

OCTOBER 1983 • \$1.50

Stereo Review

HOW TO BUY AN AMPLIFIER

**How Much Power Do You Need?
Understanding Amplifier Classes
Guide to Amplifier Specs**

First Compact Discs from Telarc

Equipment Test Reports

- Marantz CD-73 Compact Disc Player
- VSP Labs Trans MOS Power Amplifier
- Celestion Ditton 110 Speaker System
- Fosgate 101A Tate II Surround Stereo
- Pioneer F-90 AM/FM Tuner

Plus: Fujitsu Ten CM-6530 Car Stereo

Disc Specials

Mitch Ryder
Deniece Williams
Bob Marley
Richard Thompson
Thin Lizzy
Delia Bell
Fauré's Songs
Beethoven's Quartets
Basic Gershwin



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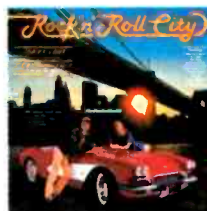
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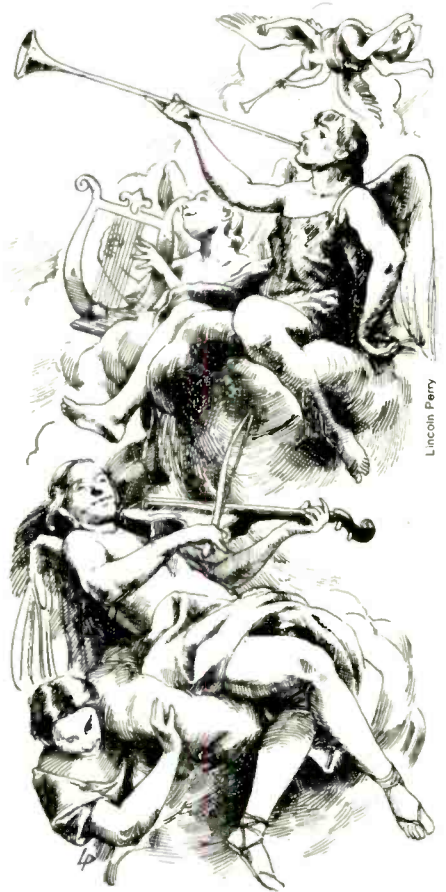
(ISSN 0039-1220)

OCTOBER

VOL. 48, NO. 10

1983

BULLETIN	Christie Barter and Gordon Sell	5
SPEAKING MY PIECE	William Livingstone	6
LETTERS TO THE EDITOR		8
NEW PRODUCTS		15
AUDIO QUESTIONS AND ANSWERS	Larry Klein	18
TAPE TALK	Craig Stark	20
CAR STEREO	Julian D. Hirsch and Christopher Greenleaf	22
TECHNICAL TALK	Julian D. Hirsch	24
EQUIPMENT TEST REPORTS	Hirsch-Houck Laboratories	27
INSTALLATION OF THE MONTH	William Livingstone	44
HOW TO BUY AN AMPLIFIER	Peter W. Mitchell	46
JARGON!	Bruce Bartlett	57
BEST RECORDINGS OF THE MONTH		
MITCH RYDER: "NEVER KICK A SLEEPING DOG"	Joel Vance	65
FAURÉ: SONGS	George Jellinek	66
DENIECE WILLIAMS: "I'M SO PROUD"	Phyl Garland	69
BEETHOVEN: THE LATE STRING QUARTETS	Richard Freed	69
POPULAR MUSIC		
DELIA BELL	Alanna Nash	74
BOB MARLEY AND THE WAILERS: "CONFRONTATION"	Mark Peel	78
THIN LIZZY: "THUNDER AND LIGHTNING"	Mark Peel	82
RICHARD THOMPSON: "HAND OF KINDNESS"	Steve Simels	84
JAMES NEWTON	Chris Albertson	86
CLASSICAL MUSIC		
TELARC COMPACT DISCS	Christie Barter	90
BRITISH MUSIC FOR CELLO AND ORCHESTRA	David Hall	98
THE BASIC REPERTOIRE	Richard Freed	106
ADVERTISERS' INDEX		106

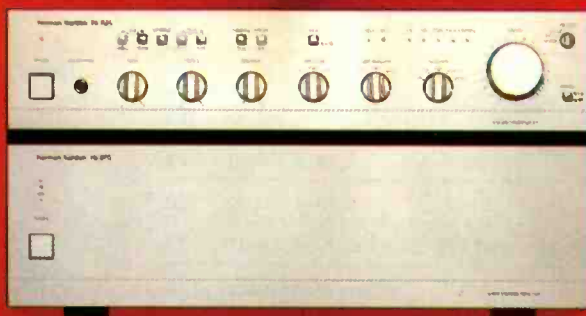


airy. 1. Having a sense of "air" or space surrounding the instruments. 2. Having slightly boosted high-frequency response.
(See "Jargon!" on page 57.)

COVER: Design by Borys Patchowsky; photo by Bruce Pendleton. For test reports on the Marantz CD-73 Compact Disc player and the VSP Labs Trans MOS power amplifier, see pages 27 and 36.

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HARMAN KARDON INTRODUCES STATE-OF-THE-MIND TECHNOLOGY



30 years ago Harman Kardon introduced the world's first high fidelity receiver. It was built on the philosophy that quality audio must evolve from creative, quality thinking.

Over the years, Harman Kardon continued to introduce original audio theories that were truly "state-of-the-mind", each proving so successful that they were immediately absorbed into the marketplace as "state-of-the-art".

For example, in 1958, Harman Kardon developed the first stereo receiver. A state-of-the-mind theory that instantaneously became state-of-the-art.

Harman Kardon, in 1970, saw the need for a noise reduction system for recording tapes and became the first company to use Dolby in a cassette deck.

Now, Harman Kardon's most important state-of-the-mind concept, High Current Capability, has turned state-of-the-art. A recently published paper² states that in order to drive amplifier to properly drive loudspeakers it must have the High Current Capability to instantaneously generate as much as 6 times its rated power into a 1.33 Ohm load. Harman Kardon has consistently

used High Current Capability in our products, and we are presently using it in all of our receivers and amplifiers.

The hk870, 100 Watt³ power amplifier, our newest product, carries this philosophy even further. The hk870 has an exceptional 60 Amps of High Instantaneous Current Capability and maintains a negative feedback level of only 12dB.

The hk870 is matched by the hk825 preamplifier. The hk825 offers dual RIAA equalization circuitry in the phono section, a discrete Moving Coil head amplifier and Ultrawidebandwidth of 0.1Hz to 180kHz delivering extremely pure, transparent sound.

So, while other manufacturers continue to pile on unnecessary features and performance reducing gimmicks, Harman Kardon continues to fine tune the basics and develop fundamentally advanced audio equipment.

1. Dolby is the registered trademark of Dolby Laboratories Inc.
2. "Input Current Requirements of High Quality Loudspeaker Systems", published and presented to the AES by Dr. Matti Otala. For a copy of this paper, write to Harman Kardon.
3. 100 Watts RMS per channel into 8 Ohms, 20Hz-20kHz with less than .06% THD.

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

Bulletin

Edited by Christie Barter and Gordon Sell

● **STEREO TELECASTS** in the U.S. may begin in 1984. The Electronic Industries Association (EIA) is currently testing a number of stereo TV broadcasting and noise-reduction systems. The test data will be presented to industry groups representing broadcasters and equipment manufacturers who will vote to choose the winners. Submitting the issue to a vote should avoid violations of restraint-of-trade laws.... One major manufacturer says that he has contingency plans that, barring further holdups, will enable him to put stereo TV sets on the market by May of 1984.

● **SUPERTRAMP LOSES SINGER.** As such older rock groups as the Animals and the Hollies are coming back together, Supertramp appears to be coming apart. On the American leg of their intercontinental odyssey sponsored by Sparkomatic, Supertramp's first tour in five years, lead singer Roger Hodgson announced his plans to leave the group at tour's end. Whether Supertramp can survive the loss of such an individual key member remains to be seen. For the reunions of other rock groups see Popular News Briefs on page 72.

● **BRUSHED-UP SINATRA.** Mobile Fidelity Sound Labs is releasing this month its "Sinatra Collection," a sixteen-record half-speed-mastered set of Frank Sinatra's complete Capitol-era recordings (1953-1961). In addition to improved sound quality, the collection features a detailed discography. Each album is packaged with its original cover art, and each set is authenticated by a numbered certificate. Mobile Fidelity plans to press no more than 25,000 sets listing for \$350 each.

