0.02% total harmonic distortion.

Like sensitivity of 9.3dBf (1.6 μ V). FM signal-to-noise of 84dB mono, 80dB stereo. And phono signal-to-noise of 94dB.

The new R10 and R20.

For people who could never afford Mitsubishi, but always had an ear for it.

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CIRCLE NO. 33 ON READER SERVICE CARD

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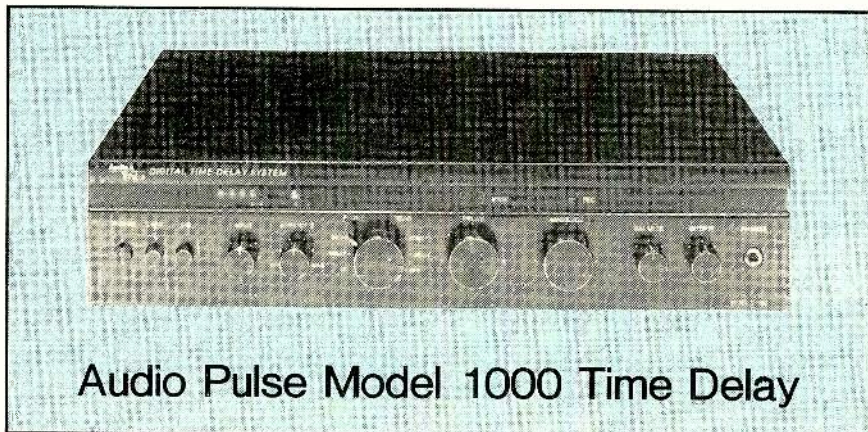
● **Comment.** The basic record-playing performance of the Pioneer PL-400 is above reproach. Although priced near the low end of the range for quartz-locked turntables, it provides the stable and accurate operating speeds made possible by that technique, together with a high-torque turntable drive that virtually snaps the platter from one

speed to another, or from standstill to full speed, in a fraction of a second.

The rather massive tone arm, which we would not consider ideal for use with high-compliance cartridges, nevertheless worked very well with the Shure V-15 Type III HE, one of today's more compliant cartridges. Having the operating controls accessible

with the cover lowered is a feature of which we heartily approve. And though the low-profile styling of the PL-400 may not always let it fit in spaces denied to larger units, it makes for a handsome and unobtrusive package.

Circle 140 on reader service card



THE purpose of a time-delay system is to restore a sense of the ambiance typical of a larger room when music is played in a more confined home environment. In general, time-delay components accept signals from the tape-recording or preamplifier outputs of an amplifier or receiver, delay them for a chosen amount of time, and feed them through a separate stereo amplifier to speakers normally located toward the rear of the listening room.

With a properly chosen delay time and rear-speaker level, a feeling of acoustic space can be conveyed that is missing from normal music reproduction in the home. There are many variations in the delay techniques employed by different manufacturers, with the result that they display as much diversity as other types of audio components. So far, at least, all of them are quite expensive, costing from \$500 to \$1,000 and usually requiring a second stereo amplifier as well as additional speakers.

Externally, the new Audio Pulse Model 1000 bears almost no resemblance to the company's original Model One, which was the first digital delay system offered for home use. It is a "third-generation" design, but it seems to have little in common internally with its pioneering ancestor. One feature carried over from the Model One is the use of "delta modulation" for encoding analog information into digital form and, after processing, restoring it to an analog waveform. Like most circuit designs in audio components, this represents an engineering decision, and every manufacturer can of course offer ample justification for his own design approach. To the consumer, it should matter little which circuit is used; what is important is how well the product works and how effectively it does its job.

The Audio Pulse Model 1000 is a low-profile device measuring 17 inches wide, 12 inches deep, and 3¾ inches high. The upper part of the front panel has several level and time indicators using LEDs and numerical readouts, and the lower part contains a number of knob- and pushbutton-operated controls. A TAPE switch replaces the tape-monitoring control of the main amplifier when the Model 1000 is connected into the tape-recording loop (one of its possible modes of connection to a music system). An FM button may be engaged when listening to FM broadcasts, since announcers' voices often take on an unnatural, echoing quality when the time delays and levels have been set correctly for music reproduction. Normally the delay circuits of the Model 1000 operate on the sum of the left- and right-channel inputs. Since most voice announcements are transmitted in mono (L + R), pushing the FM button reverses the phase of one channel before they are combined, so that the voice—or any other in-phase program component—is largely canceled and does not appear in the delayed outputs. Normal stereo programs are still processed through the time-delay circuits, but with somewhat less ambiance enhancement.

A small INPUT knob adjusts the input-signal level to match the operating range of the circuits in the Model 1000. Depending on the instantaneous program level, from one to four green LEDs above the knob glow when the signal input is within the correct range, and an excessive input lights a red LED. (Next to this control is an EXPANDER knob whose operation is not related to the time-delay function and will be explained later.)

Three large knobs control most of the time-delay functions of the Model 1000.

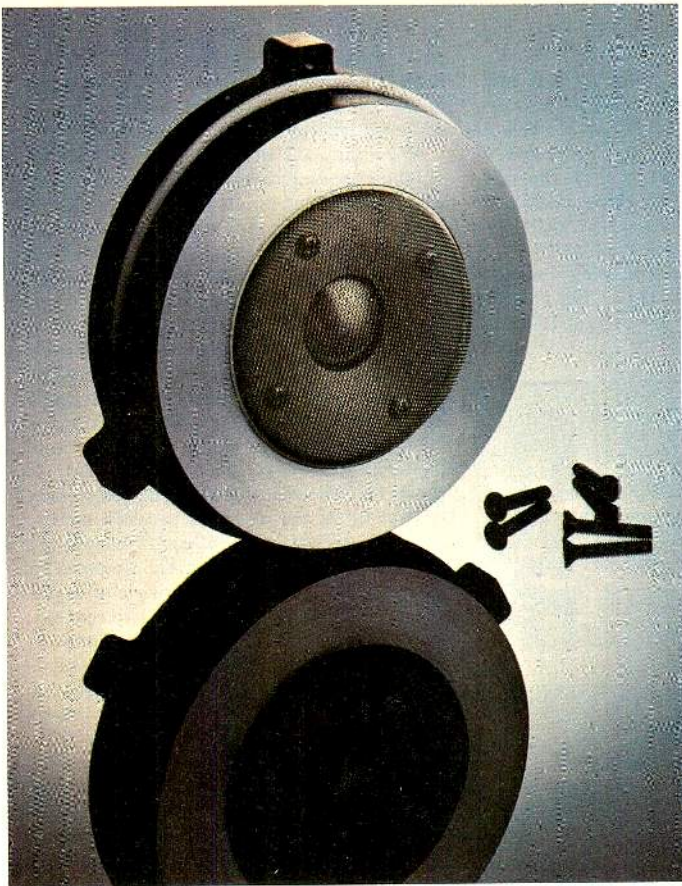
Concentric three-position switches select the signals that appear at the front- and rear-channel outputs of the unit. Each output can be driven, independently of the other, with the direct (undelayed) signal or the delayed signal, or it can be shut off entirely. The DELAY knob continuously varies the durations of the several time delays that combine to form the rear-channel signals. The Audio Pulse Model 1000 actually has six different simultaneous time delays which vary together in proportion to the DELAY control setting. The length of the longest of the six delays is shown on a two-digit numerical readout above the control over a nominal range of 53 to 95 milliseconds. The corresponding minimum delay times vary from 7 to 12 milliseconds, and the four others have intermediate values.

Much of the sense of realism made possible by a time-delay system depends on having a blend of many signals delayed for different times and then mixed and recirculated to simulate the multiple reflections that take place in a real concert hall. In the Model 1000, the delayed outputs of the left and right channels are mixed and recombined with the input in adjustable proportions for repeated passage through the delay circuits. The AMBIENCE control adjusts the amount of recirculated signal that appears at the delay-channel outputs and also varies the effective reverberation time of the delay signal from 1 to 1.2 seconds. (Reverberation time is defined as the time required for the level to drop by 60 dB when the input is removed.) A numerical readout above this control shows the reverberation time in seconds with a resolution of 0.1 second. At the minimum setting of the DELAY control, the maximum decay time is about 0.6 second, but as the delay is increased the reverberation time increases with it.

The remaining front-panel controls are small knobs for adjusting the left-right level balance of the rear outputs and the output level of the rear channels. There is also a stereo-headphone jack driven by an internal amplifier rated at 20 milliwatts into 8-ohm loads. The input control of the Model 1000 adjusts the level of the direct signal appearing at the phone jack and the output control adjusts the level of the delayed signal for phone listening.

In the rear of the Model 1000 are jacks for MAIN IN, FRONT OUT, and REAR OUT, the principal signal connections when the Model 1000 is used in a stereo system. There are also TAPE IN and TAPE OUT jacks (the latter are connected directly to the MAIN IN jacks) and two pairs of outputs marked SHORT TAP

(Continued on page 36)



JBL's L112. Introducing a new upper class.

Introducing a new class of tweeter performance:

The upper frequencies of music reproduced with accuracy, power, depth and subtlety that you've never heard from a bookshelf speaker before.

To advance the state-of-the-art of tweeter behavior, JBL engineers utilized laser holography to study cone diaphragm movement—while the cones were energized as in actual use. They were able to see motion that can't be detected with the naked eye (even through a microscope).

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range driver with a large 7/8" voice coil and stiffened cone that provides transients incredibly close to a live performance.

The L112's Symmetrical Field Geometry 12" woofer delivers low frequencies with extremely low distortion. Lower than any bookshelf speaker we've ever tested. You'll hear crisp, clean, powerful bass all the way down to the lowest notes.

And a new High Resolution Dividing Network controls the L112's drivers throughout their full operating range... for sound

so coherent, it will seem that only one extremely wide-range transducer is responsible—not three!

Each L112 is crafted at our Northridge, California facility, inspected and tested in over 50 test stations and beautifully hand-finished with oiled and rubbed American walnut veneer.

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JBL First with the pros.

CIRCLE NO. 23 ON READER SERVICE CARD

and LONG TAP. These carry delayed signals containing, respectively, the shorter and the longer time delays generated within the Model 1000. With these and one or two additional stereo amplifiers plus extra speakers, it is possible to have a six-channel or eight-channel delay system for the greatest possible realism. Next to the signal connectors is a three-position slide switch, labeled FRONT LEVEL, that adjusts the gain of the front-channel amplifiers in the Model 1000 over a ± 15 -dB range to match the undelayed output of the time-delay unit to the sensitivity of the associated amplifier.

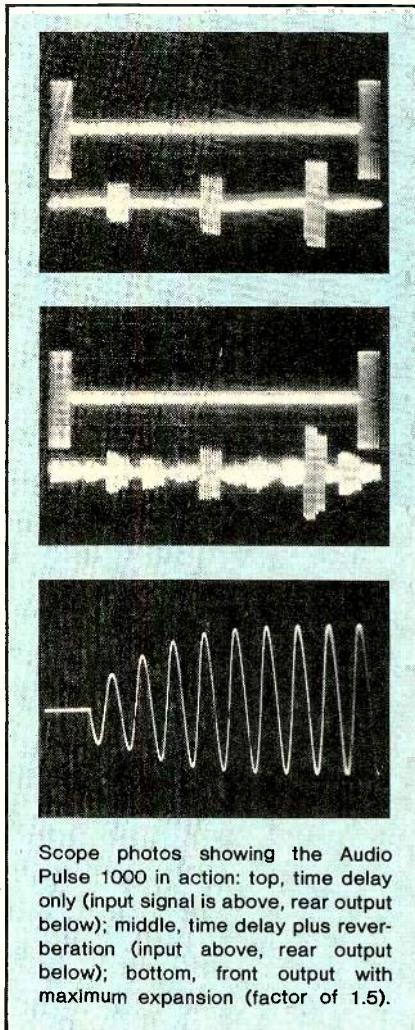
Although the Audio Pulse Model 1000 carries a complete set of performance specifications, most of them have little meaning to the consumer, nor can they necessarily be compared with similar ratings for conventional amplifiers. Suffice it to say that its input sensitivity, range of adjustment, and output levels make it compatible with all hi-fi preamplifier inputs and outputs (or amplifier speaker outputs, from which the Model 1000 can be driven if there is no access to tape-recording or preamplifier outputs). The frequency response of the front channels is flat to well beyond the audio range, and its noise and distortion levels are below the threshold of audibility in any practical installation. The frequency response of the delayed channels is deliberately rolled off above 7,000 Hz to simulate the absorption of high frequencies that takes place in a real concert hall. Although the distortion and noise levels of the delayed channels are not quite as low as those of the front channels, they are also well below audibility (especially since the delayed-sound speakers should not be separately audible in operation when adjusted correctly—unless "special effects" are desired).

The EXPANDER knob on the front panel controls a built-in dynamic expander that operates on the input signals just before they are converted to digital form. When it is pressed in, a yellow LED above it comes on. Depending on the setting of the EXPANDER knob and the instantaneous signal level, one of three yellow LEDs will glow, signifying that the gain has been reduced below normal, is at its normal unexpanded level, or has been increased by the expander. The EXPANDER knob is calibrated, in terms of the slope of the expansion characteristic, from 1 to 1.5 in steps of 0.1. At the maximum expansion of 1.5, a 10-dB change in input-signal level creates a 15-dB level change at the output. Like other expanders, the circuit in the Model 1000 must be used in moderation to avoid "pumping" and unnatural level shifts, but it is capable of reducing background noise in the program material as well as increasing the apparent dynamic range of a compressed program. Most accessory expanders sell for \$200 or more, so the inclusion of this feature in the Model 1000 can be considered as a bonus to the user. Price: \$1,000. A rack-mounting installation kit and a remote-control accessory cost \$30 each.

● **Laboratory Measurements.** Most conventional laboratory measurements on a time-delay unit such as the Audio Pulse Model 1000 convey little information concerning its subjective qualities. We limited our tests to verifying, as far as possible, the published ratings for the unit and relied

heavily on listening tests for evaluating its performance.

An input level of 85 millivolts was sufficient to drive the Model 1000 to its maximum undistorted output. The distortion at the front-out jacks, at the maximum level of 0.25 volt, was 0.003 per cent in the mid-range, 0.01 per cent at 20 Hz, and 0.06 per cent at 10,000 Hz. The rear-out distortion varied with the time delay as well as frequency. At a 65-millisecond delay it was 0.1 per cent at 20 Hz and 0.03 per cent at 1,000 Hz, and it was masked by noise at less than



0.05 per cent at 10,000 Hz. With a 100-millisecond delay, the distortion was 0.03 per cent at 20 Hz and 0.3 per cent at both 1,000 and 10,000 Hz. These measurements show that harmonic distortion in the Model 1000 is of no concern in normal use.

The noise in the outputs was measured, with A-weighting, at an IHF standard gain setting of unity. In every case it was below our measurement limit of 100 microvolts, or 80 dB below 1 volt. The front-channel frequency response was flat within 1 dB from 20 to 20,000 Hz. At the rear-out jacks, a conventional swept frequency-response measurement clearly shows the "comb effect" caused by cancellations when the direct and delayed signals are combined, but the basic response seemed to be essentially flat up to about 5,000 Hz, falling to -3 dB

at 7,000 Hz before dropping off at 12 dB per octave at higher frequencies. Unlike most analog delay systems, the digital delay of the Model 1000 gives the same frequency response for any delay setting.

We examined the output of the Model 1000 on an oscilloscope when it was driven with 8-cycle tone bursts at 1,000 Hz spaced about 100 milliseconds apart. In the photograph taken with the ambiance control set at zero, we see the input signal at the top and the delayed output signal at the bottom. The burst about two-thirds of the way along the lower base line is the primary delayed signal at about 85 milliseconds. The smaller bursts are two of the intermediate delayed bursts. The second picture was taken under identical conditions except that the ambiance control was set to 0.8 second. It shows how the multiple recirculated signals tend to fill in the intervals between bursts, giving a diffuse sense of spaciousness instead of the distinctly audible single echo that would result from a single delayed pulse. We also verified that the two rear delayed outputs, when only a single input is driven, have a random phase relationship.

The third photograph shows the action of the expander circuit when set for a slope of 1.5. The time scale is 1 millisecond per division, and we see the beginning of a long tone burst of a 1,000-Hz sine-wave signal. Beginning at a reduced level established by the expander before the appearance of the signal, the output level builds up to normal level and beyond it to an expanded level, with the complete expansion taking place in about 5 milliseconds.

● **Comment.** We connected the Audio Pulse Model 1000 between the PRE-OUT and MAIN-IN jacks of a high-quality receiver and used a 50-watt-per-channel integrated amplifier to drive a pair of good small speakers from the delayed outputs. The rear speakers were located at the wall/ceiling junction along the sides of the room near our listening position. Listening was done over a period of many weeks using both FM and phono program sources.

We have used and evaluated almost all the time-delay devices that have been marketed for home use, beginning with the original Audio Pulse Model One. Most have been capable of good results, though some are unquestionably more natural-sounding than others. Aside from the unnatural special effects that can be created with any delay system by setting the rear levels so high that their speakers can be heard as distinct sound sources, the chief weakness of some systems has been insufficient echo density. This gives rise to a distinct "slap" following a transient, or a hollow "boing-g-g" quality that is far worse than not having any enhancement at all! Audio Pulse's use of six different delay times, and the well-scrambled blending in the final output, reduces this effect to a minimum, and with careful setup adjustments it can usually be eliminated completely.

It was apparent very early in our tests that the Audio Pulse Model 1000 was among the best of the breed. Used with even a modicum of good judgment, it unobtrusively added a sense of space to the sound, yet never gave away its presence by being audible as a separate sound source. That is

(Continued on page 38)

Synthesized Art.

Sony's new receiver creates higher-fi with a computerized tuner, a DC power amp and Pulse Power Supply.

Dream up a stereo test and compare our new STR-V55 receiver work of art with any other receiver you care to hear. Or view.

The measure of the receiver you invite into your home should feature unusually intelligent versatility. Ample power. Inaudible distortion. And an attractive design that speaks with a quality "finish."

Of course, we'd like to recommend our STR-V55 because we synthesized our newest technology to give you the incredible accuracy of frequency synthesized tuning, a versatile microcomputer and silent, uninterrupted power. The tuner section is so sophisticated that a highly stable quartz-crystal oscillator locks in AM and FM signals for brilliantly faithful reproduction of broadcast programming.



And the microcomputer gives you tuning options that simply don't exist anywhere else.

Memory scan is our latest exclusive tuning advance to span the bands automatically. Press a button and preset stations are automatically tuned in sequence for approximately 3.5 seconds each. Hands-off tuning lets you automatically monitor your favorite stations and simply pressing the appropriate station button tunes in your selection for continuous listening.

Choose auto tuning to capture stations with frequencies that you don't know for certain. A touch of a button precisely finds the next station encountered up and down the frequency band.

Manual tuning lets you approach known frequencies at high speed

and then obtains the exact frequency in precise, discrete steps.

And preset tuning instantly recalls any of the eight stations that are stored in our new MNOS (metal nitride oxide semiconductor) memory that can't be accidentally erased.

Our beauty is not only designed for easy viewing, it's coordinated to be proudly displayed. Bright electro-fluorescent digits



STR-V55

display frequencies.

Bright green LEDs in a five-step array show signal strength. And red LEDs pinpoint your favorite stations at a glance.

Consider the power of 55 watts per channel that propels the intimacy of the original performance through Sony's advanced DC amp technology. And a high-gain low-noise phono amp in the preamp section enables you to even use an MC cartridge with your turntable to capture the subtleness of the softest, most delicate music.



It's also important to know that an efficient, compact Pulse Power Supply provides stable DC power even at peak levels. And highly responsive Hi-Fi power transistors artfully reproduce complex wave forms even at high frequencies and full output power.

Sound is so clear that quiet intervals are *quiet* even at the highest listening levels.

Sony's STR-V55 is more of a receiver because you demand to hear more of your music. Own our masterpiece.

SONY

what all time-delay systems are *supposed* to do, but some succeed at it better than others. The Model 1000 shows its heritage as the third-generation product from the company that created the first digital time delay for the home.

We listened for signs of "nasties" such as noise, distortion, or any other undesirable quality in the delayed signals (with the front outputs silenced). Some time-delay units have been criticized for such flaws. The greatly increased dynamic range of the Model 1000 can be appreciated from the fact that its expander is *ahead* of the digital delay circuits, yet it does not cause any overload problems. We could not make the Model 1000 misbehave. If one or more of the green level lights was on and the red light was not, the output was always clean and noise-free (and serious distortion could

not be induced in the delayed channels until the level far exceeded the point at which the red light went on).

We have never been convinced of the need for the excessively great choice of delay and ambiance settings offered by some time-delay systems. They are not really necessary, and the audible differences between them are often negligible. The Model 1000, by its very nature, provides a large number of combinations of delay time and ambiance, but we found that in almost every case a perfectly satisfactory result was obtained with a delay of 80 to 90 milliseconds and an ambiance setting of about 0.8 second. As far as we are concerned, this device can be set once and forgotten, except for using the FM mode when necessary to remove undesirable voice effects.

The expander was an unexpected feature

of the Model 1000, and it worked well—in fact, when set to a slope of no more than 1.2 or 1.3 it was quite unobtrusive yet made a worthwhile reduction in noise. Like any expander, it can cause undesirable side effects when set for full expansion. We did not experiment with the Model 1000's multichannel delay options, but it is likely that the audio enthusiast with access to additional amplifiers and speakers (and considerable time for experimentation) could achieve something special.

In case any doubt remains about our subjective listening reaction to the Audio Pulse Model 1000, we found it typical of the best in today's time-delay devices. Like the others, it is expensive, but it does its job with great success.

Circle 141 on reader service card



MITSUBISHI is well established as a maker of top-quality separate components characterized by innovative and tasteful design as well as excellent performance. Their first stereo receiver, the DA-R20, brings typical Mitsubishi quality, appearance, and "feel" into a moderate price range.

The Mitsubishi DA-R20 is rated to deliver at least 60 watts per channel to 8-ohm loads from 20 to 20,000 Hz with no more than 0.02 per cent total harmonic distortion. The audio amplifier section includes a built-in head amplifier for low-output moving-coil phono cartridges, a fully adjustable separate loudness control, and independent selection of program sources for the speaker and tape-recording outputs.

The FM-tuner section of the Mitsubishi DA-R20 has switchable i.f. bandwidth, offering a choice of a wide-band mode for minimum distortion and maximum channel separation or a narrow bandwidth that means a slight sacrifice in those qualities but greatly improved selectivity. The FM tuner has an AFC (automatic frequency control) "lock" system that turns off automatically when the tuning knob is touched. Once a station has been tuned in approxi-

mately (as shown by the center-channel meter-pointer reading in a defined mid-scale area), the knob can be released and the tuner's circuits will automatically tune it exactly to the correct frequency.

The DA-R20 tuning system uses both digital and analog station-frequency readouts. It is actually a conventionally tuned receiver, with the large knob varying a tuning capacitor through a cord drive. The tuning dial at the upper right of the front panel is circular (a feature of previous Mitsubishi tuners) and has an unusually long scale calibrated at 1-MHz intervals for FM and 100- or 200-kHz intervals for AM. It is flanked by red LEDs that indicate the functioning of the tuning LOCK (AFC) system and the reception of a stereo transmission. The precise tuned frequency is shown, on a somewhat redundant digital display in the upper center of the panel, in clearly visible half-inch blue-white numerals with a resolution of 100 kHz for FM and 1 kHz for AM. To the left of the digital display are two large meters indicating relative signal strength and FM center-channel tuning.

The front panel of the Mitsubishi DA-R20 is finished in satin aluminum, and the case has sturdy dark-gray handles. The

wooden cabinet is handsomely finished in rosewood-grain vinyl. The major controls, positioned at the lower right, are the TUNING and ATTENUATOR knobs, the latter actually a stepped volume control. Between them are four narrow, flat pushbuttons for FM HIGH BLEND (to reduce hiss on weak stereo signals), IF BAND selection (narrow or wide), FM or AM reception, and MUTING/MODE. The last combines the interstation FM-muting function with automatic stereo/mono mode selection. When depressed to "off/mono" it disables the muting and also switches the tuner to mono-only reception. This is not an uncommon arrangement in tuners and receivers, and it is justified since signals weaker than the muting threshold will rarely, if ever, provide quiet stereo reception.

A group of four smaller knobs at the lower center of the panel includes the RECORD SELECTOR and the PROGRAM SELECTOR. The latter determines the program that will be heard through the speakers, with positions for TAPE 1, TAPE 2, TUNER, PHONO, and AUX. Adjacent to the PHONO position is a push-button marked MM and MC. Pressed in (MC) it inserts an additional pre-preamplifier for a moving-coil cartridge. The RECORD SELECTOR duplicates the functions of the PROGRAM SELECTOR, except that it affects only the signals appearing at the two sets of recording outputs in the rear of the receiver. Instead of TAPE 1 and TAPE 2 (for playback from either of two tape decks connected to the receiver) it has "duplicate" positions for dubbing from either machine to the other.

Below these selectors are loudness and balance controls. Loudness is adjusted by a continuous control with ten detented positions. When fully clockwise (0) it bypasses the frequency-contouring circuits, and the main volume control is set to the loudest position one expects to use. Then, turning the loudness knob counterclockwise progressively reduces the midrange output, with less effect at the low and high frequencies. The result is a family of "loudness contours," from an almost flat response near

(Continued on page 40)

IF YOU'RE NOT USING THE SCOTCH[®] RECORD CARE SYSTEM, YOU'RE USING THE SECOND BEST.

**INTRODUCING SCOTCH[®] RECORD CARE SYSTEM. IT CLEANS,
ANTI-STATS AND REDUCES FRICTION—ALL IN ONE STEP.**

Finally there's a way to give your records the kind of care and protection that hasn't been possible until now... a way to insure a long life of true sound.

The System.

The Scotch Record Care System combines new Sound Life[™] fluid with a unique dispensing applicator. To use, simply depress the supply container and Sound Life fluid is fed automatically to the pad. That's all there is to it. It's quick, easy and simple. No guesswork about how much fluid you need or how to apply it correctly. Just place the applicator on your turntable spindle, revolve it and the record is cleaned.

Super-wetting action deep-cleans grooves.



Discwasher D3[®] solution (left) beads up on the grooves. Sound Life (right) with super-wetting action deep-cleans grooves.

If your present cleaning solution beads up on the record surface, it may not be getting the job done.

Scotch Sound Life spreads onto the disc surface evenly—safely penetrating grooves to remove micro-dust and fingerprints. Sound Life leaves the record with a brilliant look, as brilliant as the sound is clean and true.

As it cleans, it wipes out static.

Even though your record surface is clean, it's generally the electrostatic charge that gets it dirty again. An anti-static gun is just a temporary treatment.

One application of Sound Life reduces the residual charge to near zero. And it prevents static from returning no matter how often the record is played.



(Left) Styrofoam beads are attracted to static charge left on record after cleaning with Discwasher D3[®].

Same record (right) after one treatment with new Sound Life fluid.

Friction reduction's a plus.

The same application of Sound Life that super-cleans and removes static can reduce stylus drag up to 15%.

And with your sensitive stylus that can mean less wear and improved record life.

Better stereo performance.

To get all the true, pure sound you expect from your stereo, you need records that are truly clean, and protected from static and friction. Only the Scotch Record Care System gives you all three in one application. Ask to see a demonstration at your record or stereo store right now.

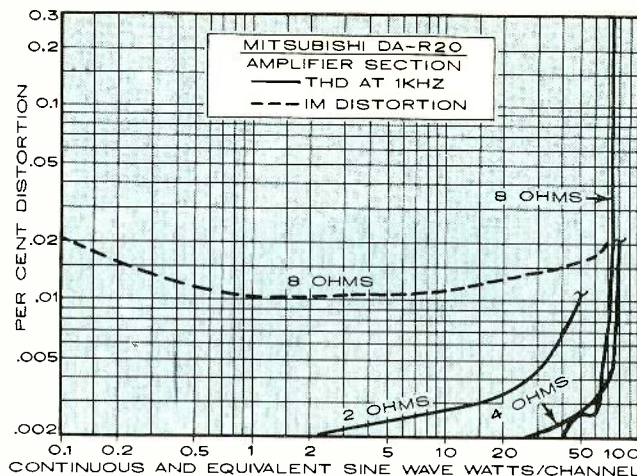
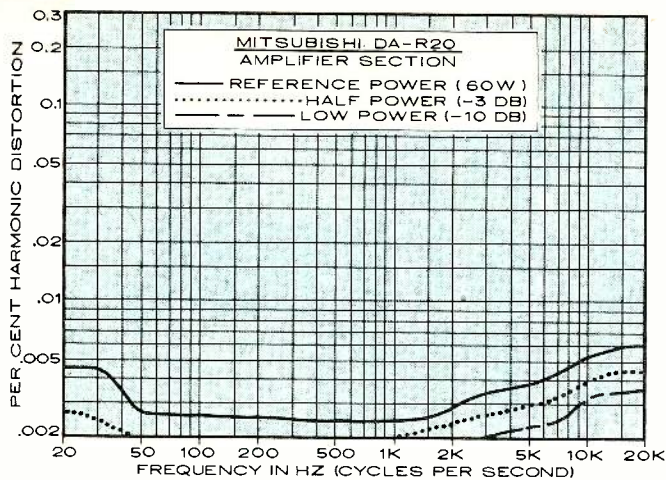
All of the tech data we've used to back up these statements is available free. Write to Magnetic A/V Products Division, 3M Company, 3M Center, St. Paul, MN 55101. Ask for report C-242.



**SCOTCH[®]
RECORD CARE SYSTEM.
THE TRUTH COMES OUT.**



3M



the top of the control's range to a substantial low- and high-frequency boost at its minimum setting (at which the midrange volume has been reduced about 20 dB). With this arrangement, the Mitsubishi is able to provide effective and listenable loudness compensation.

At the lower left of the panel are the bass and treble tone controls, each having eleven detented positions; there is a DEFEAT button between them that bypasses the tone-control circuits. A headphone jack is to their left. There is a row of five pushbuttons that serve to connect the two sets of speaker outputs independently to the amplifiers, select either mono or stereo mode for any program source, and engage the low and high filter circuits (each of which has a 12-dB-per-octave slope with cutoff frequencies of 18 and 8,000 Hz, respectively). The larger power

pushbutton is located at the far left.

On the rear apron of the receiver there is a hinged and pivoted AM ferrite-rod antenna, insulated spring connectors for the speaker outputs, binding posts for the antennas, and the various program input and output jacks. There are also two pairs of jacks marked PRE OUT and MAIN IN. They do not have visible jumpers or switches but are internally bridged. Merely plugging a connector into one of the MAIN IN jacks disconnects it from the corresponding PRE OUT circuit. The PRE OUT jacks are always "live" for driving any external accessory, whether or not it returns a signal to the MAIN IN jacks. There are three a.c. convenience outlets on the DA-R20, one of which is switched. The Mitsubishi DA-R20 is 18½ inches wide, 16⅞ inches deep, and 6⅝ inches high. Weight: 31 pounds. Price: \$560.

● **Laboratory Measurements.** After the 1-hour preconditioning period at one-third rated power, the ventilating grille on top of the cabinet over the output-transistor heat sinks was quite hot, but elsewhere the exterior of the receiver was no more than moderately warm. The power amplifiers of the DA-R20 are large hybrid integrated circuits combining the output transistors, their drivers, and a bias-stabilizing transistor in a single unit. The heat from this assembly is coupled effectively to a massive cast-aluminum heat sink along the left side of the receiver as far as possible from the tuner circuits, whose stability might be affected by temperature changes.

Driving 8-ohm loads at 1,000 Hz, the audio outputs clipped at 78 watts per channel, and with 4- and 2-ohm loads the clipping powers were, respectively, 95 and 67 watts (the latter was the point at which the receiver's protective system disconnected the speaker outputs, which are not rated for driving loads of less than 4 ohms).

The distortion of the audio amplifier was notable both for its very low level and its relative independence from load or frequency changes. At 1,000 Hz the distortion was well under 0.002 per cent for almost any load or output level, exceeding that value with 4- or 8-ohm loads only when the output was at least 30 or 40 watts. Just below the clipping point the distortion was typically about 0.01 per cent. Into 2-ohm loads the distortion was only 0.01 per cent at the point where the protection system shut down the amplifier. The intermodulation distortion (IM) was between 0.01 and 0.02 per cent at all power outputs from 0.1 to 70 watts.

At the rated 60-watt output, the distortion was between 0.002 and 0.006 per cent from 20 to 20,000 Hz. At half and one-tenth power the readings were slightly lower. We measured the IHF IM distortion, driving the amplifier with equal-amplitude tones at 14,000 and 15,000 Hz; the combined peak value of the tones was equivalent to the rated 60-watt output of the amplifier. The second-order (difference-tone) distortion at 1,000 Hz was barely detectable at 90 dB below 60 watts (about 0.003 per cent), and only one third-order distortion product at 13,000 Hz could be seen on the spectrum analyzer at a -95-dB level.

(Continued on page 42)



"... Incredible speaker, sir. Sounds as though you're right here listening to it, doesn't it?"



Take it ...easy

Yashica's three major reasons why you can afford to own a top-quality 35mm SLR camera.

REASON # 1: The ideal foundation for a growing camera system is Yashica's top-of-the-line, yet reasonably priced FR-I.* This FR-I offers both professional control and automatic ease, including more than 300 highly sophisticated accessories plus a full line of famous Carl Zeiss and Yashica lenses.

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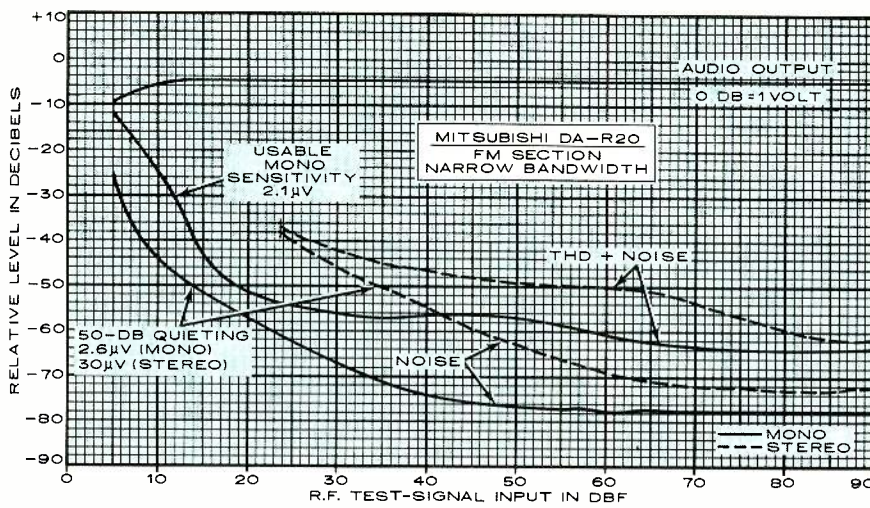
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*FR is a licensed trademark of Cine Magnetics, Inc.



The IHF clipping-headroom rating of the amplifier was 1.14 dB at 8 ohms. Since the DA-R20 is rated only for 8-ohm operation, it is not possible to specify the clipping headroom with 4- or 2-ohm loads. The dynamic-power output was a very high 116 watts into 8 ohms, 165 watts into 4 ohms, and 171 watts into 2 ohms (the IHF dynamic-headroom rating for 8-ohm loads was 2.86 dB).

The amplifier rise time was 2.5 microseconds and its slew rate was 22 volts per microsecond (both measured through the entire amplifier from the AUX input). The IHF slew factor exceeded our measurement limit of 25. The input sensitivity for a reference power output of 1 watt was 20 millivolts through the AUX jacks, with the A-weighted noise in the output being a very low 86 dB below 1 watt. The MM phono sensitivity was 0.31 millivolt, with a -82-dB noise level (no measurements were made through the MC head amplifier). The phono input overloaded at 20, 1,000, and 20,000 Hz with levels of 152, 165, and 105 millivolts (all referred to equivalent 1,000-Hz levels). The measured phono-input impedance was 48,000 ohms in parallel with about 300 picofarads. Although this figure is fairly high as input capacitances usually go, with low-capacitance record-player cables and many cartridges it should be perfectly satisfactory.

The RIAA phono equalization was accurate within ± 0.5 dB from 30 to 20,000 Hz and down about 2 dB at 20 Hz. The response, measured through the coil inductance of several typical phono cartridges, showed a slight high-frequency rise to about +1.5 dB at 10,000 Hz, followed by a drop to -1.5 dB at some frequency between 15,000 and 20,000 Hz. It was not clear how much of this was because the preamp's RIAA equalization was being affected by the cartridge inductance and how much because the input capacitance was resonating with the cartridge inductance, but it seems not unlikely that a similar effect can be expected with most cartridges of the moving-magnet type.

The tone controls had conventional characteristics, affecting frequencies below 500 and above 1,500 Hz. The loudness contours were very gentle for most of the range of the loudness control but became quite severe at the lowest setting. The low filter reduced the response by 2 dB at 20 Hz (we did not extend our measurement below that frequency), and the high-filter response was down 3 dB at 7,500 Hz.

Most FM-tuner measurements were made twice, using both the wide and narrow bandwidths. The IHF usable sensitivity in mono was 10.8 dBf (1.9 microvolts, or μ V) with wide and 11.8 dBf (2.1 μ V) with narrow bandwidth. The corresponding 50-dB

quieting-sensitivity readings were 16.3 dBf (3.6 μ V) and 13.8 dBf (2.6 μ V). In either mode, the stereo threshold was 24 to 25 dBf (8 to 10 μ V).

The FM-tuner distortion at a 65-dBf (1,000 μ V) input was 0.09 per cent in mono and 0.1 per cent in stereo with wide bandwidth. In the narrow mode, the mono and stereo distortions were, respectively, 0.08 and 0.28 per cent. The signal-to-noise ratios in mono and stereo (wide or narrow) were, respectively, 78 and 71 dB.

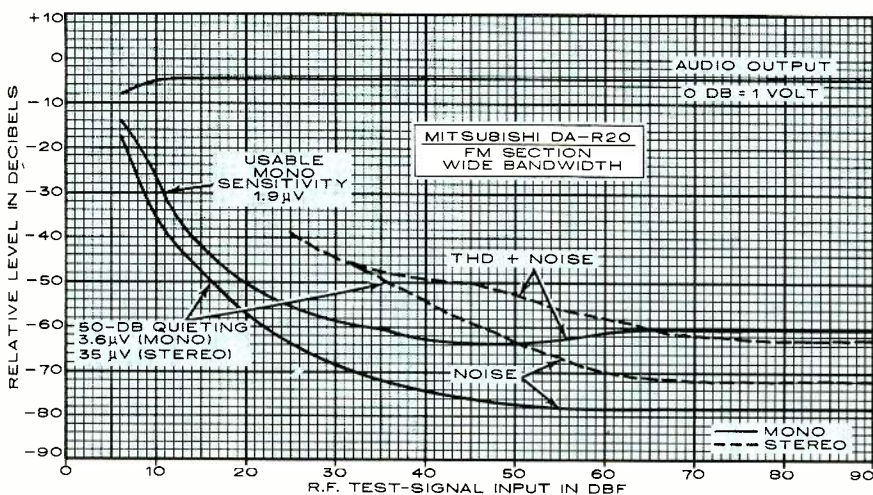
The stereo frequency response was flat within ± 1 dB from 30 to 15,000 Hz, falling to -2 dB at 20 Hz when measured through the tape-recorder outputs. The response actually rose slightly at the high-frequency end of the range since the DA-R20 does not have the usual low-pass filters in its tuner outputs to remove 19-kHz pilot-carrier components from the audio. It employs a pilot-carrier-canceling circuit for this purpose. The stereo channel separation (wide) was unusually good, measuring 54 dB in the midrange, better than 46.5 dB from 70 to 15,000 Hz, and 42 dB at 30 Hz. In the narrow mode, the separation was still more than adequate: 41.5 dB in the midrange, better than 37.5 dB from 50 to 15,000 Hz, and 34.5 dB at 30 Hz. The high-blend circuit reduced the separation to 22 dB at 1,000 Hz and 7 dB at 10,000 Hz.

Other tuner-performance measurements common to both i.f. bandwidths include: image rejection, 80 dB; muting threshold, 24 dBf (8 to 9 μ V); AFC lock threshold, 27 to 30 dBf (12 to 17 μ V); pilot-carrier leakage, -64 dB; and power-line hum components, -62 dB. With the wide bandwidth, the capture ratio was 1.8 dB, AM rejection was 58 dB at 45 dBf input and 68 dB at 65 dBf, alternate-channel selectivity was 53 dB, and adjacent-channel selectivity was 8.7 dB. Using the narrow i.f. bandwidth, the capture ratio was 2.15 dB, AM rejection 63 dB at 65 dBf, alternate-channel selectivity 84 dB, and adjacent-channel selectivity 13 dB. The only measurement made on the AM-tuner section was of its frequency response, which was very restricted—down 6 dB at 85 and 2,000 Hz.

Comment. In many of its circuit details the Mitsubishi DA-R20 differs from typical medium-price stereo receivers. Unfortunately, space does not permit going into these differences in any detail. Typical examples include the use of a parallel-driven digital frequency display in which all the digits are on simultaneously. (Most such displays are activated sequentially, but so rapidly that they appear to be lit constantly; according to Mitsubishi, the inevitable leakage of the switching frequency into other circuits degrades the signal-to-noise performance of receivers or tuners using such multiplexed displays.) Another example is the use of the protective relays (heavy-duty types that disconnect the speaker outputs if excessive current is being drawn or a d.c. voltage appears at the outputs) to switch the speaker outputs on or off under the control of the front-panel buttons. This minimizes wiring resistance in the speaker circuits while permitting the use of light-touch control buttons for the speakers.

As we studied the circuit features of the Mitsubishi DA-R20, we began to appreciate

(Continued on page 44)



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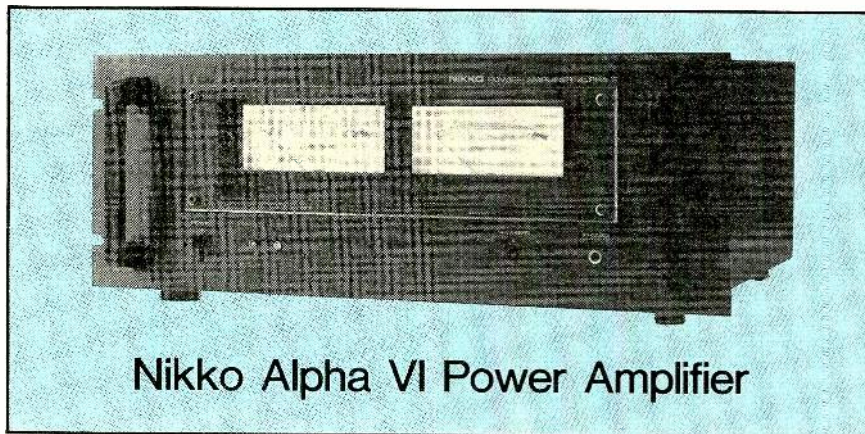


ciate that although most of them are not unique to this receiver and that each of them might make only a barely detectable or even inaudible contribution to ultimate listening quality, their effects combine to create an exceptional product. For example, the distortion and noise levels of the amplifiers in the DA-R20 are not only among the lowest we have encountered, but they are actually realized under most operating conditions. From the lowest useful output to well beyond maximum ratings, and at any frequency in the audio range, the amplifier distortion is barely measurable. The tuner

and amplifier signal-to-noise performance were both considerably better than average, resulting in an impressively quiet receiver. Even the audio filters and the loudness compensation worked really effectively (a statement that applies to a *very* small percentage of high-fidelity amplifiers and receivers). We were also gratified to find that the built-in head amplifier gave totally quiet performance with low-output moving-coil cartridges even at maximum volume settings (which were sometimes necessary with such cartridges for louder-than-normal listening levels).

In summary, the Mitsubishi DA-R20 manages to be a bit more than the sum of its parts. One can hardly find a handsomer, more versatile, or better-sounding receiver (its FM reception has noticeably less background noise than that of many other comparable or more expensive receivers). Even the price is, by today's standards, modest. If one can forgo having a super-powerful amplifier section, this elegant AM/FM stereo receiver can do justice to the most critical of listening tastes.

Circle 142 on reader service card



WITH considerable justification, Nikko refers to the Alpha VI as their "ultimate DC power amplifier." It is rated conservatively to deliver 300 watts per channel to 8-ohm loads from 20 to 20,000 Hz with no more than 0.008 per cent total harmonic distortion or 0.01 per cent intermodulation distortion. The rated high-frequency response of the direct-coupled Alpha VI is down only 1 dB at 100 kHz, and a switch in the rear of the amplifier inserts a blocking capacitor and level control in the input-signal path for each channel, giving a response rated to be down no more than 3 dB from 20 Hz to 200 kHz.

Each channel of the Nikko Alpha VI has three basic functional blocks. The input is a differential voltage amplifier using a low-noise dual FET and three bipolar transistors. It is followed by a driver stage using eight transistors in a push-pull differential current-mirror configuration. The output stage uses eight complementary-symmetry power transistors.

Each channel of the Alpha VI has its own separate power supply based on a large toroidal transformer and two 15,000-microfarad filter capacitors. The regulating and protection circuits of the Alpha VI appear to contain roughly as many components as its active amplifier circuits, indicative of a prudent approach to the design of this extraordinarily powerful amplifier.

The Nikko Alpha VI has four basic protection systems. A current-limiting resistor in the a.c. power-line circuit prevents an ex-

cessive inrush of current (which might blow the line fuses) when the amplifier is first turned on. A few seconds later, when the amplifier voltages have stabilized, a relay shorts out the limiting resistor. A d.c.-sensing circuit monitors the outputs and operates relays that disconnect the speaker outputs if a significant d.c. voltage appears there. The output relays also delay the connection of the speakers for a few seconds after the amplifier is turned on to prevent any transient thumps from reaching them.

The output transistors are protected against excessive load currents from shorted outputs or too low a load impedance. As part of that function (which disconnects the speaker outputs) a limiter reduces the drive to the output transistors. Finally, there is a comprehensive temperature-sensing system throughout the amplifier, using a total of five detectors. If critical parts of the amplifier reach a temperature of 120 degrees Celsius, a HI TEMP indicator light on the front panel begins blinking. If the temperature continues to rise and reaches 130 degrees Celsius, the protective system shuts down the amplifier.

A 300-watt-per-channel amplifier requires considerable cooling capacity, either in the form of very large heat-radiating fins or through forced-air cooling. The output transistors and power-supply regulator transistors of the Nikko Alpha VI are mounted on a large U-shaped metal trough that extends across the full width of the amplifier. A fan draws in cooling air at the left

side of the cabinet, passes it over the slotted, expanded walls of the trough, and exhausts it at the right side of the amplifier. The cooling fan operates at a low speed whenever the amplifier is turned on, but if the internal temperature becomes excessive, it switches to a higher speed.

A prominent feature of the Nikko Alpha VI is a pair of large peak-reading level meters on the front panel. Their logarithmic scales cover a range of more than 43 dB, with calibrations from 0.01 to 600 watts (based on 8-ohm loads). The meters are driven by electronic circuits that produce an attack time of only 100 microseconds and a decay time of 900 milliseconds. They can follow even the briefest program peaks without overshoot or lag.

Below the left-channel meter are the lever-type POWER switch and the PROTECTION and HI TEMP lights. When the amplifier is first turned on, the PROTECTION light glows red; in a few seconds the output loads are connected and the light changes to green. If any of the protective circuits are activated, the light again becomes red. When this occurs, normal operation is restored automatically a few seconds after the fault is corrected. Below the right-channel meter are two small pushbuttons, which connect the two sets of speaker outputs, and a stereo headphone jack.

On the rear apron of the Nikko Alpha VI are two pairs of heavy-duty binding posts for the speaker outputs (spaced on 3/4-inch centers to accept dual banana plugs as well as wire leads). A slide switch above them "straps" the amplifier for mono operation with the speaker connected across the two "hot" output terminals and a power rating of 650 watts into 8 ohms. The two input jacks are gold plates, and above each is a small knob for adjusting the level of that channel when the adjacent slide switch is set to NORMAL (in DIRECT, the level controls as well as the input-blocking capacitors are bypassed).

The Alpha VI is finished in black and has a 19 x 7 1/4-inch front panel slotted for rack mounting. The amplifier extends about 18 1/4 inches behind the panel and weighs 60.5 pounds. Since it can draw at least 1,000 watts from a 120-volt power line at full output, the Nikko Alpha VI cannot be switched on and off by conventional pream-

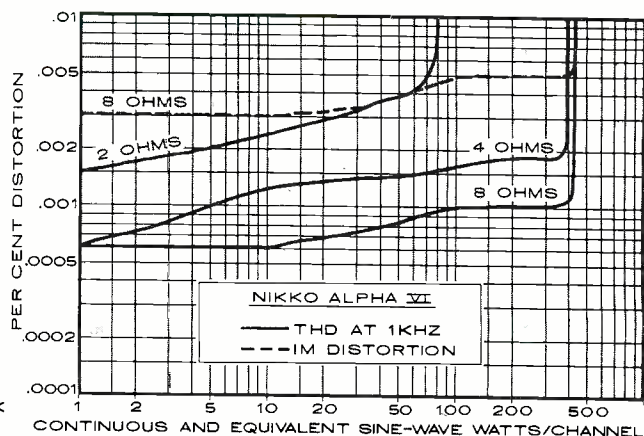
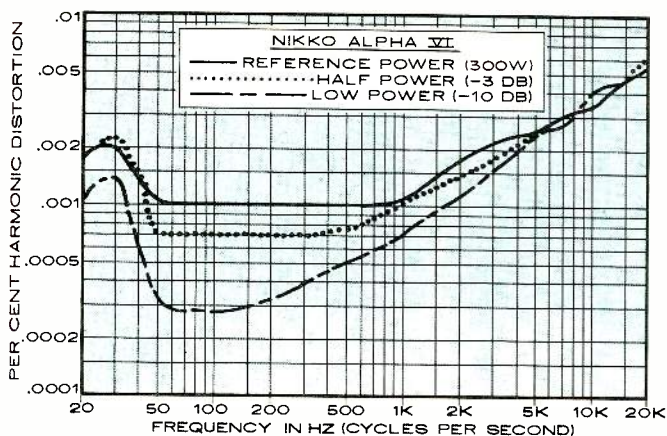
(Continued on page 46)



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plifiers and should be plugged into its own wall outlet. Price: \$1,400.

● **Laboratory Measurements.** The highly effective fan cooling system of the Nikko Alpha VI prevented any part of its exterior surface from becoming more than mildly warm during the 1-hour preconditioning or at any subsequent time in our testing. The fan switched to high speed several times during the preconditioning period but never during our tests, even at full power output. And at no time did the HI TEMP light come on. Although both channels were driven for preconditioning purposes at one-third rated power, we drove only one channel in the following tests. Because of the separate power supplies in the amplifier, this was a valid procedure (each channel being completely independent of the operation of the other), and it avoided possible problems with blowing test-bench line fuses when the amplifier was driven to full power and higher.

With the Alpha VI driving an 8-ohm load at 1,000 Hz, the waveform clipped at 435 watts output. With a 4-ohm load, the power

at clipping was 400 watts, but the internal protective circuits shut down the amplifier at about 80 watts when we tried to drive a 2-ohm load. The IHF clipping headroom was 1.61 dB. With the tone-burst signal specified by the IHF amplifier-test standard, the dynamic power output was 486 watts into 8 ohms, 403 watts into 4 ohms, and 80 watts into 2 ohms. The IHF dynamic headroom was 2.1 dB.

The 1,000-Hz distortion (8 ohms) was between 0.0006 and 0.001 per cent from 0.1 to 400 watts output. With a 4-ohm load, the distortion rose from 0.0006 per cent at 0.1 watt to about 0.0015 per cent in the 10- to 100-watt range, and 0.0018 per cent at 300 watts. Even the "worst-case" operation (a 2-ohm load) resulted in distortion readings of 0.0015 per cent at 1 watt and 0.0025 per cent at 10 watts.

At the rated 300-watt output into 8 ohms, the distortion was about 0.001 per cent from 50 to 1,000 Hz, rising smoothly to a maximum of about 0.006 per cent at 20,000 Hz and to 0.002 per cent in the 20- to 30-Hz range. At half and one-tenth power,

er, the characteristic was similar, but with slightly lower distortion readings—at 30 watts output the distortion in the 50- to 150-Hz range was 0.0003 per cent!

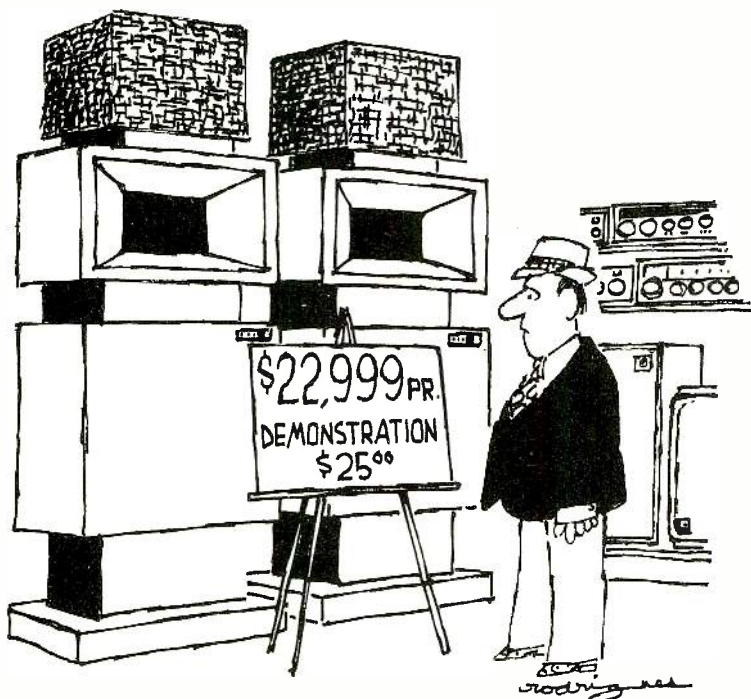
We performed the IHF intermodulation-distortion measurement using two equal-amplitude tones at 15,000 and 16,000 Hz. When the combined peak level was 1 dB below clipping (equivalent to a sine-wave output of about 385 watts), the only distortion product that could be seen on our spectrum analyzer was a third-order component of -90 dB (0.003 per cent) at 17,000 Hz. There was no detectable 1,000-Hz difference tone as far down as -100 dB (0.001 per cent).

An input of 55 millivolts drove the Alpha VI to a reference output of 1 watt, and the A-weighted output noise was 80 dB below 1 watt. The amplifier rise time was about 4 microseconds, and its slew rate was 33 volts per microsecond. The IHF slew factor was 2.5, since the amplifier shut off at 50 kHz when driven by a "full-power" input.

The peak-output meters responded very rapidly, with no detectable lag or overshoot. Their power calibration was within 20 per cent of the actual output into 8 ohms at readings up to 50 watts or so, falling increasingly short at higher outputs (the meters read 300 watts when the amplifier was just clipping at 435 watts output).

Although the cooling fan was no noisier than most, we could hear it clearly (and annoyingly) in a normally quiet listening room. We measured its noise level at a distance of 1 meter from the front panel and also from the right side-exit opening for the cooling system. The measurement was made with both normal and high-speed fan operation and with both A and C weighting on the sound-level meter. In the normal (low-speed) condition, the sound-pressure level was 40 dB(A) or 50 dB(C) at both locations. In high-speed operation the noise levels were 55 dB(A) and 59 dB(C). The ambient noise in the room during these measurements was 34 dB(A) or 40 dB(C). These figures are lower than normal for a home environment.

● **Comment.** As we have found in almost all our power-amplifier tests, good amplifiers sound alike, within their power ratings, if their noise and distortion levels are kept below the threshold of audibility (a threshold that is far higher than most people sus-
(Continued on page 49)



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pect). The Nikko Alpha VI was no exception to this rule since it is a very stable, virtually distortionless, and certainly noise-free amplifier.

Super-power amplifiers have often proved to be somewhat "fragile," especially when pushed to their limits. However, judging from our experience with the Alpha VI, this amplifier should be virtually indestructible in any conceivable service.

Not wishing to abuse our speakers, we limited ourselves to operating the amplifier within its 300-watt ratings. Over the years we have come to appreciate the audible advantages of having effectively limitless am-

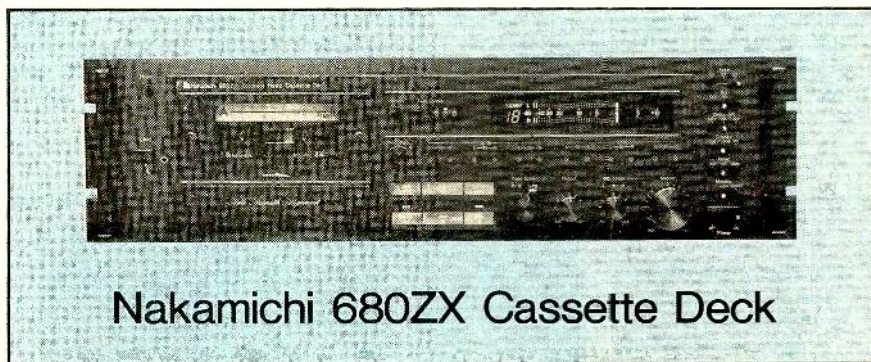
plifier power reserves. We never sensed that we were on the verge of exceeding the capabilities of any part of the system (even the speakers) at full power, but we were not so sure about our eardrums. It is perfectly possible to develop peak SPL readings that exceed 110 dB when driving a pair of moderate-efficiency, acoustic-suspension speakers with this amplifier. That is *LOUD* by any standards except those of some hard-core rock enthusiasts.

Our only adverse reaction to the Alpha VI concerned the fan noise, which we found to be excessive in a quiet room. Since the amplifier runs so cool, we suspect that the

fan could be slowed down to half or less of its normal slow speed without hazard to the amplifier, which could then be placed in the open where its handsome exterior would please the eyes as much as its superb electronics please the ears.

Summing up, the Nikko Alpha VI does not need to be pampered or handled with kid gloves. It is a highly sophisticated brute of an amplifier that seems to be impervious to the usual hazards of high-power amplifiers yet manages to run cooler than most tuners or cassette decks.

Circle 143 on reader service card



NAKAMICHI cassette decks have long enjoyed a reputation for high performance and technological innovation, and this tradition is well maintained by the company's newest model, the 680ZX. Among the many notable features of the 680ZX is its ability to achieve high-fidelity performance not only at the normal cassette speed of 1 7/8 ips, but at 1 3/16 ips as well.

The front-loading 680ZX uses four d.c. motors in its transport system. The capstan motor is controlled by a phase-locked loop (PLL). During playback, tape speed can be varied by ± 6 per cent by turning a front-panel PITCH control. Reel drive is provided by a second d.c. motor. The third motor is used to replace the functions normally provided by the solenoids in a logic-controlled deck (shifting the head assembly up to the tape and operating the brakes). Using a motor-plus-cam system in this manner certainly results in an action quieter and smoother than that of solenoids, and it is claimed to improve the long-term head-position accuracy as well.

The remaining motor drives a unique "Automatic Azimuth Alignment" feature that fine tunes the vertical alignment of the record head in order to compensate for manufacturing-tolerance differences in cassette housings that could result in high-frequency losses. This is particularly important for 1 3/16-ips operation, since obtaining a response to 15,000 Hz at that speed is equivalent in difficulty to extending the normal-speed frequency response to 30 kHz; in neither case can even the slightest azimuth error be tolerated. The motorized

azimuth adjustment is pushbutton-activated and requires only 3 or 4 seconds to complete its action, during which time a blue indicator light above the PLAY button flashes.

As in other recent Nakamichi recorders, a dual-capstan drive is used to ensure that the section of tape actually passing across the heads is isolated from the supply and take-up reels. The two capstans have different diameters and turn at different rates. This, in combination with the use of transport materials with differing vibrational characteristics, has been used to minimize unwanted mechanical resonances (Nakamichi refers to this technique as a "diffused resonance" design).

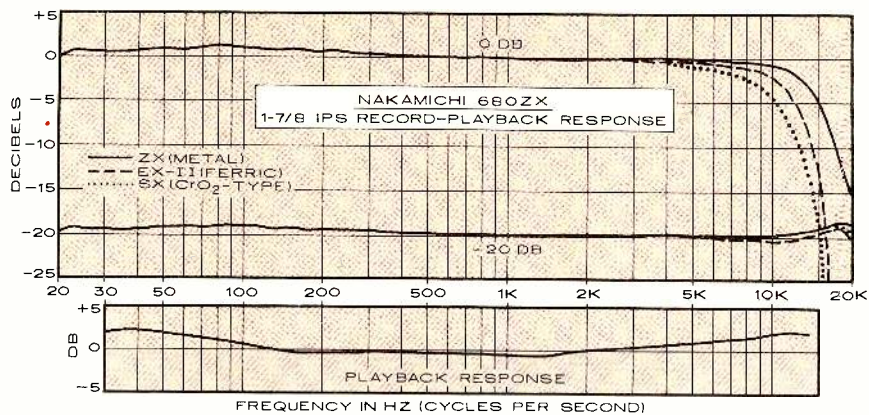
The Crystalloy record and playback heads are separate, each with its own set of alignment adjustments, but they have been so miniaturized that both will fit into the cassette-shell opening originally intended for a single tape head. The playback head gap is a mere 0.6 micrometer, or less than 24 millionths of an inch.

To prevent the eventual development of a tape-wear groove on the record and playback head surfaces, slots have been carefully etched into the head faces at the points where the tape edges pass across. Additionally, the playback head has been fitted with a pair of front-facing extensions that push the cassette pressure pad out of the way entirely. This lowers scrape flutter but requires, of course, a really effective dual-capstan system to maintain proper tape-to-head contact in the absence of the usual pressure pad.

Cassettes are inserted, with their openings downward, into slides on the rear of the cassette-well door. When it is pushed closed, a slight amount of drive is briefly applied to take up any slack in the cassette. A removable large plastic front plate and illumination within the cassette chamber give full label visibility and provide access to the heads and other parts for routine cleaning and demagnetizing. The usual three-digit counter, with memory rewind and fast-forward, flanks the cassette well on the right.

The REWIND, PLAY, FAST-FORWARD, PAUSE, RECORD, and STOP pushbuttons all have illuminated indicators, and all but the last are used for secondary purposes as well. For example, when the METER switch is set to its CALIBRATE position, pressing the RECORD and PLAY buttons initiates the "Auto Azimuth Alignment" function. When the deck is in a fast-wind mode, touching the PAUSE button slows the tape to approximately one-third its fast speed and puts the heads close enough to the tape so you hear the recording (though at faster-than-normal speed) while hunting for the beginning of a particular passage. If that speed is still too rapid, depressing and holding the FAST-FORWARD or REWIND button slows the winding still further. Alternatively, while the deck is in its cue mode, depressing the PAUSE button (up to a total of eighteen times) initiates still another logic-controlled feature with readout, the "Random Access Music Memory" (RAMM), by means of which the 680ZX will automatically skip past the number of upcoming selections you have punched in. The RECORD button turns into a RECORD MUTE button if it is pressed a second time and held while recording.

The fluorescent level display in the 680ZX, in contrast with the usual twelve- or fourteen-segment indicator, covers the range from -40 to $+10$ dB with fifty-two separate elements, permitting resolution very close to that of a mechanical meter. The level indicators can be switched between a peak-reading mode (with a peak-hold function), a VU mode (which reads average levels but is constantly accompanied by the higher, peak-reading, function as well), or a calibration mode (used to adjust the record sensitivity of different tapes to match a built-in Dolby level tone). Twelve

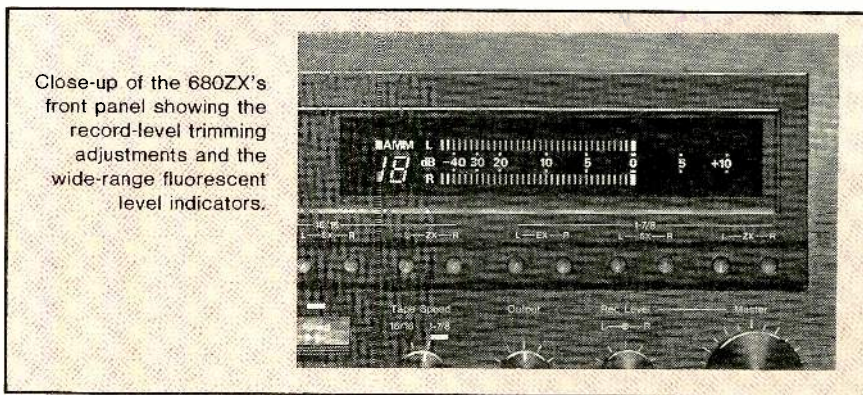


screwdriver-adjustable controls (separate left- and right-channel adjustments for each of three tape types for each speed) are located directly below the level display for this purpose. The remainder of the front panel is occupied by lever-action switches for bias and playback equalization, Dolby on-off-MPX (the third position inserts a stereo-FM multiplex filter), external timer-switch activation, tape or source selection, and, of course, a power switch. A pair of concentric controls set the record level, and an overall MASTER control adjusts both channels simultaneously. A dual-action output control adjusts the level both at the rear-panel jacks and at the front-panel headphone jack.

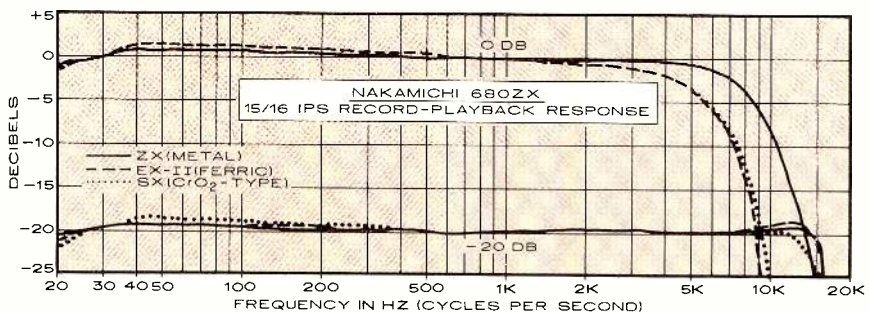
The rear panel contains the customary input and output connectors, plus a jack for an accessory remote-control device and a power-supply output for use with a Nakamichi microphone mixer or other accessory (the 680ZX has no microphone circuitry of its own). The unit is finished in black and comes with standard-rack mounting adapters. Overall dimensions are 5 7/8 x 19 x 13 3/8 inches in height, width, and depth, and the unit weighs a little under 20 lbs. Price: \$1,550.

● **Laboratory Measurements.** Our sample of the 680ZX came supplied with the tapes used in making the factory adjustments, so we used the Nakamichi ZX ("Metalloy"), Nakamichi SX (CrO₂-equivalent), and Nakamichi EX-II (ferric) as our primary references. However, equivalent results were obtained using TDK MA, TDK SA, and Maxell UD XL-I, respectively, for these three switch positions. We also tested a number of the other formulations recommended in the owner's manual: Ampex Grand Master I and II, Fuji I and II, 3M

Metafine, Fuji Metal, and TDK AD. All were impressively similar in performance, though TDK AD showed its characteristic rising high-frequency response and the Fuji Metal tape had a similar pattern. All fell within the usual ± 3 -dB specification, however, and it is difficult to find fault with a rising output that ends at +3 dB at 20 kHz!



Playback response was checked using Teac 120- and 70-microsecond test tapes, and, as the accompanying graph shows, both displayed the gradually rising (+2.5 dB maximum) playback response that has always characterized Nakamichi recorders when using regularly available test tapes. We found any measurable discrepancy inaudible when listening to a large number of prerecorded tapes. The slight rise in the bass frequencies results from playing a full-track test tape on a quarter-track deck and



does *not* represent an equalization error in the machine.

As for overall frequency response at the normal cassette speed of 1 7/8 ips, measuring it from 20 to 20,000 Hz is almost an exercise in futility; one might almost as well buy a ruler to draw "curves" that are all within +1.5, -0.5 across the whole range. At the higher 0-dB level, the measurable advantage of metal tape becomes quite clearly apparent at frequencies above approximately 8,000 Hz.

Turning to the 1 5/16-ips graphs, however, we find a somewhat different picture emerging. At the 0-dB level the advantage of metal tape becomes significant, at least in dubbing material with a good deal of high-frequency content. Moreover, we were impressed by the fact that both the metal and ferric tapes had an almost perfectly flat response out to 15 kHz (using the traditional -20-dB level for measurement) and that the SX was down only 4 dB at that point. Not many years ago, few cassette decks could match this at regular speed, much less at half-speed! Notable, too, is the complete absence of low-frequency undulations ("head bumps") on the curves taken at both speeds.

Differences in distortion and signal-to-noise ratio (S/N) between the two speeds are inevitable, and they showed up in our measurements. Using the ZX (metal) tape, the distortion at 0 dB at 1,000 Hz was 0.25 per cent, with an additional 7.7-dB overload margin before reaching the 3 per cent distortion point when using normal speed. At half-speed the 0-dB distortion was 0.71 per cent, with a 3.8-dB overload margin—still excellent performance. Unweighted S/Ns with the ZX tape for the higher and lower speeds were 54 and 48.4 dB, respectively, and adding Dolby and IEC A-weighting raised the figures to 67 and 61.4 dB.

The SX (CrO₂-type) tape registered distortion of 0.52 and 1.8 per cent at 0 dB at the two speeds, with overload margins of 4.3 and 1.0 dB, respectively. Unweighted S/Ns measured 51.6 and 46.8 dB. Dolby noise reduction and A-weighting raised these figures to 65 and 60 dB for the higher and lower speeds.

The EX-II (ferric) tape performed quite similarly, with 0.61 and 1.8 per cent distortion percentages and 4.2- and 1.5-dB overload margins. Unweighted S/Ns were 50

(Continued on page 52)

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and 47 dB, or 64 and 60 dB with Dolby and A-weighting.

Wow and flutter measurements showed a superb deck at 1 7/8 ips and quite good performance even at half-speed. Using a combined record-rewind-playback technique (our test tapes couldn't measure the wow/flutter at normal speed), we found 0.028 and 0.058 per cent using the customary weighted-rms technique for the two speeds and 0.055 and 0.08 per cent, respectively, when measuring according to the stricter DIN peak-weighted method.

Dolby-level calibration, checked with a TDK AC 317 test tape, read 1 dB high, as did the deck's own internal calibration tone. Overall Dolby tracking, measured at levels of -20, -30, and -40 dB on either speed, was within ±0.75, usually within ±0.5, throughout the entire frequency range. This is outstanding accuracy.

An input-signal level of about 0.5 volt was sufficient to produce a 0-dB record level, which corresponded to an output of 1 volt. Fast-forward and rewind times measured a fast 52 and 57 seconds, respectively, for a C-60 cassette.

● *Comment.* Readers will by now have gathered that we were extraordinarily impressed with the Nakamichi 680ZX. At 1 7/8 ips its frequency response provided perfect handling of any FM or normal disc material we put to it in a direct A-B comparison except, perhaps, for the faintest additional background hiss when playing at extraordinarily high levels. Only with special test signals (such as FM hiss recorded at a relatively high level) could we find any audible compression of the high frequencies when using metal tape; the ferric and chromium-dioxide equivalents were respectably close even in this regard.

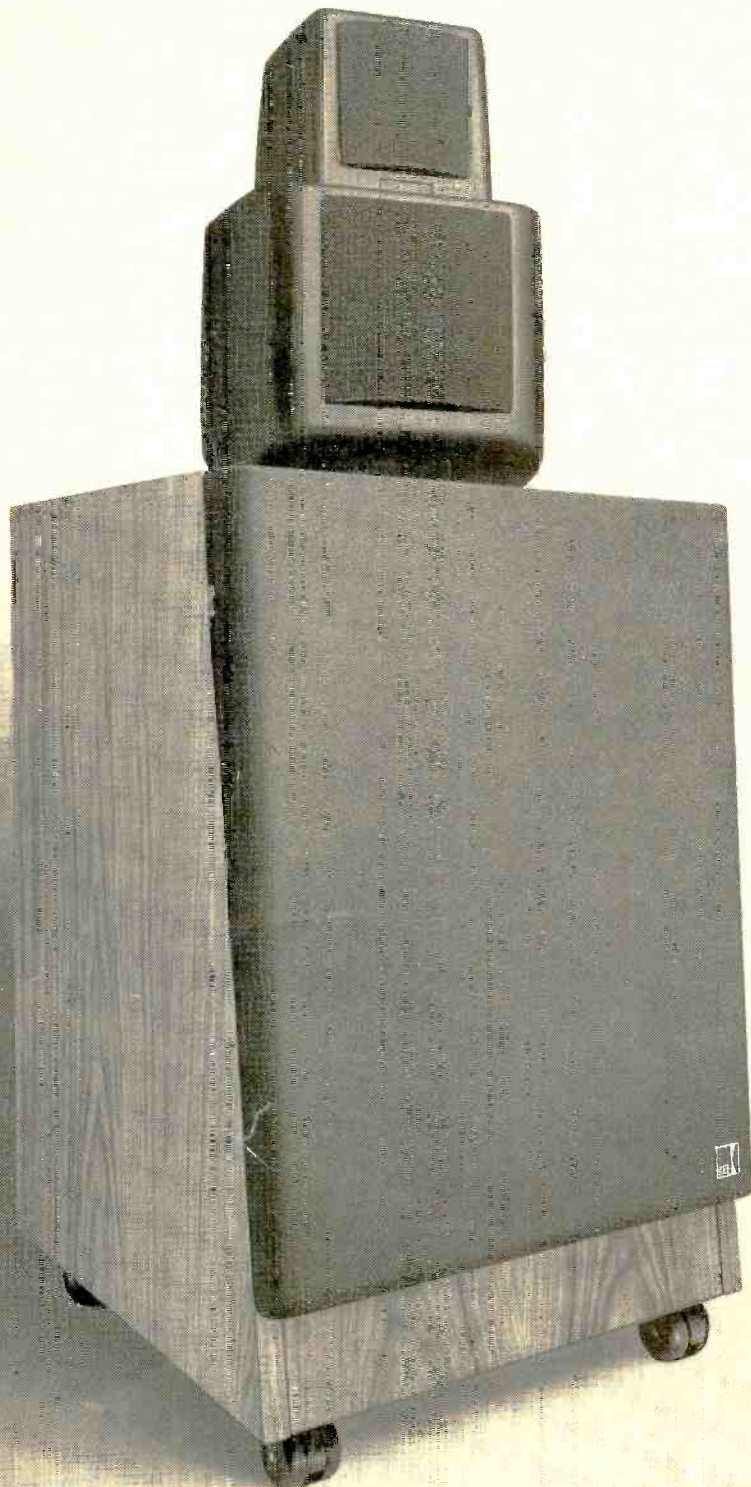
Naturally, given the 680ZX's 1 5/16-ips speed, our primary listening tests were aimed at determining what one gave up for double the playing time. For people who tape long musical works, the maximum of 45 minutes a side is a serious limitation of the cassette medium; half-speed taping, with 90 minutes a side, virtually eliminates the problem. Further, the doubling of the available use of a given cassette makes it much more feasible to spend twice the money to buy metal-particle tapes.

In respect to FM dubbing, there is very little on the air that justifies the greater speed with any premium grade of tape: only broadcasts with wide dynamic range (lots of very soft as well as very loud passages) will even show up the difference in background hiss. More demanding albums will also show the difference—if you wish to listen to them at a very high volume. For most home listening, however, it is doubtful that you would hear any difference (particularly with metal-particle tape) between the two speeds. We find that to be a truly revolutionary development in cassette recording.

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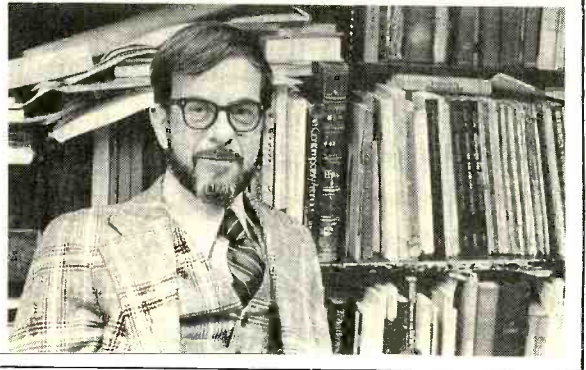
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Going on Record

By James
Goodfriend



ONE NATION, INVISIBLE

THERE are, in the current Schwann catalog, five recordings of Leoš Janáček's *Sinfonietta*: one by a Czech conductor with a Czech orchestra; one by a Czech conductor with a German orchestra; one by a Hungarian conductor (who worked for many years in Czechoslovakia) and an American orchestra; one by an Italian conductor with an English orchestra; and one by a Japanese conductor with an American orchestra. Assuming that you need to buy one of them in the next three minutes before the store closes, assuming also that the store has all of them in stock (hah!), and assuming still further that you have forgotten every record review you ever read and that the names of the performers are all about equally familiar or unfamiliar to you, which one do you buy? I would not presume to tell you, but if you go for the first, or even the second, or possibly the third, you are a believer—as I generally am—in the national theory of musical interpretation. Never mind that Janáček was a Moravian and that probably both Czech conductors, as well as the Czech orchestra, are Bohemians; close is close.

The national theory of interpretation holds that, all other things being equal, a performer of the same nationality as the composer of a particular piece will provide a better, a more *idiomatic* performance of it than someone else. Of course, all other things are rarely equal, but even if they were, is this nonsense? I don't think so. Different performers and performing organizations, like different composers, have different musical personalities. And among the things that contribute to those personalities are national characteristics, picked up through heredity and environment and perhaps even Jungian racial memory. Thank God, all people are not quite the same, and all countries—despite the efforts of some multinational corporations—are not quite the same *yet*. It is those subtle and not so subtle differences that give us, among other things, variety in musical interpretation, the license to say not just that one performance is more effective than another, but that one is more *idiomatic* than another.

Of course, it's all a matter of degree. Mozart is and is not an Austrian composer today. There is a sort of Viennese style of Mo-

zart interpretation, but there is probably no one who insists upon it as the only valid Mozart. Brahms is performed around the world, and the orchestras of neither his native city (Hamburg) nor his adopted city (Vienna) have any patent on idiomatic Brahms interpretation. French conductors and orchestras no longer hold exclusive rights to Debussy and Ravel, nor do French pianists. Singers are another matter.