● **TECH NOTES:** Sales of Compact Disc (CD) players in Japan are expected to overtake those of conventional turntables during the fall....NAD is preparing to launch a CD player this winter....Technics will begin selling a \$700 CD player in the U.S. any day now....Watch for a number of \$599 CD players from various sources by Jan-

uary and some \$399 bare-bones machines next spring or summer....Look for Pioneer to use its DDD tuner technology to boost its share of the receiver market....The FCC terminated its quadraphonic sound proceedings after the agency's recent decision to allow broadcasters to use FM subcarriers (SCA) pretty much as they like rendered the point moot. The National Association of Broadcasters (NAB) is encouraging radio stations to investigate using the subcarriers for quad broadcasting....Jensen is going into professional car racing with its sponsorship of the Jensen Car Audio/Bilstein Cup for Volkswagen Rabbits. (Bilstein makes shock absorbers for cars, not turntables.)

● **MET GALA:** One hundred years ago, on October 22, 1883, the Metropolitan Opera gave its very first performance, Gounod's *Faust*. On October 22 this year, a Saturday, the Met will commemorate the occasion with a Centennial Gala in which over seventy singers will participate, along with the company's chorus, orchestra, and ballet corps. The gala will be divided into two parts, a matinee at 2:00 and an evening performance at 8:00. Both parts will be televised live nationwide by PBS as part of the season's Live from the Met series.

● **NEW CD LABEL:** RCA is releasing its first Compact Discs in the U.S. this month, with another group due out in November. Most of the releases will be classics from RCA's Red Seal catalog, but the titles do include "Hooked on Classics, Volume I" and the recent "Return of the Jedi."

● **CLARION** is entering the high-end car stereo market with its all-new Audia brand components. Sold via an entirely different network of high-quality car stereo dealers, the full product line will include amplifiers "designed and manufactured" in the United States and said to be more attuned to listening tastes of U.S. car-audiophiles than Japanese amplifiers.

Speaking My Piece

By William Livingstone



Congratulating Remy Thorens (right) on the hundredth anniversary of his family's company.

PREFERENCES

WILLIAM F. BUCKLEY, JR. has written a book about himself called *Overdrive*. The novelist Nora Ephron, who reviewed it for the *New York Times*, thought it a vulgar display of wealth and criticized Buckley for being sufficiently self-absorbed to think that "even his preference in peanut butter will be of interest to his fans."

Well, Buckley is the editor of *National Review*, and writing monthly columns of opinion somehow makes an editor think everything about himself is interesting. What our readers seem most interested in knowing about me is what equipment I have at home and what records I am listening to.

The equipment changes frequently. At the moment I'm enjoying a Technics Compact Disc player, and when I have to return that, I want to try out a Sony and then a Magnavox CD unit. I'm listening to any CD's I can get.

I can't hear all the records we review in the magazine, but I try to check at least those in the "Best of the Month" section. To anyone interested in increasing his or her musical pleasure I always recommend that section for new directions.

Recent "bests" that I have kept around for more than one hearing include Mark Knopfer's soundtrack for *Local Hero* (Warner Bros.), Susannah McCorkle's "The People That You Never Get to Love" (Inner City), and the *Liebeslieder* Waltzes disc from Deutsche Grammophon's Brahms Edition, all three reviewed in September.

I thought I had heard enough country music while growing up in North Carolina to last me a lifetime. But Alanna Nash writes about it with so much wit and perception that she often makes me want to hear whatever she is reviewing. Her comments on Delia Bell's debut album on Warner Bros. (see page 74) had that effect on me. I've played it often,

and now it's high on my list of nominees for Best of the Year.

To get ready for the Metropolitan Opera's centennial season, which opens with Berlioz's *Les Troyens*, I've been listening to the Philips recording of the complete opera conducted by Colin Davis. And I've been listening to some Rossini. Carlo Maria Giulini's recording of the *Stabat Mater* (DG 2532 046) has a spiritual dimension I have heard in no other performance of that music. Rossini's campy "Duets, Trios and Quartets" (Musical Heritage Society 4711 H) includes the *Comic Duet of Two Cats*, one of the few pieces of music to engage my cats' attention.

I've been on a Saint-Saëns kick, listening to Aldo Ciccolini's old set of all five piano concertos (Seraphim S-6081). I've also been playing the *Organ Symphony* conducted by Charles Du-toit (London LDR 71090), the Cello Concerto with Yo-Yo Ma and Lorin Maazel (CBS 35848), and the *Carnival of the Animals* with pianists Michel Béroff and Jean-Philippe Collard (Angel S-37874).

I'm especially fond of the guitar, and John Williams's "Echoes of Spain" by Albéniz (CBS 36679) has given me a great deal of pleasure. It is one of my favorite albums for late-night listening. Another quiet album that restores my soul at the end of a trying day is a collection of sonatas by Domenico Scarlatti (Seraphim S-60341) played by Aldo Ciccolini on the piano.

William Buckley is an amateur harp-sichordist, and he probably prefers Scarlatti on the instrument he plays himself. But Ms. Ephron's review so turned me against Buckley's new book that I'll probably never even know for sure what kind of peanut butter he likes. In case anybody is interested, Skippy is my favorite brand, and I prefer the crunchy kind. □

Stereo Review

PUBLISHER

J. SCOTT BRIGGS

EDITOR IN CHIEF

WILLIAM LIVINGSTONE

MANAGING EDITOR

LOUISE GOOCH BOUNDAS

ART DIRECTOR

BORYS PATCHOWSKY

TECHNICAL EDITORS

DAVID RANADA, GORDON SELL

MUSIC EDITOR

CHRISTIE BARTER

POPULAR MUSIC EDITOR

PAULETTE WEISS

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EDITORIAL ASSISTANTS

BARBARA AIKEN, ROCCO MATTERA

DIRECTORY EDITOR

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CONTRIBUTING EDITORS

CHRIS ALBERTSON	ALANNA NASH
RICHARD FREED	MARK PEEL
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PAUL KRESH	CRAIG STARK
STODDARD LINCOLN	JOEL VANCE

ADVERTISING DIRECTOR

BRIAN E. McCABE

ASSISTANT TO THE PUBLISHER

JEAN ANDERSON

Editorial and Executive Offices: 212 725-3500
Ziff-Davis Publishing Company
One Park Avenue, New York, New York 10016
National Advertising Manager: Richard J. Halpern
Eastern Advertising Manager: Charles L. P. Watson

Midwestern Office, The Pattis Group: 312 679-1100
4761 West Touhy Ave., Lincolnwood, Illinois 60466
Arnold S. Hoffman, Dirk E. Barenbrugge

Western Office: 213 387-2100
3460 Wilshire Boulevard
Los Angeles, California 90010
Western Advertising Manager: Marge Doherty-Wilheit

Japan: Iwai Trading Co., Ltd.
J. S. Yagi
603 Ginza Sky Heights Building
18-13, Ginza 7-Chome
Chuo-Ku, Tokyo, Japan 104
Telephone: (03) 586-0165, 545-3908

Circulation Office
P.O. Box 2771, Boulder, Colorado 80302

EDITORIAL CONTRIBUTIONS must be accompanied by return postage and will be handled with reasonable care; however, publisher assumes no responsibility for the return or safety of art work, photography, or manuscripts.

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Letters

Pink Floyd

● I am disturbed by Steve Simels's review of Pink Floyd's album "The Final Cut" in the August issue. He found it "beyond banal" and was critical of the seriousness of



Pink Floyd before "The Final Cut"

its message. As Mr. Simels points out, "The Final Cut" aims extremely high. It deals with the ugliest of our social conventions, war. I find the album more than credible. It coherently weaves together lofty social issues with a personal perspective on how war shattered one man's life. Many eminent scientists agree that our next war may eliminate the human race. Given that, it seems odd that Mr. Simels would rather have Pink Floyd concentrate on "leaky faucets and birds chirping in the night."

THOMAS J. SMURTHWAITE
La Mesa, Calif.

● Although I must thoroughly disagree with Steve Simels's review of Pink Floyd's "The Final Cut," I have to say I'm amazed at his literary style and his use of the English language. I only wish he had devoted half as much energy to listening to the album. Obviously he is not a believer in "modern" music as art, because Pink Floyd is one of the few bands around that still lends credibility to popular recordings. I was also disheartened by his disapproval of the use of special effects. I find it breathtaking how Pink Floyd can bring more to music than just notes and chords.

JOHN AIHAY
Iowa City, Iowa

Stewart and the Stones

● I feel I should correct Mark Peel's idea that "Every Rod Stewart album has at least one song that borders on outright plagiarism of the Rolling Stones . . ." (in his August review of Stewart's new "Body Wishes"). First, Ron Wood, Nicky Hopkins, and Ian McLagen all played in a band with Stewart before playing with the Stones.

Second, a "swaggering beat, raunchy harp, and high-pitched backing vocals" were basic rock-and-roll qualities long before Rod Stewart or the Rolling Stones started recording.

JOHN W. LOEFFEL
Ashtabula, Ohio

Speaker Cables

● You have no idea how much I appreciated STEREO REVIEW's test of speaker cables in the August issue. After an escaped pet gerbil chewed up my trusty 24-gauge wire, I decided that it was time I invested in some Monster Cable. Mortified by the price, I walked across the street to a hardware store where, by guesswork, I picked up some 16-gauge zip cord for a quarter a foot. Even though it sounded just fine to me, I received dire warnings from the salesman at the stereo store about the quality I would get. Now I have STEREO REVIEW on my side. Thanks for proving that my instincts were correct.

JOE FAUST
Gillette, Wyo.

● Regarding August's "Speaker Cable: Can You Hear the Difference?": As stereo salesmen, may we recommend that author Laurence Greenhill and his eleven audio experts try testing Monster Cable against 16-gauge zip cord again? This time, please use



Johnson & Johnson Safety Swabs before you test. Enclosed are twelve swabs—marked for left and right ears!

TERRY NIRVA, DAVE GANDRUDE,
DAN VANHOOK, WES WELDER
Rochester, Minn.

● I have been a part of the audio industry for over ten years now, both in retail and in manufacturing. It has been my experience that whenever instantaneous A/B switching is employed—as in STEREO REVIEW's listening tests of speaker cables—subtle differences are *masked*, not accentuated. It has also been my experience that the human mind has very good acoustic memory *as long as* there is an associated vocabulary to describe the differences heard. Someone who cannot understand *what* he is hearing has no context with which to remember the details of a listening experience. A/B switchers are best used to show *gross* differences between components—specifically, between loudspeakers, where gross

differences are the norm. Trying to employ this type of comparison to show the differences between cables is absurd.

I am sure I speak for the entire high-end audio industry when I say that STEREO REVIEW has been a constant wall in the way of progress, since almost all meaningful improvements in music reproduction have come from the "freak" companies your publication tries so hard to discredit. Instead of trying so hard to prove us all wrong, why not direct your efforts toward discovering why there is such divergent opinion, why STEREO REVIEW's listening panels don't hear what is heard so clearly by average listeners—regular folks who appreciate music, know what it is *supposed* to sound like, and are willing to invest time and money to obtain true high-fidelity?

JACK SHAFTON
Custom Woodwork & Design
Bedford Park, Ill.

● I was amazed and disappointed at the results of your speaker-cable evaluation, since the conclusions drawn run counter to all of the careful market research conducted by our firm, Monster Cable, in the last several years. Your writer's conclusion that " . . . there is little advantage besides pride of ownership in using these thick, expensive wires" was *not* the conclusion of the nearly three thousand Monster Cable purchasers who participated in a warranty/response-card survey in 1981-1982. Among those responding, 56 per cent indicated "an overall significant improvement," 42 per cent attested to a "noticeable improvement," and only 2 per cent wrote back that they heard no difference in system performance.

Many major component manufacturers recommend the sonic benefits of our speaker and component interconnect products to their customers. Such notable hi-fi and auto-sound companies as Carver, Alpine/Luxman, Infinity, Tandberg, RGR, NAD, Goldmund, Electrocompaniet, SAE, Proton, Audiomobile, Linear Power, and Kenwood Car Audio actually package Monster Cable endorsement cards with their various products. What's more, we're very proud that Infinity uses Monster Cable for the internal wiring of its flagship IRS system as well as the RS-1 system and that Klipsch and Assoc. also uses our cable for the internal wiring of the prestigious Klipschorn.

Since mid-November of 1982, when we announced an *unconditional thirty-day refund* to any Monster Cable purchaser who "doesn't hear the difference," *only two* customers have taken us up on our offer despite the thousands of pairs of our products sold domestically. So let the facts speak for themselves.

We founded Monster Cable four years ago as the first hi-fi firm solely dedicated to developing state-of-the-art speaker cables, interconnect wires, and connector accessories. We have a loyal, committed base of dealers worldwide and tens of thousands of satisfied customers who have purchased our products over the years. We have pioneered new technology in cable design, as is best represented by our recently introduced InterLink Reference, which is now being embraced by many professional recording engineers and techni-

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sound, Hitachi gives you a choice — vertical or front load players. With 10 key or two key programmability and visible or hidden disc design. Both offer advanced features like forward and reverse, cue, repeat and auto search for a unique sound experience. Now you can

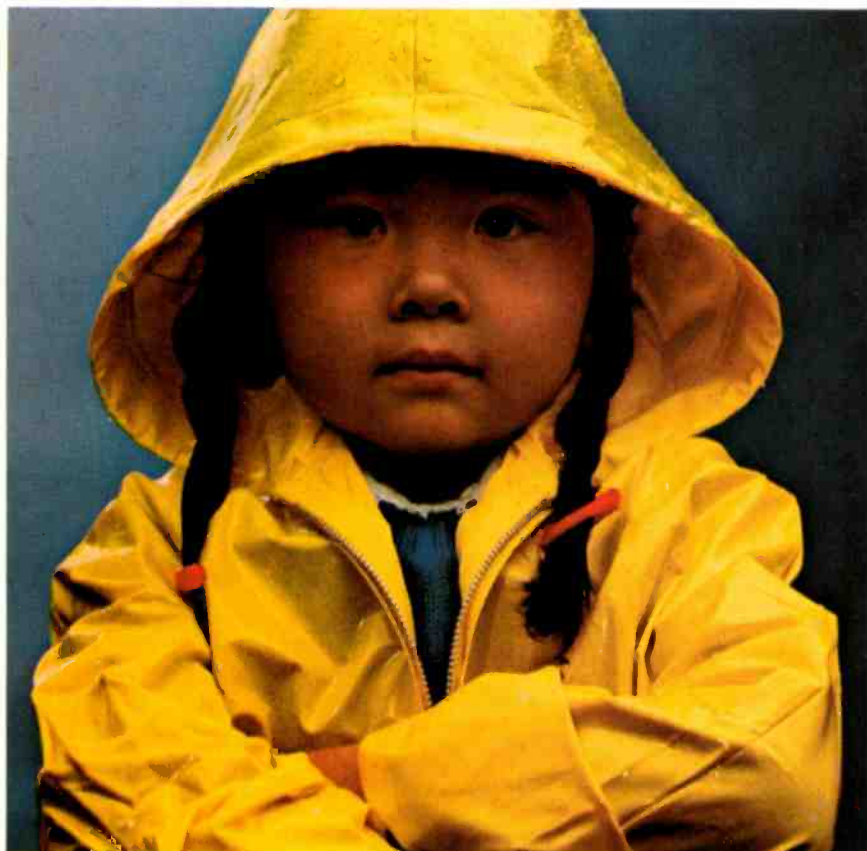
"be there" for the live performance without ever leaving your living room.

Until you own Hitachi's Compact Disc Player, you've yet to hear the true sound of quality.

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The Vivitar 3500 flash is so remarkably easy to use, your only requirement is a good pair of ears.

Our 3500 literally talks you into great photography. First, by telling you with a short "beep" that the flash is charged and ready to shoot. And then, by letting out a longer "beep" after the shot to tell you the light was correct. (We've even included a light that lets you check everything visually.)

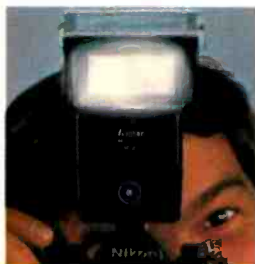
The automatic 3500 flash is so simple, about all you do is attach it to your Canon, Minolta, Nikon, Pentax, Olympus, Contax, Yashica or other popular 35mm SLR camera, focus and shoot.

Vivitar

The result? The 3500 delivers a level of performance that's unheard of. You can take superb automatic shots out to 47 feet.