And that brings us to just what it is in the music that *allows* one performance to be more idiomatic than another. In part, it is the words. This is obvious in vocal music, but it is a factor in instrumental music too. For a fair amount of purely instrumental music (Janáček's is a splendid example) is based on speech patterns and syllabic accentuation, and one who knows the language will recognize those patterns and interpret accordingly. You can learn them, of course, but most foreigners who speak French don't sound like Frenchmen—and so on.

The second source of this seemingly invisible national quality is in its roots in folk music and dance, which, having originated when distances between cultures were far greater than they are now (or in the last 500 years), are naturally insular and individual. For a composer to quote a folk tune or dance is an obvious national gesture, but the influence is much more widespread than that. Many composers wrote their own "folk tunes" out of a natural feeling for the national style or even unconsciously incorporated elements of folk dance because the rhythmic language was native to them.

ALL music has folk or language roots, but the degree of closeness to those roots varies. The closer it is, the more the national theory of interpretation will apply; the more abstracted it is, the less will that theory mean anything. And, of course, there are exceptions; there are *always* exceptions. Now, which of those Janáček *Sinfoniettas* would I buy? None, thank you, for I have three recordings of the work already; two by Czech conductors leading Czech orchestras and one by an American-born Australian leading an English orchestra. I like them all, not least the third. □

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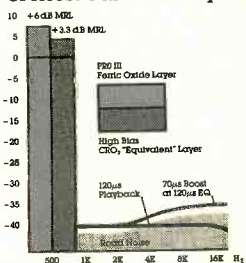


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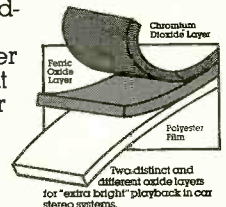
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How to use your listening room's absorptions, reflections, standing waves, boundary reinforcements, and cancellations to determine optimum

LOUDSPEAKER PLACEMENT

By Peter Mitchell

THE performance of any loudspeaker system is affected by acoustic interactions with the boundaries of the listening room—the floors, ceiling, walls, and major furnishings. Whether you are shopping for loudspeakers or have already purchased a pair and are trying to get the best sound out of them, their behavior will be less mysterious if you understand that these interactions are (1) unavoidable but (2) controllable. These interactions are also important, for only a small part of the sound produced by a loudspeaker travels directly to listeners: typically, most of the sound arrives at your ears only after having been reflected from large wall surfaces and solid objects within the listening room. These reflections often affect your speakers' ability to create a stereo image, and they invariably affect their tonal balance.

The Stereo Image

Ideally, stereo means more than just a general sense of three-dimensional spaciousness around the musical performers on a recording, more than just

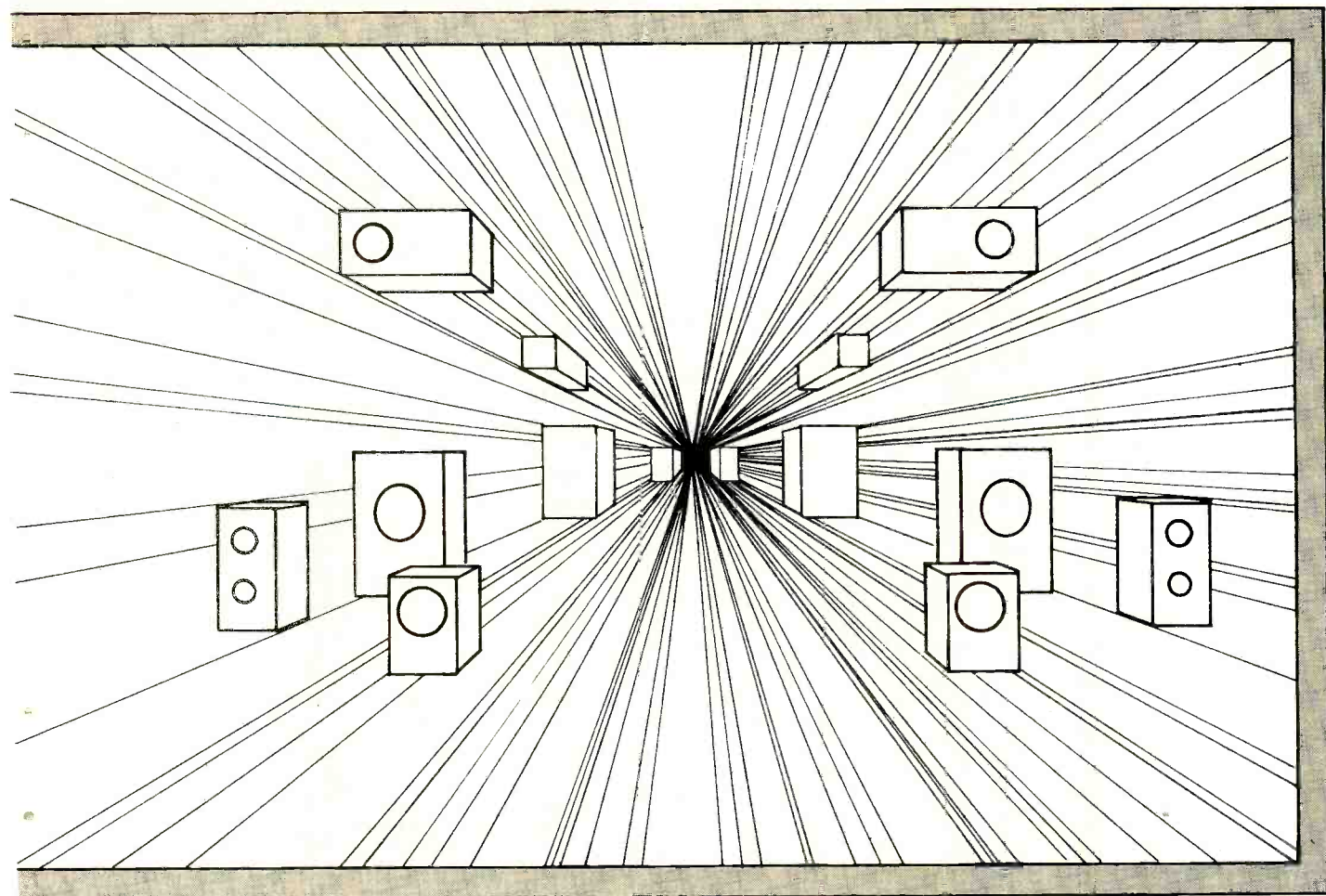
being able to separate a guitar playing in the left speaker from a set of castanets playing in the right. With a well-made recording, stereo can produce a detailed panorama, a sonic mural with an array of localizable sounds spanning the stage from left to center to right, plus differences in apparent depth (instruments at varying distances from the microphone), or perhaps even an image of a symphony orchestra projected in space beyond the walls of your living room, complete with the reverberant ambiance of a concert hall.

If you want to obtain accurate and detailed stereo imaging, the first rule is that the speakers should be located at approximately equal distances from your listening position. The ear relies heavily on the arrival times of sounds when judging direction. If your left-channel loudspeaker is a foot closer to you than your right-channel speaker, then the left speaker's sound will get to you first, pulling the apparent stereo image toward the left.

Stereo imaging also depends on the relative sound levels of the two speakers. You can check this easily by switching your amplifier to mono and

adjusting the channel balance control until the sound is centered in space midway between the speakers. If the speakers don't produce a well-defined central image, check to see if they are wired in phase, as they must be for correct imaging. Any midrange or tweeter level controls on the speakers should also be adjusted to make the two speakers sound as nearly alike as possible, for if one speaker is substantially brighter or duller than the other, the stereo balance (and therefore the image) will shift with frequency.

While stereo imaging is controlled primarily by when signals arrive at the ears and by what their relative levels at each frequency are, that's not the whole story. The character of the stereo sound can also be altered by the *reflected* sounds arriving at the ears shortly after each direct sound. So, after matching the speakers in terms of distance, volume level, and frequency response, it is then necessary to match their acoustical environments. This generally means setting the speakers at similar distances from the side walls to achieve a similar pattern of reflecting surfaces and furnishings in the vicinity of each speaker



(see Figure 1). Such symmetry may not be easy to achieve, for many rooms are not symmetrical in their shape, distribution of doors and windows, or placement of furnishings. But try to avoid the *worst* asymmetries: if the left speaker is located next to hardwood paneling or a large area of glass and the right speaker is adjacent to a wide-open doorway or heavy drapes, an unbalanced stereo image can be expected.

Many speaker designers believe that the most problematic sound reflections are those that arrive at the ear within the first few milliseconds after each direct, nonreflected sound. Since sound travels through air at the speed of 1,130 feet per second (or slightly over a foot per millisecond), the important reflections are therefore those coming from close to the speaker, especially the floor and the nearest side wall. Even where the reflecting surfaces are uniform and symmetrical in respect to speaker location, speaker sound radiated up, down, or to the sides can, according to acoustics researcher Daniel Queen, confuse stereo imaging. (Many loudspeakers with smooth on-axis responses exhibit highly irregular frequency responses at

certain off-axis angles. The result is that reflected sounds differ in tonal quality from direct sound and from sounds reflected from different angles.)

THERE is increasing agreement among speaker experts that, unless you have uniform reflecting surfaces and a pair of loudspeakers whose frequency response is equally good in all directions, the best course is to avoid early reflections entirely. In England it has become common practice to mount loudspeakers on stands at least 2 or 3 feet away from the walls and floor. If you find this unsightly or impractical, or if your loudspeakers need to have their backs against a wall in order to produce a balanced low-frequency response, you may still find it beneficial to place the speakers at least 2 or 3 feet from side walls (that is, out of corners). Obviously, this advice does not apply to those few loudspeakers specifically designed for corner placement. If you decide that you want to space the speakers 8 feet apart for good separation, and the room is only 11 feet wide, each speaker will be only 1½ feet from the corner and adjacent side wall. In this

case you may get a more spacious and detailed stereo image by placing the speakers along the room's longer wall so that they radiate across the shorter room dimension.

The principle of avoiding early reflections has found its way into recording-studio control rooms. In control rooms designed according to the "live-end, dead-end" principle, surfaces around the loudspeakers are made acoustically absorptive or "dead" to prevent early reflections, while the room surfaces at the listener's end of the room are made uniformly reflective to develop a homogeneous reverberant sound field. Similarly, in a home installation, if you find it most convenient to locate your loudspeakers along the short wall of the room, or on widely spaced stands so that they are fairly close to side walls, then you might want to try using sound-absorbing materials on those areas of the walls that are close to the front of each speaker. Try heavy drapes or special sound-deadening panels, or eliminate the large mirror-like reflection off each wall by installing bookshelves filled with books and other objects of varying sizes to scatter reflec-

PLACEMENT...

"... the wider a loudspeaker's dispersion, the more important a well-balanced absorptive/reflective room acoustic..."

tions in several different directions.

A similar concern with early reflections has lately prompted some speaker designers to produce models with slim cabinets, rounded corners, sound-absorbing felt on the front, or large front-panel surfaces. All these measures are meant to control the system's sound radiation in various ways. If you have conventional bookshelf speakers with sharp corners, you can deal with any problem they might create by installing the speakers in bookshelves or record cabinets surrounded by books or records *flush* with the front of the speaker cabinets, avoiding any cavities on the top and sides of the systems.

Tonal Balance

At middle and high frequencies the octave-to-octave tonal balance of the speakers is influenced by the acoustical "signature" of the listening room—the overall tendency of its surfaces and furnishings to absorb or reflect sound, including variations in its absorptivity and reflectivity with frequency. If the room has many hard-paneled boundary surfaces and sparse furnishings, it will be too "live," and reflected sounds will continue to bounce about too long after each note of music stops. Conversely, if

the room has deep-pile carpeting, heavy drapes, an acoustical-tile ceiling, and cushioned furniture, it may be too "dead" and soak up the sound too quickly. Fortunately, most listening rooms fall between these extremes, with a nice balance of absorbing and reflecting surfaces.

A good *distribution* of the absorptive materials is also important. For instance, if you have wall-to-wall carpeting it is probably not desirable for its opposing parallel surface, the ceiling, to be covered with sound-absorbing material too. Instead of having one wall completely bare and the opposite wall totally absorbing, have alternating areas of reflection (glass, plaster, or wood paneling) and absorption (open doorways, drapes, upholstered furniture, or cork) on each wall surface. And it's also good to break up regular patterns of reflection with objects that scatter sound (structural beams, furniture, bookshelves, record cabinets).

In general, the wider a loudspeaker's dispersion, the more important a well-balanced absorptive/reflective room acoustic becomes. This is a major reason why speakers often sound different in a living room than they do in a store showroom. Some speaker systems, especially those using midrange horns, confine most of their acoustic output to a moderately narrow or "controlled" radiation angle, with the result that their subjective sound quality tends to vary less from room to room than is the case with wide-dispersion or quasi-omnidirectional systems that deliberately bounce most of their output off the walls.

At bass and low-midrange frequencies the performance of all loudspeakers is greatly affected by room-boundary

reflections. The reflection effects fall into two important categories: "standing waves" from sustained back-and-forth reflections between each pair of parallel room boundaries, and "boundary reinforcement" due to reflections from the wall and floor surfaces closest to each speaker.

Standing Waves

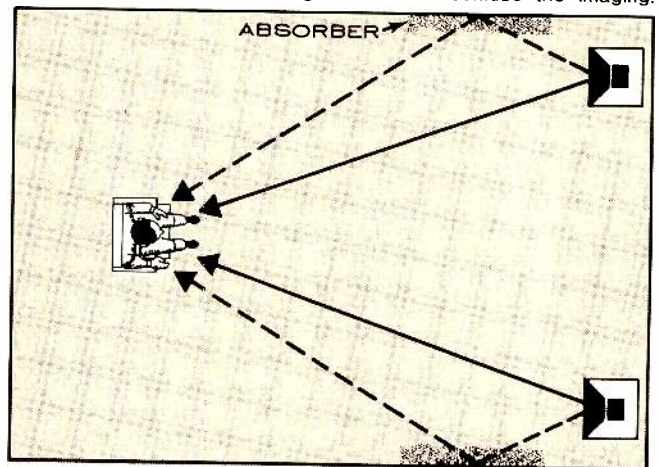
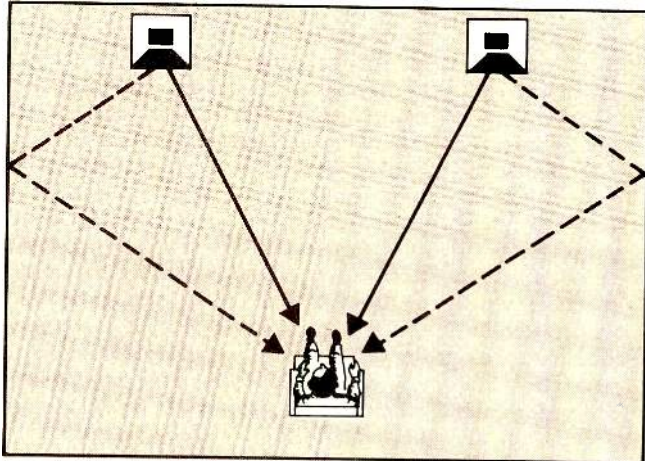
In any room having parallel boundary surfaces, the distribution of low-frequency energy is very uneven because of the presence of "room-resonance modes." The strongest of these arise from reflections across each of the room's three dimensions: floor to ceiling, left wall to right wall, and front wall to back wall.

Standing waves occur because of the relatively slow speed of sound in air. By the time the sound has traveled across the room and been reflected back, the speaker may have produced the next full cycle of the sound wave. When this happens, the new wave and the reflection combine "in phase" and reinforce the sound. Or, at a different frequency, the speaker may be only halfway through the next cycle when the reflected wave returns; the new wave and the returning reflection are then out of phase and tend to cancel each other. Finally, at those frequencies for which the room dimensions are simple multiples of the wavelength of the sound, there is a systematic pattern of reinforcement in some areas of the room and cancellation in other areas.

The most prominent standing wave occurs at the fundamental resonance for each room axis. The wave's frequency (in hertz) is $F_1 = 565/D$, where D is the distance in feet between parallel

Figure 1. For best stereo imaging, place speakers as in the diagram at left below, matching their distances from the side walls (to obtain similar sets of reflections) and from the prime listening position (to equalize arrival times). If speakers must be mounted close to side

walls, as in the diagram at right below, use absorbent materials such as thick acoustic panels, heavy draperies, or shelves filled with books and other objects in order to absorb or scatter the early, mirror-like reflections that might otherwise confuse the imaging.



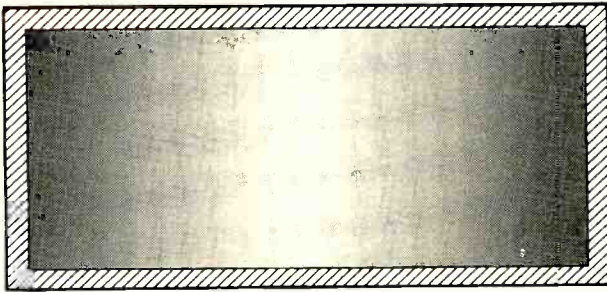


Figure 2(a). At the fundamental resonance frequency of a room's length, there is *minimum* sound pressure in the center of the room.

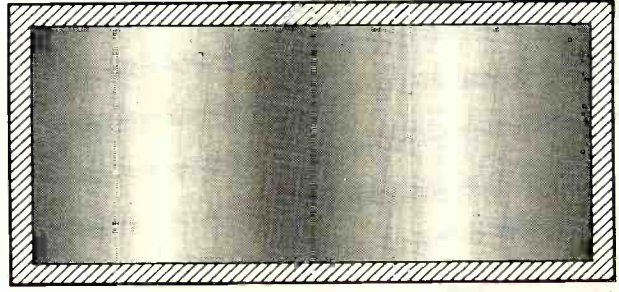


Figure 2(b). At twice the resonance frequency, there is a sound-pressure *peak* in the center of the room as well as at both ends.

UNDERSTANDING STANDING WAVES

STANDING waves are often said to “support” bass frequencies in a room, but in fact they systematically bias the distribution of bass energy so that, at most common listening positions, the deep bass is weakened while the mid-bass is exaggerated.

Consider the standing waves on the axis of a room's width. Stereo speakers are usually installed symmetrically in the listening room (that is, at equal distances from the side walls), and in order to hear the most accurate stereo image the listener is normally seated approximately equidistant from the two speakers. Thus the “stereo axis,” the zone of optimum seating for stereo listening, usually runs down the middle of the room. But, as Figure 2(a) shows, this central position is precisely in the “null” of the fundamental room-width standing wave and in the zone of peak pressure for the secondary resonance. So, in a typical room 12½ feet wide, frequencies around 45 Hz are weakened and frequencies around 90 Hz are boosted for listeners on the central stereo axis.

A similar problem arises with respect to the room's height axis. If you sit upright in a chair, your ears are probably about 3½ feet above the floor, nearly midway between floor

and ceiling (assuming a low 7½-foot ceiling). Thus you are near the null for frequencies approaching the room's fundamental vertical standing wave (around 75 Hz) but are in the zone of maximum sound pressure for the secondary height resonance (around 150 Hz). The standing waves on the vertical and lateral axes are both conspiring against you. The fundamental bass energy is weakest in the vertical and horizontal planes perpendicular to the walls and halfway between the walls and the floor and ceiling.

Finally, consider the length axis of the room. For good stereo imaging it is usually recommended that the speakers should form an angle of about 45 to 60 degrees with the listening position. With a typical spacing of 8 feet or so between speakers, this means that the listener should be seated 8 to 10 feet away. In a room of modest size this will put you near the wall opposite the speakers, which is fine. But in a living room 16 to 20 feet long, a 10-foot listening distance places you only halfway down the length of the room, in the null of the fundamental length resonance, thus weakening the deepest bass frequencies. In order to gain standing-wave “support” for the deep bass you have to sit closer to the oppo-

site wall—but at that distance the stereo image may become rather narrow unless the room is wide enough to accommodate 12-foot speaker spacing.

A visually unorthodox but audibly effective approach is to place the two speakers against different walls, straddling a room corner at unequal distances, with the stereo axis running diagonally across the room. This may permit you to find an optimum listening position somewhere away from the room's midlines where the standing-wave nulls lie, and it reduces the strength of the standing waves. The usual practice of placing both stereo speakers against the same wall and equally distant from the nearest corners usually causes each speaker to reinforce the standing-wave patterns generated by the other.

In general, then, it can be said that symmetrical arrangements of speakers in rooms are recommended for the sake of good stereo imaging, but symmetrical arrangements conspire to place listeners in low-frequency standing-wave nulls. You may want to experiment to find a compromise arrangement that produces good imaging together with a strong, smooth bass response. —P.M.

room boundaries (that is, the room's length, width, or height). Thus, for a room 14 feet in length, the primary standing wave occurs at a frequency of $565/14 = 40.35$ Hz. Along this room axis the standing wave produces the varying sound-pressure pattern shown in Figure 2(a). Maximum sound pressure always occurs at the room boundaries, where the reflections take place. And at the fundamental-resonance frequency, cancellations cause a null (minimum sound pressure) at the point midway between the boundaries. So, in a 14-foot room, 40.35-Hz energy will be strong at the ends of the room and weak in the middle.

Additional standing waves occur at

frequencies which are simple multiples of the fundamental frequency. For example, Figure 2(b) shows the pattern of sound pressure for the secondary-resonance frequency: $F_2 = 2F_1$ (that is, at 80.7 Hz for the 14-foot room). For the secondary resonance there are *two* zones of minimum sound pressure, with maximums occurring at the boundaries *and* in the middle.

It used to be said that these standing waves “support” the propagation of bass energy in the listening room, but whether this is true or not depends very much on where you choose to sit (the accompanying “Standing Waves” box goes more deeply into this subject). With all standing waves, maximum

reinforcement always occurs near room boundaries, while cancellations occur at locations away from the boundaries. Thus, if you choose to sit more or less in the middle of a room, you are likely to encounter bass losses and an irregular low-frequency response due to standing-wave modes. This is illustrated in Figure 3, which shows measurements of a typical moderately priced two-way loudspeaker made with a calibrated microphone and a spectrum analyzer that registers the strength of the sound in frequency bands one-third octave wide with 1-dB accuracy. Figure 3(a) shows the measured “anechoic” on-axis output of the speaker unaffected by boundary reflections. For Figure 3(b) the mi-

PLACEMENT...

“... if the speaker is located at the same distance from two or three boundary surfaces, then the boost-dip pattern is augmented.”

crophone was mounted on the back of an upholstered chair approximately where the listener's head would be, and the chair was placed in the middle of a 23-foot living room with a 7½-foot ceiling. Note the irregular frequency response: the fundamental room-length resonance produces a dip at $F_1 = 565/23 = 24.5$ Hz, the secondary resonance yields a pronounced peak at $2F_1 = 49$ Hz, and another dip appears at $3F_1 = 73.5$ Hz. The last coincides with the dip at 75 Hz produced by the fundamental room-height resonance ($565/7.5$), which is followed by a peak at twice that frequency. (Note that the one-third-octave analysis points do not always coincide with the calculated resonances, hence the slight discrepancies in the response graphs.)

For Figure 3(c) the chair and microphone were simply moved to a location 2 feet from the wall opposite the speaker. This placement for the listener, close to the room boundary, takes advantage of the room-length resonance to reinforce the bass instead of canceling it. (The room-height resonance unexpectedly disappeared in the measurement made at this location, probably because of an unplanned “boundary reinforcement” which will be discussed below.)

In an ordinary wood-frame building the walls and floors are not rigid enough to reflect all of the bass energy that strikes them. Some of the bass energy is absorbed and causes the walls themselves to vibrate, the sound being transmitted to adjoining rooms and hallways. This absorption provides “damping” for the room resonances, weakening the reflections so that the cancellations are not total, and the ratio of peak to null might be 10 dB. However, if your stereo system is installed in a high-rise apartment building with steel-reinforced concrete floors and walls, or in a cellar with a poured cement floor and concrete-block walls, then the standing waves are likely to be more pronounced, with peak-to-null ratios of up to 20 dB.

If you can't conveniently locate your chair to avoid standing-wave nulls, then the next best thing is to weaken or

break up the resonance modes by minimizing the exposure of large parallel room-boundary surfaces. Large bookcases and record cabinets, room dividers, open doorways, bay-front windows, large ceiling beams—anything that interrupts the uniformity of back-and-forth reflections—are useful for this purpose. If you have a sloped or cathedral ceiling or non-parallel walls you are off to a good start.

Another good way to obtain natural-sounding bass in a home listening room is to use a time-delayed ambient system with auxiliary speakers located at the sides or rear of the room. The addition of delayed bass energy, and having the bass injected into the room from four sources instead of the usual two, tends to smooth the standing waves and yields a more solid and realistic bass texture. Some audiophiles have found this improvement so dramatic that it defused their desire for a subwoofer.

Boundary Reinforcement

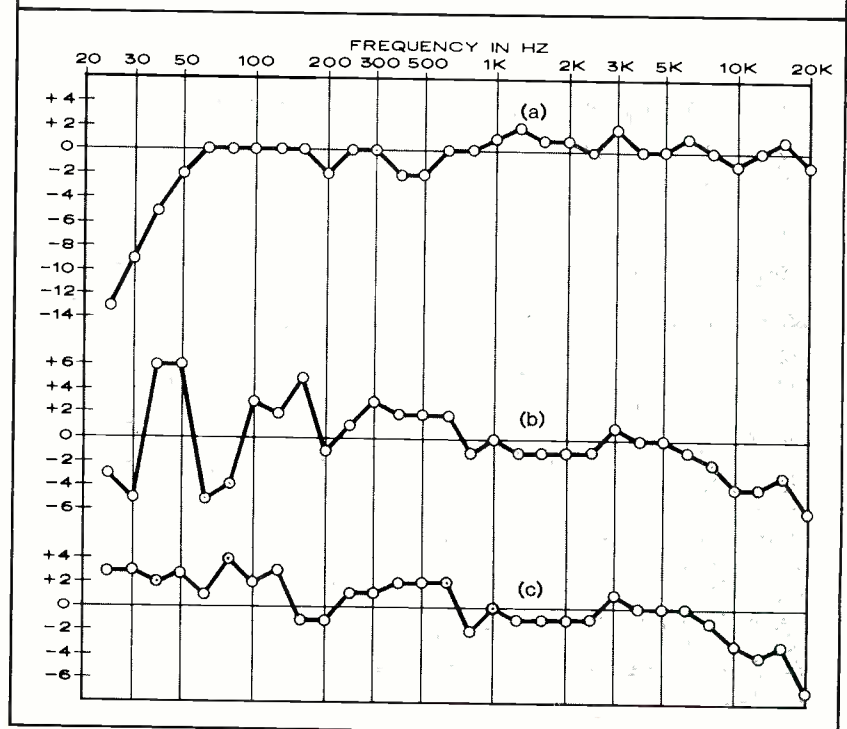
You may have noticed that though Figure 3(a) shows the anechoic response of the loudspeaker rolling off rather rapidly below 50 Hz, Figure 3(c) shows a strong bass response all the way down to 25 Hz. This is because of reinforcement provided by reflections

from the room-boundary surfaces close to the speaker.

At very low frequencies, the wavelengths of sounds are very long, much longer than any of the dimensions of a speaker cabinet (for example, a cycle of 50 Hz is 22.6 feet long). This means that low frequencies are radiated omnidirectionally by any speaker. If the speaker is suspended away from all boundary surfaces, its low-frequency energy propagates away in all directions on spherical wave fronts. Now, if a solid wall is put behind the speaker, the energy radiated to the rear is immediately reflected forward and joins the forward-radiated energy in phase and therefore reinforces it. Since all of the woofer's energy is now confined to the “half-space” in front of the wall, the sound intensity in the front half-space is doubled. Next, if the floor is directly under the speaker, the energy radiated downward is reflected back up, and with all the energy now confined to a “quarter-space” its intensity is quadrupled. It's like mounting a reflector around the bulb in a flashlight or searchlight: as off-axis radiation is reflected forward into the main beam, the intensity of the beam increases.

But this process works well only with the long wavelengths of the low frequencies. As long as the path from the

Figure 3. Varying on-axis frequency-response measurements of a two-way speaker system: (a) in an anechoic room the output drops off rapidly below 50 Hz; (b) measured from the center of a normal listening room, bass response is extended but irregular; (c) measured from near the back wall, bass response is improved.



woofer to the reflecting boundary and back is a small fraction of the emitted wavelength, the reflected sound joins the main beam more or less in phase with it and reinforces it. At higher frequencies the wavelengths shorten, and inevitably there is a frequency for which the extra path length causes the reflected rays to be out of phase with the main beam, canceling instead of reinforcing. Thus, when any loudspeaker is placed in a room its low bass is reinforced by the boundary reflections while at some mid-bass or low-mid-range frequency there will be a response dip due to cancellations by the reflected sounds. The frequency of the dip will depend on the distance from the woofer to the reflecting surface(s). There are, naturally, three boost-and-dip patterns associated with reflections off the three boundary surfaces closest to the speaker—the wall behind, the wall to the side, and the floor. In general, the dip due to the out-of-phase reflection from any one surface will be fairly mild. But if the speaker is located at the *same* distance from two or three boundary surfaces, then the boost/dip pattern is augmented in intensity.

Figure 4 illustrates boundary reinforcement using the same two-way speaker used for Figure 3. It was placed with its back against one wall and

about 2 feet from the side wall. In general, the 12-inch spacing of the woofer facing forward away from the wall behind it tends to produce reinforcement below 200 Hz with a dip at about 300 Hz, while the 2-foot spacing from the side wall produces reinforcement below 100 Hz with a dip near 200 Hz. In Figure 4(a) the speaker was placed directly on the floor with the woofer's center about 8 inches above the floor. A strong out-of-phase reflection dip at about 500 Hz is visible in the measurement (it is augmented by the 300-Hz rear-wall dip). Reflections at other frequencies yield strong deep-bass reinforcement. Not surprisingly, the speaker in this position sounds bass-heavy, boomy, and colored, especially with male voices.

In Figure 4(b) the speaker was placed on a stand 18 inches high, the center of the woofer cone being just over 2 feet above the floor. The floor reflection consequently occurs at about the same frequency as the side-wall reflection, and together they produce a big hole in the speaker's output around 200 Hz. Drums and male voices lack body and power in this speaker placement, but the sound is less boomy and the midrange less colored than in the previous location.

In Figure 4(c) the speaker was raised to 30 inches (placed on a window sill,

actually), so that the center of the woofer was about 3 feet above the floor. Clearly, this "bookshelf" speaker was really designed to function best at this mid-wall height—which also places the tweeter at the same level as the listener's ears. The woofer is located 1, 2, and 3 feet from the back wall, side wall, and floor, respectively, and the result is a rather smooth response curve with a useful amount of bass reinforcement.

Since there is a trend lately toward moving speakers out into the room away from all walls (to avoid early reflections which confuse the stereo image), Figure 4(d) shows the effect of keeping the speaker at a 30-inch height and moving it 3 feet forward from the wall. The woofer's center is now equidistant from the floor and the wall behind it, yielding a pronounced 120-Hz dip. And, of course, locating the speaker away from the walls reduces the overall bass reinforcement.

The effects of boundary reflections have been thoroughly analyzed by speaker designer Roy Allison, and some simple guidelines have emerged:

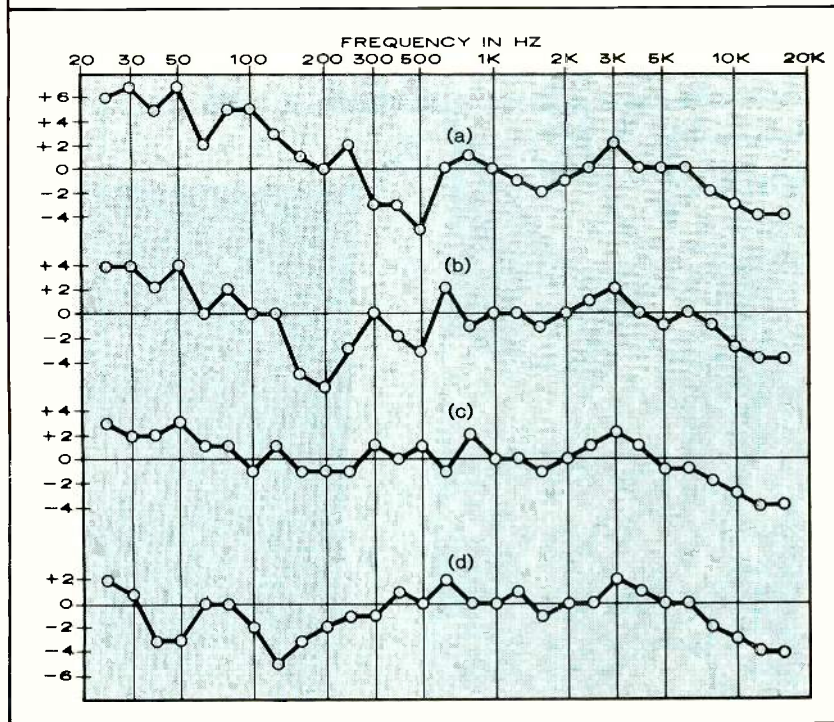
1. If you have a conventional loudspeaker with drivers mounted on the front of the cabinet, the smoothest speaker response will be obtained by locating the woofer at substantially *unequal* distances from the nearest three room surfaces. Carefully avoid placing the woofer equidistant from two or more boundaries.

2. If you have two-way speakers, in which the woofer also handles the midrange frequencies up to 1,000 Hz or so, don't place the speakers directly on the floor or adjacent to a side wall, because the close proximity of the reflecting surfaces will color the midrange output.

3. A three-way system can be designed to take advantage of the boundary effects. Typically, this is done by locating the woofer near the floor-wall intersection (to obtain strong bass reinforcement from the boundary reflections) and using the crossover to cut off the woofer's response around 400 Hz (in order to avoid a possible midrange dip from close-up reflections). The midrange driver is then located high on the cabinet, well away from any reflecting surfaces.

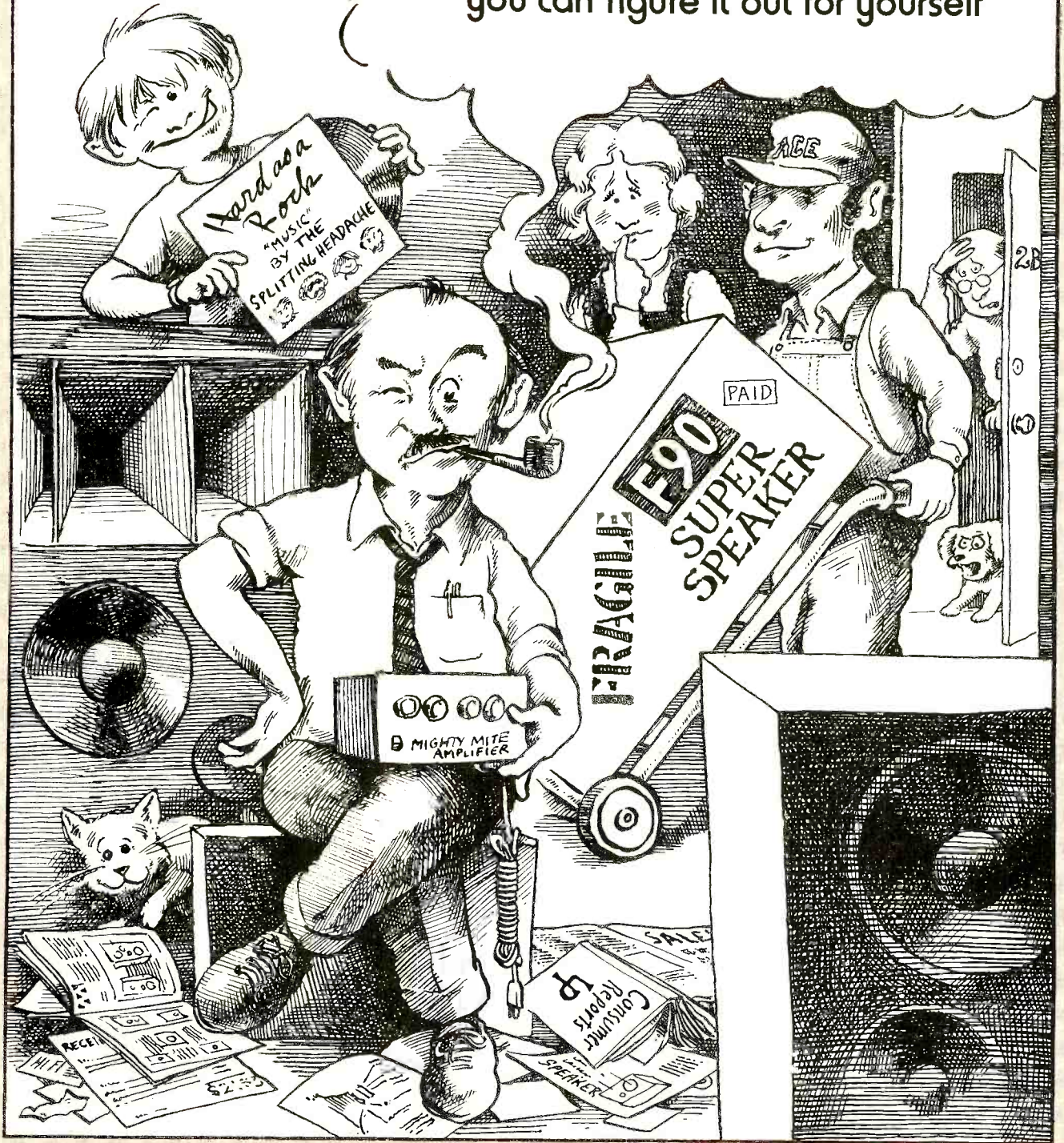
WHEN you take home a new pair of loudspeakers from the store, it is tempting to connect them quickly in the most convenient locations and start enjoying them immediately. But your listening room, with its absorptions, reflections, and standing waves, its boundary reinforcements and cancellations, can easily destroy the expensively obtained accuracy of even the finest loudspeakers. By investing some time and effort in experimentation, you can make these factors work in your favor to deliver spacious, smooth, and wide-range sound—assuming that your speakers have the ability to produce it. □

Figure 4. Other measurements of the same speaker as in Figure 3 show the bass response varying as the position of the woofer is changed: (a) output measured with the woofer near the floor; (b) woofer 2 feet above the floor; (c) woofer 3 feet above the floor; (d) woofer 3 feet above the floor and 3 feet from the back wall.



LOUDSPEAKER POWER REQUIREMENTS

Designer Roy Allison tells you how
you can figure it out for yourself



How much power does it take to drive these speakers? What is the maximum power they can handle?

THESSE are two of the questions buyers are most likely to ask about loudspeakers. If they could be answered simply with two wattage numbers, one low and one high, we'd be able to choose an amplifier with a power-output rating somewhere between them and then just relax and enjoy the music. Unfortunately, it's not quite that simple.

First, it is necessary to understand that the amount of amplifier power needed is related to how loud you want to play your music. Although loudness is a *subjective* attribute of sound, there is a corresponding *objective* measurement of it called sound-pressure level (SPL). Other factors being equal, you can reach a higher SPL with a given set of loudspeakers in a given listening room as the amplifier power rating increases. What it comes down to is deciding what maximum sound-pressure level to aim for. The decision will be influenced by many factors, including the kind of music to be played, the tolerance level of your neighbors (if any), your personal preferences (and those of anyone else who might use your stereo system), and—not least in importance—the escalation of costs as the SPL potentially available from your system is raised.

How Much Does It Take?

For all listeners except those in the first few rows, the maximum SPL reached by a large (one hundred players) symphony orchestra in a concert hall is about 100 dB (see the box, page 64, on SPL measurements). At that loudness level, conversation is just about impossible, and in an apartment building a 100-dB SPL would probably lead to complaints from the neighbors above, below, and on each side. But most listeners find it possible to be satisfied with even large-scale symphonic music played at much lower levels in home listening. A reduction to 97 dB maximum SPL represents only a small difference in perceived loudness, but it cuts the amplifier power requirement in half. The maximum SPLs at live concerts of smaller-scale works (chamber music, solo recitals, acoustic-jazz ensembles, etc.) are of course lower. A maximum capability of 90 to 95 dB SPL is high enough to play recordings of such music at realistic levels.

There is nothing sacred about the original live-performance level, however, and some listeners even prefer to hear music reproduced larger than life. Others may want to duplicate the sonic assaults experienced at a live rock performance or a disco, where maximum SPLs may range from an extremely loud 110 to a dangerous (to one's hearing) 120 dB. Individual loudness preferences thus cover a span of about 30 dB (from 90 to 120 dB)—a range of 1 to 1,000 in acoustic power. Obviously, then, there is no single right answer to the question "How much power do my speakers (or ears) need?" One chooses a preferred maximum listening level between 90 and 120 dB SPL and goes on from there.

Sound pressure is created in a listening room by acoustic power radiated

from the loudspeakers. The SPL is determined not only by the amount of power radiated, but also by the sound-absorptive characteristics of the room. Large rooms, rooms with a lot of soft furnishings, and rooms with large openings to other rooms or with very flexible partitions require more power to achieve a specified SPL than small rooms with few openings and sparse furnishings. Significant departures from the average in any of these aspects of size or decor can increase or decrease the acoustic power requirements by 50 per cent or so.

Table I relates the acoustic power generated by each of a pair of loudspeakers to the SPL in the reverberant field (at least 8 feet away from the speakers) in a room of generous size (24 x 13½ x 8 feet, or 2,600 cubic feet) with average furnishings and of reasonably solid construction. The acoustic power requirements given in the table should be adjusted according to your room's departure from the acoustics of an average living room. The adjustment isn't critical; large changes in acoustic power produce only minor changes in perceived loudness.

The acoustic power radiated by a loudspeaker system is equal to its efficiency (watts of acoustic power radiated per watt of electrical power input) times the amplifier power delivered to the speaker. Put another way, to find the amplifier power required per channel, divide the acoustic power needed per channel (from Table I) by the efficiency of your speaker. For example, if you wish to reach a 97.5-dB SPL in your average living room, 0.11 acoustic watt per speaker is needed. If your speakers are 0.5 per cent efficient, you'll need 0.11/0.005 or 22 watts per channel.

Loudspeaker efficiency varies greatly—from 0.1 per cent or less to 10 per cent or more. Most widely sold acoustic-suspension and vented speaker systems fall in the range of 0.5 to 2 per cent, but there are exceptions. Since the variation is large and since the efficiency is a significant element in determining the power required from the amplifier, one might wonder why so few manufacturers provide information on speaker efficiency.

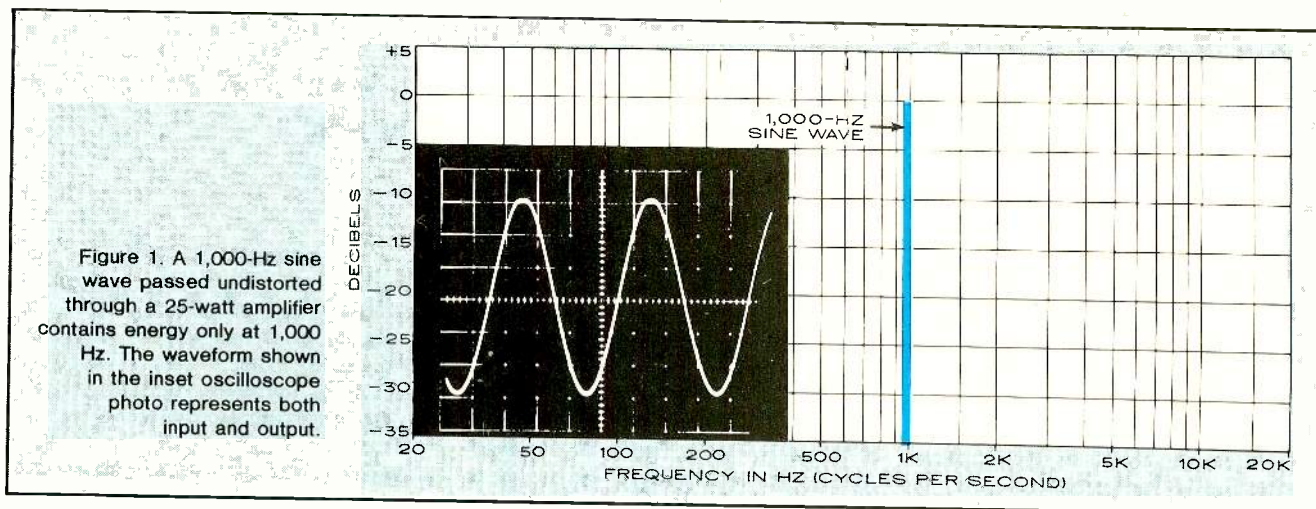
There is, however, a relatively common specification related to efficiency called *sensitivity*. This is the sound-

TABLE I

Sound-pressure level, in an average living room, in decibels	Acoustic power output, each speaker of a pair, in acoustical watts
90	0.020
92.5	0.036
95	0.063
97.5	0.11
100	0.20
102.5	0.36
105	0.63
107.5	1.1
110	2.0
112.5	3.6
115	6.3
117.5	11.2
120	20.0

TABLE II

Sensitivity (SPL at 1 meter, in decibels), 1 watt input	Efficiency, per cent
98	10.0
96	6.3
94	4.0
92	2.5
90	1.6
88	1.0
86	0.63
84	0.40
82	0.25
80	0.16
78	0.10



pressure level produced directly in front of the speaker, at a distance of 1 meter, with 1 watt of electrical input power. In this measurement no account is taken of the speaker's output anywhere *off* the frontal axis, so the relationship to efficiency is not an exact one, but for most loudspeakers of conventional design Table II gives a reasonably good estimate of efficiency when the speaker's sensitivity is known. Measured sensitivity is part of the information given in speaker test reports in STEREO REVIEW. Every speaker manufacturer, however, should be able to give you a sensitivity specification (if not an efficiency figure) for his products.

New recording developments have resulted in at least one new question related to speakers and their power requirements: "Do direct-to-disc and digital recordings demand more amplifier power than conventional records?" In my view, if they do, it is only because as a group they are "cleaner" recordings and therefore tend to be played louder. If they are less distorted and noisy, it is because more care was taken in cutting the master disc and pressing the final product, but records of as high a quality can be (and have been) made using analog tape recorders for the original recording. In any case, if your speakers and amplifier now provide the maximum SPL you can comfortably accommodate in your listening room, even a radical change in the recording medium (to, say, digital playback) should not affect their adequacy.

It is plain from an examination of the accompanying tables that, even with very inefficient speakers, almost any amplifier or receiver is adequate *if* the maximum SPL requirement is no higher than 90 dB SPL. If 100 dB SPL is needed, the amplifier requirement is still modest for speakers of medium or higher efficiency. However, if your aim

is much higher than 110 dB SPL (already a physically dangerous level), speakers of higher efficiency are a necessity. For example, a level of 115 dB requires 6.3 acoustic watts from each speaker. If the speakers are 1 per cent efficient, 630 watts *per channel* are needed; if they are 2 per cent efficient, the power demand is a more reasonable—but still high—315 watts per channel. When considering the use of amplifiers that powerful, check with the manufacturer of your speakers to make sure that they are able to handle them.

Can the Speakers Take It?

When it comes to matching the amplifier to the speaker's power-handling capability, it is clear that every speaker must have *some* limit to the power it can accept without damage, but what that limit is is another question without a short and simple answer. Since there are few universal truths concerning loudspeaker systems, there are very likely some exceptions to the following principles, but let us see what we can

accomplish with generalities. First, for virtually all speakers, power-handling capacity is a complex function of both time and frequency. At very low frequencies, the input-power limit is often set by mechanical considerations: if a woofer is driven hard enough, it reaches the end of its cone-excursion capability; if driven harder, something may break or tear. This is a potential problem mainly with minispeakers driven with powerful amplifiers, but it is also a potential problem with *any* system if there is a catastrophic accident (such as the loss of the ground connection of a signal cable or an internal failure of the amplifier that puts power-supply voltages directly into the speaker). Fortunately, such accidents are rare, and it is easy to protect the speakers with cheap catastrophe insurance: fuses of the type and rating *specifically* recommended by the speaker manufacturer.

Now, from the mid-bass upward (say, from 200 Hz), the input-power limit is usually set by thermal considerations. Speakers will accept very high power inputs *if they are of short duration*. Luckily, most music is composed



THERE is a lot of conflicting information floating about on the question of the maximum sound-pressure levels generated by live music. Part of the problem is that there is a great deal of variation; maximum SPLs depend on the music being performed, the characteristics of the hall in which it is per-

formed, the point in the hall from which the measurements are made, the size of the performing group, and the nature of the musical interpretation—among other things. But these factors alone cannot account for the wide range of SPL figures encountered in the technical literature.

The major reason for the differences is the comparatively slow response speed of some of the measuring instruments used as compared with the very rapid changes in live-music SPLs. For many decades, all sound-level meters (SLMs) have been equipped with mechanical meter movements. SLMs that meet professional standards have strictly defined response speeds ("slow" and "fast"). With normal music, the "fast" reading will be 3 or 4

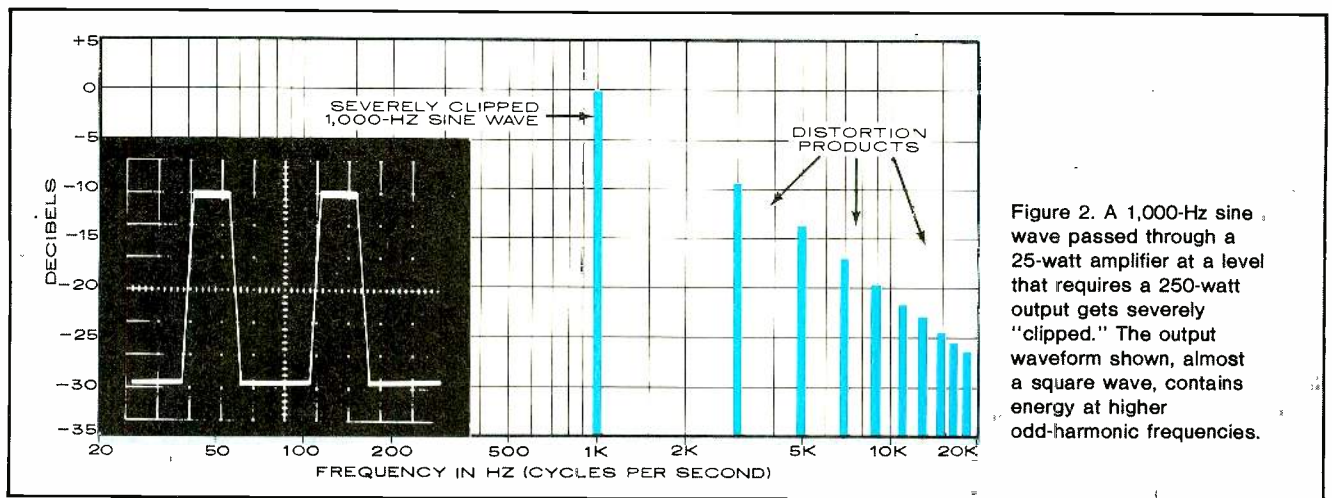


Figure 2. A 1,000-Hz sine wave passed through a 25-watt amplifier at a level that requires a 250-watt output gets severely "clipped." The output waveform shown, almost a square wave, contains energy at higher odd-harmonic frequencies.

of numerous high- and medium-level peaks of short duration, and its *average* amplitude should not cause overheating of the speaker's voice coils.

Ordinary music is also irregular in the frequency distribution of its power. Most power is in the range below 500 Hz and falls off rapidly above that frequency. This is also acceptable to the physics of loudspeaker design because a woofer, with its large voice coil, can usually dissipate 50 watts or more, while a tweeter may be able to handle only 5 or 10 watts. Yet, a woofer-tweeter system can nevertheless safely handle the full output of a 200-watt amplifier on typical musical material. Of course the musical material must have the normal distribution of power over the frequency range—which means electronically unmodified sounds with no severe clipping or any other spurious signals.

It has often been pointed out that an overdriven amplifier clipping off the extremes of the original waveform generates harmonic-distortion components of the input signal. This is certainly true. Further, it has been observed that this

spurious-harmonic power is likely to fall into the tweeter range (also true), thereby increasing the probability of tweeter failure by adding to the average power it must dissipate. It is therefore usually concluded that, because of the shift of power into the high frequencies, an overdriven low-power amplifier is more dangerous to your tweeter's health than a high-power amplifier capable of handling the same input signal without clipping its output.

But this is an unwarranted conclusion in many practical cases. Figure 1 shows the spectrum of a 1,000-Hz sine wave produced by a 25-watt amplifier being driven just below its clipping level. As seen on the inset scope photo, the 1,000-Hz output has no visible harmonic energy. Figure 2 shows what happens when the same 25-watt amplifier is asked to deliver 250 watts. The sine wave is so severely clipped that it is nearly a square wave. The harmonic products of this condition are those of gross overload and would make any music so clipped quite unlistenable. But, even so, the total power of the harmonics is just 6.4 watts, and if the over-

load is not sustained the distortion products should not trouble a robust tweeter. In fact, even in this case of severe overdrive, the increase in power fed to the tweeter in the form of harmonic energy is *less* than the increase in music energy falling into the tweeter range if the amplifier's power capabilities had been increased to avoid the possibility of clipping with normal music signals.

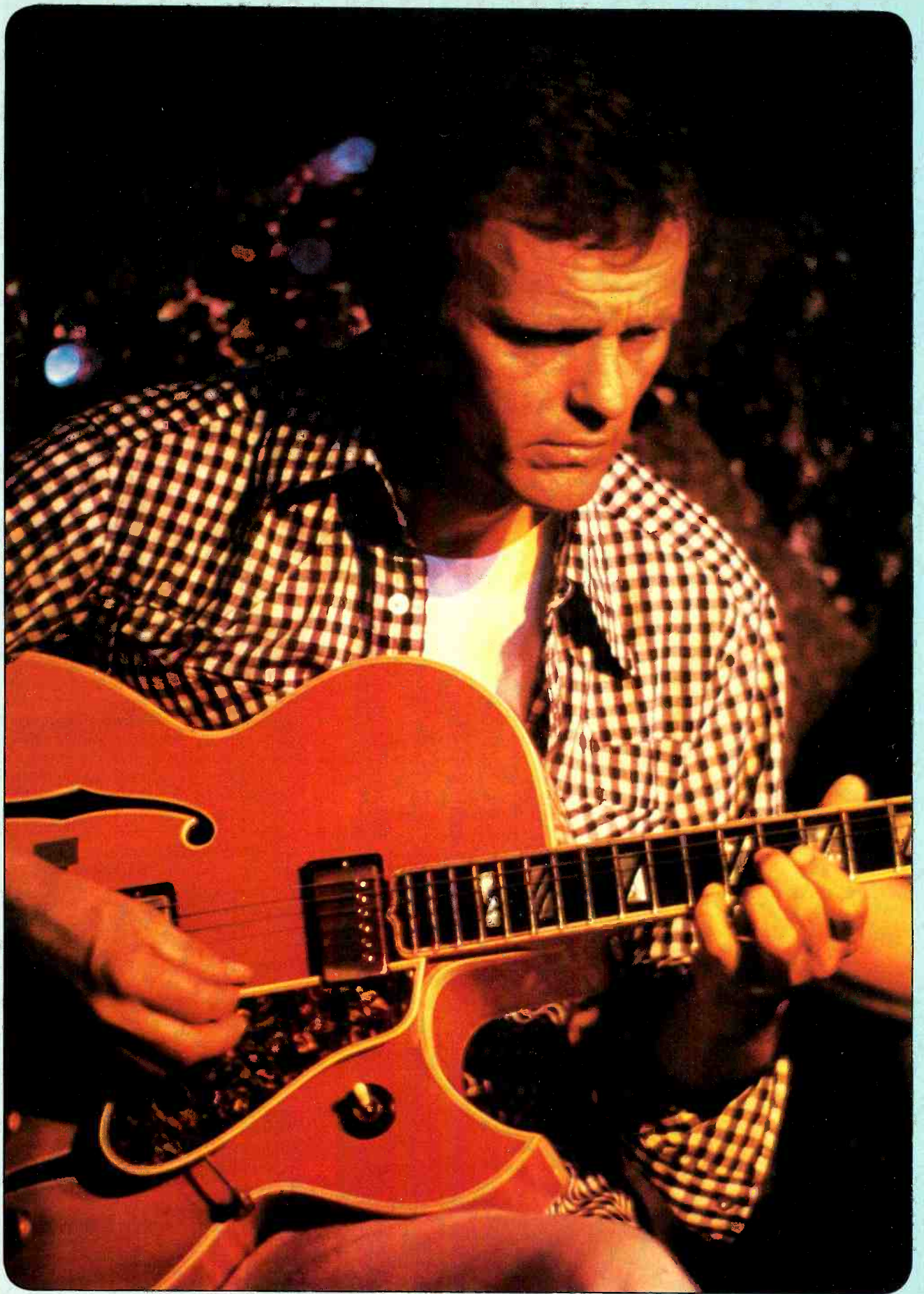
Nonetheless, speakers do sometimes fail when used with receivers or amplifiers of relatively low power ratings. The amplifier used for the scope photos did not "misbehave" badly when overdriven—it simply clipped off the tops and bottoms of the sine wave. However, as Tomlinson Holman of Apt Corporation has demonstrated, some otherwise trustworthy amplifiers (or amplifier sections of receivers) lose control when their protection circuitry is activated—which can happen before, during, or after clipping. Their resulting misbehavior can include full-power voltage spikes that can destroy a tweeter in a moment or brief bursts of full-power hum that can do a woofer no real good. And some amplifiers oscillate at high frequencies when overdriven.

Such unwelcome effects when overdrive and protection circuitry interact can cause more damage to speakers than simple distortion products from clipping or even large but distortion-free amounts of music power. This is not to say that you can't damage a speaker by turning up the bass and treble controls all the way—and then cranking up the volume to boot. You can. But if your amplifier behaves well in normal use, and if you use it with reasonable discretion, it will not harm your speakers regardless of its power rating. And to be absolutely sure it doesn't, *use the manufacturer's recommended fuses.* □

dB higher than the "slow" reading. It is reasonable to assume that anyone investigating maximum sound levels would use the "fast" position of a SLM's switch.

The SPL figures given in the main body of this article are consistent with those measured by a SLM with a standard "fast" response time, but they are *not* the true instantaneous-peak SPL values because the standard "fast" response speed really isn't fast enough. Some modern sound-level meters with digital readouts have, in addition to the choice of standard response speeds, a true "peak" measurement capability. Maximum SPL readings for music are typically 9 to 13 dB higher in the "peak" mode than in the standard "fast" mode.

Therefore, those who claim that peak levels much higher than 100 dB SPL are found in a concert hall are right. For most listeners, the true peak SPL value during *fortississimo* passages will be about 110 dB. (That value is consistent with theory: a large orchestra generating 75 acoustic watts *should* produce 110-dB SPL peaks in a large concert hall.) But this does *not* change the amplifier power requirements suggested in the main portion of this article, for they are based on "fast" SPL measurements. Be assured, however, that if your stereo system is set up as suggested to produce the conventionally measured SPL values listed, it will be able to produce (and *will* in fact produce) true peak-SPL values about 10 dB higher.



CO-PRODUCER Chip Young was the one who suggested that Jerry Reed do an album of Jim Croce's songs, but the idea is such a natural it must have been there in the air all along, waiting for someone smart enough to pluck it. For Reed clearly identifies with Croce's music, both with the characters Croce created—who aren't too different from the ones Reed has created—and with the quiet sentimentality of his more lyrical songs. So an album like "Jerry Reed Sings Jim Croce" reminds us just how special Croce was, suggests some of his music will be around for a long time, and of course stirs the old frustrations over such a tale: it being shut down by what we take to be a premature death. Well, I happen to believe in reincarnation, and I think Jim will be back, in some other body, to finish his work.

Meanwhile, this album is a fine tribute and, with only a couple of small reservations, a very potent Jerry Reed album as well. Reed didn't try to "countryfy" Croce or make any particular "kind" of music with his songs—there's nary a pedal steel guitar here, nor is there any sign of dependence on Reed's familiar back-beat boogie picking—and neither did he try to sing or play like Croce and the fine little acoustic ensemble Jim had. The one excess he and Young indulged in, I think, was the addition of too many strings on the quieter songs such as *Time in a Bottle* and *I'll Have to Say I Love You in a Song*. Reed's basic ensemble proves in the first two cuts, *Working at the Car Wash Blues* and



One Less Set of Footsteps (in which Terry McMillan stands out with some simple but terrific harmonica fills), that it doesn't need much help. On the other hand, much of the instrumentation is a compendium of fresh ideas; these are especially effective when Reed flat-picks some dazzling jazz lines to go with *Age*, one of my all-time favorite Croce tunes (you may remember it if not its title; it's the one with the line "lost my ideals in that long tunnel of time").

Vocally, Reed plays himself, the guy who invented Amos Moses, a swamp rat spiritually akin to Croce's Bad Leroy Brown and other denizens of the urban rough-and-tumble. At the other extreme of the kind of song Croce wrote, Reed doesn't have the same kind of sensitivity that Croce had, but

he has his own kind (and more of it, as an interpreter, than he has been given credit for). His reading of *The Hard Way Every Time* seems a little distracted, possibly by the task of staying on the subtler-than-average melody, but give him a little humor—which Croce usually did—as in *Careful Man* ("I shot off every single shot in my gun/I used to be a lover/But now I am an older man"), and you couldn't ask for a man to seem more at home in another man's song.

All in all, there's just one place I know where you can find a singer/songwriter showing a greater affinity for another singer/songwriter's work, and that's in "Nilsson Sings Newman" (now on Pickwick 8CL-7071). In other words, this kind of thing doesn't come along very often. Neither does a songwriter like Jim Croce. His stuff wouldn't die without records like this, of course, but this is a nice bonus.

—Noel Coppage

JERRY REED: *Jerry Reed Sings Jim Croce*. Jerry Reed (vocals, guitar); Kenny Penny (guitar, fiddle); Richard Shook (bass); Paul Cook (drums); David Briggs (keyboards); Terry McMillan (harmonica, percussion); other musicians. *Workin' at the Car Wash Blues; One Less Set of Footsteps; You Don't Mess Around with Jim; I Got a Name; Time in a Bottle; Age; I'll Have to Say I Love You in a Song; The Hard Way Every Time; Bad, Bad Leroy Brown; Careful Man.* RCA AHL1-3604 \$7.98, Ⓜ AHS1-3604 \$7.98, Ⓞ AHK1-3604 \$7.98.

out in clubs. I spent too many years in them working. It gets old awfully quick. Everybody's there looking. I'd rather be sitting out on Center Hill Lake."

We are all contradictory, of course, but Reed seems at once a product of the good-old-boy network and an escapee from it. He subscribes to some of its dogma (if you outlaw guns only outlaws will have guns, and such-like), and of the Iran situation he says, "I wish we could dig up John Wayne and form a battalion and go over there and kick everybody's ass in Iran and say, 'Now, capture some more, you sons of bitches.'" Yet he has not just a native intelligence but a native sophistication in some areas. His eyes light up when I ask what makes one kid grow up to be Jerry Reed while the kid in the next seat stays in Atlanta and pumps gas.

"You know, I've thought about that a lot," he says, "and I can't handle that question. It finally dawned on me that behind every set of eyes is a different brain, and every brain is a different

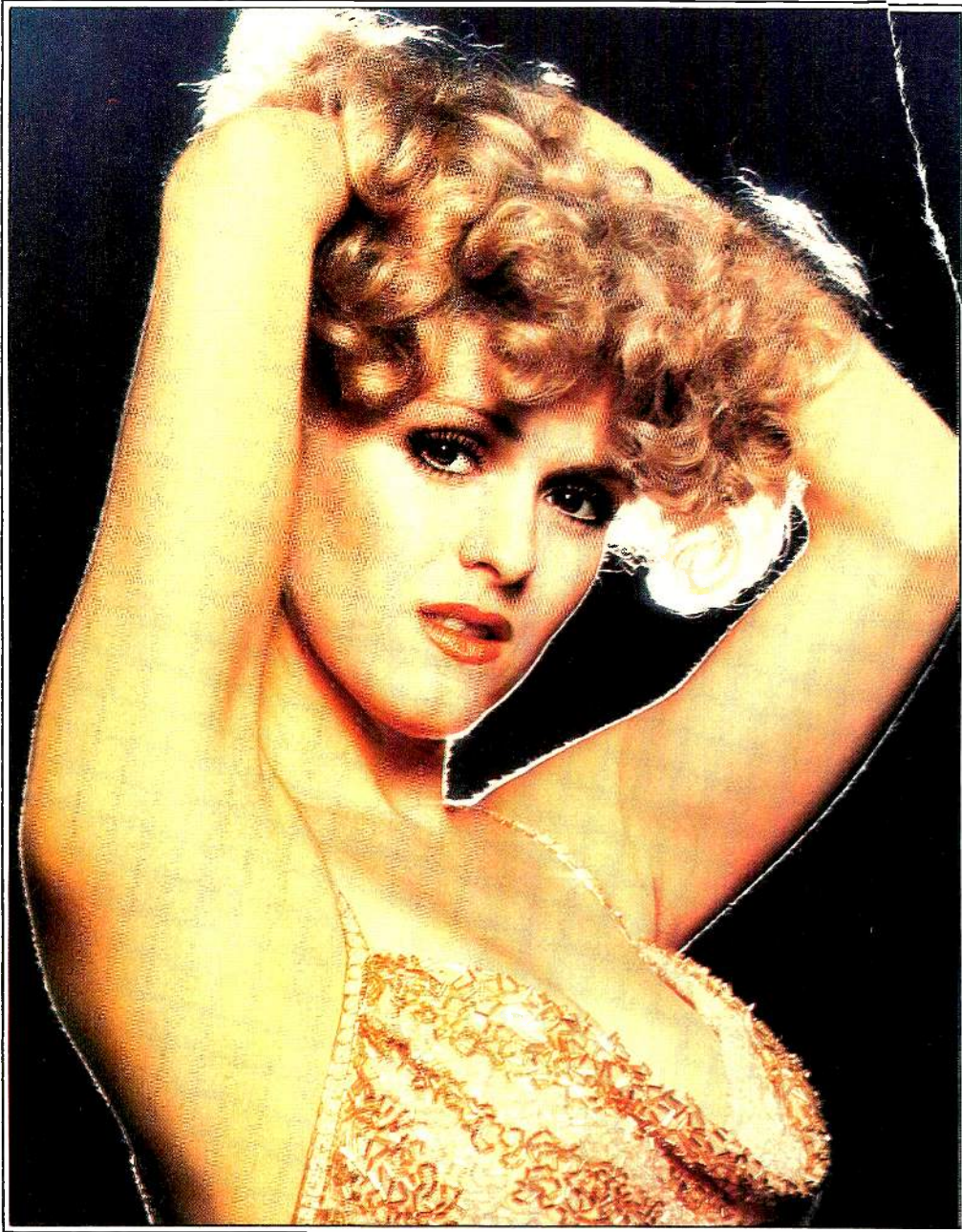
world. I mean, hey, it's like the difference between the moon and the earth, what's in your head and what's in mine. I came to the conclusion that you're supposed to do and be what you are, and nobody has anything to say about it. Yet you can't just say it's fate. It's more complicated than that. You have to grow, and learn, and work. I've noticed the guys who have the most desire are the guys that always make it. It's not how good you are, it's how bad you want it . . . and how much rejection you can take before you get it.

"I've got a philosophy. Life is like having a baby. Your life is going to blossom into what it's going to be when it's time, and not before. With a baby, after nine months you can't stop it. But until then there's not a damn thing you can do about hurrying it up. If anything put grey hairs in my head and pulled 'em out of my head, it was trying to get there before I was ready for it, before it was time. Now the things that happen, they're easy to deal with—well, com-

fortable to deal with, not easy. Nothing's ever easy, but that's the beauty of it. But in seemingly hopeless situations so many times something would happen. Why did I have a hit song when I was in the Army? The thing [*That's All You Gotta Do*] had laid up in Nashville for three years. Then when I got out I wrote *Misery Loves Company* for Porter Wagoner. That kept me hanging on. Pris was a singer and she started doing sessions and *that* kept me hanging on. Things just happened to keep me hanging on, to keep me from going back to the mill business or whatever. You have to be careful in your assumptions, in your estimation of what's going on in this life. Who knows?"

Who, indeed. What makes Jerry run or what makes Jerry Jerry is, as he says, "no one single thing."

"It's a package," he says. "*You're* a package. What I'm doing now, I've felt all my life. It sure took me a hell of a long time to put it together—and it still ain't together. But it's fun now." □



Bernadette Peters
(Photo courtesy Tom Hammond)

JERRY REED

A talk with the man Burt Reynolds called "so hyper he can thread a sewing machine while it's running."

WE are looking across the meadow that slants down from Jerry Reed's house to the road and Reed says, "Naw, I don't have any animals to eat that grass. I bush-hog it. I used to let my band go out and tramp it down. The coons ate my fiddle player. He was down there at the barn. . . ."

Reed is between bands at the moment, and he's home, and this is about as close as he is going to get to the zany patter—cutting up, he calls it—that is a regular and valuable part of his stage behavior. But he is hardly resting. Before I arrived at his farm near Franklin, south of Nashville, he spent the morning slaving over a hot guitar in a room next to the kitchen, and he's going to slip back in there as soon as I leave. He's been known to practice fifteen hours a day, he says, pausing only to stretch now and then. It gets him in the small of the back.

On the kitchen table is a script for what he and the Columbia Broadcasting System hope will be an installment in a television series taking off from the TV movie *Concrete Cowboys*. Many people didn't see that because it was on opposite the seventh game of the World Series last fall—Reed himself was among the viewers who watched the Pirates and Orioles instead—but the characters created by Reed and Tom Selleck do look promising, and he is about to leave for New Orleans to film the two-hour premiere for the series. He's writing some music for that, and he has a new album out, another in the can, and is working on a third. And the film sequel to *Smokey and the Bandit*, with Reed, Burt Reynolds, and Dom DeLuise, is also in the can. And Reed is thinking about getting a road band together—for the fifth time—if the TV series doesn't go. Understandably, he looks tired.

"They're pretty high on this series," he says. "I hope we get it. I never wanted one before, but now I do." Reed is no stranger to the tube. In addition to *Concrete Cowboys*, a comedy-adventure of the Burt Reynolds school, he appeared for three years on *The Glen*

Campbell Goodtime Hour and one summer several years back he hosted his own network variety series.

"I apologize for that," he says. "I don't want a variety show. I don't even like variety shows. Same thing every week with different faces, same gags, same songs, same guests. I have no desire to do anything except this comedy-drama stuff, pick my guitar, and make music. That's enough to kill a man."

It is the way Reed does it. You can call him a good old boy, if you smile, and he might call himself a redneck, but the most descriptive term he uses about himself is workaholic. "I've got to be doing something," he says. Burt Reynolds, who got to know Reed when they made *W. W. and the Dixie Dance Kings*, once said Jerry is so hyper he can thread a sewing machine while it's running. Small-boned and wiry, Reed has an unexpectedly resonant voice that gives his stage presence—and his screen presence—a certain authority. Reynolds also called him "a wonderful natural actor" and used him again in *Gator* and, of course, in *Smokey*, the eleventh-highest-grossing movie of all time. In addition to all these enterprises, Reed is, his friends say, fairly heavily invested in real estate in and around Nashville. At forty-three, he seems to have the world by the tail, so the cliché question is, what makes Jerry run?

On the stage and on the screen he is the personification of the devil-may-care extrovert. "I'll have you throwing babies up in the air," he told one audience. Or: "Here's a song about women. I know a lot about women. Been married eight times." But I've already got the impression that Jerry Reed off the stage is not all that extroverted—maybe a trifle shy, in fact—and now I'm trying to find out if he is also not all that carefree.

"Well," he says, "the worry, that's an underlying, constant, back-of-your-

mind thing. The light comes on and you say, 'Well, I'm only as good as my last record, or my last picture.' That's why I do so many things. That's why I have a publishing company, that's why I do pictures, why I write songs. I didn't want to get into the business and have a mediocre three- or four-year career. I wanted to always work in the music business and in entertainment. I always wanted to act, always wanted to pick, always wanted to sing, entertain, and cut up. I worked very hard at learning it, and I know it very well."

He did not come from abject poverty, but he did come from the Atlanta cotton mills: "My folks were cotton-mill folks. I worked in one and bought my first guitar. Worked in the spinning room. When I was in school I'd work in the canteen. I was just an extra hand— whoever didn't show up, I'd do their job. That didn't last long."

He listened to the Grand Ole Opry on a Philco radio as early as he can remember. "Music was all I was interested in," he says. "I'd get up on the stove-wood pile, use a stick of wood for a guitar, and put on a show. I'd stand up on a trunk—I had to have me a stage." He dropped out of high school in his junior year.

WHEN he was learning the guitar, he paid closest attention to the records of Chet Atkins. "Everybody down home loved Chet," he says. "He was the one I imitated. I'd start out with one of Chet's tunes and I'd learn the thumping part, but I never would play it all the way through the way he did because I had my own stuff I wanted to try."

Reed's guitar style, although for years it did rely mostly on finger-picking, evolved quite a different sound from Atkins'; Reed developed a fierce, almost mesmerizing syncopation.

"It's just a feeling," he says. "I like to boogie." Anyway, it is evolving still further, as he has taken up with the flat pick, or straight pick, as he calls it. "My band brought in a record by George Benson, and I thought, 'My God.' I'd used a straight pick years ago, but there was something wrong. So I

By Noel Coppage

JERRY REED...

"I'm a stylist, not a singer. But I try to take up the slack by being a good entertainer. You know, you can't do everything."

just got to hunting around by myself and I found it. And, boy, it's all over these new albums, because now I'm free—I can play the lines I want to. I can still do my finger-picking, my clawing, if I want to, but to tell the truth that never really satisfied me, because you have to design everything and have open strings, and I never could get all the notes I wanted. I always wanted to play good lines and to play with fire.

"My singing sucks. Always has and always will. I'm a stylist, not a singer. Now, Glen Campbell's a *singer*. But I try to take up the slack by being a good entertainer. You know, you can't do everything. . . . I'm not supposed to be a singer, I'm supposed to be a stylist. I know what I'm supposed to be . . . now. I had to grow into it, had to learn, but once you get to be my age you don't muddy up the waters and cloud the facts, you just say it the way it is."

THE other major element, the cutting up, traces back to grade school where he was the class joke teller. "Actually," he says, "that was because I felt inferior—but I guess everybody does. I escaped, you know, with the guitar. Played football and got killed, nearly ruined my guitar playing, and saw I was never going to make it as a football player. So I did the only thing I knew how, sat and picked all the time."

His mother, who played guitar, taught him the chords G, C, and D, and he taught himself the rest. "My real daddy [his parents separated when he was young] played the mandolin," he says, "so I guess I come by it honestly." So did his twenty-year-old daughter Seidina, who has just started her own career as a singer. Priscilla, Reed's one and only wife, "sings like a bird," he says. It was Priscilla's singing in the studios that kept them going when the Reeds first moved to Nashville.

"I was on records before that," Jerry says. "They threw me off Capitol when I went into the Army. When I got out, we moved up here and I was going to do sessions. And I did, for a while. Nearly killed me. I wasn't worth a damn at it, I guess because my head was fittin'

around somewhere else. I got on Columbia. Didn't do much there. I'd been hangin' out with Chet and he kept after me, wanting to record me [for RCA]. So I told Columbia I wanted to go with Chet. Frank Jones—he was so great—he let me go. I knew Chet when I came here. Met him a long time ago in Atlanta at a show, and I'd sent him instrumentals. We had a common denominator there; I was writing instrumentals and he was looking for them."

He and Atkins eventually recorded a couple of instrumental albums together, one a Grammy winner.

THE other phase of Reed's career, acting, started when he was on the *Good-time Hour* and heard there were readings scheduled for parts in *W. W.*, a Burt Reynolds movie with all the expected high spirits and car chases and bending of the rules, but with a country band as its central motif. Reed read for the part next meatiest to Reynolds' and got it. Other band-member parts were landed by country stars Don Williams and Conny Van Dyke.

"God knows why I kept doing it," Reed says. "I guess because I wanted to. Burt's a ball to work with. He takes his work very seriously, he knows the public pretty well, and he's a brilliant man. And he's like me, I think; he likes to have fun."

Reed wrote the theme song for every movie he's been in, and he says that if you liked *Eastbound and Down* from *Smokey*—which I did—you'll love the one he's cooked up for the *Smokey* sequel. "In fact, you're gonna like that whole movie," he says. "It's got some funny stuff in it. It's a good-old-boy movie."

In addition to the intangibles *Smok-*

ey added to Reed's life, there is something quite tangible sitting out back in a pavilion that also shelters a Jeep and a Mercedes 450SEL: a replica of the Pontiac Trans-Am "Bandit" car Reynolds drove in the movie. The company was going to give Reed the original but Reynolds had banged it up too much.

Also out back is a pool—an ordinary rectangular one—the Reeds are having built. "We debated a long time about it," Priscilla says. "Neither of us was getting enough exercise, and I can just picture Jerry going to a public pool."

The house, a comfortable but not imposing ranch type with a quietly spectacular front porch, is finished in natural woods inside and out. "Those walls are ten inches thick," Reed says. "We found we could either be fancy or practical, and we chose to be practical and load it up with insulation."

There is also a boat somewhere, as Reed's main relaxation, aside from an occasional round of golf, is fishing. Night fishing. "I don't go day fishing hardly at all," he says. "I like to fish that moon. I don't ever fish by myself, either, hardly ever. I don't like to do anything by myself, do you? Except when I work; when I need to pick, I like to be by myself. But not when I'm fishing. Naw. Because that's all fishing is, fellowship. I love to fish, but I love the dudes I hang out with too."

Some of those are musicians, including Ray Stevens, a long-time friend, but Reed's other friends come from all walks of life. "I love this town," he says, "because of the people and because of the music."

Despite his good-time on-stage persona, Reed isn't much of a drinker or scene-maker, the word is, and he himself says, "I don't go much for hanging

Reed with friend and co-star Burt Reynolds in Reed's gift replica of the Pontiac Trans-Am Reynolds drove—and wrecked—in *Smokey* and the *Bandit*.



Melodie McGuire

STEREO REVIEW'S SELECTION OF RECORDINGS OF SPECIAL MERIT

BEST OF THE MONTH



• Bernadette Peters: Sensationally Good •

WHAT do you say in these future-fixated, millenium-anticipating Eighties about a glorious throwback? About a hyper-tense, wisecracking, outwardly contemporary young woman who also happens to look amazingly like one of those creamily buxom, heavily hennaed Edwardian beauties who gaze languidly out at you from the tops of old cigar boxes, who can pout more prettily and sexily than anyone since Clara Bow, who sings with the visceral fury of an Anna Magnani and the little-girl-lost heartbreak of a Helen Morgan?