And bounce light to soften the lighting and eliminate "redeye." And because our compact unit

Beep, Beep, Flash



Beeeeeeep!



also has zoom capabilities, it will work perfectly with an assortment of lenses.

If it seems incomprehensible that our flash does so much and yet costs so little, we suggest you visit a photo store and try one out. Hearing is believing.

The 3500 Flash by Vivitar

icians. That's why we are very disturbed at STEREO REVIEW's implication that our products' success has been the result of a carefully engineered marketing coup and little more.

It's our conclusion that, on several counts, the methodology of your test was not appropriate to the task at hand. The reasons are fairly complex and cannot be dealt with in the space of a letter to the editor. But we invite any of your readers to visit one of our dealers to conduct his or her own independent evaluation. Under the proper conditions, I'd be willing to bet 10 pounds of Monster Cable that they'll hear definite improvements in sound quality.

NOEL LEE
President, Monster Cable

Do those "proper conditions" you mention include blindfolds?

● As a serious audiophile for over twenty years and a professional engineer, I found the conclusion that "exotic" speaker cables offer little or no advantage over 16-gauge zip cord to be unsupported by the evidence in Laurence Greenhill's article. The cables used in the controlled listening tests were all of zip-cord configuration. Had the tests included cables with different geometries, significantly different results would have been obtained. As it stands now, the only possible conclusion that can be drawn from your tests is that Monster Cable (and only Monster Cable) is not significantly better than 16-gauge zip cord. Extrapolation of your results to untested cables is scientifically invalid.

L. J. HEPINSTALL
Batavia, Ill.

Yes, that's exactly what we said.

● I was amused by your comparison of three trashy "speaker cables." People spend all kinds of money on stereo components, hooking them up with shielded cable, then use naked wire to connect their speakers, thus losing sound quality. The only way to hook up a speaker is with coaxial cable.

CARL E. STARKE
Westland, Mich.

● The August cover is misleading in that the photo does *not* show the regular Monster Cable tested for the cover article but Monster PowerLine. The difference between them is like night and day! Regular Monster Cable gave me a 25 per cent improvement over heavy-gauge speaker wire, but the more expensive and twice-as-thick PowerLine cable gave *even more* of an improvement—at least another 15 per cent! For shame, STEREO REVIEW!

TED MEYER
Chapel Hill, N.C.

Low-Down Brahms

● In August's "Going on Record," Christie Barter mentions a leak to the press that the young Brahms tickled the ivories in a Hamburg "sporting house." The report is true, but the scurrilous leaker is exactly fifty years late with his musicological guttersniping. In 1933 Dodd, Mead published *The Unknown Brahms* by Robert

Haven Schauflier. On page 258, the author spills the beans:

"From his birth the environment of Johannes seems to have inclined him towards public women. For he actually grew up in the red-light district of Hamburg. . . . He lived next door to prostitutes, rubbed elbows with them at all hours on narrow tenement stairways and in dark halls, and often until dawn made music for their orgies in the lowest dives"

Such early strolls down the primrose path seem not to have harmed Brahms's genius for music. Maybe some of our contemporary composers would benefit from such conditioning.

NORMAN P. GENTIEU
Philadelphia, Pa.

Anti-New Music Bias?

● My musical tastes run toward the modern, synthesizer-oriented music that people variously call "New Music," "New Wave," or "garbage." While STEREO REVIEW runs a liberal number of reviews of records of this type, whenever I look to see the name of the reviewer it is almost invariably Mark Peel. And, with a few exceptions (Thomas Dolby, Philip Lynott, Peter Gabriel), his reviews of these releases are either unenthusiastic (Missing Persons, Polyrock, Berlin) or downright negative (Thompson Twins, Neil Young, Devo). I am curious why the other six popular-music critics on your staff don't review new music. Is Mr. Peel the only one who likes new music at all, or is he merely the least acidic of an entire group of new-music foes?

ERIC R. STEPANS
Canoga Park, Calif.

Each of our reviewers has an area of special interest and familiarity, and Mark Peel is especially knowledgeable about New Wave music. If you check back over recent issues, you'll see quite a few "Recording of Special Merit" tags on his reviews of New Wave records. And, by the way, Mark never reviewed Neil Young.

Muzak Fan

● The much-maligned Muzak and the "beautiful music" programming of many radio stations bring some of the finest American popular music of this century to the ears of listeners. Yes, the arrangements are hokey and predictable, yet without them the public—young people, particularly—would rarely, if ever, hear the great melodies of Porter, Gershwin, Ellington, Kern, Arlen, Rodgers, Berlin, and others.

Muzak constantly brings to my mind wonderful pieces of music that would otherwise be lost to the din of "contemporary adult music." It's a pity that, for example, such a splendid song as Hoagy Carmichael's *Skylark* can be heard publicly only in grocery stores, dentists' offices, elevators, and so on. What can be said of popular musical taste when Muzak is left to be the repository of America's best musical tradition? And just so you won't think this is written by an old fogey, I'm thirty-two.

THOMAS R. SCHOEN
Toledo, Ohio

How to get 336 lenses in your camera bag.



You have two choices. Either you find a bag that's extraordinarily large. Or you find one lens that delivers 336 different focal lengths. Like the 75-410mm zoom lens system from Vivitar.

Vivitar.

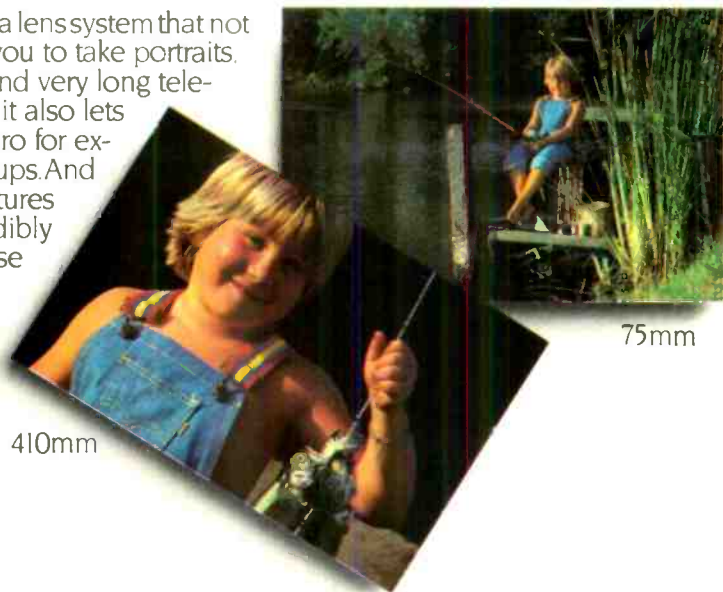
Our lens system is made up of two components. We start with a 75-205mm f/3.5-4.5 lens, which is the fastest, smallest and lightest lens in its class. And to it, we add a specially designed 2X Matched Multiplier™ for doubling the focal range.

The result: a lens system that not only allows you to take portraits, telephotos and very long telephoto shots, it also lets you use macro for extreme close-ups. And all of the pictures will be incredibly sharp because

of the lens' high degree of contrast and resolution.

But performance is not the only part of our system that's unsurpassed. So is its value. There's simply no better 75-410mm lens system at any price. And each system is backed by a 5-year limited warranty.

So the choice is quite simple. You can buy 336 lenses for your Canon, Minolta, Nikon, Olympus, Pentax or other popular 35mm SLR camera. Or you can buy one Vivitar 75-410mm zoom lens system. Ours is certainly a nicer fit in your camera bag.



410mm

75mm

The 75-410mm Zoom System by Vivitar

For a brochure (U.S. only) on our complete family of photographic products, send a self-addressed envelope with 40¢ postage to: Vivitar, 206AD, Box 2100, Santa Monica, CA 90406. Vivitar Corporation 1983. In Canada: Vivitar Canada Ltd./Ltée.

CIRCLE NO. 17 ON READER SERVICE CARD



State Of The Art Television Just Moved To Another State.

The Mitsubishi CM-1901 component video system shares a great deal more than a striking resemblance to the electronic exotica of the professional.

For it marks the first time ever that professional quality video and audio has been made available for the home.

Far more than components separated

for cosmetic reasons that some call "pro" television, it delivers performance that is professional in every aspect.

Except price.

The CM-1901 brings this lofty level of performance and technology into the home in the form of a High-Definition Diamond Vision™ picture tube.