Well, first off you can say that her new album, "Bernadette Peters," on MCA is terrific entertainment. Second, you can say that in it she has begun to bring to the surface an array of previously unrevealed talents as an actress-singer that could put her right up there with Streisand and Midler. Third—well, you can just applaud as I did. She's done it, she's made it, she's proved herself, and, with one track (*Gee Whiz*, a modest, sincere little teenage lament by Carla Thomas) already a hit, Bernadette Peters has become the throwback of the hour.

It hasn't been exactly an overnight-success story, of course. Peters made her first important impression twelve years ago playing the dimwitted, fumble-footed chorus girl in *Dames at Sea*, the off-Broadway parody of Thirties movie musicals. It was an enormously witty performance (probably based on a lot of close study of the old Busby Berkeley films), but it was also a dangerous one, for Peters was still in her teens at the time and her superb mimicry of some of the older stars' manner-

isms, while hilariously accurate and very funny, unfortunately seemed to have made as deep and as permanent an impression on her as it did on her convulsed audiences. The result was that she developed a tendency to camp unmercifully, unrestrainedly, and inopportunistically in later years.

Perhaps the greatest joy of this album is that Peters seems at last to have shaken free of that malignant obsession, and listeners have a chance to take her on whatever terms they want. In watching her live (TV) performances I still feel a certain uneasiness that she is about to make that sly gesture, fall into that *too* droopy vocal inflection or pursed-lipped little wriggle that immediately brings me down because I know that she's sending me up. She did it just

BERNADETTE PETERS. Bernadette Peters (vocals); orchestra. *Pearl's a Singer; Other Lady; Only Wounded; I Never Thought I'd Break; You'll Never Know; If You Were the Only Boy; Gee Whiz; Heartquake; Should've Never Let Him Go; Chico's Girl.* MCA MCA-3230 \$7.98, © MCAT-3230 \$7.98, © MCAC-3230 \$7.98.

recently on TV when she performed *Gee Whiz*, which on this recording is done straight and rather poignantly, by suddenly raising two fingers coyly in the air as if to Get With That Beat—and I could have bopped her on the spot. Not that some of the material and

performances here don't come rather perilously close to camp (*Chico's Girl* and *Heartquake* both have their ambivalent moments), but the reins always seem to be pulled in in time.

Among the particular glories of the album would have to be a wonderfully slow and pensively precise *If You Were the Only Boy in the World*. It is sung with a carefully paced, painstakingly built dramatic force, yet with a soft intimacy that suggests post-passion pillow talk. Peters demonstrates in it how far she's come as an actress, creating mood-filled silences in her phrasing so that the succeeding line often sounds improvisatory. Two songs that could easily have been trivialized, Peter Allen and Carole Bayer Sager's *Only Wounded* (a trendy, I-shall-survive ballad) and Leslie Gore and Ellen Weston's *Other Lady* (a stylish, stream-of-consciousness rumination by a woman who's sharing her man with another lady) are both performed with a lightly ironic dryness that raises them a notch or two above their station.

Safely in the knock-'em-dead, I-rest-my-case category are three sensational tracks. In ascending order, there's *Pearl's a Singer*, the urban c-&-w classic about a girl who "wanted to be Betty Grable/Now she sits at a beer-stained table. . . ." The performance gives it a depth, a meaning, and a shabby, broken-dream dustiness that the bare words never quite capture. Next Peters pays tribute to the rolling-eyed basso-contralto of Alice Faye, queen of the early-Forties Fox musicals, by singing her greatest hit, *You'll Never Know*. No camp here either, no coy inflections, and, best of all, no attempt to

"creating mood-filled silences. . . so that the succeeding line sounds improvisatory. . . ."



The Norwegian Chamber Orchestra, one of the world's more attractive string ensembles. Leader and solo violinist Tønnesen is fourth from the left in the front row.

imitate the inimitable Ms. Faye, just a straight-on, gorgeously sung performance of a fine old standard. The dizziest heights, however, are reached in Neil Sedaka's *Should've Never Let Him Go*. I could rave on and on about it, but there's no point; listen yourself and you'll know how sensationally good Peters can be when she's expressing no point of view at all, just the emotion of the moment.

Brooks Arthur has obviously given all this a wealth of time and attention, and the result is a really superior production of the kind he blessed the first Debby Boone album with. I often disagree with Arthur's later handling of his debutantes, but I must admit that he seems to have *The Awakening Touch* as far as young female singers are concerned.

Bernadette Peters is so good here that I get carried away thinking about a few songs I'd like to hear her sing—for example, those Al Carmines wrote for the ill-fated Broadway musical that was to star Mickey Rooney and Peters as W. C. Fields and girl friend Carlotta Monti. I'd also like to hear her sing almost anything by Jerome Kern, particularly *I'll Take Romance* and *Smoke Gets in Your Eyes*. And, finally, for a real Christmas-Easter-birthday present, a performance of Noël Coward's *If Love Were All*. The only performance I've ever heard that came close to doing it justice is the original scratchy, muddy recording made by Ivy St. Helier, the soubrette who introduced it. Bernadette Peters could not only do it justice, but just might make it the kind of hit it always deserved to be. But no matter what she decides to record in the future, I know that *this* throwback, for one, will be listening intently. You should be too.
—Peter Reilly

Edvard Grieg's Gems For String Orchestra: Clear, Fresh, Inspired, and Piquant

CONSIDERING that he inhabited this world for sixty-four years, Edvard Grieg was hardly among the most prolific of composers, particularly in the more laborious kinds of composition such as orchestral music. A new record from the Swedish Bis label contains *all* the music he wrote for string orchestra: the suite *From Holberg's Time* and seven assorted "melodies" that derive from folk tunes or previously composed piano pieces or songs. It is not an overwhelming quantity of music, but for clarity and freshness of utterance, lyrical inspiration, and harmonic piquancy, all bound up with the music's being somehow familiar (even when the title is not), it is outstanding.

Much of Grieg's music is still virtually unknown outside Scandinavia, but the *Holberg Suite*, as measured by catalog listings at least, is actually a rather popular work; at last look there were nine recorded versions available in America. That ought not to put anyone off this new disc, however, for the performance, by the young Norwegian Chamber Orchestra, is really something special. And here, collected in one convenient place, are all those *little* pieces, almost every one a gem of a sort, for which we have previously had to chase through the catalog (and the out-of-print bins).

This is the only available recording of this music by a Norwegian (or, indeed, by any Scandinavian) ensemble,

and to my ears there is a difference. Less is made of the eighteenth-century dance character of the *Holberg Suite*, and much more of its Nordic substance. The bite and the gutty sonorities of the strings evoke a far earthier, far more "Norwegian" vision than the suave, equally praiseworthy but different sound of the English Chamber Orchestra or the Academy of St. Martin-in-the-Fields. In all, I find the Norwegians' presentation at once more intriguing and more convincing than the comparatively neutral coloration of the other groups. For a group that has been a permanent performing body only since 1977, the Norwegian Chamber Orchestra is remarkably capable. Their ensemble playing is near perfect, their soloists unexceptionable; but what really distinguishes them is the variety of tonal coloration they produce, a coloration based on their knowledge of and feel for Norwegian folk music and, in particular, for the sound of the traditional Hardanger fiddle. With the exception only of the more conventionally romantic *Two Elegiac Melodies*, the folk roots run deep in this music, and the Norwegians make them manifest.

The recording, made with two microphones and without benefit of digital or even Dolby noise reduction, is strikingly clear, clean, and atmospheric, with excellent depth and instrument localization. Only the presence of a tiny amount of tape hiss, noticeable in the quietest passages, ranks it below the top work done today. It is an ample demonstration that fine recording work rests at least as much on know-how, taste, and musical sensitivity as it does on the latest hardware. —James Goodfriend

GRIEG: *From Holberg's Time, Suite in Old-
en Style, Op. 40; Two Melodies, Op. 53*

(*Norwegian, The First Meeting*); *Two Nordic Melodies, Op. 63 (In Folk Style, Cow Call and Peasant Dance)*; *At the Cradle, Op. 68, No. 5*; *Two Elegiac Melodies, Op. 34 (The Wounded Heart, Last Spring)*. Terje Tønnesen (violin); Lars Anders Tomter (viola); Anne Britt Sævig (cello); Norwegian Chamber Orchestra, Terje Tønnesen cond. BIS LP-147 \$9.98 (from Qualiton Records, Ltd., 39-28 Crescent Street, Long Island City, N.Y. 11101).

Telarc Discovers Broad, Deep Acoustic Vistas In a Digital Recording Of Saint-Saëns' Third

SUAVITY, poise, and ravishing tonal beauty are the prime characteristics of the new recorded performance of Saint-Saëns' *Organ Symphony* on Telarc, and this interpretive approach is ideally suited to the Soundstream digital-recording technique and the uncluttered microphone setup. Indeed, sonically the recording is as close to perfect as Telarc's now-famous Cleveland Orchestra *Pictures at an Exhibition*. The details of texture in the quieter developmental passages of the first two movements really seize the attention, and I have hardly ever heard the sheen of the Philadelphia's strings to better advantage on discs in my nearly fifty years of acquaintance with that ensemble.

A singular element in this particular recording is its locale: the St. Francis de

Sales Church in Philadelphia, which boasts a splendidly restored organ that combines elements of both the classic American (G. Donald Harrison) and romantic French (Cavaillé-Coll) types. As revealed by Telarc and the Soundstream technicians, the acoustic vistas are broad and deep indeed, not only adding an extra ingredient of warmth to the string and woodwind choirs but a most welcome overtone component as well.

From the standpoint of recording technique per se, it is the stereo imaging that is extraordinary here: the illusion is one of a wide yet well-contained sonic panorama plus unusual depth (the timpani are well back, yet properly audible). Justness of perspective seems to have been a major aim of the microphone setup, yet the localization is equally remarkable for its accuracy and effectiveness, particularly where elements of texture are passed from choir to choir—so much so that I would have little trouble working out a detailed diagram of the orchestral seating from the sound image alone. The organ/orchestra balance both in the slow movement (with its lovely solo bits and episodes of supportive pedal) and in the big opening of the finale couldn't be better, and the sound of the solo instrument has an elegant transparency along with ample body in the diapason stops. Only in the densely packed sonorities and active counterpoint of the final pages is this recording anything less than 100 per cent successful; that is no fault of the production, but rather of the reverberant quality of the church acoustics, which do muddy things up to some degree.

For those who want to experience

something close to the ultimate in beauty of orchestral sound and who do not insist on an all-out blockbuster approach to the *Organ Symphony*, this disc is a splendid investment.

—David Hall

SAINT-SAËNS: *Symphony No. 3, in C Minor, Op. 78 ("Organ")*. Michael Murray (organ); Philadelphia Orchestra, Eugene Ormandy cond. TELARC 10051 \$17.95 (from Euroclass Record Distributors, Ltd., 155 Avenue of the Americas, New York, N.Y. 10013).

Born Again Isaac Hayes: Cooler, More Mellow, But As Leisurely and Soulful As Ever

THERE must be a touch of the phoenix in Isaac Hayes, the bald-pated balladeer from Memphis whose career has been a little like the tides, ebbing and flowing for over a decade now.

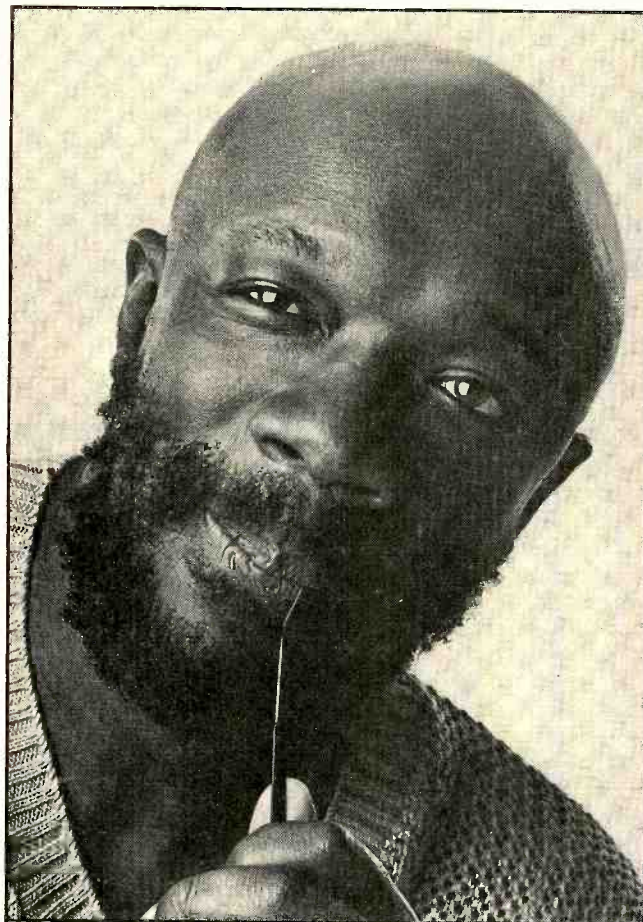
I recall meeting Hayes nearly a dozen years ago when he was still associated with the now-defunct Stax studios. Though he was at the time primarily a songwriter and producer for such better-known acts as soulmen Sam and Dave, he was already a notable stallion of the Stax stable, given to flamboyant dress and behavior. There was something in his manner that defied the very idea of obscurity, so I was not surprised when he emerged as an immaculately razored, chain-bedecked sex symbol after the release of his memorable nineteen-minute-long singing/rapping rendition of *By the Time I Get to Phoenix* (the city, that is).

I was present the evening he first performed that number, as an unknown, before a Memphis audience of record hucksters and music journalists. The way he slowly built to a big dramatic climax throughout the extended commentary (underscored by a single organ chord held for something like an eternity) was unprecedented at the time. Fans may rave all they want to about Barry White, who adopted the style later, but Hayes was an original. We all knew it that night when we accorded him a standing ovation.

(Continued overleaf)

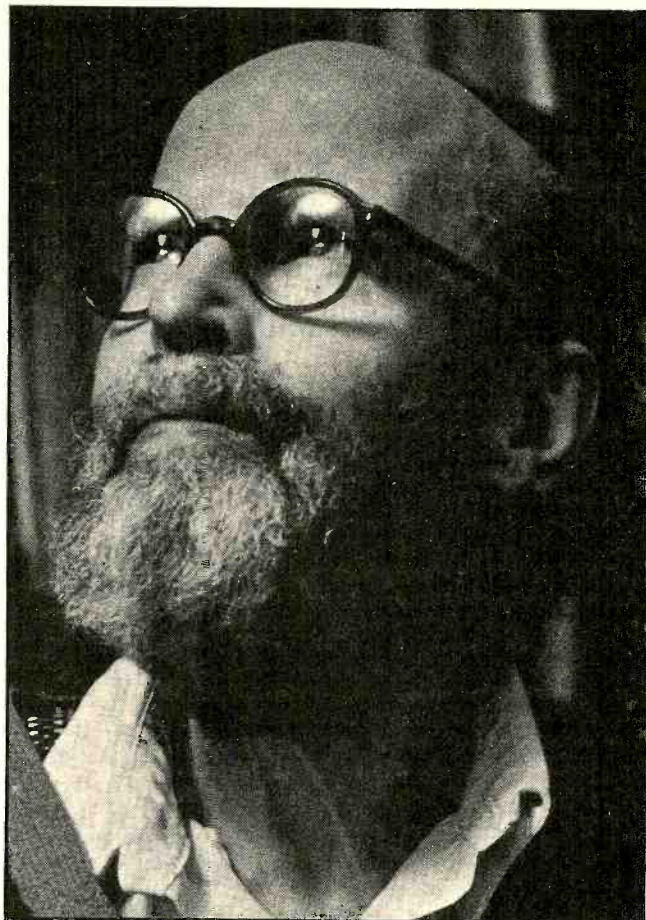
Michael Murray plays a splendidly restored nineteenth-century organ.





Polydor

ISAAC HAYES: *revitalized*



American Record Guide/Gunnar Källström

ALLAN PETERSSON: *eloquent*

With that background, it came as no surprise when he won an Academy Oscar for his *Shaft* soundtrack. It is now generally forgotten, but that score was the first to really capture the essential flavor, the bursting energy of black soul music in the movie genre, a musical style that has since become part of the standard vocabulary of both film and television scores.

But that was before the fall, when mismanagement in both personal and financial affairs led to a total eclipse of Hayes' talent. Artists, just like the rest of us, cannot help being affected psychologically by life's turmoil sometimes, and he was no exception: his recordings during those tumultuous years reflected an aesthetic bankruptcy, a spiritual exhaustion. Then, a year or so ago, something began to happen. Successful collaborations with such female artists as Dionne Warwick and, more recently, Millie Jackson seemed to fan a long-dormant inner spark. And so, without any fanfare or the rocketing sendoff of another monster hit, Isaac Hayes was born again artistically.

The revitalization is readily apparent in his appropriately titled new album "And Once Again," though this is a cooler, more mellow, less insistently

confessional Hayes than we have known before. The theme underlying the five selections is one of love lost and regained, touched with a sense of the struggle involved in trying to make human relationships work. The leisurely paced lead-off number is, quite fittingly, *It's All in the Game*, an evergreen with a strange history. Written by Charles G. Dawes—Vice President of the United States under Calvin Coolidge!—it was revived a short eon ago when it became a hit for Tommy Edwards, a singer whose style bridged jazz and pop. Now the song has been taken up by Hayes in a smoky, ruminative reading that is distinctively his own. One *has* to wonder what Silent Cal would have made of it.

Overall, "Once Again" is balanced between the sentimental and the upbeat (there are two tastefully paced disco-like dance numbers), but the better tracks are clearly those slower ones that permit Hayes to rummage through his soul. *Wherever You Are* is a showcase for his straight interpretive style, and *This Time I'll Be Sweeter* presents him at his tear-stained best, building from a subdued introductory rap into a rhapsody of entreaty made all the more effective by the high, punched-out gospel-

tinged work of a superb female back-up group. All in all, there is ample assurance that this old master is back in full stride.

—Phyl Garland

ISAAC HAYES: *And Once Again*. Isaac Hayes (vocals); vocal and instrumental accompaniment. *It's All in the Game*; *Ike's Rap VII*; *This Time I'll Be Sweeter*; *I Ain't Never*; *Wherever You Are*; *Love Has Been Good to Us*. POLYDOR PD-1-6269 \$7.98, © 8T-1-6269 \$7.98, © CT-1-6269 \$7.98.

Pettersson's Eighth Symphony: Extraordinary Communicative Weight and Convincing Musical Logic

SOME years ago I called attention in these pages to the profoundly moving eloquence of the Seventh Symphony from the pen of Swedish composer Allan Pettersson (b. 1911) in a performance on London CS 6740 (now, regret-

tably, deleted) by the Stockholm Philharmonic Orchestra under Antal Dorati. As of now, seven of Pettersson's thirteen symphonies have been recorded, but eight years have had to pass before a second one was released here.

Be that as it may, that second release, of the Symphony No. 8, is among the most immediately accessible of Pettersson's symphonies in terms of natural flow and cumulative expressive power. The opening pages recall the unforgettable consolatory episode midway in No. 7, and for the greater part of the first movement that feeling burgeons relatively undisturbed. Little by little, though, we are edged by Pettersson into his special vision of Inferno; a slowly rising minor-second sequence, repeated in quasi-ostinato fashion, is the warning signal, and it also dominates the conclusion of the first movement. The second movement continues in the same vein, developing its musical elements to a peak of shattering intensity, after which the direction shifts toward an intensified recapitulation of earlier lyrical elements reminiscent of the minor-second "ostinato" of the first movement. The effect is extraordinary in its communicative weight and wholly convincing in its often

rather overwhelming musical logic.

Sergiu Comissiona, who was chief conductor at Göteborg from 1967 to 1972 as well as being conductor of the Baltimore Symphony since 1969, delivers here a reading of the utmost dramatic conviction. The recording (actually made in Baltimore in the fall of 1977 for the Swedish Polar label) has sonics that are notable for their unusually wide range in both frequency and dynamics—not altogether surprising when we see that the recording supervisor was Telarc's Robert Woods of digital records fame. Particularly impressive is the manner in which Pettersson's sometimes very busy and often dense scoring (in the multilayered percussion department) has been captured with a minimum of distortion. It will take good playback equipment to do proper justice to this disc. (Playing the original Swedish Polar release against this Deutsche Grammophon issue revealed no significant differences in quality, by the way.) —David Hall

PETTERSSON: *Symphony No. 8.* Baltimore Symphony Orchestra, Sergiu Comissiona cond. DEUTSCHE GRAMMOPHON 2531 176 \$9.98.

Eric Clapton's "Just One Night": Some Good Musicians Getting the Hang of Live Recording

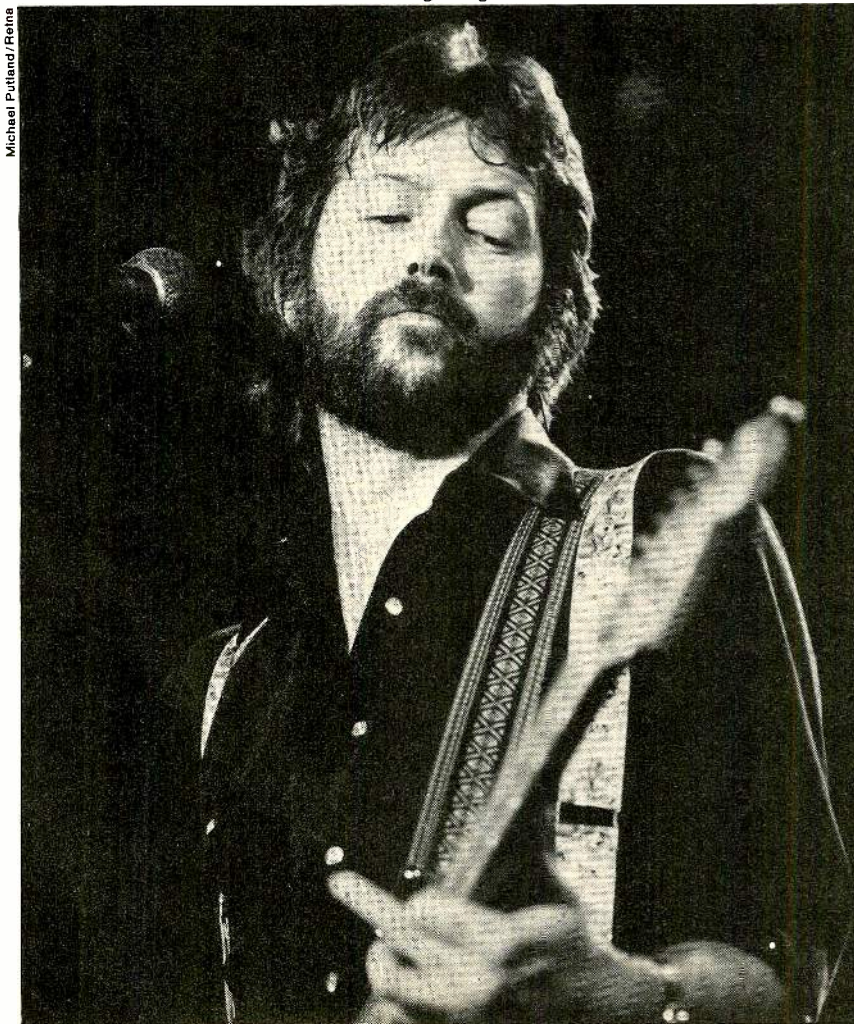
WE all used to carp about live albums, but lately, as recording in the studio has become increasingly what Ry Cooder has called "an engineer's trip," I've encountered several that were a blessed relief because they put the emphasis back where it belongs—on the music. Granted, a lot of concert tapings still overdo solos and crowd-pleasing stage moves, but the *good* musicians at least seem finally to be getting the hang of it. You can say that in spades for "Just One Night," Eric Clapton's new live-at-the-Budokan set on RSO.

In his last couple of studio albums, Clapton seemed to be slightly fettered by RSO formulas or RSO attitudes about easy pop hits. They've been catchier than most, but they've also de-emphasized his guitar playing and wasted the soulfulness that has evolved in his vocals. "Just One Night" gets plenty of guitar from Albert Lee, but it also has Clapton getting back into it, on both straight lead and slide, and since the program contains plenty of blues and a little *Layla*-period stuff, the vocals are given a little room in which to sound as if they mean it.

The backing is simple, sensible, and superb, the musicians repeatedly showing the quickness and off-beat ideas good musicians can get in the right atmosphere. And the audience becomes obtrusive only during *Cocaine*, which is riff-based anyway. Clapton and Lee get crisp, punchy guitar sounds and sometimes rattle off great numbers of notes with such ease that you can almost feel the audience rising out of its chairs. In other words, spontaneity lives here, thank the Lord, and that's supposed to be (too often it isn't) one of the great things about music. It's nice to know there are still a few people around who haven't forgotten it. —Noel Coppage

ERIC CLAPTON: *Just One Night.* Eric Clapton (vocals, guitar); Albert Lee (vocals, keyboards, guitar); Henry Spinetti (drums); Chris Stainton (keyboards); Dave Markee (bass). *Tulsa Time; Early in the Morning; Lay Down Sally; Wonderful Tonight; If I Don't Be There by Morning; Worried Life Blues; All Our Past Times; After Midnight; Double Trouble; Setting Me Up; Blues Power; Rambling on My Mind; Cocaine; Further On Up the Road.* RSO RS-2-4202 two discs \$12.98, © 8T2-4202 \$12.98, © CT2-4202 \$12.98.

ERIC CLAPTON: *getting back into it*



Michael Putland/Retna

Popular Discs and Tapes



Reviewed by CHRIS ALBERTSON • EDWARD BUXBAUM • NOEL COPPAGE • PHYL GARLAND
PAUL KRESH • PETER REILLY • STEVE SIMELS • JOEL VANCE

THE BEACH BOYS: *Keepin' the Summer Alive*. The Beach Boys (vocals and instrumentals). *Keepin' the Summer Alive; Oh Darlin'; Some of Your Love; Livin' with a Heartache; School Day;* and five others. CARIBOU FZ 36283 \$8.98, © FZA 36283 \$8.98, © FZT 36283 \$8.98.

Performance: **Once more into the surf**
Recording: **Spacious**

Well, the Beach Boys are with us again, slightly winded perhaps, with an undaunted Brian Wilson leading the pack back into the Pacific surf for a program that tries, with some success, to re-create the kind of fun-loving fluff that made them so popular with teenagers in the Sixties. In *Endless Holiday* and *Keepin' the Summer Alive* they set out in the old car with the windows rolled down in "ice-cream weather" for fun on the strand and almost succeed in convincing you that the last twenty years never happened and life is still one big beach party. Before the record is over, though, the cuteness begins to pall in such tepid numbers as *Some of Your Love* and *Goin' On*, which does go on. It's a brave reunion, but in the end one is forced to the realization that Wilson and his gang are getting a little old for this sort of outing. I am too. P.K.

ERIC CLAPTON: *Just One Night* (see **Best of the Month**, page 75)

Explanation of symbols:

- Ⓜ = open-reel stereo tape
- Ⓢ = eight-track stereo cartridge
- ⓐ = stereo cassette
- Ⓛ = quadraphonic disc
- Ⓣ = digital-master recording
- Ⓛ = direct-to-disc

Monophonic recordings are indicated by the symbol Ⓜ

The first listing is the one reviewed; other formats, if available, follow it.

JUDY COLLINS: *Running for My Life*. Judy Collins (vocals); orchestra. *Running for My Life; Bright Morning Star; Green Finch and Linnet Bird; Marieke; Pretty Women; Almost Free;* and six others. ELEKTRA 6E-253 \$7.98, © ET8-253 \$7.98, © TC5-253 \$7.98.

Performance: **Up and down**
Recording: **Mostly very good**

The good news, relative to her disastrous last album, is that Judy Collins sings (mostly) on key here. Partly it may be a function of staying in the upper part of her range, where it is easier for most singers to hit a tone and hold it. The bad news is that this is one *weird* assortment of songs.

The first side is keyed to the art-song affinity Collins has shown for years; it includes her own hopelessly meandering title song and a couple of numbers, both dull as hell, from Stephen Sondheim's *Sweeney Todd*. The only thing there with anything approaching a melody in it is Jacques Brel's *Marieke*, which Collins has recorded before. Side two is more "contemporary pop," or what passes lately as down-to-earth. It features such stuff as *I Could Really Show You Around*, a Peter Allen opus about what the beautiful people do that may be an attempt at satire but merely sounds ugly if not obnoxious; Larry Gatlin's overly contrived *I've Done Enough Dyin' Today*; *The Rainbow Connection* from *The Muppet Movie* (which is where it ought to stay); and a couple more by Judy herself. The best of the bunch is her *Wedding Song*, apparently written for a real hitching ceremony; it invokes a stately, churchy ethos and shows an expert feel for using lead singer, choir, and fairly simple instrumentation in just the right spirit. It's good enough to remind you that Collins' old recording of *Amazing Grace* is still the best version available. The rest of this album is unsatisfying, though, apparently as a result of her trying too hard on the one side and not hard enough on the other. N.C.

RODNEY CROWELL: *But What Will the Neighbors Think*. Rodney Crowell (vocals,

guitar); Albert Lee (guitar, keyboards); Larry Londin (drums); Emory Gordy Jr. (bass); other musicians. *Here Come the Eighties; Ain't No Money; Oh What a Feeling; It's Only Rock 'n' Roll;* and six others. WARNER BROS. BSK 3407 \$7.98, © M8 3407 \$7.98, © M5 3407 \$7.98.

Performance: **Very good**
Recording: **Good**

Rodney Crowell, who's one of the best country-rock songwriters, turns out also to have a clear but distinctive and very engaging tenor voice. He shaded this album away from country and toward rock, electing to record some of his songs that are not so familiar from other people's records (although Bobby Bare did a good job recently with *On a Real Good Night*). This isn't as impressive as the debut by Crowell's wife, Roseanne Cash, which he produced, but it's fairly impressive. In *Here Come the Eighties* and *It's Only Rock 'n' Roll* Crowell shows what a good songwriter can do with only a rudimentary melody. Usually he goes with simple melodies that have an unexpected shift or chord change or an exquisite but brief internal passage, in the manner of Merle Haggard. The problems here are some deadwood written by other people and one weak 1976 song of his own, *Ashes By Now*, that he should have left in the files. The backing is basic and clean and right on the money. If the song quality throughout truly represented how well Crowell can write, this would be a monster. As it is, it's merely pretty good. N.C.

MAC DAVIS: *It's Hard to Be Humble*. Mac Davis (vocals); instrumental accompaniment. *It's Hard to Be Humble; The Greatest Gift; Let's Keep It That Way; Gravel on the Ground;* and six others. CASABLANCA NBLP 7202 \$7.98, © NBL8 7202 \$7.98, © NBL5 7202 \$7.98.

Performance: **Irrelevant**
Recording: **Good enough**

I've decided it's just about pointless for me to review the so-called music of Las Vegas

acts, as Las Vegas acts are in a world of their own. (Consider: what the hell does Wayne Newton have to do with music, or anything else beyond the town limits of Vegas?) So here's Mac Davis, who could very well be known in the Vegas patois as Tony Orlando South (he did record this thing in Nashville), going through the motions of singing songs on a record that will be played in rooms with nary a chorine or even an ostrich feather in them, and in which the occupants are not necessarily preoccupied with thoughts of blackjack and craps. Las Vegas' idea of what is glamorous and what is a personality peaked in the rest of the country in 1948 and has faded rapidly ever since (except, of course, on network television). And so, being confronted by one of these records is like having to endure Don Rickles or Sammy Davis Jr. or some similar annoyance from a show-biz time warp. It is one of those records: sincerity at the flick of a switch, pre-planned warmth, and, of course, the inevitable Audience Participation, a.k.a. "working" the crowd. In short, Mac Davis as Version 622B of Mr. Entertainer. To enjoy this you'd have to be there to see it and *be* "worked," and be anxious to get back to the tables and make a killing. And it'd probably also help if you were about two-thirds drunk. *N.C.*

THE DIXIE DREGS: *Dregs of the Earth.* The Dixie Dregs (instrumentals). *Road Expense; Pride o' the Farm; Twiggs Approved; Hereafter;* and four others. ARISTA AL 9528 \$8.98, © A8T 9528 \$8.98, © ACT 9528 \$8.98.

Performance: **Okay**
Recording: **All right**

Maybe I don't take the right drugs, but I still can't figure what a rock instrumental album is *for*, outside of radio stations' using cuts from it to vary their programming. The Dixie Dregs, a group that's new to me, has a nice blend of keyboards and guitars, both electric and acoustic, and touches of a swinging fiddle à la Vassar Clements, and the tunes here, all written by Steve Morse, allow the band to try on various styles and textures. But it all cries out for vocals to give it some kind of context. It doesn't even sound like one long jam session; it's too formally arranged for that. Played straight through, the album gets tedious, for the music is too *simple* to be beyond words. *N.C.*

FIREFALL: *Undertow.* Firefall (vocals and instrumentals). *Love That Got Away; Headed for a Fall; Only Time Will Tell; Laugh or Cry; Stardust;* and five others. ATLANTIC SD 16006 \$7.98, © TP 16006 \$7.98, © CS 16006 \$7.98.

Performance: **Flickering**
Recording: **Very good**

Firefall adds two parts country to one part rock and comes up with a musical cocktail without much of a kick. The half-dozen gentlemen who make up this group manufacture music so determinedly MOR, with lyrics (mostly by Dick Roberts) so doggedly pedestrian and pat, that it's hard to believe the whole program wasn't ordered by number from a catalog. Every once in a while, as in the title song, there's something that sounds like genuine pathos, but mostly "Undertow" doesn't have much pull. *P.K.*

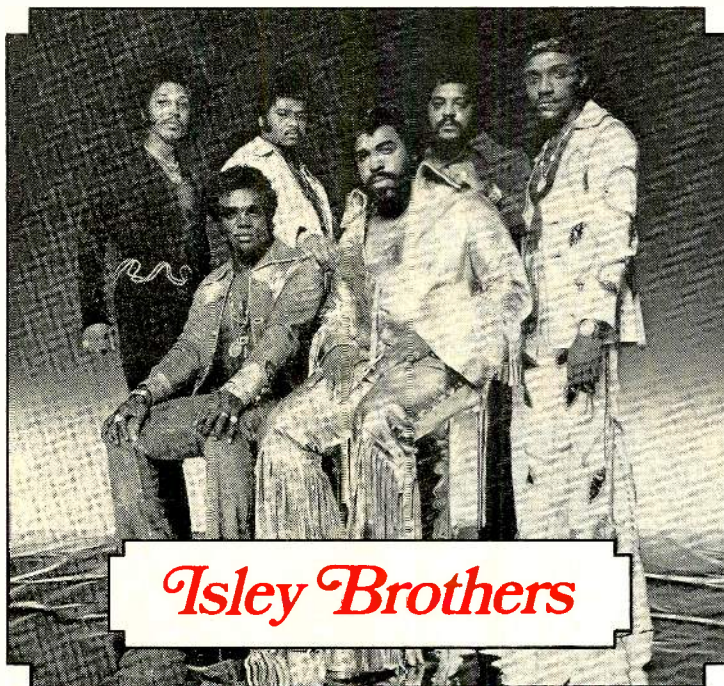
MICHAEL FRANKS: *One Bad Habit.* Michael Franks (vocals, keyboards); vocal and instrumental accompaniment. *Baseball; One Bad Habit; On My Way Home to You; All Dressed Up with Nowhere to Go; He Tells Himself He's Happy;* and four others. WARNER BROS. BSK 3427 \$7.98, © M8 3427 \$7.98, © M5 3427 \$7.98.

Performance: **Not up to the material**
Recording: **Very good**

Once again Michael Franks presents an album of captivating songs in which the lyrics are knockouts but the tunes are only so-so.

Or maybe it's just that the tunes are hard to hear through Franks' thin and limited vocals. There are many good songwriters who can sing their own material, so there's no hard and fast rule. But in Franks' case, I think, the material almost always sounds better when interpreted by a vocalist with true chops.

Most of the songs on "One Bad Habit" are politely erotic and very funny; it's a kind of tea-party porn. The title song, for instance, includes the lines "You've got some strut/You're like a hit of something uncut/I'm always bouncin' in the buff with



T-Neck Records

Isley Brothers

GADZOOKS! An Isley Brothers album zooming to the top of the charts, and so soon after its release? "Go All the Way" is the same kind of album they've been making for the last ten years, so why the sudden Isley boom?

Not that the Isleys aren't great; they are—and have been for *twenty* years. What accounts for the swift success of their latest album is probably its subject matter—sex—and the fact that a new generation is discovering the joys of basic rhythm-and-blues. Now that the Isleys have been all but canonized by Big Sales, graduate students will be writing Ph.D. dissertations on Ronnie Isley's vocals, examining his use of operatic techniques to bounce notes and theatrical techniques to impart thrills and subtlety to ballads, assessing his historical importance as compared to James Brown, Otis Redding, and so on. That's all right with me; I've been pointing these things out for ten years in these pages, as faithful readers will no doubt recall.

However, for the benefit of the new generation that has discovered the Isleys with "Go All the Way," I would suggest a listen to their "Timeless" album (T-Neck KZ2

35650) as well, a retrospective containing the best of their post-1969 work. Among the selections is a Jimi Hendrix tune, *Machine Gun*, that recalls the days when Hendrix was a member of the Isleys' touring band and he and Ronnie used to trade phrases, Hendrix's brilliant guitar and Ronnie's astonishing voice each imitating the other. New converts should also search specialty stores and remainder bins for the original Fifties recordings of classics such as *Shout* (on RCA), *Twist and Shout* (Scepter), and *This Old Heart of Mine* (Motown).

In any case, "Go All the Way" proves once again that the Isleys, an old established family firm, have stayed in business because they always take care of business. They keep being rediscovered at the start of every new decade, and I hope they always will be. —Joel Vance

THE ISLEY BROTHERS: *Go All the Way.* The Isley Brothers (vocals and instrumentals). *Go All the Way; Say You Will; Pass It On; Here We Go Again; Don't Say Goodnight (It's Time for Love); The Belly Dancer.* T-NECK FZ 36305 \$8.98, © FZA 36305 \$8.98, © FZT 36305 \$8.98.

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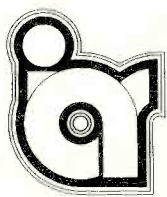
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you . . .” Now, ain’t that nice stuff? I don’t know how many people will ever hear it, since Franks works in a jazz medium and his material is too cosmopolitan for rock. I can only hope his cult, with a little help from artists who will really *sing* his songs, grows and grows and grows. J.V.

RECORDING OF SPECIAL MERIT

MERLE HAGGARD: *The Way I Am*. Merle Haggard (vocals); instrumental accompaniment. *The Way I Am; Sky-Bo; No One to Sing For; (Remember Me) I’m the One Who Loves You; Wake Up; It Makes No Difference Now*; and five others. MCA MCA-3229 \$7.98, © MCAT-3229 \$7.98, © MCAC-3229 \$7.98.

Performance: **Vintage**
Recording: **Very good**

Merle Haggard looks more wasted with each new album-cover photo, but his releases the past two years have been almost classic. He’s never sung better than he does on this one, and even his imitation of Ernest Tubb (and the wonderful rhythm-guitar sound Tubb used to get *plus* a reminder of legendary lead guitarist Billy Byrd) in two of three great old Tubb songs here seems appropriate and sharp. The four songs Hag himself wrote for this have no particular pattern, except that two are clear-cut downers, but the other people’s stuff he’s selected—the three by Tubb, one by Stuart Hamblen, and one by Floyd Tillman—suggest nostalgia and the “and-western” part of c-&-w. One of the Tubb songs, *Take Me Back and Try Me One More Time*, is particularly terrific. And the other two writers represented, Sonny Throckmorton in the title song and Leona Williams (Haggard’s wife) in *Where Have You Been*, are only a shade behind the old boys. This is a tough and touching album. N.C.

ISAAC HAYES: *And Once Again* (see Best of the Month, page 73)

JIMI HENDRIX: *Nine to the Universe*. Jimi Hendrix, Jim McCartney, Larry Lee (guitar); Buddy Miles, Mitch Mitchell (drums); Billy Cox, Roland Robinson (bass); Larry Young (organ). *Nine to the Universe; Jimi/Jimmy Jam; Young/Hendrix*; and two others. REPRISE HS 2299 \$8.98, © R8 2299 \$8.98, © R5 2299 \$8.98.

Performance: **Embarrassing**
Recording: **Good**

Here we go again. Dear God, why won’t they leave the poor man’s memory alone? Jimi Hendrix was a brilliant, flamboyant guitarist who had pretty well physically burned himself out by the time these jam-session tapes were made in 1969. He complained that rock confined him musically and that pop stardom confined him personally, and he hoped for a new career as a musician in some sort of jazz/rock idiom. Whether the fusion would have been successful or whether Hendrix would have had the physical stamina to pursue such a major career change will now never be known, but I am sure that his pride would never have allowed these tapes to be released. At best they are experimental, at worst sloppy. Those responsible for the release of this al-

bum, as with previous Hendrix out-takes, do so under the guise of performing a public service, arguing that, however imperfect, such recordings suggest what Hendrix might have done had he lived. Don’t believe it. Buying this album is giving a sanction to grave-robbing. J.V.

SCOTT JARRETT: *Without Rhyme or Reason*. Scott Jarrett (vocals, acoustic guitar); Keith Jarrett (piano); Toots Thielemans (harmonica); Eddie Gomez (bass); Ralph McDonald (percussion); other musicians. *Miles of Sea; I Was a Fool; Never My Fault; Lady; Pictures*; and four others. ARISTA/GRP GRP-5007 \$7.98, © A8T-5007 \$7.98, © ACT-5007 \$7.98.

Performance: **Promising**
Recording: **Very good**

Singer/songwriter/guitarist Scott Jarrett, who makes his album debut with this set, is pianist Keith Jarrett’s twenty-seven-year-old kid brother, and if the album establishes that talent runs in the family, it also shows that it runs in different directions. Scott leans toward gentle rock ballads—which he writes rather well—with an occasional nod to Al Jarreau.

All nine songs that make up “Without Rhyme or Reason” are Scott Jarrett originals, and he delivers them—often in overdubbed multiple voices—in a relaxed, pleasant manner that works well for the material except when he attempts a falsetto effect. The arrangements, by Dave Grusin, are unobtrusive and, for a change, complementary to the artist they are designed to support. (I point that out because this is the first album I have heard on Grusin’s GRP label that didn’t have the featured artist drowning in someone else’s orchestrations.) Even brother Keith is heard lending his nimble hands on a couple of cuts. I think Scott Jarrett is better as a writer than as a performer—but that says a great deal for his writing. C.A.

RONNIE MILSAP: *Milsap Magic*. Ronnie Milsap (vocals, keyboards); Hal Rugg (guitar); Pig Robbins (piano); Ken Malone (drums); Warren Gowers (bass); Charlie McCoy (harmonica, vibes); other musicians. *Why Don’t You Spend the Night; She Thinks I Still Care; My Heart; Silent Night (After the Fight); Misery Loves Company; I Let Myself Believe*; and four others. RCA AHL1-3563 \$7.98, © AHS1-3563 \$7.98, © AHK1-3563 \$7.98.

Performance: **Sturdy**
Recording: **Excellent**

This album may be the one where Ronnie Milsap starts to get out of the way of his own talent. It isn’t *quite* magic; in fact, the differences between it and his last two or three albums are subtle—but they’re also insistent. There are fewer junk songs and more songs that, without being exceptional, make some use of Milsap’s impressive vocal equipment. The backing, while full, is fairly simple and has a more straightforward, more country drive to it; Hal Rugg’s steel guitar has several parts, and Charlie McCoy is allowed to do his thing with harmonica fills. And the engineering is exceptional, with the vocals and acoustic instruments exquisitely miked. Of course, a couple of the songs are *worse* than junk: I

Let Myself Believe, which Barry Manilow had a hand in, and *It's a Beautiful Thing* are both ridiculous, pompous, grandiose production numbers. Milsap still has that streak in his musical self, but the straight-ahead work with Rugg and McCoy and Company is eating into it. Now if we could get him away from those strings, he *might* be ready to deliver a whole album. N.C.

TONY ORLANDO: *Livin' for the Music.* Tony Orlando (vocals); vocal and instrumental accompaniment. *Bye Bye Love; Pullin' Together; Fire and Rain; Livin' for the Music;* and five others. CASABLANCA NBLP 7209 \$7.98, © NBL8 7209 \$7.98, © NBL5 7209 \$7.98.

Performance: **Pedestrian**
Recording: **Very good**

As slick as a slippery sidewalk and a lot soggier is the sound of Tony Orlando, who plugs away in his bland familiar manner in this grab bag of assorted songs. His empty treatment of *Bye Bye Love* doesn't touch the magic Ben Vereen makes of the same ballad in the soundtrack recording of *All That Jazz*—or the Everly Brothers' original. Even when he's praying to Jesus in *Fire and Rain* or in the Latin-flavored religious number called *San Pedro's Children*, there is a peculiar absence of real fervor in his voice. In *Pullin' Together*—a togetherness song if there ever was one—Orlando is rescued by Gary Herbig's tenor-sax solo, and guitarist Tommy Rotella lends needed color to *Fire and Rain*, but most of the time "Livin' for the Music" (and what a dull life Orlando makes that out to be) just rolls monotonously on. P.K.

BERNADETTE PETERS (see Best of the Month, page 70)

PUBLIC IMAGE LTD.: *Second Edition.* Public Image Ltd. (vocals and instrumentals). *Swan Lake; Bad Baby; Careering; Chant; Poptones; No Birds;* and four others. ISLAND 2WX 3288 two discs \$13.98, © 2W8 3288 \$13.98, © 2W5 3288 \$13.98.

Performance **Forbidding**
Recording: **Variable**

"Second Edition" is a budget version (the English pressing, known as "The Metal Box," was somewhat more elaborately and expensively packaged) of the latest musings by the band fronted by Mr. John Lydon, a.k.a. Johnny Rotten. I can't in good conscience recommend it to the merely curious, even at normal prices. Most of the songs are perilously close to rants (what Mick Jones of the Clash calls "nagging wife" music), and the backing tracks, by turns stark, strident, and dissonant, are so uncompromisingly, deliberately ugly that they suggest the death throes of a scrap-metal foundry. Lydon intones the lyrics, which are among the most appalling outpourings of inchoate rage in recent memory, in a kind of proletarian *Sprechstimme* that summons up everything from the unpleasant portentousness of middle-period Jim Morrison to what sounds like the deranged *Kaddish* of a punk rabbi. This is not, in short, exactly a party record.

But—and admittedly this is a big but—unless I am totally mistaken there is something remarkable going on here anyway, at

least in parts of it. The problem is that it's difficult for an American to get a fix on the conventions P.I.L. seems to be attempting to shatter; the wilder dub and reggae stuff that gets a hearing in England, of which most of this stuff appears to be a take-off, is only a rumor in the States, while for English kids it's almost accessible. That allowed, if you can get past the tedium of long passages, what you'll discover here, I think, is an attempt to inject actual feeling into the most forbidding of structures, as well as some truly radical conceptions about the role of the bass guitar and rhythm section. It strikes me as an experiment that leads down a blind alley, and a lot of it is the kind of psychedelic bushwah West Coast groups were grinding out in the middle Sixties, but you've got to give the little bugger his due for trying to bring it off. The joke, of course, will be on me if fifteen years from now everything on the radio sounds like this. But it wouldn't surprise me too much. S.S.

CHRIS REA: *Tennis.* Chris Rea (vocals, guitar, keyboards); instrumental accompaniment. *Tennis; Sweet Kiss; Since I Don't See You Anymore; Dancing Girls; No Work Today; Every Time I See You Smile;* and six others. COLUMBIA JC 36435 \$7.98, © JCA 36435 \$7.98, © JCT 36435 \$7.98.

Performance: **Turgid**
Recording: **Thick**

Britisher Chris Rea had a hit in 1978 with *Fool (If You Think It's Over)*, produced by Gus Dudgeon, but Rea was uncomfortable with Dudgeon's technical precision. So he took his working-class band, the Beautiful Losers, into a studio, wrote some working-class songs, and made a looser, less polished album. A noble idea, but the results are less than staggering; mostly they are gloomy. Rea tries very hard to write interesting lyrics, but they are sometimes *too* poetic, and his appropriations of American musical styles *sound* like appropriations. I sympathize with his loyalty to the Losers, the bar band with which he began, but with all charity I must say they *still* sound like a bar band. The Losers are out of their element in Rea's ambitious songs. As a result, the album takes a long time to get going and never reaches a satisfactory conclusion. J.V.

KENNY ROGERS: *Gideon.* Kenny Rogers (vocals); vocal and instrumental accompaniment *Gideon Tanner; No Good Texas Rounder; Don't Fall in Love with a Dreamer; The Buckeroos; You Were a Good Friend, Call Me Up; These Chains;* and four others. UNITED ARTISTS LOO-1035 \$8.98, © 8LOO-1035 \$8.98, © 4LOO-1035 \$8.98.

Performance: **Broad in the saddle**
Recording: **Good**

This is a concept album: a horse opera, loosely speaking, about a preacher's son who grows up to become a cowboy, kills a man, serves some time, encounters some women, and dies. Your typical cowboy life, in other words—or at least one disconcertingly similar to that led by the hero of Willie Nelson's concept album "Red Headed Stranger." Well, getting there first has never been Kenny Rogers' thing anyway; he was the third one to cover *The Gambler*.

(Continued overleaf)



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Waiting Abbott

Tonio K.

TONIO K.'s first album, "Life in the Food-chain" (Epic JE 35545)—besides being the greatest record ever made—struck a rather interesting balance between big yucks and existential despair. The music and lyrics were both hysterically funny, but the songs were also unflinchingly truthful, even pitiless. His new Arista album, "Amerika," has jokes that are much less obvious and a considerably darker overall tone. If there is a theme to this one, it's that the world is going to hell in a handcart somewhat faster than anticipated.

Hard-core Tonio K. people may count this more urgent new stance of his a disappointment (no cameo vocal appearances by Joan of Arc on *this* record!), but I find it helps put his artistry in better perspective: the man is not primarily a comedian. But, then again, neither was Jonathan Swift.

Lest all this scare anyone off, however, be assured that the album—subtitled "Cars, Guitars, and Teenage Violence"—deals with more than just global nuclear holocaust. Tonio K. is not, as was said of the late Phil Ochs, a one-issue man. Although the eleven songs here do have certain common thematic underpinnings, they are actually rather varied. *One Big Happy Family*, for example, is a mordant, vaguely New Wave-ish ditty that gives an international catalog, Randy Newman style, of bigotries ("The French hate everybody," Tonio observes, "but that's just part of being French"). The sorry state of current relations between the sexes is explored in *Go Away*, in which our hero encounters an old girl friend who on the evidence presented is probably not a nice person; it's the most spiteful diatribe since, oh, Dylan's *Positively Fourth Street*. Then there's a surrealistic account of teenage heartbreak, *The Night Fast Rodney Went Crazy* (after a murderous spree that culminates in his driving his Chevy into the high-school men's room, Rodney justifies himself with the explanation—in German, no less—that his girl's parents were really Martians); a heartfelt, deliberately confusing tribute to Dada pioneer Kurt Schwitters (*Let Us Join Together in a Tune*); and an extremely effective protest song, *Trouble*,

that rocks as hard as anything I've heard recently—and also gives producer/back-up player Nick van Maarth an excuse to imitate a police siren on slide guitar.

The album's masterpiece, and probably Tonio K.'s most fully realized song to date, is *Say Goodbye*, in which the various conflicting elements of his style come together in one anguished, chilling elegy. Formally, it's a classic-style Sixties r-&-b ballad, and Tonio and guest vocalist Ike Willis are absolutely superb in it; they sound like Sam and Dave as Biblical prophets howling in the wilderness, or like the greatest soul singers who ever lived. The lyrics are considerably more contemporary, being a devastating "prayer for the age of innocence." Anybody who can listen to Tonio's final spoken litany of goodbyes at the end without being moved is probably better off with Barry Manilow. Be warned: this is strong stuff.

Not everything on "Amerika" is on the same exalted level, of course; I'm not sure we could take it if it were. But enough is within shooting distance that no right-thinking young adult should be without it for another moment. In its rather more cerebral way, "Amerika" is as uplifting and uncompromising as anything the Clash has ever done—which is to say that it's great rock-and-roll—as well as being considerably wittier. More and more it strikes me that Tonio K. is one of the last truly sane people left, in or out of the music business. "I'm just looking," he sings at one point, for a girl "who can laugh at the fact that there ain't nothing funny." I hope he finds one. In the meantime, rest assured that, like its predecessor, "Amerika" is the greatest record ever made.

—Steve Simels

TONIO K.: *Amerika*. Tonio K. (vocals, guitar); other musicians. *One Big (Happy) Family*; *Say Goodbye*; *Sons of the Revolution*; *Go Away*; *Cinderella's Baby*; *Trouble*; *Girl Crazy*; *I'll Buy It*; *The Night Fast Rodney Went Crazy*; *Merzsuite—Let Us Join Together in a Tune*, *Umore/Futt Futt/Umore*. ARISTA AB 4271 \$7.98, © 8T 4271 \$7.98, © TC 4271 \$7.98.

This time the biggest hit will most likely be *Don't Fall in Love with a Dreamer*, a duet with Kim Carnes, who, along with Dave Ellingson, wrote the whole cycle of songs. *Dreamer* has a nice melodic sweep to it, but most of the others sound tired and academic, like school assignments. Not only is the story line, what there is to it, unnecessarily familiar, but both words and music seem unnecessarily mundane and predictable.

Rogers sings it all well enough; in fact, he rather dominates it, probably the best thing to do in this case. But, dang, I can still catch reruns of *Gunsmoke* in which Matt Dillon routinely gets into more interesting scrapes than these. And if you're expecting those little extra touches of mood, color, atmosphere, and attitude that Willie had in *his* horse opera, forget it.

N.C.

BOZ SCAGGS: *Middle Man*. Boz Scaggs (vocals); vocal and instrumental accompaniment. *Breakdown Dead Ahead*; *Simone*; *You Can Have Me Anytime*; *Do It Like You Do in New York*; and three others. COLUMBIA FC 36106 \$8.98, © FCA 36106 \$8.98, © FCT 36106 \$8.98.

Performance: **See-through**

Recording: **Good**

Boz Scaggs' basic trick is to write white and sing black, and he has parlayed that trick into a career. There has always been something of the poseur about him; he doesn't so much write or sing as strike attitudes. The attitudes have worn very thin on this latest album, and Scaggs sounds as if he's—temporarily, no doubt—run out of steam for his scam. His one-lung vocals are supposed to pass for laid-back cosmopolitan funk, but this time around they, like the lyrics and music, are even more than usually vapid and expedient. I think the only kind of artist Scaggs qualifies as begins with the word "con." But as long as audiences keep on letting themselves be suckered in, he'll keep on making albums. Some people actually enjoy being taken, but I've had enough of this particular dodge, thank you.

J.V.

JOHN STEWART: *Dream Babies Go Hollywood*. John Stewart (vocals, guitar); Russ Kunkel (drums); Chris Whelan (bass); Joey Carbone (keyboards); other musicians. *Hollywood Dreams*; *Wind on the River*; *Wheels of Thunder*; *Monterey*; *The Raven*; and five others. RSO RS-1-3074 \$7.98, © 8T-1-3074(D) \$7.98, © CT-1-3074(D) \$7.98.

Performance: **Good**

Recording: **Very good**

The trouble with this, as with most John Stewart albums, is that there's too much repetition and the songs sound too much alike. You wind up feeling there wasn't enough music. As he has before, Stewart here repeats imagery that suggests moving is the main thing on his mind—wheels, wings, white lines. If Martin Mull wanted to satirize Stewart, he'd probably write about boarding passes. There's music and love too, of course, but in Stewart's songs the understanding seems to be that these are incidental and temporary; the context is, as Joni Mitchell put it, "we love our loving but not like we love our freedom." This album gives that not-so-fresh theme a working-over, in a bare-bones sort of way, and it

has Stewart's richly textured voice and some sparkling arrangements going for it, but it also has more phrases repeated than anyone decently needs and too many "tunes" with the same chant-like drone. There's one exception that is a little different to start with and sounds quite different thanks to the way it's played (like reggae with the downbeat put back in)—*The Raven*, a cryptic little piece with dark, suggestive symbolism. It reminds me of my old impression of Stewart, that there is more to him than gets into his songs. The rest of this album makes me sincerely hope that's true. *N.C.*

BRAM TCHAIKOVSKY: *Pressure*. Bram Tchaikovsky (vocals, guitar, bass); and other musicians. *Let's Dance; Heartache; Letter from the USA; Can't Give You Reasons; Pressure; The Russians Are Coming;* and five others. POLYDOR PD-1-6273 \$7.98, © CT-1-6273 \$7.98.

Performance: **Good**
Recording: **Undernourished**

Bram Tchaikovsky . . . well, if you *have* to name yourself after a classical composer, this does have more of a ring to it than Humperdinck. In any event, Bram is the graduate from the Motors' (*Airport*) school of overproduction who was, despite that, responsible for last year's sublime *Girl of My Dreams*, the single that is perhaps the best neo-Sixties pastiche to have emerged from the power-pop boomlet. His new album rocks a bit harder and generally offers less of the same; there are lots of ringing guitars and breathy vocals, but precious few tunes, and the lyrics are embarrassing when they attempt social commentary (the title song and *The Russians Are Coming*) and merely banal when they don't (*Can't Give You Reasons*). The sound is surprisingly thin, too, which leads me to believe that the decision to rock out was less aesthetic than financial; all those endless overdubs cost money. Add to that a bigger-than-average helping of Life-on-the-Road songs, the harried rocker's traditional ploy when he's strapped for material, and you have a record that reeks of being a rush job. *S.S.*

10CC: *Look Hear?* 10cc (vocals and instrumentals). *One Two Five; Welcome to the World; Don't Send We Back; Lovers Anonymous; Dressed to Kill; I Hate to Eat Alone;* and five others. WARNER BROS. BSK 3442 \$7.98, © M8 3442 \$7.98, © M5 3442 \$7.98.

Performance: **Fair**
Recording: **Very good**

The last album 10cc made was off-balance, and "Look Hear?" is even more wobbly. The group has now lost altogether the sense of dramatic humor that was its forte, partly because of the earlier departure of Lol Creme and Kevin Godley, partly because the remaining original members, Eric Stewart and Graham Gouldman, have apparently run out of ideas. Stewart and Gouldman *try* to supply humorous material and new members Rick Fenn and Duncan Mackay *try* to come up with dramatic songs, but they're all writing in a vacuum. Meanwhile, Kevin Godley and Lol Creme have been making albums whose dramatic humor is too deadly serious as

well as a trifle self-indulgent and esoteric. I know reunions don't necessarily work, but it's also true that John, Paul, George, and Ringo never did anything as well individually as they did together. Both Stewart/Gouldman and Godley/Creme seem to be at a dead end, so what would they have to lose by a phone call, a couple of pints of beer, and negotiations? *J.V.*

B. J. THOMAS: *For the Best*. B. J. Thomas (vocals); vocal and instrumental accompaniment. *Walkin' on a Cloud; Everything Always Works Out for the Best; The Faith That Comes from You; Every Man; Jesus-Hearted People;* and five others. MCA/SONGBIRD MCA-3231 \$7.98, © MCAT-3231 \$7.98, © MCAC-3231 \$7.98.

Performance: **Good, but . . .**
Recording: **Good**

Pop balladeer B. J. Thomas—in my view, the best in that line since the death of Elvis Presley—has for some time maintained a second career as a gospel singer, recording for small "sacred" labels whose distribution is aimed specifically at the gospel audience. His appearance as a gospeler on his current pop label, which is initiating its new Songbird line with this release, suggests that giant MCA is using Thomas as a wedge to crack that specialty market.

Unfortunately, even Thomas' own deep "born again" convictions don't enable him to lift the songs here above the commonplace; there is none of the loving fury of classic gospel, white or black, and the religious stance seems smug rather than fervent, bragging rather than evangelical. *J.V.*

PETE TOWNSHEND: *Empty Glass*. Pete Townshend (guitars, synthesizer, vocals); other musicians. *Rough Boys; I Am an Animal; And I Moved; Let My Love Open the Door; Jools and Jim; Keep On Working;* and four others. ATCO SD 32-100 \$7.98, © TP 32-100 \$7.98, © CS 32-100 \$7.98.

Performance: **He worries too much**
Recording: **Excellent**

Pete Townshend's new solo album is about what you'd expect: a reflective, personal meditation on a variety of subjects that have obsessed him over the years (and which often cause him to make anguished late-night phone calls to English rock journalists). I would like to be more excited about it than I am; there's little here that could be called groundbreaking, musically or lyrically, and from Townshend I want surprises. Most of it sounds like very middling *Quadrophenia*-period Who, which is hardly startling. Then again, he may be saving up the Big Messages for the next Who album.

In any event, this is a slight but attractive record; particularly noteworthy are *Jools and Jim*, a well-deserved skewering of two self-righteous English punk observers, and *Let My Love Open the Door*, one of those cute, almost folksy little love songs he likes to concoct occasionally. The rest? Well, Townshend's demons are a little more interesting than those that plague the rest of us, and I respect the honesty with which he deals with them. But he hasn't gotten great rock-and-roll out of them this time. *S.S.*

(Continued overleaf)



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DISCO



BABY'O: You've Got It. Baby'O (vocals and instrumentals); vocal accompaniment. *In the Forest; Your Eyes; Porkchops;* and three others. BABY'O BO-1000 \$7.98.

Performance: **Blast from the past**
Recording: **Very good**

Baby'O should stick to Latin disco. This vanity-label LP sounds pretty terrific when the Waters, that polished brother-and-sister quartet, sing *In the Forest* against a distinctly Latin, good-natured cacophony of instruments and voices. Unfortunately, the rest of the album is formula music circa 1978. Oh, you can dance just fine to the title song; it's fast and fun. But the unidentified lead male vocalist (either Oren or Luther Waters) lacks the power to hold his own against the arrangement. The same problem afflicts *Dance All Night*, an eventually tiresome disco-rocker that opens side two. *Your Eyes* is better—a lot better—primarily because the vocals are again en-

trusted to the Waters as a group; it may be formula disco, with obvious hooks and an arrangement that lacks adventure, but it *is* catchy, and the shift to a major key for the "something's going on" chorus is uplifting. If there's room for this on your party-record shelf, fine. But don't throw out your Alec Costandinos staples for Baby'O. *E.B.*

CHANGE: The Glow of Love. Change (vocals); vocal and instrumental accompaniment. *A Lover's Holiday; Angel in My Pocket; Searching;* and three others. WARNER BROS. RFC 3438 \$7.98, © M8 3438 \$7.98, © M5 3438 \$7.98.

Performance: **A mixed bag**
Recording: **Extraordinary**

The dance freaks among us owe a great deal to Ray Caviano. He was signed by Warner Bros. at the crest of the disco wave to develop his own line of dance records, and his output has been small but of uncommonly high quality. Unfortunately, the wave is receding and this latest RFC release seems to be patched together from the flotsam and jetsam of several recording sessions.

Side one, however, is a solid dance experience worthy of Caviano's best releases. The dramatic, spare orchestration of a Chic-like slow dancer called *A Lover's Holiday* gives way to the heavier, rockier rhythms of *It's a Girl's Affair* and then to the string-drenched *Angel in My Pocket*. All three are played at wonderful dance tempos, sung very well by the husky-voiced girls who call themselves Change, and ex-

cellently engineered (in Italy) to capture the frequent flights of electronic fancy.

Side two is an altogether different story. Luther Vandross lends his considerable vocal technique to two songs, the title track and a deadly serious narrative song called *Searching*, that sound as though they belong in a different kind of album. And *The End* is a straight dance instrumental—a good one, with a nonstop bass rhythm punctuated by an electronic melody—that is also suspiciously out of place. In sum, there's good stuff here, but it's a rather schizoid program. *E.B.*

GLORIA GAYNOR: Stories. Gloria Gaynor (vocals); vocal and instrumental accompaniment. *Ain't No Bigger Fool; Lock Me Up; The Luckiest Girl in the World; Make Me Yours;* and four others. POLYDOR PD-1-6274 \$7.98, © 8T-1-6274 \$7.98, © CT-1-6274 \$7.98.

Performance: **Worthy effort**
Recording: **Fine**

Gloria Gaynor's first release since *I Will Survive* has a settled, comfortable pop sound to it. The success of a Gaynor album depends totally on the quality of the songs, because, unlike a truly inspired stylist, she cannot transform modest material by the sheer strength of her vocal personality. On this score, "Stories" is a mixed lot.

Gaynor is no belter. *Ain't No Bigger Fool* overextends her limited resources because it requires real gospel power. But she can croon with that creamy middle voice

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through such ballads as *I Let Love Slip Through My Hands* and *Make Me Yours* well enough to carry them off. Best of all here is *Don't Read Me Wrong*, on which she does the most flexible singing I've ever heard from her. Could it be because she wrote the song herself? If that's what it takes to get this kind of performance, let's have more Gloria Gaynor originals.

Only two cuts in the album are disco, yet they are its highlights. *Lock Me Up* is a middle-tempo song that is instantly likable but also has staying power. It doesn't push too hard, though, unlike *All My Life*, which is both heavier and faster—and for just those reasons less successful. But dance is not the album's focus. One of disco's biggest stars is busy exploring new pop territory. **E.B.**

GQ: Two. GQ (vocals and instrumentals). *Standing Ovation; Lies; Sitting in the Park; It's Like That; Someday (In Your Life);* and four others. ARISTA AL 9511 \$7.98, © AT8 9511 \$7.98, © ATC 9511 \$7.98.

Performance: **Classy**
Recording: **Very good**

GQ's new album contains not one clone of *Disco Nights* ("oooh, what a night"), their Big Hit of 1979, which doesn't mean it is a failure. Though nothing in it comes close to *Disco Nights*, most of it is good dance music—classy and very, very pleasant. *GQ Down* is the best of a bunch of well-produced, high-energy songs. Lead singer Emmanuel Rahiem LeBlanc outdoes anything he showed us on the group's debut album and is especially impressive with a sudden smattering of soul. But the close harmonies of the four gentle men who make up GQ are what really make this particular cut so special. What drives *Someday (In Your Life)*, a totally charming song, is something else again: an extremely intricate percussion track in counterpoint with Herb Lane's synthesized piano. One more recommendation: *Stop This Feeling*. Here, LeBlanc's vocalism is too fussy for my taste, but the song is a distinctly superior example of the bluesy, muted soul sound of the moment.

In case you haven't noticed, I haven't once used the word "disco" in describing this album. That's not an oversight. While most of the music here can certainly be danced to, the beat is largely buried and there is a decided focus on lead vocalist LeBlanc in all the arrangements. The result is closer to pop than to disco, and GQ comes through the transition just fine. **E.B.**

HERBIE HANCOCK: *Monster*. Herbie Hancock (Eu Polyphonic Keyboard, Clavitar, Waves Minimoog, Minimoog, Prophet 5, Oberheim 8 Voice, Yamaha CS-80, Arp 2600, Hohner clavinet, Rhodes 88 suitcase piano, Steiner EVI, Sennheiser Vocoder, WLM organ, Lynn-Moffett drum synthesizer, modified Apple II Plus microcomputer, Roland CR 70, piano); vocal and instrumental accompaniment. *It All Comes Around; Making Love; Saturday Night;* and three others. COLUMBIA JC 36415 \$7.98, © JCA 36415 \$7.98, © JCT 36415 \$7.98.

Performance: **Common funk**
Recording: **Okay**

Imagine all the fine works of art we would have missed if Picasso or Braque had at

some point in his career decided to disregard his proved talent, rest his creativity, and take up painting by the numbers. An outrageous thought? Sure, but really no more outrageous than the direction taken by Herbie Hancock in recent years.

Having spent the better part of forty years honing an exceptional talent into a craft that won him high international acclaim and respect, Hancock began his startling and deliberate retrogression during the Seventies' fusion epidemic. He was one of the most articulate and original jazz men to come along in the Sixties, but, armed with a growing arsenal of electronic apparatus, he had by the end of the Seventies turned his music into characterless pap.

With "Monster," Herbie Hancock has finally shed the last traces of his jazz past. Actually, if he absolutely must stray from the fold, I much prefer he do it this way. I mean, this is stuff no aware listener could possibly identify with jazz. It is out-and-out fusion funk, the fusion in question being of rock with soul. As such, it is far more palatable than any of Hancock's previous attempts to capture the get-down-and-boogie crowd. For one thing, he here turns the vocal leads over to competent vocalists, minimizing the input of his own, Vocoderized voice; then, too, there is a noticeable improvement in the material itself. Hancock may finally have grasped the essence of this recipe, but it's a dish of which many are beginning to tire. If you are simply looking for some sounds to put your body in motion, though, "Monster" may serve you well. **C.A.**

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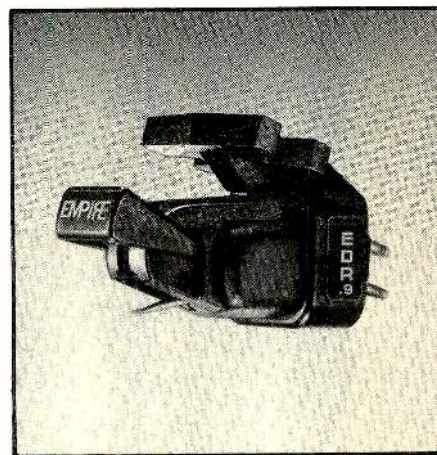
PATTI LABELLE: *Released*. Patti Labelle (vocals); instrumental accompaniment. *Give It Up (The Dawning of Rejection); Don't Make Your Angel Cry; Release; I Don't Go Shopping; Ain't That Enough;* and four others. EPIC JET 36381 \$7.98, © JEA 36381 \$7.98, © JET 36381 \$7.98.

Performance: **Controlled**
Recording: **Good**

Patti Labelle has sampled an assortment of producers in her quest for success as a solo performer after the breakup of her group, Labelle. There was David Rubinson, who leaned her toward disco on her first two solo albums, though the times might also have had a lot to do with that choice. Next, Skip Scarborough steered her on a somewhat straighter course, bringing his keen sense of melody to "It's Alright with Me." Now she has placed her trust in Allen Toussaint, founding father of New Orleans neo-funk.

Although Patti has managed to impose her bigger-than-life personality on the various types of material presented to her, stamping each less-than-memorable ditty as her own through her energized style and pungent sugar-vinegar voice, she seems to have found a particularly compatible collaborator in Toussaint. The pace throughout "Released" is slightly less hyper than on her previous outings, and she has been toned down to the point where more attention is paid to her fine facility with lyrics and phrasing than to her Amazonian ability to generate a storm of rhythmic sound. She comes across here as being, if not exactly
(Continued on page 85)

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Sinatra: Past, Present, and Future



Photo: Arthur D'Amario III

How different are the problems of the classical and the popular singer! The differences of vocalism and musicianship are obvious. What I am thinking about as I listen to "Trilogy," a three-disc Reprise album that is Frank Sinatra's first release in five years, is repertoire, especially as it affects a sixty-four-year-old singer who has been before the public for forty-odd years.

Classical singers, and especially opera singers, come to a repertoire that is, with few exceptions, from one to two centuries old when they enter it and will still be there, essentially unchanged, when they leave it. The popular singer comes to one congenial and fashionable idiom only to see it superseded by other, and probably less congenial, idioms two or three times in the course of a professional lifetime. The classical singers' repertoire outlives them. The popular singers outlive their repertoire.

The problem, then, for an aging pre-eminent popular singer is whether to adapt his or her repertoire to ever-evolving popular idioms and styles or to stick with the idiom and style with which she or he achieved pre-eminence. In "Trilogy," the three discs of which are titled successively (and significantly) "The Past," "The Present," and "The Future," Frank Sinatra tries to have it both ways.

It doesn't work, for the simple reason that Sinatra is an artist of such indelible and ineradicable stylistic and personal individuality that, whatever idiom he tackles, it still comes out Sinatra. He is above style and idiom, which doesn't mean, however, that all idioms and styles suit his individuality equally well, or that they all prosper equally under the impress of his artistic personality.

Predictably—at least I predicted it, and I am certainly not now alone in my evaluation—the most successful and enjoyable of these discs is the first, "The Past." Here, in songs by Jerome Kern, Irving Berlin, George Gershwin, Cole Porter, Vincent Youmans, Harold Arlen, and others of that generation, with lyrics by such as Johnny Mercer, Oscar Hammerstein II, Ira Gersh-

win, Porter, and Berlin, and with the backing of Billy May as arranger and conductor, Sinatra is on home ground, stylistically secure even in songs—most of them, in fact—that he has never recorded before. This is vintage Frank Sinatra—and vintage Billy May too—from beginning to end, so consistently fine and so consistently enjoyable that one hesitates to dwell on any one track. My own favorite is the Gershwin bouncer *They All Laughed*. My listening notes on it contain just one word: glorious!

Frank's voice is in splendid shape, darker and richer than it used to be, especially in the middle and lower reaches of the scale. The chosen keys are a bit lower than they would have been twenty or even ten years ago. But the range is astonishing in a singer of his age, well over two octaves, from a low E-flat to a high F-sharp.

An orchestra of fifty-four and a chorus of twelve are more than enough of a good thing (Tony Bennett has been setting a better example lately with nothing but rhythm and a string quartet). But Billy May is a master at keeping even such excessive backing out of a singer's way. The voice is well forward. Not a word is lost, and Sinatra's way with words is the key to his magic.

THIS quality creates something of a problem on "The Present," because the words are not so good. Nor, for that matter, are the tunes. Here Sinatra enters the world of Jimmy Webb, George Harrison, Billy Joel, Kris Kristofferson, Neil Diamond, and even Elvis Presley (*Love Me Tender*), and it is not his world. I kept picturing a Sinatra in blue jeans—neither an engaging nor a plausible image.

Everything is well sung, of course, but these are not songs suited to that kind of singing—nor to Don Costa's fifty-piece backings. Best is John Kander's *New York, New York*, which doesn't really belong, and worst is Lan O'Kun's *That's What God Looks Like*, which had me thinking back about sixty years to Alma Gluck (I think it was Alma Gluck) singing *Mighty Lak' a Rose*, and wincing at the memory.

"The Future" is no such thing, and that, at least, is a matter for rejoicing. It is a suite (two full sides, orchestra and chorus of 154) that was written, words and music, for Sinatra by Gordon Jenkins, who conducts. It is as much concerned, and rather self-indulgently so, with Sinatra's personal and professional past as with his wistful reflections upon the future. Musically it is well anchored in the Hollywood of Steiner, Newman, and Waxman and the clichés of the mid-century American musical, not to mention a surprising quotation from *Madama Butterfly*; verbally . . . well, it is of a banality surpassing, if such is possible, that of the music. Sinatra sings, declaims, and recites it all very well, and there are treasureable moments when the sentimentality of the material prompts him to soft, tender phrasings closer to the Sinatra of the early years than to the swinging balladeer of the Fifties and Sixties. But if you want to hear the *real* Sinatra, you have to go back to "The Past"—either here or elsewhere.

Would that Frank and his producer, Sony Burke, had left it at that!

—Henry Pleasants

FRANK SINATRA: *Trilogy: The Past.* Frank Sinatra (vocals); orchestra and chorus, Billy May arr. and cond. *The Song Is You; But Not for Me; I Had the Craziest Dream; It Had to Be You; Let's Face the Music and Dance; Street of Dreams; My Shining Hour; All of You; More Than You Know; They All Laughed.* ***The Present.*** Frank Sinatra (vocals); orchestra and chorus, Don Costa arr. and cond. *You and Me; Just the Way You Are; Something; MacArthur Park; New York, New York; Summer Me, Winter Me; Song Sung Blue; For the Good Times; Love Me Tender; That's What God Looks Like.* ***The Future.*** Frank Sinatra (vocals); orchestra and chorus, Gordon Jenkins arr. and cond. *What Time Does the Next Miracle Leave?; World War None!; The Future; I've Been There; Song Without Words; Before the Music Ends.* REPRISE 3FS-2300 three discs \$20.98, © 3F8-2300 \$20.98, © 3F5-2300 \$20.98.

laid-back, at least comfortably self-assured. *I Don't Go Shopping and Love Has Finally Come* demonstrate her affinity for the sweetly intimate, and *Come and Dance with Me* gets a mellow interpretation. Patti hasn't forsaken working up a real sweat, either, for two of the up-tempo numbers, *Release and Give It Up (The Dawning of Rejection)*, are as robustly invigorating as anything she has recorded in the past.

To some extent, Patti Labelle is still searching for a firm musical identity, but in Toussaint she at least has a producer who permits her to explore more freely the full range of her musical expressiveness. **P.G.**

RECORDING OF SPECIAL MERIT

STEPHANIE MILLS: *Sweet Sensation*. Stephanie Mills (vocals); other musicians. *Sweet Sensation; Try My Love; I Just Wanna Say; Wish That You Were Mine;* and four others. 20TH CENTURY-FOX T-603 \$7.98, © 8-603 \$7.98, © C-603 \$7.98.

Performance: **Fresh but polished**
Recording: **Good**

Somehow, I can't listen to Stephanie Mills without having visions of the precocious little teenager who sashayed down Broadway's Yellow Brick Road a few years ago as Dorothy in *The Wiz*. For those of us who relished Stephanie Mills as a gifted child of the stage, it is sometimes difficult to accept her as a night-club performer. Little girls aren't supposed to fall in love, nor are they expected to have—much less sing about—erotic energies. Yet this is the thrust of Mills' current material. Fortunately, she is able to mesh these two images because she's as polished a performer on recordings as in person. In her style and general approach to lyrics, she retains just enough of the ingenuity for credibility, and the songs on her previous and new albums have been fashioned by producers James Mtume and Reggie Lucas to enhance this quality.

For confirmation, tune in to some of the best selections on "Sweet Sensation," such as the buoyantly danceable title song, *Wish That You Were Mine*, and, especially, the ballad *I Just Wanna Say*, where she embraces each word. But Mills' sense of youthfulness is most apparent in the fine quality of her voice. As a veteran of the theater, she might be expected to indulge in exaggeration or overkill. Instead, she is relatively restrained, producing intensity without screaming or seeming to push. If her performance in *The Wiz* embodied adolescent awe, the Stephanie Mills we now see and hear represents the blossoming of young womanhood. All of this augurs well for the musical personality she might bring to us in full maturity. **P.G.**

RECORDING OF SPECIAL MERIT

ODYSSEY: *Hang Together*. Odyssey (vocals); vocal and instrumental accompaniment. *Never Had It At All; Don't Tell Me, Tell Her; Rooster Loose in the Barnyard;* and four others. RCA AFL1-3526 \$7.98, © AFS1-3526 \$7.98, © AFK1-3526 \$7.98.