From a standard broadcast signal, the CM-1901 monitor will produce well in excess of 330 horizontal lines of resolution. That adds up to a stunning 400 lines from video discs. For computers, that translates into the faithful reproduction of 2000 bright, legible characters and high-density graphics.

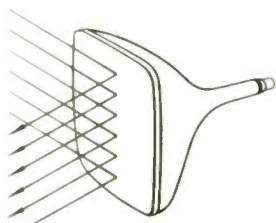
**36% MORE
RESOLUTION,
40% MORE COLOR.**

The CM-1901's ability to discern such fine detail is made possible by a 0.40mm fine-pitch black-matrix striped phosphor screen. In conjunction with the reduced beam spot size of its multi-step focus electron gun and the extended high frequency output of the video amplifiers, this results in 36% greater resolution than a conventional screen.

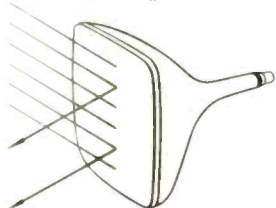
Further separating CM-1901's screen from the conventional is a feature that can be legitimately called one of the most significant innovations in the color picture tube ever.

Diamond Vision.

The Diamond Vision screen selectively transmits only the most desirable light wavelengths of the phosphors, producing truer, cleaner primary colors. The special chemicals mixed into the screen also absorb ambient light striking the faceplate. With color impurities filtered out and less light reflected back at you, the range of colors that can be reproduced is improved

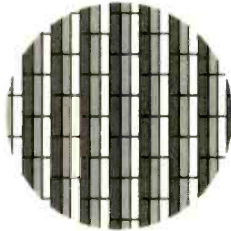


Conventional screen reflects most ambient light.

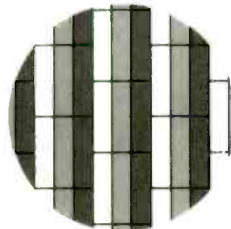


Diamond Vision absorbs most ambient light.

Mitsubishi's fine-pitch design delivers 36% more resolution.



High-definition (.4mm) CRT.



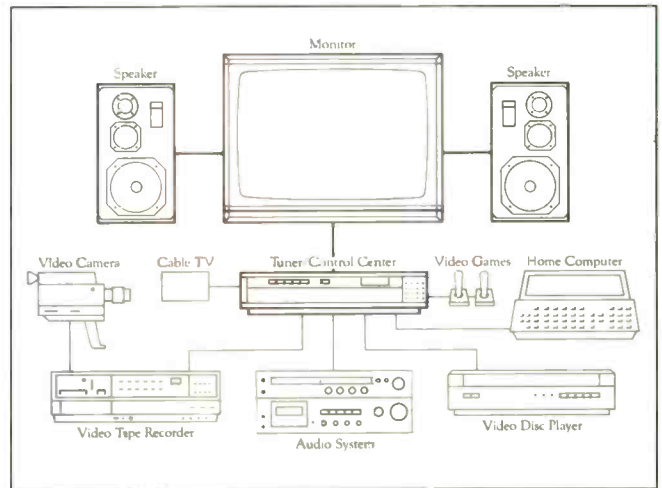
Conventional (.63mm) CRT.

dramatically — as much as 40%. Subtle shades and hues are revealed. The picture takes on a more three-dimensional quality.

When used with a computer, an additional high-contrast tint helps reduce the eye-strain associated with long hours spent in front of the monitor.

The "nerve center" of the system is the TX-102R Control Center. Besides functioning as a sophisticated routing network integrating your entire system, it offers 139 channel cable-ready tuning, phase-locked-loop, frequency-synthesized, with the convenience of random access and remote control, plus twin video outputs, twin antenna inputs, and an RGB input for direct access to your computer.

The audio side of the CM-1901 system features a pair of three-way bass-reflex, acoustically-tuned speakers that deliver astonishing realism from tapes or videodiscs.



The CM-1901's Component System is flexible, capable of expanding with your needs.

Spend the money for the CM-1901 Component System and you can be sure of one thing. State-of-the-art's new home is yours.



MITSUBISHI

Even If You Can't Have The Best Of Everything,
You Can Have The Best Of Something.

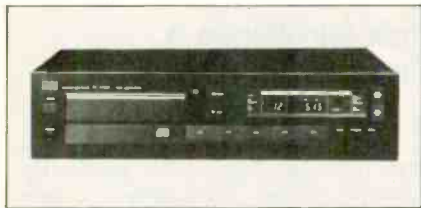
Mitsubishi Electric Sales America, Inc., 3030 E. Victoria St., Rancho Dominguez, CA 90221.

New Products

Latest Audio Equipment and Accessories

Sansui CD Player Has Digital Filters

□ Sansui's PC-V1000 digital Compact Disc player utilizes a newly designed combination digital-analog filter in its audio-output stages. The new filter is said to keep



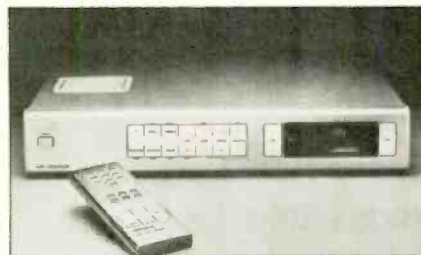
analog signal processing to a minimum by doing most of the necessary processing of the audio signal while it is still in digital form. The low-profile black-finished player has horizontal front loading, and its three-beam laser system is said to ensure accurate signal pickup even when a disc is damaged beyond the tracking capability of more common single-beam pickups.

Convenience features include a wireless remote control, random access to individual tracks, Intro Play (to sample a short segment of each selection), and a repeat function. Front-panel displays include track number and elapsed time. A headphone jack is provided. Key specifications include a frequency response of 5 to 20,000 Hz ± 0.5 dB and a signal-to-noise ratio, dynamic range, and channel separation all greater than 90 dB. Wow-and-flutter is unmeasurable, and total harmonic distortion is less than 0.004 per cent. Price: \$1,000.

Circle 120 on reader service card

Jensen Video Tuner For Audio Systems

□ Designed to add high-quality television sound and picture reception to an existing audio system, Jensen's AVS-2100 video tuner combines an audio-component-style preamplifier with special signal-processing



capabilities and a microprocessor-controlled input/output switch with an electronically tuned, digital-synthesis, 134-

channel, cable-ready television tuner. Three audio outputs are provided. A fixed-level output allows the user to bypass the internal audio preamplifier when using the AVS-2100 with an external audio receiver or amplifier. A variable-level output allows the use of a built-in mute control along with Dynamic Noise Reduction (DNR). Finally, the unit's preamp output permits full use of the tuner's audio controls: bass, treble, balance, volume, muting, and synthetic stereo

(for monophonic video program sources).

Audio/video switching controls two video inputs, the TV tuner, and a home computer or video-game output. A supplied wireless remote control switches TV stations, selects video inputs, inserts the synthetic-stereo function, and controls volume and muting. A rear-panel multiplex-output jack will enable the tuner, connected to an adaptor, to receive true stereo TV broadcasts when they begin. The TV-tuner section receives

Harman Kardon's High-Performance Amplifier Separates

□ With an unusually high instantaneous output-current rating of 60 amperes, the Harman Kardon hk870 power amplifier is said to develop far higher peak power with typical speaker loads than its 100-watt-per-channel rating into 8 ohms (20 to 20,000 Hz, less than 0.06 per cent total harmonic distortion) would imply. The company says that the amplifier's transient output power nearly doubles into 4-ohm loads and almost quadruples into 2 ohms.

The amplifier maintains a negative feedback level of only 12 dB, far below that of most power amplifiers. Its toroidal power transformer reduces hum radiation, and the four dual-polarity power supplies eliminate channel-to-channel interference while preventing the high-power output stages from influencing the operation of the low-level input stages. Other specifications include a power bandwidth extending from below 10 to 80,000 Hz. Frequency response at a 1-watt output level is 0.1 to 180,000 Hz $+0, -3$ dB. Slew rate is 160 volts per microsecond, rise time 1.8 microseconds. The square-wave tilt at 20 Hz is 3 per cent, the damping factor 120, and the A-weighted signal-to-noise ratio (S/N) 98 dB referred to a 1-watt output. Dimensions are $17\frac{5}{16} \times 4\frac{13}{16} \times 14\frac{3}{16}$ inches.

Also featuring a wide bandwidth and low-feedback circuitry is the companion hk825 preamplifier. Low-noise field-effect transistors (FET's) are used in both the high- and low-level signal stages for improved S/N performance. A discrete-component moving-coil-cartridge preamplifier is included, as is a capacitance-trim control for obtaining flat response with moving-magnet cartridges. Other features include switchable bass and treble turnover frequencies, a tone-control-defeat switch, connections and switching for two tape decks, and infrasonic and high-cut filters. A headphone output is provided.

Specifications include a frequency response of 0.1 to 180,000 Hz with total harmonic distortion of 0.05 per cent. A-weighted S/N is 83 dB through the MM phono input, 80 dB with the input switched to its MC configuration. The S/N through the digital-audio-disc, tape, auxiliary, or tuner inputs is 92 dB. RIAA equalization accuracy is within 0.2 dB of the standard. The infrasonic filter rolls off at 6 dB per octave below 15 Hz. Bass- and treble-control turnover frequencies are 200 or 400 Hz and 2,000 or 6,000 Hz, respectively. Dimensions are $17\frac{5}{16} \times 3\frac{3}{16} \times 12\frac{9}{16}$ inches. Prices: hk870, \$500; hk825, \$400.

Circle 121 on reader service card

New Products

all VHF and UHF channels and cable Channels 14 through 65. An "antenna" output is available for a cable-TV decoder. Audio frequency response for the video inputs is 20 to 20,000 Hz; the TV-tuner audio frequency response is 50 to 13,500 Hz. Video frequency response (measured at the video output) is 0.1 to 4 MHz. Price: \$590.

Circle 122 on reader service card

ESB Speaker From Italy

□ The ESB Model 7/09 bookshelf speaker system, imported from Italy, is designed for the consumer with limited floor space. It is



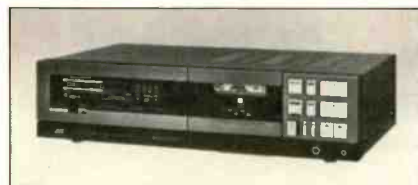
a three-way acoustic-suspension system with a 10-inch woofer, a 1 1/2-inch soft-dome mid/high-range driver, and a 1-inch soft-dome, magnetic-fluid-cooled tweeter. The crossover frequencies are 800 and 6,000 Hz. System impedance is 6 ohms; sensitivity is given as 87 dB sound-pressure level at 1 meter with a 2.83-volt input of pink noise. Recommended amplifier power ranges from 40 to 180 watts per channel. Frequency response is given as 35 to 20,000 Hz with a -3-dB point at 45 Hz. Dimensions are 13 x 21 x 13 inches; weight is 40 pounds. The speakers are sold in mirror-image pairs. Price: \$800 per pair. ESB-USA, Dept. SR, 692 Central Avenue, Cedarhurst, N.Y. 11516.

Circle 123 on reader service card

Three-Head Capability in JVC Auto-Reverse Deck

□ Claimed to be the first cassette deck on the market combining quick-reverse record/play capability with a three-head source/tape monitoring configuration, the JVC DD-V9 uses a "Flip Reverse" swiveling head assembly. Structurally, the head assembly consists of a mounting base and a rotating head holder. The record- and play-head holder swivels 180 degrees inside the mounting base, each rotation being restrained by a ruby-tipped azimuth-adjustment screw. The company says that this "jewel-lock" system makes it possible to adjust the head alignment for each direction of tape travel independently and to maintain correct azimuth during years of service.

The recording head is of Senalloy construction. The tape transport uses three motors. The capstan motor is a Pulse Servo direct-



drive design whose brushless and coreless construction is said to eliminate "cogging" and provide extremely low levels of wow and flutter.

Included in the DD-V9 is a B.E.S.T. (Bias, Equalization, Sensitivity of Tape) tape-matching system for optimization of recording quality. Other features include index scan (plays the first 10 seconds of each selection), blank search (looks for the end of recorded material on an unfilled tape), and block repeat (repeats the segment between any two points on the tape counter). The tape counter offers four display modes: conventional tape counting, remaining time, elapsed time, and a display of the selection number during the scan modes. The deck has two fluorescent peak-reading level indicators. Sliding record-level controls are mounted in a sliding drawer along with the other less frequently operated controls. Dolby-B and Dolby-C noise reduction are included.

Specifications include a frequency response of 25 to 18,000 Hz \pm 3 dB with metal tape (-20-VU recording level). Signal-to-noise ratio is 60 dB (metal tape) and increases by about 20 dB above 1,000 Hz with the Dolby-C circuits on. Wow-and-flutter is 0.035 per cent (wrms). Crosstalk is 65 dB and channel separation is 40 dB, both measured at 1 kHz. Total harmonic distortion of a 1-kHz tone recorded at 0 VU is 1 per cent with metal tape. Fast forward/rewind time is 90 seconds for a C-60 cassette. The front-panel headphone output supplies up to 0.6 milliwatt into an 8-ohm load. Dimensions are 17 1/8 x 4 5/16 x 10 15/16 inches; weight is 15 pounds. An optional remote control is available. Price: \$800.

Circle 124 on reader service card

Acoustic Research's Belt-Drive Turntable

□ Acoustic Research's new turntable resembles the company's discontinued older models in being a two-speed manual unit. The machine-finished cast-aluminum platter is driven with a belt by a twenty-four-pole synchronous motor; it rides on top of a



three-point spring-hung suspension that isolates the tone arm and platter from the wood-veneer base.

The turntable, available either with or

without a tone arm, has a universal tone-arm mounting platform. The standard arm is a low-mass, straight tube model with an effective length of 9.33 inches, a maximum tracking error of 0.53 degree per inch at a 2.4-inch radius, and an effective mass of 7 grams when used with a 5 3/4-gram cartridge. Stylus force is adjustable from 0 to 4 grams in 1/4-gram steps; acceptable cartridge weight ranges from 4 to 11 grams. The viscous-damped cueing is lever controlled. The total capacitance (tone arm plus turntable cable) is 238 picofarads.

Overall dimensions of the AR turntable are 14 1/2 x 18 3/8 x 5 1/2 inches. The removable hinged dust cover can be lowered when playing records, unlike those on the earlier AR turntable models. Turntable weight is 15 pounds. Price: \$429.99 with tone arm; \$279.99 without tone arm.

Circle 125 on reader service card

Polk Introduces a Smaller SDA Speaker

□ Using the same Stereo Dimensional Array (SDA) technology as the larger Polk SDA-1, the new Polk SDA-2 speaker system offers similar performance at a lower



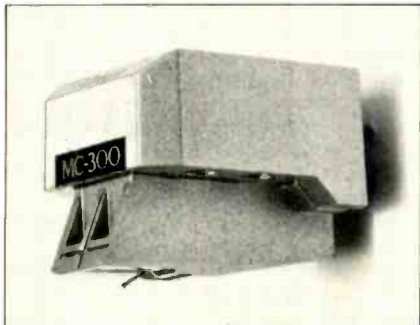
price. The speakers' output is designed so that each ear of the listener effectively hears only one speaker of the pair. A second set of drivers in each speaker delivers an output that cancels sounds tending to reduce the stereo image. The total driver complement includes two tweeters, three bass/midrange drivers, and a sub-bass radiator. Frequency response is given as 16 to 25,000 Hz, and recommended amplifier power is from 15 to 500 watts per channel. Dimensions: 39 x 16 x 11 3/4 inches. Price per speaker: \$599.95. Polk Audio, Dept. SR, 1915 Annapolis Road, Baltimore, Md. 21230.

Circle 126 on reader service card

Argent Moving-Coil Phono Cartridge

□ The Argent MC300 moving-coil cartridge has a boron cantilever and a "parabolic" nude-diamond stylus. Frequency re-

sponse is given as 10 to 50,000 Hz. Output voltage is 0.2 millivolt at 1 kHz with a groove velocity of 5 centimeters per second.

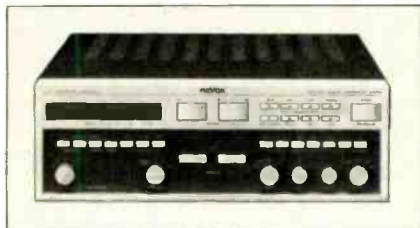


Channel balance is within 1 dB and channel separation is 27 dB, both measured at 1 kHz. Vertical tracking angle is 20 degrees. Compliance is 8×10^{-6} centimeters per dyne; optimum tracking force is 2 ± 0.2 grams. Total cartridge weight is 7 grams. The MC300, like every Argent cartridge, is packaged in a solid Lucite case with an individual frequency-response graph and all the tools necessary for proper installation. Price: \$235. A replacement cartridge (the stylus is not user-replaceable) costs \$130. Distributed by Direct Sound Corp., Dept. SR, 150 Fifth Avenue, Suite 516, New York, N.Y. 10011.