Performance: **Masterly**
Recording: **Top-drawer**

Odyssey is better than ever in this gem-studded album of new Sandy Linzer songs.

The Lopez sisters, Lillian and Louise—who with Bill McEachen constitute Odyssey—are singing with more authority and with seemingly limitless, easy energy. They harmonize with dusky sweetness in the touching love song *If You're Looking for a Way Out*, which has the potential to become a new pop standard. They turn the Caribbean rhythms of *Use It Up and Wear It Out* into great high-energy disco and make every second fun. And when producer Linzer double- and triple-tracks the vocalists in the middle of yet another very good song, *Don't Tell Me, Tell Her*, watch out!

Every cut here works, but hit-maker Linzer has outdone himself with a slice of Mississippi Delta funk called *Down Boy*—my nominee for the song of the year. The vocalists croon the smoldering lyric, then rip way open for the exhilarating chorus. The whole track is brilliantly (and busily) orchestrated. This song is living on my turntable. Odyssey has come a long way since *Native New Yorker*. "Hang Together" is an important album in every respect, and I'm recommending it without reservation. **E.B.**

RECORDING OF SPECIAL MERIT

RAY PARKER JR. AND RAYDIO: *Two Places at the Same Time*. Ray Parker Jr. (vocals, guitar); Raydio (vocals and instrumentals); vocal and instrumental accompaniment. *Tonight's the Night; Until the Morning Comes; Everybody Makes Mistakes; Two Places at the Same Time;* and four others. ARISTA AL 9515 \$8.98, © A8T 9515 \$8.98, © ACT 9515 \$8.98.

Performance: **Party time**
Recording: **Good**

The sounds from Ray Parker Jr. and Raydio are as inviting as the insistent throb of a bass line reverberating from a nearby apartment where someone is having a rocking all-night party. This music is ideal for dancing, including the lyrics, which at times simply state that it's time to turn up the music and get on down. Of course, if that were all this record had to offer it would hardly be special, but there are also a couple of selections here that have the same strong melodic qualities as classic rhythm-and-blues. The best is the title track, *Two Places at the Same Time*, which bears a vague resemblance to the Peaches and Herb hit *Reunited* and stands up just as well to repeated hearings. An enjoyable set. **P.G.**

VOYAGE: 3. Voyage (vocals and instrumentals). *Music, Music; I'm Only Human; All the Way;* and three others. MARLIN 2235 \$7.98, © 2235 \$7.98, © 2235 \$7.98.

Performance: **Very good, but . . .**
Recording: **Terrific**

Just from the cover of their third album, which pictures the three members of the group, you can see that Voyage is taking a new approach. In contrast to their enormously successful "Fly Away" album, where the emphasis was on the overall production, with voices, instruments, and electronics smoothly blended into such super disco cuts as *Souvenirs* (among the five best ever recorded), "Voyage 3" emphasizes the singers. Marc Chantreau, Pierre-Alain Dahan, and Slim Pezin are for the first time asserting themselves as performers; the only

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trouble with this is that the guys don't yet have any clear identity to assert. Too much of what they do here, good as it is, sounds like someone else.

On the plus side, Voyage plays and sings with tremendous energy; their orchestrations are ambitious, so rich and intricate as to be practically baroque (listen to how they patiently bring the music up through the very fast beat of *I'm Only Human*, creating tremendous tension even before the first line of the lyrics); and they have a uniquely European (meaning totally guiltless) way of enriching their work with electronic underpinnings. There's no denying that "Voyage 3" is a trip worth taking, but it doesn't have the greatness of "Fly Away." *E.B.*

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RECORDING OF SPECIAL MERIT

LOUIE BELLSON: *Originals*. Louie Bellson (drums); Jon Faddis (trumpet, flugelhorn); Bob Malach (tenor saxophone); Hank Jones (piano); Bucky Pizzarelli (guitar); Milt Hinton (bass). *Early Summer; Ballade; Interface; Hormone*; and four others. STASH ST-205 \$7.98.

Performance: **Impressive**

Recording: **Very good**

It is not made clear by the notes, but inside sources inform me that the title of this new Stash release, "Originals," is a reference to the material rather than the players. Be that as it may, the album is really a set of originals in more ways than one, for the term is certainly also applicable to the participating musicians.

Great swing is unavoidable with such masters of the art as Hank Jones, Bucky Pizzarelli, Milt Hinton, and Louis Bellson (the date's nominal leader) in rhythmic charge, and the sparkling work of the two young horn men, Jon Faddis and Bob Malach, speaks most eloquently for a continuation of the jazz tradition. It is particularly good to hear Faddis stretch out. He causes the sparks to fly on such up-tempo vehicles as Hank Jones' *Interface* and Tommy Goodman's *All Right*. The latter also contains a deliciously deep-rooted solo by guitarist Bucky Pizzarelli and a tastefully moderate Bellson barrage.

I don't know composers Tommy Goodman, Jack Hayes, and Hale Rood (who contributes two fine tunes to this set), and I wish producer Bill Farrar had given us some information on them. The notes are singularly uninformative, however, consisting almost entirely of the well known and the obvious. We might also have been told something about tenor saxophonist Bob Malach, a virtually unknown member of this distinguished sextet. I know only that Malach was brought to the project by Faddis and that he holds his own very well among the stars, especially on *Interface*, one of two arrangements by Frank Derrick (and who is he?). Of course, no album has ever been done in by its notes, and neither is this one. After all, the cover still serves its intended purpose, to protect the contents, in this case some boppish swing that is certainly well worth preserving. *C.A.*

RECORDING OF SPECIAL MERIT

KEITH JARRETT: *Nude Ants*. Keith Jarrett (piano, timbales, percussion); Jan Garbarek (soprano and tenor saxophones); Palle Danielsson (bass); Jon Christensen (drums, percussion). *Chant of the Soil; Processional; New Dance*; and three others.

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Unflappable Helen Humes

THERE are a lot of good reasons to listen to Helen Humes. At the age of sixty-seven she sounds forty years younger, and her singing produces the conviction that she is a lady with real peace of mind. By her own testimony she's never been hurried or worried. She made her first record in 1927, but the tour that was proposed after that was

vetoed by her mother. Helen didn't mind. In 1938 she joined Count Basie's band and stayed with him for four years without ever becoming well known. That didn't bother Helen a bit either. From 1945 to 1957, following the collapse of the big bands, she worked as a rhythm-and-blues singer, toured Europe, returned home to find the musical scene in a mess, and—without losing a wink of sleep—took a job working in a munitions plant in Kentucky. In 1973 she returned to singing full time because . . . well, things just worked out that way.

Not only is the lady unflappable, but her talent remains uncompromised. It is rare in jazz singing for career slumps and buffets not to result in a performer's either trying too hard or not giving a damn. But Helen Humes has happily sailed through, avoiding both these pitfalls. She operates on a direct line between herself and her listeners, wanting only to make them feel good. This album is full of clean, clear, happy singing for people who enjoy the same, with able support from three hearty horn men and an up-and-at-'em rhythm section. Run and get it—quick.

—Joel Vance

HELEN HUMES: *Helen Humes and the Muse All Stars*. Helen Humes (vocals); Eddie "Cleanhead" Vinson (alto saxophone); Arnett Cobb (tenor saxophone); Buddy Tate (tenor and baritone saxophones); Gerald Wiggins (piano); George Duvivier, Lyle Atkinson (bass); Ronnie Cole (drums). *I'm Gonna Move to the Outskirts of Town; These Foolish Things; Woe Is Me; I've Got a Crush on You; Body and Soul; My Old Flame; Loud Talking Woman*. MUSE MR 5217 \$6.98.

ECM ECM-2-1171 two discs \$13.98, © 2E8-1171 \$13.98, © 2E5-1171 \$13.98.

Performance. **Shapely**
Recording: **Good remote**

With "Nude Ants," ECM brings the total of its Keith Jarrett albums to twelve; break that down into discs and you come up with twenty-eight. Not bad for only eight years, especially when you consider that during this time Jarrett has participated prominently on six albums by other ECM artists and has continued to record with his own group for ABC. Obviously, there is something special about Jarrett's music. His commercial success is all the more remarkable when you take into account that his is not what we would normally consider a very marketable sound. It is, however, a sound that is uniquely his own, and when you hear him perform, you know there is a serious artist at work. I have never heard Keith Jarrett toss a performance into the audience, as so many popular artists do. He always seems totally immersed in his music.

Since the mid-Seventies, one of Jarrett's regular fellow travelers has been the Norwegian saxophonist Jan Garbarek, a leader in his own right, whose Coltrane-based style has a stark quality that fits well in the pianist's introspective tapestries. Garbarek

and two fellow Scandinavians—Palle Danielsson and Jon Christensen—join Jarrett on this quartet date recorded at New York's most durable jazz hangout, the Village Vanguard, in May of last year. The result is varied in texture but even in quality. Garbarek's reed drifts gently, and I can imagine it curling up the Vanguard's narrow steps to Seventh Avenue while Jarrett himself mesmerizes the attentive crowd in the small basement club with piano sounds that fall somewhere between nineteenth-century romanticism and today's me-ism. The compositions here are all by Jarrett, the technical quality of the recording is quite good considering how awkward recording conditions are at the Vanguard, and Jarrett/Garbarek fans will not be disappointed.

C.A.

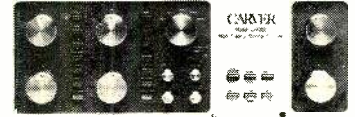
RECORDING OF SPECIAL MERIT

OREGON: *In Performance*. Oregon (instruments). *Buzzbox; Drum Solo; Icarus; Waterwheel; Free Piece*; and four others. ELEKTRA 9E-304 two discs \$11.98, © 9T-304 \$11.98, © 9C-304 \$11.98.

Performance. **Oregonian**
Recording: **Very good**

Oregon, originally an outgrowth of the Paul Winter Consort, has been a successful

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working unit for ten years now. (Vanguard recently reissued the group's debut album, "Our First Record," VSD-79432.) Considering the artistic strengths of its four members—Ralph Towner, Collin Walcott, Paul McCandless, and Glen Moore—and that each of them has enjoyed a good measure of popularity and critical acclaim on his own during the past decade, Oregon's longevity becomes all the more remarkable. "Oregon in Performance," the latest in a series of consistently impressive releases, is a set of live recordings made at concert appearances in Montreal, Quebec City, and New York last November and December. As far as I know, this is Oregon's first set of concert-hall recordings (a 1975 album was made before a live studio audience), and I wonder why it took so long for the quartet to be presented on disc in what is so clearly its natural environment. Oregon is a concert ensemble, and it can sound as much out of place amid the smoke, chatter, and clatter of a jazz club as would the Juilliard String Quartet. In recent years, the images Oregon conjures up have become more abstract, but its acoustical sound is still very accessible. If you have not yet experienced Oregon, this album would serve wonderfully well as an introduction; if you are already well versed in Oregonia, the lesson continues. C.A.

WOODY SHAW: For Sure! Woody Shaw Quintet (instrumentals); vocal and instrumental accompaniment. *We'll Be Together Again; Ginseng People; Isabel the Liberator; Why*; and three others. COLUMBIA FC 36383 \$8.98, © FCA 36383 \$8.98, © FCT 36383 \$8.98.

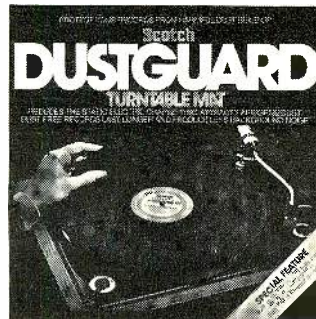
Performance: **Mostly on the money**
Recording: **Very good**

Woody Shaw is one of the few younger trumpet players of note who did not answer the call when fusion beckoned. Not only did he remain faithful to jazz, he has given it one of its most engaging instrumental voices, proving at the same time that neither electronics nor unorthodox approaches are prerequisites for fresh, vital jazz sounds. "For Sure!" is Shaw's fourth album for Columbia, and, except for two appearances by a positively dreadful vocalist, it continues the tradition of excellence established by the previous three.

To get the negative aspect out of the way first, I cannot imagine what possessed an artist of Shaw's intelligence and taste to stoop to the level at which singer Judi Singh seems stuck. Her vocals on *Time Is Right*—a boring song she wrote herself—gave me a headache, and her utterances on drummer Victor Lewis' *Why* are an annoying distraction the arrangement could have done better without. I can warmly recommend all the rest, from the straightforward beauty of Shaw's string-accompanied rendition of *We'll Be Together Again* to what I consider the highlight of this release, a fiery, well-oiled sextet version (with trombonist Steve Turre and saxophonist Gary Bartz) of Shaw's own *OPEC*. Bartz appears on five selections (on alto), but he is in particularly fine form on *OPEC*, proving that his past brushes with banality on his own albums have not loosened his grip on the techniques of jazz improvisation. C.A.

(Continued on page 91)

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ALL THAT JAZZ. Original-soundtrack recording. George Benson, Sandahl Bergman, Peter Allen, Leland Palmer, Ann Reinking, Erzsebet Foldi, Ben Vereen, Roy Scheider (vocals); chorus and orchestra, Ralph Burns cond. CASABLANCA NBLP 7198 \$7.98, © NBL8 7198 \$7.98, © NBL5 7198 \$7.98.

Performance: **Confusing**
Recording: **Excellent**

In the lavish but rather reptilianly cold-blooded movie *All That Jazz*, Roy Scheider plays a character closely resembling director-choreographer Bob Fosse as he drives himself, with the aid of a dubious doctor's drug prescriptions, from rehearsals for the opening of a Broadway musical to his latest movie to flat on his back for open-heart surgery. The action consists largely of gaudy fantasies staged in the protagonist's imagination or in one of the production numbers for his forthcoming show, and in the film the music is almost always apt to whatever febrile situation is at hand. However, it is pretty hard to make sense of this soundtrack recording on its own terms. Some things come through out of context—the sizzling energy of Ben Vereen in *Bye Bye Love* and the flamboyant double-entendres of a fantasy flight aboard "Air-otica" in *Take Off with Us*—but for the most part the fragments assembled for this disc come across as so much sound and fury. *P.K.*

STAR WARS/THE EMPIRE STRIKES BACK (John Williams). Original-soundtrack recording. London Symphony Orchestra, John Williams cond. RSO RS-2-4201 two discs \$13.98, © 8T-2-4201 \$13.98, © CT-2-4201 \$13.98.

Performance: **Definitive**
Recording: **Excellent**

Okay, okay, so it's not the pop masterpiece that *Star Wars* was, but *The Empire Strikes Back*, the second installment of George Lucas' projected nine-part Saturday morning cliffhanger, is swell escapist entertainment nonetheless.

John Williams' music, which was such a factor in the success of *Star Wars*, is no less important here, and while it's not as sly, it does chew up the scenery in grand style. I miss the witty little allusions to other composers and idioms that popped up in his earlier score, but the tone of *Empire* is considerably grimmer and such aural jokes probably would have been out of place. Many of the *Star Wars* themes, like the characters, are back again, as effective in their fustian way as ever; the new stuff works equally well, and Darth Vader's march theme, in particular, is a small knockout. Two records of this sort of thing seems a trifle much, though. *S.S.*

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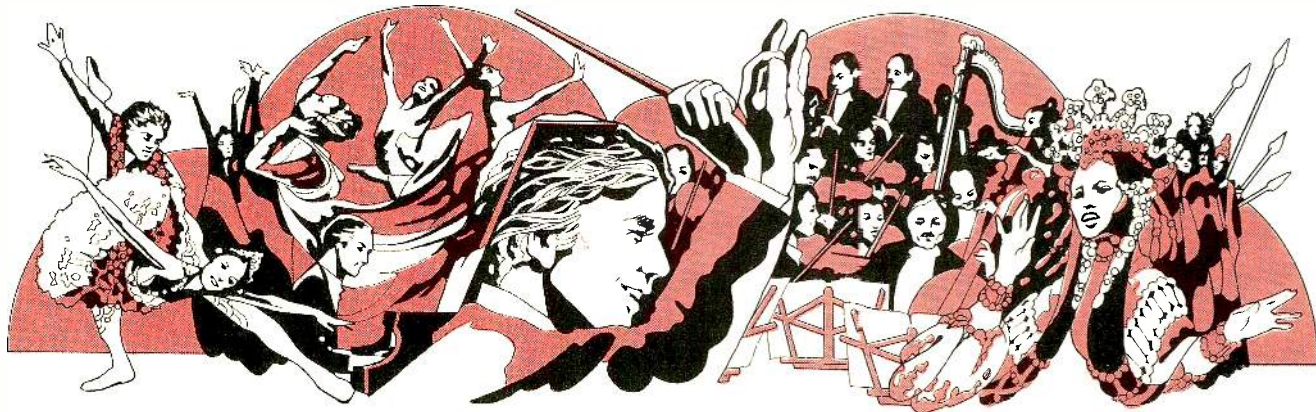
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RECORDINGS OF SPECIAL MERIT

J. S. BACH: *Toccatas in C Minor (BWV 911), G Minor (BWV 915), G Major (BWV 916), and E Minor (BWV 914)*. Glenn Gould (piano). CBS M 35831 \$8.98.

Performance: **Personal**
Recording: **Good**

J. S. BACH: *Toccatas in C Minor (BWV 911); Partita No. 2, in C Minor (BWV 826); English Suite No. 2, in A Minor (BWV 807)*. Martha Argerich (piano). DEUTSCHE GRAMMOPHON 2531 088 \$9.98, © 3301 088 \$9.98.

Performance: **Articulate**
Recording: **Very good**

Bach on the pianoforte. In spite of all the advances in acceptance of the harpsichord, the piano remains a major medium for Bach—not least at the hands of these two interpreters. Glenn Gould's second volume of toccatas, part of his continuing Bach series for CBS—is well thought through and, in my opinion, as close to the spirit of its far-off age as most up-to-date, historically correct Bach-in-a-box performances. If we think of Baroque visual art, from Rembrandt to Bernini, we recognize intense forms of expression that are personal as well as grand, internal as well as showy. Gould, deeply serious and not at all eccentric, cap-

tures the spirit as well as any artist around.

It might be thought that the toccatas—"touch" pieces intended to show off performer virtuosity—would be so linked to the sound and genius of the harpsichord that they would resist translation to the piano, but this is not the case. These soulful adagios and rolling or epic fugues do very well on the modern keyboard with its ability both to sustain and to clarify contrapuntal voices. (I will say nothing about the unwritten voice parts that are Mr. Gould's personal counterpoint.)

Martha Argerich is one of the most brilliant pianists of her generation. She is at her best here not in the rather abstract toccata but in the dances and concerto-like movements of the partita and the suite. The beauty of her performances lies in the sturdy sense of time and, most especially, the superb articulation. The articulated piano sound is, all by itself, a wonderful creation and perfectly suited to dance music, which, however stylized, must still *dance*.

In short, these are two recordings of *virtu* that are very different in their virtues. Bach is, as usual, many things to many people and thus endures. *E.S.*

RECORDING OF SPECIAL MERIT

BEETHOVEN: *German Dances (WoO 8); Minuets (WoO 7)*. Ensemble Bella Musica of Vienna. HARMONIA MUNDI HM 1017 \$8.98 (from Brillily Imports, 155 North San Vicente, Beverly Hills, Calif. 90211).

Performance: **Charming**
Recording: **Subtle**

Here is a record of utter charm and elegance. The German Dances lilt like the waltz they foreshadowed; the minuets are the essence of courtly sophistication. Although all twenty-four dances are in the same form, Beethoven maintained variety and a studied casualness that is entrancing. The Ensemble Bella Musica of Vienna consists of two violins, cello, and bass. Their style is impeccable and as Viennese as the music. Buy and enjoy! *S.L.*

RECORDINGS OF SPECIAL MERIT

BRAHMS: *Piano Concerto No. 1, in D Minor, Op. 15*. Misha Dichter (piano); Leipzig Gewandhaus Orchestra, Kurt Masur cond. PHILIPS 9500 410 \$9.98, © 7300 618 \$9.98.

BRAHMS: *Piano Concerto No. 2, in B-flat Major, Op. 83*. Misha Dichter (piano); Leipzig Gewandhaus Orchestra, Kurt Masur cond. PHILIPS 9500 414 \$9.98, © 7300 619 \$9.98.

Performances: **Excellent**
Recordings: **Very spacious**

Among the newer recorded versions of Brahms' two epic "symphonies" for piano and orchestra, these collaborations by Misha Dichter and Kurt Masur rank, musically at least, among the very best. Dichter has all the virtuosity needed to deal with the formidable solo demands in both works, and he surely demonstrates that he can hold the big line amid the welter of Brahmsian polyphonic and rhythmic detail. His and Masur's view of the D Minor is properly craggy and impassioned throughout the lengthy first movement, with ample warmth and elegiac tenderness in the slow movement. Only in the gypsy-tinged finale would I have wished a shade more urgency in basic tempo.

Of the two concertos, the B-flat is by far the more difficult to hold in proper proportion from movement to movement in terms of relative dynamics and rhetorical substance. Too often the last two movements are overwhelmed by the dramatic heft of the earlier ones, but Dichter and Masur avoid the pitfalls nicely without in any way lessening the power of the second movement as it relates to the succeeding andante. This is achieved mainly through an unusually intense treatment of the agitated episode that breaks into the idyllic lyrical utterance of the andante (in which Siegfried Arnold's solo cello makes a most eloquent contribution). The finale is excellently paced throughout, neither flippant nor sluggish.

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All this speaks well indeed for the excellence of the Gewandhaus Orchestra and Masur's knowing and sensitive musicianship. He gives the requisite Brahmsian weight and ardor to the orchestral content of both concertos yet keeps up the momentum. And he retains a resiliency of tempo that enables his players to dovetail beautifully with some of the freely romantic phrasings Dichter opts for in the opening movement of the B-flat Concerto. The piano sound is first-rate in both recordings—wide-range and full-bodied. My only reservation pertains to the orchestral sonics: details of texture tend to be muddled up by a reverberant auditorium. *D.H.*

RECORDING OF SPECIAL MERIT

BRAHMS: *Concerto in A Minor for Violin, Cello, and Orchestra, Op. 102; Variations on a Theme by Haydn, Op. 56a.* Salvatore Accardo (violin, in concerto); Heinrich Schiff (cello, in concerto); Leipzig Gewandhaus Orchestra, Kurt Masur cond. PHILIPS 9500 623 \$9.98, © 7300 728 \$9.98.

Performance **Grand-scale**
Recording **Rich**

This release completes Kurt Masur's survey of Brahms' symphonies and concertos for Philips, and to me it is the strongest segment, though it may not be to everyone's taste. Back in November 1977 I reviewed in these pages cellist Heinrich Schiff's only previous recording (Saint-Saëns and Lalo concertos and the Fauré *Élégie*, Charles Mackerras conducting, Deutsche Grammophon 2530 793) and suggested that no new cellist since Rostropovich was first heard had generated such excitement in his playing; he is no less superb here. Salvatore Accardo is by now, of course, a familiar quantity, and the two soloists work together splendidly, with just the sort of chamber-music give-and-take one wants between them in this concerto. But there is little else that suggests chamber music here, for the concept is thoroughly symphonic and of heroic proportions. Even the slow movement makes itself felt in terms of nobility rather than simple intimacy, but the pacing, phrasing, and overall balance there are as close to ideal as we are likely to hear. If I have any misgivings, they concern the monumentalism of the concerto's opening section, which, combined with the rather close recording focus, tends to make things seem larger than life; after that, however, the momentum picks up.

The Haydn Variations are done with a similar grand-scale approach, but in this case it is hardly a controversial one. This is a sound, cohesive, beautifully paced reading, with fine regard for the distinctive coloring of the respective variations and an especially convincing balance between dignity and gutsiness in the finale. There is rich, warm sound throughout both works, with, as I've noted, a little closer focus than in most European recordings. *R.F.*

COUPERIN: *La Sultane* (see MOZART)

ELGAR: *Cello Concerto in E Minor, Op. 85.*
WALTON: *Cello Concerto.* Ralph Kirshbaum (cello); Scottish National Orchestra, Sir Alexander Gibson cond. CHANDOS ABR
(Continued on page 96)



Page/Reina

ADRÉS SEGOVIA'S 78-rpm recordings were, like Wanda Landowska's, the means by which an offbeat instrument, instrumental style, and repertoire were communicated to a large musical public and ultimately accepted as legitimate parts even of fashionable musical life. A remarkable set of recordings they were—and are, now that they have been rereleased on LP by Angel. Not for repertoire: Segovia played arrangements, minor salon pieces, even a Baroque forgery (a suite by "Weiss" really composed by Manuel Ponce in the twentieth century). And not for technical excellence: there was no tape splicing then, so there are plenty of garbled passages, even fumble fingers at times. For what, then? Intense musicality and charm, of course, and personality—*plenty* of personality.

But there's also something else. The guitar is, and always has been, a *folk* instrument with roots outside the conventionalities of Western music. Segovia brought some of this playing tradition—tamed a bit, but authentic in feeling nonetheless—into Western concert music. Even in those former days, when performer personality and a free approach were much more accepted than they are today, Segovia was a performer apart. Because of him, classical guitar developed and maintained its own performing traditions somewhat outside the mainstream of classical musical performance style in the past half century. (Curiously enough, the other instrument that has maintained a similarly independent performing tradition is the cello, and for the very same reason: the dominance of a patriarchal Spanish performer.)

The performances and recordings assembled on the new two-disc Angel set vary quite a bit in quality, but they are all fascinating. More than half the selections are Spanish—one whole side of Ponce, another devoted to Albéniz, Tárroba, Turina, and Granados, and a few more elsewhere—and

these performances are certainly the most moving and authentic. The "Classical" side two is mostly Spanish and German eighteenth- and nineteenth-century trifles. Side one contains Ponce's delightful Baroque forgery and, up front, Bach—mostly typical transcriptions from the solo violin and cello music. These are rather freely and unhistorically performed, yet they offer more insight than many a certified *echt*-Baroque performance.

The reissue's production is rather slapdash. No specific recording dates are given (though all the material is from the period 1927-1939), and there are errors—not always corresponding—on both sleeve and labels. However, the sound of Segovia's guitar is generally well served by these transfers from the old recordings. —Eric Salzman

ANDRÉS SEGOVIA: *The EMI Recordings, 1927-1939.* J. S. Bach (arr. Segovia): *Gavotte* (from *BWV 1006*); *Courante* (from *BWV 1009*). J. S. Bach (arr. Ponce): *Prelude* (from *BWV 1007*); *Prelude in C Minor* (*BWV 999, No. 3*); *Allemande* (from *BWV 996*); *Fugue in G Minor* (from *BWV 1001*). Ponce ("Weiss"): *Suite in A Major*. Sor: *Thème Varié, Op. 9 De Visée*; *Sarabande*; *Bourrée*; *Menuet*. Froberger: *Gigue*. Tárroba: *Sonatina in A Major, Allegretto*; *Suite Castellana, Fandanguillo*; *Preludio*; *Nocturno*. Mendelssohn (arr. Segovia): *Canzonetta* (from *Quartet No. 1, Op. 12*). Malats: *Serenata*. Tárrega: *Recuerdos de la Alhambra*; *Study in A Major*. Castelnuovo-Tedesco: *Sonata (Homage to Boccherini)*, *Vivo ed Energico*. Albéniz: *Suite Española, Nos. 1 and 3*; *Granada*; *Sevilla*. Turina: *Fandanguillo*. Granados: *Danzas Españolas, Op. 37, Nos. 5 and 10*. Ponce: *Sonata III, Movements 1 and 2*; *Postlude*; *Mazurka*; *Folies d'Espagne*. Theme and Variations and Fugue. Ponce (arr. Segovia): *Petite Valse*. Andrés Segovia (guitar). ANGEL ZB-3896 two discs \$17.96.

BOTH in the older Columbia set (with the New York Philharmonic) and in the new one for Deutsche Grammophon (live recordings with the Vienna Philharmonic), the dominant characteristics of Leonard Bernstein's readings of the Beethoven symphonies are humanity and an intense organic vitality. But whereas the earlier readings tended at times to be hard-driven, the Viennese ones are imbued throughout with expansiveness and a decidedly more Classical view of the music.

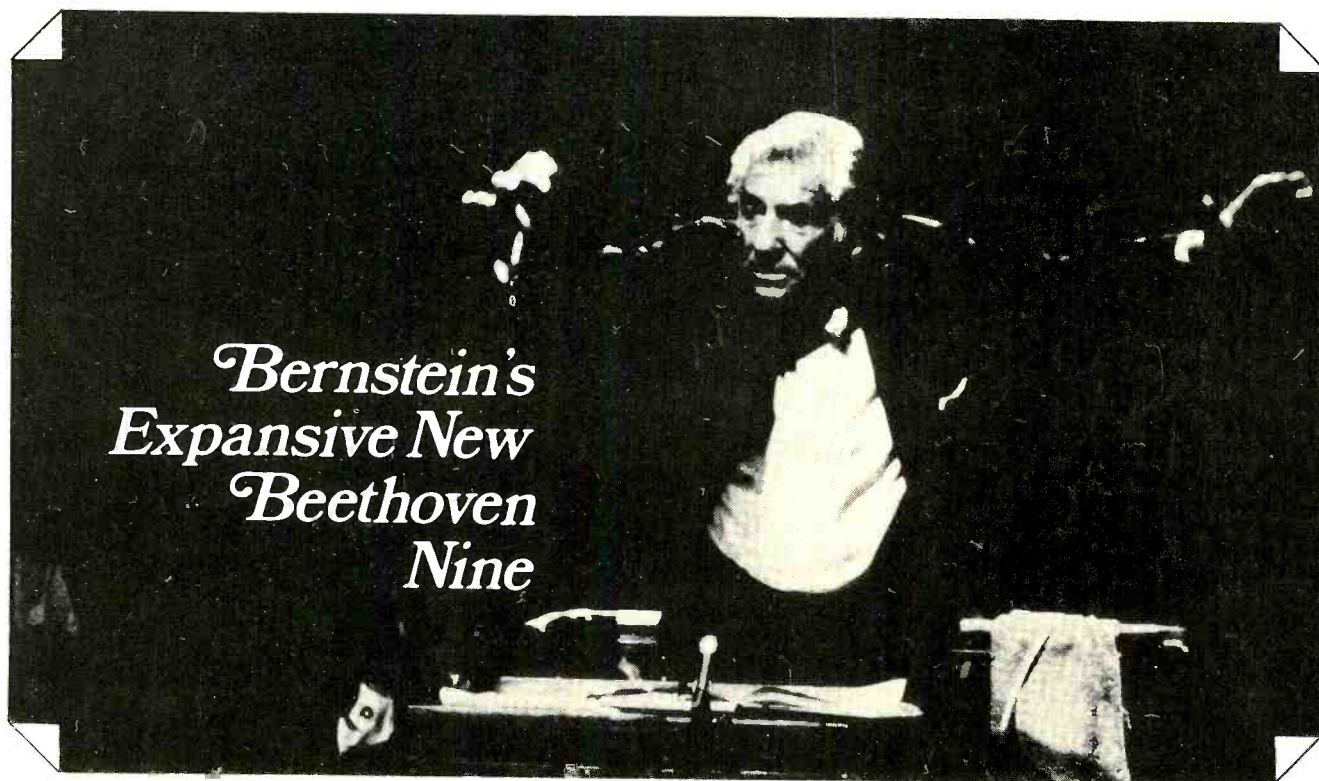
tuosic finale. The Second Symphony is no less satisfying, receiving quite the most monumentally Classical treatment I have heard (it takes up two whole record sides and a full thirty-five minutes of playing time). The dynamics, tempos, and phrasing are all calculated to convince us that this D Major Symphony, rather than being an extension of Haydn's aesthetic, is a precursor of the revolutionary *Eroica*.

The performance of the *Eroica* itself is far more stately than the one we had from

its share of fresh insights into a familiar masterpiece.

The delectable Fourth Symphony, which staked out the ground for the lyrical symphonism of the high-Romantic era, here gets a reading notable for its beautifully poised slow introduction, nicely flowing slow movement, and brilliantly executed finale. Only the final flare-up of horns at the end of the scherzo fails to come off just right.

The Fifth Symphony is more freely in-



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The difference in approach is evident in the very opening bars of the First Symphony in the deliberateness of phrasing and the sharp distinction between staccato and legato elements. As the movement unfolds, we become aware too of great care taken to achieve a just balance between the strings and the winds. Because of the presence of an audience, the recorded sound lacks some of the brightness of the studio-made Columbia discs, but it is far superior in terms of tonal weight and warmth. These same qualities are apparent throughout the new set (though to appreciate them fully it is necessary to play the records back at a substantial volume, one that approximates what one would hear in a good seat in the concert hall). Another consistent element in these readings is the observation of exposition repeats, including even the one in the finale of the Fifth Symphony (also observed in the Columbia recording).

As for the remainder of the First Symphony, the glowing phrasing and lambent string tone in the slow movement are notable, as are the violinistic finesse in the trio of the menuetto and the marvelously vir-

Bernstein in 1965, with the dominance seemingly shifted from the mighty opening movement to the variation-finale. The pacing of the first movement is moderate, the erection of its architectural elements deliberate. The *Marcia Funèbre* takes more than two minutes longer than in the 1965 recording; in the opening pages the effect is of an almost total suspension of one's time sense. The build-up to the *fugato* episode and its catastrophic climax is again very deliberate, and when, toward the end of the movement, formalism gives way to an expression of bereavement, Bernstein and the Vienna players achieve a singular peak of eloquence. For me this is the finest moment in all sixteen of these discs.

As in his New York Philharmonic recording of the *Eroica*, Bernstein opts here for moderate pacing and maximum clarity of articulation in the scherzo. The infinitely variegated finale is both manly and tender, played with the greatest possible brilliance and finesse, and never allowed to become anticlimactic. In sum, although this *Eroica* may not be for all tastes, it offers more than

reflected throughout the first movement (and parts of the second as well) than some listeners—including me—would prefer. The opening section of the scherzo, however, is splendidly menacing, and the Vienna Philharmonic's contrabasses are simply glorious in the famous *fugato* episode. Even more here than in the *Eroica*, Bernstein shifts the dramatic center of gravity to the finale, and the last pages sound forth as the ultimate statement of triumph.

There is little new to be said of Bernstein's *Pastoral*, which, as earlier, is wholly warm and winning. His careful attention to wind-band coloration heightens the interest in the opening movement, the peasants sound properly earthy, and the thunderstorm is a real humdinger. The Hymn of Thanksgiving is somewhat larger than life, but the music can take this treatment. All told, this is a topnotch job.

It is a perennial problem in recordings of the Seventh Symphony to achieve a proper balance among the strings, winds, and percussion; a miscalculation produces either listener fatigue or, at the other extreme, an impression of blandness. Bernstein here

steers a well-nigh perfect course, and again the performance is marked by telling wind-band coloration in the right places. The scherzo is taken at a genuine *presto* clip with electrifying results.

The Eighth Symphony, the "little giant" among the nine, fares well enough here except for a few too many "pull-ups" in the first movement, but as a whole the reading does not seem as convincing as those of the Sixth and Seventh. For me this is the least interesting part of a set notable for its sustained musical, expressive, and intellectual stimulation.

The Ninth is, of course, the *big* test. If Bernstein's is not among the very greatest Ninths I have heard, it is nevertheless not a disappointment. His reading does ample justice to the craggy rhetoric of the first movement and to the fiercely Dionysian scherzo. His conception of the slow movement and the finale is close to that of Furtwängler: a transcendently solemn rite. The parallel between the great plunge into D-flat that follows the second fanfare episode in the slow movement and that which occurs on the words "vor Gott" in the choral finale is underlined here with an almost cosmic emphasis. The well-matched team of soloists and the Vienna State Opera Concert Chorus acquit themselves nobly in their exacting roles. My only real objection to the performance here is what strikes me as a somewhat overly free legato treatment of the string-bass recitative at the beginning of the symphony's finale.

THERE are close to two dozen complete sets of the Beethoven symphonies currently available on discs, led by conductors who span the interpretive gamut and at prices ranging from \$35 to \$80. Overall, I'd say that Bernstein's new set ranks among the top half-dozen; I heard all sixteen sides at one sitting, and there wasn't a dull moment in the lot. I was bowled over by the finesse and vitality of the Vienna Philharmonic's playing, and although the sound is not the last word in brilliance, I thoroughly enjoyed the naturalness and warmth of the very carefully produced live recordings. Except for a few anomalies in the apparent placement of the soloists in the finale of the Ninth, the stereo imaging is eminently satisfactory in both localization and depth.

If you are a Bernstein admirer, the set is of course a must. If you are buying your first Beethoven symphonies and really want an integral set, this would not be an unreasonable choice, though some others are as good or better. But perhaps the wisest course is to wait for these recordings to be reissued individually, in which case I would unhesitatingly recommend Nos. 1, 2, 6, and 7, and Nos. 3 and 9 with the reservations noted. —David Hall

BEETHOVEN: Symphonies Nos. 1-9 (complete). Gwyneth Jones (soprano); Hanna Schwarz (contralto); René Kollo (tenor); Kurt Moll (bass); Vienna State Opera Concert Chorus; Vienna Philharmonic Orchestra, Leonard Bernstein cond. DEUTSCHE GRAMMOPHON 2740 216-10 eight discs \$79.84, © 6-3368 090 \$59.88.



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1007 \$9.95 (plus \$1.25 shipping and handling from Darton Records, 160 West 56th Street, New York, N.Y. 10019).

Performance: **Splendid Walton**
Recording: **Very good**

William Walton's 1956 Cello Concerto is the real item of interest here, since there is no recording of it currently in the American catalogs. As heard in this excellent recorded performance on the British Chandos label, the score emerges as a most lovely companion piece to Walton's masterly Viola Concerto of 1928-1929. Like the earlier work, it opens in a pensively lyrical vein with a characteristic four-note "motto" serving as a binding motif. The middle movement is a virtuosic scherzo recalling in tone the *Presto con malizia* of the First Symphony. The finale is a series of variations with interspersed cadenzas, unusual in both their brilliance and their eloquence. A coda of singular loveliness with a recollection of the opening motto rounds off the work, for me one of Walton's most successful. Both Ralph Kirshbaum's powerful and brilliant solo work and the excellent orchestral collaboration by Sir Alexander Gibson and his Scotsmen are most impressive.

If the reading of the autumnal Elgar concerto is not quite in the same class, this is less a matter of intrinsic quality than of the stiff competition. The Jacqueline Du Pré/Daniel Barenboim concert performance with the Philadelphia Orchestra (Angel S-36338) is unforgettable, and the one with Tortelier and Boult on a later Angel release is scarcely less telling. Still, despite the ticks and pops on my review pressing, I highly recommend this disc for the Walton. *D.H.*

EPSTEIN: Night Voices (see WALTON)

FARINA: Capriccio Stravagante (see MOZART)

GRIEG: Complete Music for String Orchestra (see Best of the Month, page 72)

HAYDN: Concerto for Violin, Harpsichord, and Strings in F Major (Hob. XVIII:6), Pina Carmirelli (violin); Maria Teresa Garatti (harpsichord); I Musici. **Cassation in G Major (Hob. II:2)**, I Musici. PHILIPS 9500 602 \$9.98, © 7300 724 \$9.98.