Circle 127 on reader service card

Computer-Controlled Amplifier from Revox

□ The Revox B251 integrated amplifier has two microprocessors that allow the user to adjust the sensitivities of the unit's seven available inputs in 0.5-dB steps. The selected sensitivities are programmed into a non-



volatile memory that will retain the data even if the unit is disconnected from the a.c. power line. The system is intended to prevent disturbing jumps in volume when switching from one source to another. All the high-level inputs (tuner, two tape decks, auxiliary, and CD player) and the moving-magnet phono input are equipped with separate buffer amplifiers for negligible crosstalk. The system also makes it possible for a user to record one program while listening to another.

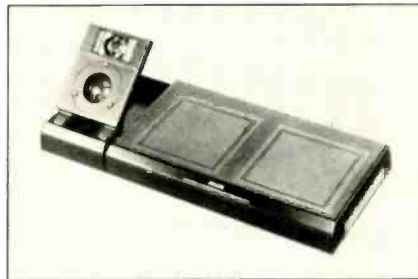
The power-amplifier section has quiescent current regulation to prevent crossover distortion while enabling the amp to achieve a 2-microsecond rise time. A switching power supply uses a high conversion frequency for hum-free reproduction. The amplifier is rated to deliver 140 watts per channel from 20 to 20,000 Hz with 0.02 per cent total harmonic distortion. The damping factor is 70 (4 ohms, 1 kHz). The unit's infrasonic filter has a slope of 18 dB per octave below 18 Hz. Frequency response is given as 20 to 20,000 Hz ± 0 , -0.2 dB.

RIAA equalization is within ± 0.3 dB. (An optional infrared remote-control unit, the B201, can handle both the B251 and other Revox components.) Price: \$1,500.

Circle 128 on reader service card

Philips's Flat-Diaphragm Auto Speaker System

□ The bass drivers for each channel of the Philips Sound Series 2000 car speaker system consist of two 5-inch-square, flat, polymer-diaphragm woofers mounted in a rigid cast-aluminum housing. The configuration is said to provide uniform linear piston action to produce nondirectional bass sound from a rear-deck location. Each speaker



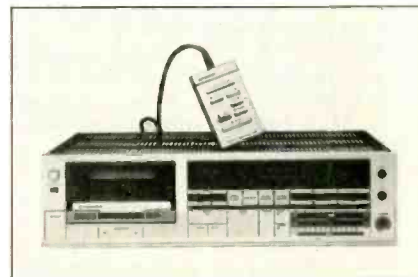
also contains a $3/4$ -inch-dome tweeter with a samarium-cobalt magnet and a 1-inch-dome midrange driver, both cooled by magnetic fluid. These Double Dome driver panels are rotatable and inclinable for superior stereo imaging from front to back and side to side in the vehicle.

The speaker systems come in mirror-image pairs and can be biamplified. Each system measures $13^{13}/16 \times 5^{7}/8 \times 3$ inches with a mounting depth of $1^{5}/8$ inches. Frequency response is given as 20 to 22,000 Hz. Sensitivity is 90 dB sound-pressure level at 1 meter with a 1-watt input. Impedance is either 2 or 4 ohms, depending on the hookup. Power-handling capacity is 100 watts per channel. Finish is black and brushed aluminum. Price: \$399.95 per pair. Distributed by Amperex Electronic Corp., Dept. SR, 230 Duffy Avenue, Hicksville, N.Y. 11802.

Circle 129 on reader service card

Pioneer's Top Auto-Reverse Deck

□ The top-of-the-line Pioneer auto-reverse cassette deck, the two-head CT-90R, has a three-motor tape drive, an automatic tape-parameter adjustment feature, and a real-time counter. Three direct-drive motors



control tape movement, one for the take-up hub, one for the supply hub, and a third (quartz-locked via a servo system) for the

capstan. The BLE (Bias, Level, Equalization) tape-tuning system analyzes the properties of each blank tape and adjusts the deck's electronics for optimum recording performance. The special ribbon Sendust recording head, developed by Pioneer, is said to have long life and high sensitivity in addition to superior frequency response.

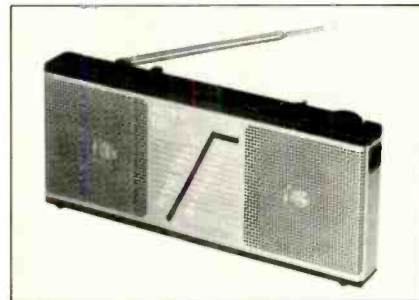
Automatic cueing features include music search, blank search, blank skip, and music repeat. The real-time tape timer can be switched for 46-, 60-, and 90-minute cassettes. The peak-reading LED level displays show a dynamic range of more than 40 dB. Record level controls are sliders; transport controls are light-pressure pushplates. Dolby-B and Dolby-C noise-reduction systems are included, and there is a headphone jack. The optional remote control shown (JT-216) operates all transport functions.

Frequency response with metal tape is stated as 20 to 20,000 Hz. Signal-to-noise ratio is 58 dB (68 dB with Dolby-B, 78 with Dolby-C). Wow-and-flutter is given as 0.03 per cent (wrms). Dimensions are $4^{3}/4 \times 16^{1}/2 \times 13^{3}/8$ inches. Price: \$520.

Circle 130 on reader service card

Sony Portable Radio Receives Stereo AM

□ Sony's SRF A100 portable AM/FM stereo radio is the first Sony product incorporating the company's CX-857 integrated circuit, a high-performance AM decoder capable of obtaining stereo audio from all



four FCC-approved systems of stereo AM broadcasting: Harris, Magnavox, Motorola, and Kahn/Hazeltine. A two-position switch adjusts the radio for the system being used, the Kahn system in one position and the three others in the second. In addition to the radio's two 3-inch dynamic speakers, there is a stereo headphone jack for private listening as well as an external d.c. power input. Other controls include volume, tone, antenna sensitivity, and tuning. A reception-mode switch selects among AM, AM-stereo, and FM-stereo reception. Dimensions are $3^{3}/4 \times 8^{7}/8 \times 1^{3}/8$ inches; weight is $1^{1}/2$ pounds. Price: \$89.95.

Circle 131 on reader service card

NOTE: All product descriptions and specifications quoted in these columns are based on materials supplied by the manufacturers, who will respond directly to reader requests for further information.

Domestic inflation and fluctuations in the value of the dollar overseas affect the price of merchandise imported into this country. Please be aware that prices quoted in this issue are therefore subject to change.

Audio Q. and A.

By Larry Klein

Contributing Editor Klein selects a channel on one of Akai's non-portable video-cassette recorders.



CD Playing Time

Q. It is my understanding that the maximum playing time of a Compact Disc is about 75 minutes. An audio dealer has told me that all available Compact Discs are limited to about 60 minutes playing time because the existing players cannot yet accurately "track" a longer-playing disc. If this is true, can the first-generation CD players be modified to play the longer discs once they become available? Or will they be obsolete?

ROBERT C. LANG
Oakland, Calif.

A. This problem, if it existed, would relate to the ability of the CD player's reading mechanisms to lock onto the rapidly rotating additional 15 minutes of signal surface. The Philips standard, to which all CD players must conform, includes the ability to play a 75-minute disc, so there is absolutely no need to worry about future incompatibility of available or about-to-be-available players with longer-playing CD's. The fact that the current discs play around 60 minutes or less has to do with disc-manufacturing problems and program-material durations rather than with player limitations.

Car Stereo Static

Q. We had a stereo AM/FM radio installed in our new Datsun by the Datsun dealer. There is much static on the radio, and it picks up noise when the horn is blown or when a motorcycle passes. Can anything be done to eliminate this static and noise? The dealer says that the problem cannot be helped.

VIOLA M. KAPLAN
Pluckemin, N.J.

A. I suspect that what your dealer means is that he can't help it. Twice I've been called by friends for advice about problems with their car systems and found that the dealer installed the system without due regard for noise suppression or that the radio section was defective. In both cases, the dealer claimed that the performance was perfectly normal. If you can't get satisfac-

tion from your dealer, I suggest you write directly to Datsun (Nissan).

Amp to Ground?