Performance: **Elegant**
Recording: **Excellent**

An elegance of execution and the tonal warmth so characteristic of I Musici are the notable elements of this disc, along with first-rate sonics. Both works predate Haydn's musical maturity. Music included in the cassation dates from his late-teenage street-musician days in Vienna. The first three of the six movements seem most in this vein with their artless tunes and simple forms, while the other movements, especially the aria-like adagio, with its pizzicato opening and close and its delicate violin line, and the finale, with its lively dialogue elements, are probably of a later vintage.

The violin-harpsichord concerto comes from the middle 1760s when Haydn was relatively new to the Esterházy ménage. Dialogue and concertante give and take are prevalent in the fully developed opening movement, and the slow movement is a delicious aria taken up by each solo instru-

ment in turn over a pizzicato accompaniment. The bright 3/8 finale with its fleet exchanges makes for most enjoyable listening. The music as a whole amounts only to a sonata duo in concerto trappings, but it is quite charming. *D.H.*

RECORDING OF SPECIAL MERIT

MENOTTI: The Unicorn, the Gorgon, and the Manticore. University of Michigan Chamber Choir; instrumental ensemble, Thomas Hilbish cond. UNIVERSITY OF MICHIGAN SCHOOL OF MUSIC SM0012 \$7.95 (from the University of Michigan, School of Music Records, Ann Arbor, Mich. 48109).

Performance: **Invigorating**
Recording: **Excellent**

In 1956, after his opera *The Saint of Bleeker Street*, Gian Carlo Menotti turned his attention to composing a ballet. When the New York City Ballet premiered *The Unicorn, the Gorgon, and the Manticore*, it enchanted even critics who generally regarded Menotti's work as simplistic. "Stravinsky himself," Menotti recalls, "who had never liked my music much, came backstage after one of the performances and told me how very much he enjoyed *The Unicorn*." Indeed, this "madrigal fable," as it is subtitled, with its winsome music and clever lyrics about a "Man in a Castle" who sets the fashion for his town by appearing in public on three successive Sundays with, in turn, a unicorn, a gorgon, and a manticore, is as appealing as anything Menotti ever wrote. But the real appeal of *The Unicorn* is its score, in an open, tuneful idiom with overtones evoking a bygone time and divided into twelve madrigals separated by six instrumental interludes of exceptional melodic interest and textural delicacy.

This new recorded performance, taped at the Hill Auditorium of the University of Michigan School of Music when the ballet was done there last year, boasts no celebrated names but offers a highly polished, apt treatment by a gifted, well-trained group of singers and musicians under Thomas Hilbish. The recorded sound is unusually fine, and a text is provided. *P.K.*

MOZART: Ein Musikalischer Spass ("Die Dorfmusikanten," K. 522); Eine Kleine Nachtmusik (K. 525), Reiner Zepperitz (bass); Gerd Seifert, Manfred Klier (horns); Amadeus String Quartet. DEUTSCHE GRAMMOPHON 2531 253 \$9.98, © 3301 253 \$9.98.

Performance: **Square**
Recording: **Excellent**

RECORDING OF SPECIAL MERIT

MOZART: Ein Musikalischer Spass ("Die Dorfmusikanten," K. 522). COUPERIN: **La Sultane**. FARINA: **Capriccio Stravagante**. TELEMANN: **Quadro in B-flat Major**. Musica Holmiaea, Stockholm. Bis LP-134 \$9.98 (from Qualiton Records, Ltd., 39-28 Crescent Street, Long Island City, N.Y. 11101).

Performance: **Brilliant**
Recording: **Very good**

It is fascinating to compare these two performances of Mozart's *Musical Joke* ("The

Village Musicians"). The Amadeus Quartet gives it a straightforward and straight-faced reading and lets the humor speak for itself. The satire seems particularly appropriate today because of the many bad pieces by third-rate composers that have been recorded in recent years. If there is a problem with such an approach it is that, except for a few passages with obvious wrong notes written in, one might easily mistake the music for well-performed bad Boccherini or Stamitz. Mozart knew their clichés well. Musica Holmiae's performance adds a further dimension to Mozart's joke by offering an excruciatingly funny parody of amateur performers. We hear the little band tuning up, and an audible beat is offered when the ensemble goes haywire. The violinist is cheered when he gets a difficult passage right, and the strettò in the finale is signaled by a whistle. The use of period instruments also adds to the fun.

As for *Eine Kleine Nachtmusik*, the Amadeus Quartet certainly proves that the piece is better played by an orchestra. The scruffy writing for the inner parts of the first movement and the Mannheim crescendos simply do not work with one player per part. Throughout the performance one longs for a richer sound, nor is the music enhanced by the square and rather graceless reading it gets here.

Returning to the Musica Holmiae, the *Capriccio Stravagante* of Carlo Farina is a real find. Farina sounds here like the Ives of the seventeenth century; bagpipes and shawms are imitated, and glissandos and *col legno* effects are shot through the texture. On the serious side, Couperin's enigmatically titled *La Sultane* is given a superb presentation. This sonata, virtually unplayable and unlistenable on modern instruments because of the low, detailed part-writing, comes off beautifully on the Baroque stringed instruments. The Telemann too is fine. Musica Holmiae produces a beautiful, limpid sound. Let us hope more of their records come our way. S.L.

MOZART: Serenade No. 9, in D Major (K. 320, "Posthorn"). Berlin Philharmonic Orchestra, Karl Böhm cond. **Serenade No. 13, in G Major (K. 525, "Eine Kleine Nachtmusik").** Strings of the Vienna Philharmonic Orchestra, Karl Böhm cond. DEUTSCHE GRAMMOPHON 2531 191 \$9.98, © 3301 191 \$9.98.

Performance: **Gemütlich**
Recording: **Very good**

The K. 320 serenade, in which the posthorn makes its sole brief appearance in the second of the second of the two minuets, is the last and perhaps the finest of Mozart's big orchestral serenades, with a miniature sinfonia concertante for winds in place of the miniature violin concerto Mozart inserted into each of its predecessors, and with an unexpectedly serious, almost tragic andantino as the fifth of its seven movements. Karl Böhm's splendid performance (with James Galway among the soloists), which has circulated for eight or nine years on Deutsche Grammophon 2530 082, is probably the most all-round persuasive account of the work since the classic Peter Maag recording of 1952 (a London mono, long deleted now). It's been repackaged (Continued on page 100)

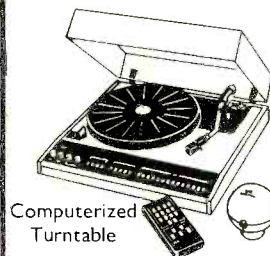
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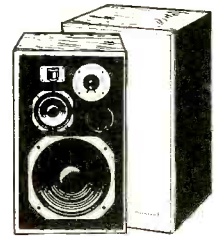
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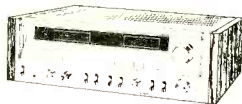
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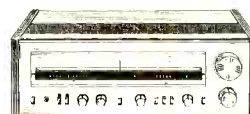
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basis of the recorded sound, but you choose your *Fidelio* for the performance.

There are many listeners who will like this performance almost unreservedly. I am not among them. I do like it a good deal, for, and but, it is an extraordinarily (and I use the word not as a general approbation but as a specific characterization) *beautiful* performance. Much of the singing, the "Mir ist so wunderbar" quartet as an early example, is strikingly lovely. Much of the orchestral playing is ravishing. On these grounds it is Hans Sotin as Rocco who

tory *Fidelio* available in stereo today, but I have heard the old recordings of Furtwängler and Bruno Walter, and I can tell you it's not the same thing.

Now for the rundown. Hildegard Behrens is an internationally renowned Leonore, as Leonores go today. She sings well, she acts well with her voice, and she manages to remind us that there is drama in this opera. But she is no Flagstad and, at least in comparisons of "Abscheulicher!", no Lotte Lehmann either. Sotin sings gorgeously, but his Rocco is not the character he could be (pages could be written on just who Rocco is). Peter Hofmann is a rather weak Florestan; anyone who has heard the blood-curdling rendition of the great aria by Helge Roswaenge or the ennobled one of Julius Patzak will know immediately what is missing. This is Theo Adam's second Don Pizarro in stereo, and I prefer his first (DG 270 9031); he knows what he is singing but his pitch is at times insecure. Sona Ghazarian sings (again) a *beautiful* Marzelline, rather too elegant for the rough company the jailor's daughter must keep. David Kuebler's Jacquino begins with a certain individual personality but soon blends into the whole. Gwynne Howell as the Minister Don Fernando is unexceptionable but not uplifting. A little anguish, please, a little more nobility, a little more characterization. The two prisoners are excellent.

If I am unreservedly enthusiastic about anything in this venture it is the Chicago Symphony Chorus, directed, of course, by Margaret Hillis. It sounds simply splendid to me, and its joyous presence in the final scene seems to remind Solti that this opera has to end with a bang—and it does. The stop-and-go pacing is left behind and things move effectively and affectingly to the end.

A FEW notes: The opera is performed with cut but serviceable dialogue. Were the performance more oriented to the moral ideas Beethoven wanted to get across, more dialogue would be desirable; under the circumstances it's enough to make sense of things. You get (of course) the *Fidelio* Overture at the beginning, but, despite the use of six full record sides, you do not get the *Leonore* Overture No. 3 before the final scene. Dramatically, this is probably all to the good, but some people may expect it. You get also a libretto and translation and an excellent essay on the opera by Rodney Milnes which, had it been read by the principals before the recording was made, might perhaps have engendered a very different sort of performance. —James Goodfriend

BEETHOVEN: *Fidelio*. Hildegard Behrens (soprano), Leonore; Sona Ghazarian (soprano), Marzelline; Peter Hofmann (tenor), Florestan; Hans Sotin (bass), Rocco; Theo Adam (baritone), Don Pizarro; David Kuebler (tenor), Jacquino; Gwynne Howell (baritone), Don Fernando, the Minister; Robert Johnson (tenor), First Prisoner; Philip Kraus (baritone), Second Prisoner. Chicago Symphony Orchestra and Chorus, Sir Georg Solti cond. LONDON ● 3LDR 10017 three discs \$29.94.



A Digital "Fidelio"

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praised almost unreservedly. I say "almost" because in the second trumpet call that heralds the arrival of the Minister in Act II there is what must be one of the most spectacularly inept tape splices in recorded music—a product partly, I would guess, of the still relatively unfamiliar and difficult digital splicing techniques. But the sound—the sound of the orchestra, of the chorus, of the solo singers—is remarkably fine, with not a trace of the boxiness that afflicts even some quite up-to-date recordings of the opera and, obviously, with no noise worth speaking about in the quiet passages. The question is, how important is this? Well, for me it is a level of technical excellence I would not like to be without, but in this repertoire it is far from the determining factor in deciding which recording of *Fidelio* to own: you may buy, say, a *Scheherazade* on the

emerges as the outstanding vocalist on these discs; his voice is pure black velvet throughout, in every register, at every dynamic level.

The problem with this sort of approach (and "approach" could be the wrong word, for this may not have been the intent) is all too evident. *Fidelio* is, after all, Beethoven, it is drama, it is the conflict of good and evil, it is ethical and moral principles set to music. But that's not what it is in this performance, because almost everything is too smoothed over, the set pieces too isolated from the dramatic flow, the ensembles too homogeneous in sound to give us any idea that here are four different personalities expressing, frequently, four different points of view. It is all just *too* beautiful. I credit—and blame—conductor Georg Solti. You may still find that this is the most satisfac-

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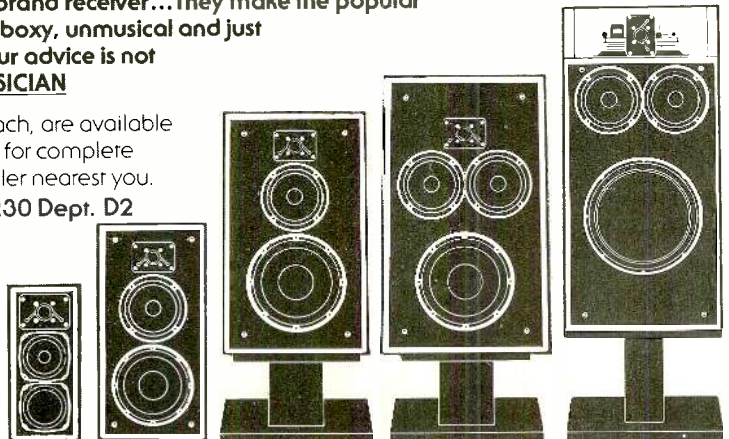
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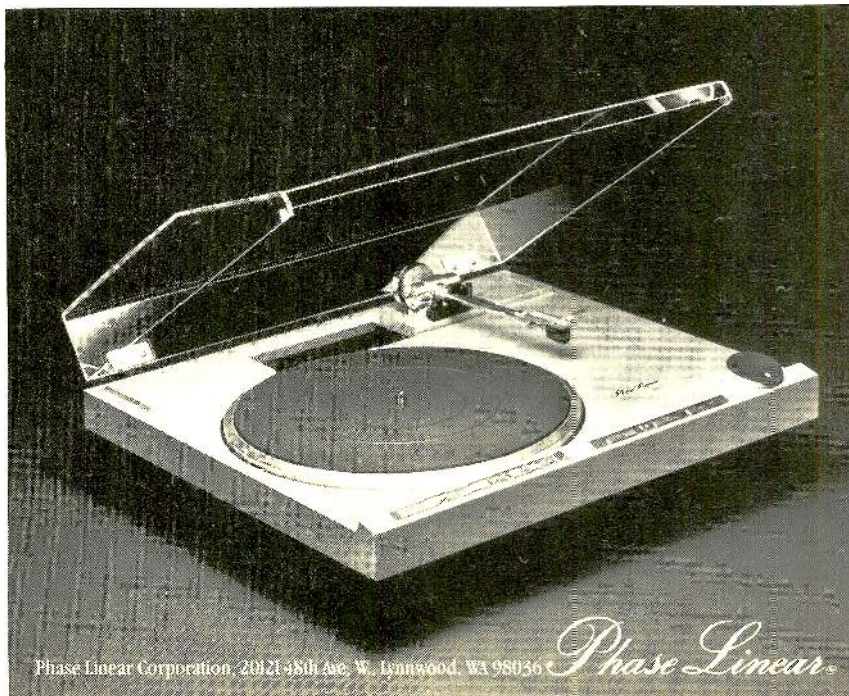
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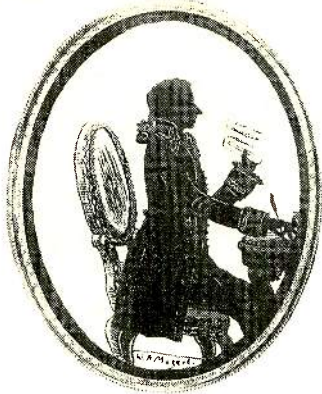
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with his Vienna recording of *Eine Kleine Nachtmusik* in place of the original filler, the little *Serenata Notturna*. The new coupling comes into direct competition with Szell's identical one on Columbia MS 7273, but it is not much of a contest except for Szell's fine realization of the aforementioned andantino. Indeed, while *Eine Kleine Nachtmusik* may strike many as one of those overexposed "basic" items, Böhm's performance is so appealing, in the *gemütlich*, Bruno Walterish, big-ensemble style, that anyone who hears it is likely to find the new disc irresistible for this part alone. The *Serenata Notturna*, after all, may be enjoyed in Maag's fine little Mozart collection on London STS 15088, but until someone gets around to recording that conductor in all the big serenades, there is not likely to be another version of K. 320 or K. 525 as attractive as Böhm's. Fine sound, too, especially for K. 525. R.F.

MOZART: *Il Sogno di Scipione* (K. 126). Peter Schreier (tenor), Scipio; Lucia Popp (soprano), Costanza; Edita Gruberova (soprano), Fortuna; Claes H. Ahnsjö (tenor), Publio; Thomas Moser (tenor), Emilio; Edith Mathis (soprano), Licenza. Salzburg Chamber Choir; Salzburg Mozarteum Orchestra, Leopold Hager cond. DEUTSCHE GRAMMOPHON 2709 098 three discs \$29.94.

Performance: **Excellent**
Recording: **Excellent**

In January 1977 I was fortunate enough to be in Vienna when *Mitridate di Ponto*, an opera by the child Mozart, was revived there after an absence of some two hundred years (the Vienna cast subsequently recorded it on Deutsche Grammophon 2711 021). Recalling the deserved enthusiasm with which the audience in Vienna's packed Musikvereinsaal received the fourteen-year-old composer's obscure *opera seria*, I looked forward to hearing *Il Sogno di Scipione*, written a year later. Unfortunately, the passionate conflicts that fill the pages of *Mitridate di Ponto* are not present in the later work, which is not an opera but a rather solemn and heavily padded "*azione teatrale*," an homage allegorically rendered to a historical figure but intended to honor a living one. To make matters worse, the recipient of this honor was none other than the Archbishop Colloredo, an ungenerous and unmusical man who was the source of much anguish for Mozart in the years to come. Finally, the text by Metastasio is eloquent but extremely wordy and devoid of drama. Scipio, the Roman general, has a dream in which he is faced with a choice between Fortune and Constasy. After consulting two eminent forebears, honorably deceased, who do not wish to influence his decision, Scipio decides in favor of Constasy. Thereupon follows an eloquent tribute to virtue—and its earthly embodiment, the Archbishop. End of play.

Well, Mozart is Mozart, and *Scipione* offers a number of attractive if predictably structured arias and orchestral writing of delicacy and variety. But it is not an important work, and there are too many drawbacks to serious consideration: a lack of action, insufficient variety in vocal timbres (three sopranos and three tenors), overlong arias, and choruses that are brief and not

particularly interesting. Uncritical admirers of Mozart will nevertheless be grateful to have the work.

The performance, at any rate, is excellent. Conductor Leopold Hager is an expert and dedicated Mozartian. He cannot impart qualities the music does not possess, but he holds the ensemble together with fine control. As for the singers, it is astonishing how well the *entire* cast copes with the taxing demands of the vocal writing. Peter Schreier, Claes Ahnsjö, and Thomas Moser are tenors who could sing "*Il mio tesoro*" in a manner to earn the approbation of John McCormack or Fritz Wunderlich (why should only Metastasio have fun with heavenly allegories?), and the sopranos are at least their equals. Edith Mathis handles her part in the Epilogue with matchless purity and taste; Lucia Popp commands the tonal warmth and mellowness that befit Constancy without compromising the needed bravura element; and Edita Gruberova, equally brilliant, has a touch of acid in her tones that seems perfectly in character.

We could go through ten different Mozart opera recordings without finding six such accomplished singers. That they should all be used to serve a relatively insignificant work appears to be a case of excessive generosity, but measured thanks are in order. G.J.

PETERSSON: *Symphony No. 8* (see Best of the Month, page 74)

RECORDING OF SPECIAL MERIT

PURCELL: *Complete Harpsichord Works. Suites Nos. 1-8; Eighteen Pieces from "Musick's Handmaid," Second Part; Six Pieces from "A Choice Collection of Lessons";* and nineteen others. Robert Woolley (harpsichord). SAGA 5458/9 two discs \$13.96.

Performance: **Flowing**
Recording: **Excellent**

Although Henry Purcell's keyboard music is but a small part of his oeuvre and miniature in scope, there are a depth of feeling and elegance of expression in it that make it well worth recording. Robert Woolley uses two harpsichords for this record, both modern copies of old instruments: a John Hornblow after an early eighteenth-century Hitchcock and a Feldberg-Whale after a Benjamin Slade of the same period. The former, with its two manuals, is rather brilliant; the latter, with only two sets of eight, rather dry. Both instruments are tuned to mean tone and pitched at A=415. Their sound is not only historically accurate but musically valid and satisfying.

Woolley is a serious player who uses ornaments accurately, employs old fingerings, and chooses his rhythmic alterations with care. He employs very little change of registration and is not at all fussy about articulation, but he is particularly satisfying in the way he keeps Purcell's sinuous melodies flowing and brings out their curious rhythmic hesitations without losing sight of the long line. Among other joys here is one of the finest readings of Purcell's eight harpsichord suites yet recorded. S.L.

SAINT-SAËNS: *Symphony No. 3, in C Minor* (see Best of the Month, page 73)

SCHUBERT: Die Schöne Müllerin (D. 795). Thomas Pfeiffer (baritone); Dieter Horning (piano). MUSICAL HERITAGE SOCIETY MHS 4097 \$6.95 (plus \$1.25 postage and handling from the Musical Heritage Society, 14 Park Road, Tinton Falls, N.J. 07724).

Performance **Good**
Recording: **Good**

Both singer and accompanist here are unknown to me, and the producers do them (and the public) a disservice by failing to supply even the briefest identification. I cannot say that a new version of *Die Schöne Müllerin* was needed, with recordings by baritones Dietrich Fischer-Dieskau, Gerard Souzay, and Hermann Prey and by tenors Fritz Wunderlich and Axel Schütz available to satisfy just about every taste. What I can say is that the unheralded pair on this disc hold their own against some of these glamorous names remarkably well. Thomas Pfeiffer has a high baritone of a warm and agreeable timbre; he sings with a firm tone and generally secure intonation (though there are a few dubious spots in the rapid *Ungeduld*). There is a tendency to rush things a bit and to take a somewhat rigid and mechanical approach to such songs as *Wohin?* and *Mein*. But the overall effort is noteworthy and augurs well for these artists in future forays along, one hopes, less well-trodden paths than this one. *G.J.*

RECORDINGS OF SPECIAL MERIT

SOR: Variations on "Malbrouk S'en Vant'en Guerre," Op. 28; Variations on a Theme from "The Magic Flute," Op. 9; Variations on "Ye Banks and Braes," Op. 40; Theme and Variations Without Opus; Sonata No. 1, in D Major, Op. 14; Sonata No. 2, in C Major, Op. 15. Diego Blanco (guitar). BIS LP-133 \$9.98 (from Qualiton Records, Ltd., 39-28 Crescent Street, Long Island City, N.Y. 11101).

Performance: **Stunning**
Recording: **Gorgeous**

SOR: Grand Sonata No. 1, in C Major, Op. 22; Grand Sonata No. 2, in C Major, Op. 25. Pepe Romero (guitar). PHILIPS 9500 586 \$9.98, © 7300 709 \$9.98.

Performance **First-rate**
Recording **Likewise**

With the popularity of the guitar as a "serious" concert instrument increasing as it has been in the last few decades, it seems incredible that gaps in the current discography of so renowned a composer for the instrument as Fernando Sor (himself its greatest popularizer in the first third of the nineteenth century) are only now being filled. They are filled very handsomely with the release of these recordings. The collection of short works played by Diego Blanco, who won last year's Queen Sofia Competition in Madrid, is especially ingratiating. Of the seven titles, it appears that only the Mozart and *Malbrouk* variations and the Op. 14 sonata (frequently billed as Introduction and Allegro) are otherwise available at the moment; the five additional pieces are every bit as substantial as these, and Blanco doesn't miss a trick. (He includes the introductions to all the variations works, by the way.) They are stunning per-

formances, really, enhanced by the gorgeous sound of the instrument itself and the rich, warm, utterly lifelike recording.

The Op. 15 sonata is a rather Scarlattinesque little piece less than six minutes long. The two "*grandes sonates*" played by Pepe Romero on the Philips disc are quite different in substance as well as dimensions; each is in four richly developed movements and is a good deal more reflective than the more extroverted shorter works. Julian Bream has given us a splendid account of Op. 25 (RCA ARL1-0711), but though it may be marginally more subtle here and there it is not demonstrably superior to the similarly splendid new one by Romero. The latter's disc has the advantage of slightly superior sound as well as offering the only current complete version of the Op. 22 sonata. Both of these releases can be unreservedly recommended to aficionados and nonspecialists alike. *R.F.*

STRAVINSKY: Le Sacre du Printemps. Philadelphia Orchestra, Riccardo Muti cond. ANGEL SZ-37646 \$8.98.

Performance: **Very good**
Recording: **Very good, but . . .**

What, another *Sacre*? It seems almost as if Stravinsky's mighty masterpiece is becoming the new *1812*, a showpiece for every virtuoso conductor lucky enough to land a recording contract with a first-rank orchestra. To the credit of all involved—Riccardo Muti, the Philadelphia Orchestra, and the Angel recording crew—this *is* one of the better ones of the dozen or so recordings of *Le Sacre* done over the past decade. Muti's reading has all the drive and precision necessary to keep the gestural music at a requisite level of tension, and he brings fine poetic sensitivity and a feel for color to the two major introductory sections without wallowing in the merely sensual. The Philadelphia players are in fine form, well on top of the complex metrics and properly sensitive to the balance and blendings called for in the more subtly scored passages.

The recording is for the most part mighty impressive; audiophiles will take more than a little pleasure in the bass-drum ictus plainly audible throughout the final ten minutes. The overall sound is warm and spacious, with ample presence in both the big climaxes and the more finely detailed episodes. Occasionally, however, the reverberant character of the recording locale obscures details of articulation that should stand out, as in the timpani figure that ushers in the "Evocation of the Ancestors." *D.H.*

TELEMANN: Quadro in B-flat Major (see MOZART)

WALTON: Cello Concerto (see ELGAR)

WALTON/SITWELL: Façade. Hermione Gingold, Russell Oberlin (narrators); instrumental ensemble, Thomas Dunn cond. WESTMINSTER MCA-1401 \$4.98, © MCAC-1401 \$4.98.

Performance: **Too coy**
Recording: **Excellent**

WALTON/SITWELL: Façade. Janet Bookspan (narrator); instrumental ensemble, David Epstein cond. EPSTEIN: *Night*

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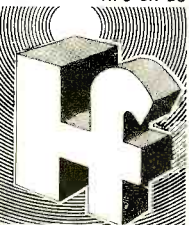


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Voices. Janet Bookspan (narrator); Boston Boy Choir; M.I.T. Symphony Orchestra, David Epstein cond. CANDIDE CE 31116 \$4.98, © CT 2257 \$4.98.

Performance: **Wise and witty**
 Recording: **Excellent**

WALTON/SITWELL: Façade 2; Façade. Cathy Berberian, Robert Tear (narrators); instrumental ensemble, Stuart Bedford cond. PETERS INTERNATIONAL PLG 135 \$7.98, © PCE 135 \$7.98.

Performance: **Musicianly**
 Recording: **Splendid**

According to the late Dame Edith Sitwell herself, William Walton originally provided the rhythms to which she wrote the poems of *Façade*, which she described variously as "nonsense," "virtuoso exercises in technique," and "experiments in rhythm." Yet she also confessed that "in the midst of the gaiety sometimes there is a veiled sadness." Dame Edith recorded *Façade* a number of times, always reading the lines in a trance-like chant and often ignoring the composer's careful setting of every syllable, placing her emphasis on verbal sounds and rhythmic patterns. Other narrators have approached the text in a variety of ways. On the Sixties Decca recording now rereleased by Westminster, Hermione Gingold takes a rather daft approach to about half the poems and Russell Oberlin handles the rest; he is more than equal to the verbal gymnastics required and keeps the beat faithfully, but he doesn't seem to have the slightest notion of what he's reciting. The cassette version of the release has good sound, but my copy has a bit of disconcerting print-through. No printed text is provided in either format, which is a real handicap for the listener.

Janet Bookspan's brilliant reading on the new Candide recording is quite a different matter. A trained singer who has done a good deal of narrating with various symphony orchestras, Ms. Bookspan sees *Façade* as a work full of meaning (a view with which I concur). In the notes she describes it as a "spectacular circus of images and sounds hawked by a provocative 'Barker'" who lures us from one "sideshow" to the next to expose the hypocrisies and shams of "the rigid Victorian/Edwardian world." This overall insight anchors and informs all her readings of the poems; she projects their dazzling rhythms while bringing out the inherent mockery. (I just wish she had made up her mind whether to accent the adjective "marine" on the first or the second syllable!) Conductor David Epstein directs a lively, sharply etched accompaniment, although here and there he seems to miss some of the composer's subtler parodistic allusions.

As a bonus, the Candide recording includes Ms. Bookspan's reading of Anne Merrick Epstein's deft, spooky *Night Voices*, a set of poems for children about a mouse who eats a cricket to celebrate his escape from an owl. Mr. Epstein's accompanying music is on the sparse side, yet it enhances the readings with atmospheric presence and is well performed under the composer's direction. Unfortunately, the recording balance between narrator and orchestra in *Night Voices* is hopelessly off,

(Continued on page 105)

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though it's perfect in *Façade*. Complete texts for both works are provided with the disc and the cassette.

From Peters International comes still another new *Façade*, this one featuring the "world premiere recording" of *Façade 2*, made up of eight previously unpublished numbers drawn from an April 1926 performance in Chelsea but later dropped from what was to become the standard twenty-one movements. Devotees of Dame Edith's verses will recognize among them the oft-anthologized *Aubade* ("Jane, Jane, / Tall as a crane") and *Said King Pompey*, which she herself once recorded. All eight are delightful but probably would have fared better if aptly integrated into the familiar sequence which follows in full. The readings here of both *Façade 2* (reworked by Walton and revived at the Aldeburgh Festival in 1979) and *Façade* are by that venturesome soprano Cathy Berberian, who approaches the text in a heady, calculatedly uninhibited manner as infectious as it is shrewd, and tenor Robert Tear, who opts for precision and practically sings the lines allotted to him but is no match for Berberian in wit or agility. Occasionally they attempt a duet, which almost works. But the music, under Stuart Bedford's astute direction, has never worked better, emerging in a breathtaking blend of bite and beauty. There's a fine cassette version of this one, too, and (with the record only) a complete text of everything, though a few of the lines attributed to King Pompey, the emperor's ape, seem to have gotten lost at the printer's. P.K.

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Performance: **Lusty**
Recording: **Effective**

For those who have enjoyed the French film and television series based on the life of Molière, this disc of the background music will evoke the panorama of struggling actors in seventeenth-century France. Those who come to it as music for its own sake will probably find it a bit of a curiosity, but a challenging one. René Clemencic's score consists of adaptations of music by Lully and his contemporaries and original music in a bogus antique style. Although most of the "arranged" music is at least vaguely identified on the jacket, connoisseurs of Purcell will be amused, if not annoyed, to hear part of the celebrated Frost Scene from *King Arthur* used without attribution as the final scene in the film score. Clemencic's own contribution is mostly in the carnival and fair scenes, where he makes the most of drone basses and bizarre instrumental effects from such raspy instruments as the jew's-harp. All in all, however, the record makes for pleasant listening and should certainly raise an eyebrow or two at some cocktail parties. The performance is lusty, beautifully capturing the moods of the score and the film. S.L.

JAMES GALWAY: Song of the Seashore and Other Melodies of Japan. *Sunlight Shining Through the Trees; The Moon on the Ruined Castle; Song of the Seashore; Lullaby; Cherry Blossom Time; The Evening Primrose; Song of the Seashell; My Homeland;* and four others. James Galway (flute); Susumu Miyashita (koto); Ayako Shinozaki (harp); Tokyo String Orchestra, Hiroyuki Iwaki cond. RCA ARL1-3534 \$8.98, © ARK1-3534 \$8.98.

Performance: **Soupy**
Recording: **Excellent**

There seems to be some sort of unofficial competition going on among our most popular classical flutists, and the strain may be starting to tell. James Galway's new collection of melodies from Japan is broadly appealing enough to make it a candidate for the charts, but it is also cloying enough to make questionable its qualifications as a serious musical program. These intrinsically delicate pieces about moonlight on ruined castles and so on have the instant, spare appeal of a haiku or a Hiroshige print, but here they have been colored in the wild crayon hues of arrangements for the Tokyo String Orchestra to the point of almost suffocating sentimentality. Moreover, Galway's playing is shamelessly schmaltzy on this occasion, with the result that a certain monotony sets in long before the last cherry blossom petal has wended its pink way to the ground. One begins to agree with Bunthorne in *Patience*: "I do not long for all one sees/That's Japanese." P.K.

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Simels Live

By Steve Simels

Allison East (left) and Kristian Hoffman of the Swingin' Madisons



Guillemette Barbet

PENETRATING PARODIES

I WAS sitting around talking with an old college friend of mine the other night when, as it often does, the subject of music came up. Both of us agreed, more in anger than in sorrow, that the Seventies were probably the bleakest years musically since the post-World War II period leading up to the birth of rock-and-roll. But when I got off on a tangent about how the early David Bowie and Bryan Ferry had been utterly pernicious influences on too many of the current crop of young musicians, my friend had to draw the line. "Big deal," she said with a sad smile. "So Seventies kids thought Bowie and Ferry were the coolest things since indoor plumbing. Don't forget: *our* peers actually bought Donovan records."

She had me there, of course; in fact, I even knew some of those people. Still do, come to think of it. Meanwhile, I have consoled myself with the thought that an Eighties backlash is inevitable; Seventies relics like David and Bryan will doubtless become fatally unhip some time around 1984, the irony of which has not, I can assure you, escaped me. Still, the fact remains that the recordings of those two are particularly symptomatic of what clearly differentiates the rock of the last decade from that which preceded it. Simply stated, the Seventies was when, for the first time, the *visual* artists really took control, at least in America. And as a result young American musicians are now forced to ask themselves a question that would have been unthinkable ten years ago: is it possible to rock authentically if you're not a graduate of the Rhode Island School of Design?

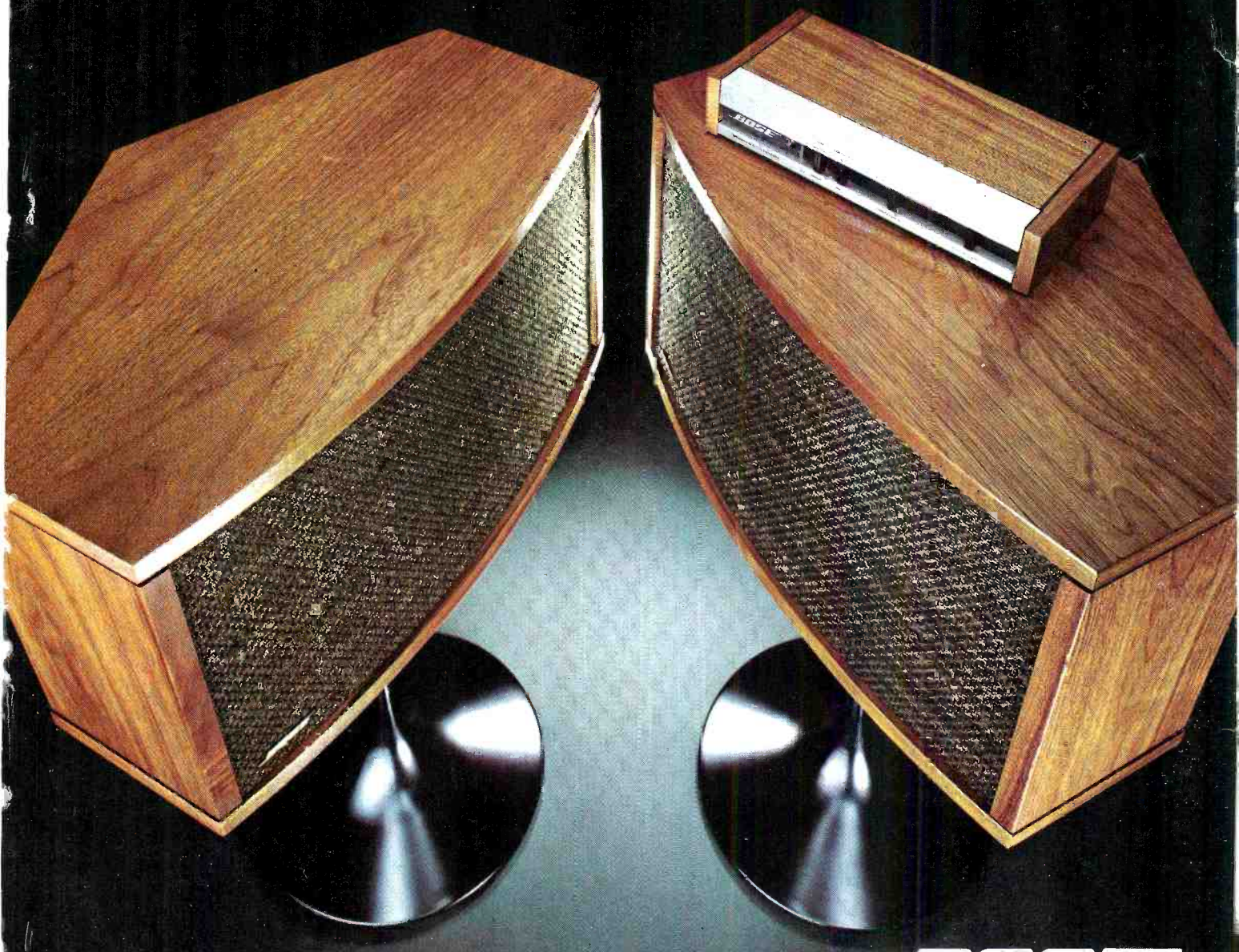
Now, I have nothing against visual artists (some of my best friends, and all that). It's just that I think Formalism, with rare exceptions, has absolutely no place in rock-and-roll, and neither does the kind of detached, amoral attitude that goes with it. As I've said before, I hold with Nick Lowe: the lack of humor and realism in most art-rock is staggering. Bowie and Ferry have easily been among the worst offenders, unless, of course, you take them as colossal, unintentional self-parodies, which is how I was able (barely) to maintain my sanity throughout the Seventies. Sooner or later, I reasoned, everybody had to catch on to them.

All this may explain why a new band called the Swingin' Madisons hit me so hard: they seem to have caught on too. Of course, the Madisons also grew up thinking David and Bryan were pretty snappy, and on some level they may still believe it, for all I know. There are visual references all over the place in their act: lead singer Kristian Hoffman decks himself out as a Thirties crooner, and guitarist Allison East looks like she once wanted to be Bowie henchman Mick Ronson. But what the Madisons *do* is quite another story. From start to finish their show flirts with all the glitter pomposities, yet ever so cleverly reveals them for the asinine posturings they are. As parody it is both affectionate and devastating, and even as simple show biz it's screamingly, howlingly funny.

Obviously, theirs is a visual act. Ms. East, for example, is the first great natural comedienne ever to grace a rock-and-roll stage; I would gladly pay \$5 to see her mug shamelessly at any time of the day or night. In fact, she's so endearing that if she weren't also a sharp post-metal guitarist she'd probably be starring in a remake of *I Love Lucy* for the Eighties. Meanwhile, Hoffman is so unbearably suave that he almost goes beyond parody; blink your eyes and he's Huntz Hall passing in high society, too dumb to know he's going to be found out. It's a brilliant piece of shtick.

THE band's material is almost all terrific, and musically, at least, there's not a hint of camp; this is a straightforward, imaginative rock-and-roll band. The show opens and closes with an odd, charming version of (no kidding) *Volare*, and in the middle of a clutch of rather witty originals the Madisons do to Janis Ian's *Society's Child* what I have been waiting *thirteen years* for somebody to do—namely, trash it. (For those in the audience who don't get the joke, Hoffman thoughtfully embellishes the tune with Duke Ellington/Cotton Club riffs on a toy saxophone.) In short, there's something here to offend almost everybody, especially those who still think "Ziggy Stardust" was the be-all and end-all of modern rock. I say it's about time. I mean, it's *impossible* to parody Donovan—isn't it? □

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