Q. Is it true that when an amplifier is on but the volume is turned all the way down, the full amplifier power is going directly to ground? And that when the volume is turned up, more and more power is diverted from ground to the speakers? For years my receivers have run hotter while recording with the speakers turned down than with the speakers turned up to normal volume. How can an amplifier run hot with no speaker load? And how hot is too hot?

AL TAYLOR
National City, Calif.

A. No, it is *not* true that an amplifier's "full power" is fed to ground when it is playing with its volume control turned down. An amplifier's power rating is based on the power it *can* deliver, not the power it delivers at all times. It works like this: the audio signal from tuner, tape, or phono—as limited by the volume-control setting—drives the amplifier's power-output stages. The greater the signal from the source and the higher the volume-control setting, the higher the output power, up to the amplifier's maximum.

How hot an amplifier gets depends on a number of internal, external, and use factors. The designer chooses the operating mode for the amplifier's output stages, which might be anything from pure class A to near class B. Under no-signal conditions, a class-A output circuit will have the most current flowing through the output transistors and will produce the most heat. A pure class-B circuit, which has the least current flow, will produce the least heat. Pure class B is not practical for hi-fi use, however, because of its rather high distortion. Most output circuits are set to operate somewhere between the class-A and the class-B modes and are therefore called class AB. In the past five years or so a number of circuits have been devised that automatically vary the bias on the output transistors (which in turn sets their no-signal current flow) according to the demands of the audio signal. This type of circuit—all other things being

equal—is very efficient and hence runs quite cool.

The designer also chooses the size and arrangement of the amplifier's heat-sink fins, whose job it is to radiate into the air whatever heat is produced by the output transistors. A low-powered receiver may not require separate heat sinks since its metal chassis serves as an adequate heat-radiating surface. How and where an amplifier is installed can also affect its heat of operation. Heat sinks get rid of heat mostly by air convection, and their effectiveness can be curtailed by lack of proper ventilation.

In respect to the use factor, a conventional class-AB output design might run quite warm with no signal reaching its output. This would depend mostly on its particular bias setting. And it could run marginally cooler with a signal present because of the momentary current reductions that occur as the current swings with the signal. I find it difficult to accept, however, that your equipment usually runs *much* hotter with no signal present.

How hot is too hot? My rule of thumb—or forefinger—is that under *normal* playing conditions an amplifier's outer surfaces should never become too hot to touch.

Installation Angle

Q. I am considering making my own custom installation. My plan involves installing my equipment (amplifier, tuner, equalizer, and tape deck) in the tilted top surface of a console with the rear ends of the equipment hanging down. Is it safe to install equipment on an angle? Are there any special precautions I should take?

RICK SOLDA
Hamilton, Ontario

A. If you had asked me the same question fifteen to twenty years ago I would have cautioned you about mounting tube equipment in such a way that the tube filaments could sag and cause the tubes to short-circuit. Transistors, however, don't suffer from sagging elements, and that problem is as obsolete—at least for most hi-fi equipment—as corroding buggy-whip sockets. Still, there *are* some precautions to be taken when mounting equipment in anything other than its normal position. Amplifiers and receivers that tend to generate heat should be mounted so as to allow free air flow around their heat sinks, preferably in such way that the heated air does not impinge directly on other components.

Not all tape recorders take kindly to operation in unusual positions. The problem, if any, arises from the mechanical design of the transport rather than electronic complications. If the instruction manual of your tape deck does not explicitly okay angled or bottom-down mounting, it would be safest to check with the manufacturer before embarking on a complex woodworking project. □

Because the number of questions we receive each month is greater than we can reply to individually, only those letters selected for use in this column can be answered. Sorry!

REDEFINITION.

THE CARVER RECEIVER

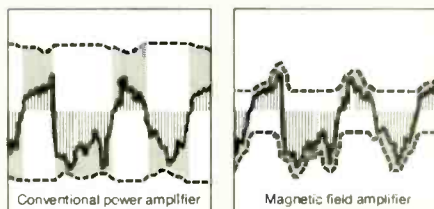
Redefines your expectations of receiver performance with the power you need for Digital Audio Discs plus virtually noise-free stereo FM reception. A receiver with astonishing performance incorporating two highly significant technological breakthroughs: Bob Carver's Magnetic Field Power Amplifier and his Asymmetrical Charge Coupled FM Detector.

ESSENTIAL POWER: Your system needs an abundance of power to reproduce, without distortion, the dynamic range of music on Digital Audio Discs and fine analog recordings.

The Magnetic Field Amplifier in the CARVER Receiver gives you 130 watts per channel* of pure, clean power with superbly defined, high fidelity reproduction.

The Magnetic Field Amplifier produces large amounts of power (absolutely necessary for the accurate reproduction of music at realistic listening levels) without the need for heavy heat sinks, massive transformers, and enormous power capacitors required by conventional amplifier design.

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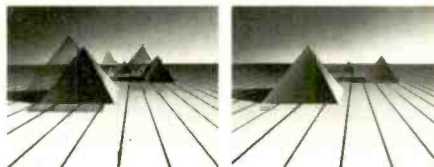
Solid line: audio output signal. Broken line: power supply voltage. Shaded area: wasted power. Vertical lines: power to speakers.

The 130 watts-per-channel* CARVER Receiver is about the same size and weight of conventional receivers having merely 30 watts per channel!

NOISE-FREE RECEPTION: The AM-FM CARVER Receiver gives you FM stereo performance unmatched by that of any other receiver.

As it is transmitted from the station, the stereo FM signal is extremely vulnerable to distortion, noise, hiss and multipath interference.

However, when you engage CARVER's Asymmetrical Charge Coupled FM Detector circuit, the stereo signal arrives at your ears virtually noise-free. You hear fully separated stereo with space, depth and ambience!



Reflected multi-path signals cause audible distortion.

Asymmetrical Charge Coupled FM Detector gives your ears a true sonic image.

The Asymmetrical Charge Coupled FM Detector was first introduced in CARVER's TX-11 Stereo Tuner, receiving unparalleled critical acclaim:

"A major advance... Its noise reduction for stereo reception ranged from appreciable to tremendous. It makes the majority of stereo signals sound virtually as quiet as mono signals, yet it does not dilute the stereo effect."

Julian D. Hirsch, STEREO REVIEW (December, 1982)

"Separation was still there; only the background noise had been diminished, and with it, much of the sibilance and hissy edginess so characteristic of multipath interference."

Leonard Feldman, AUDIO (December, 1982)

"What distinguishes the TX-11 is its ability to pull clean, noise-free sound out of weak or multipath ridden signals that would have you lunging for the mono switch on any other tuner we know of."

HIGH FIDELITY (January, 1983)

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Tape Talk

By Craig Stark



Susurrant Stereo

Q. *Recently I recorded a live concert simultaneously on two decks. One was fed a mono signal from the PA amplifier's output jack; the other used a one-point stereo electret microphone connected directly to the deck's mike jacks. The mono recording was clear and crisp, but the stereo version was bathed in a susurrant hiss I could not eliminate. I presume the noise came from the mike and its unbalanced connecting cables, since the PA mike used balanced lines. If so, should I invest in balanced-line microphones and a mixer to feed my deck's line-level input?*

KEITH A. ORLOFF
Detroit, Mich.

A. If your problem had been hum rather than hiss, or if you were using long cables and were losing high frequencies, low-impedance balanced-line microphones would be the answer. You could either use a mixer designed for such microphones or simply get a pair of adaptor transformers (lo-Z balanced to hi-Z unbalanced) with the appropriate connectors for your deck.

Since your problem is hiss, however, it is probable either that the battery in your stereo electret microphone was low, causing noisy and inadequate pre-preamplification within the microphone, or that your deck has a noisy microphone stage (a common problem), or simply that the microphone you're using is noisy because of a defect or a poor design. To narrow down these alternatives, try borrowing a friend's (unbalanced) microphone and deck, then do some recording using your mike with his deck and his mike with your deck.

Demagnetizing

Q. *Every ten hours or so I demagnetize my deck's record and playback heads. Why is it that the erase head needs no such treatment?*

JOHN ATIYEH
Cosa Mesa, Calif.

A. When a deck is switched into the record mode the erase head is fed with a bias signal approximately ten times

as strong as that used for recording, and the electromagnetic field this produces automatically degausses the erase head. In addition to demagnetizing your record and playback heads (especially the latter), however, you should also degauss rotating capstans, which often acquire even more magnetization than the heads themselves.

Car Demagnetizers

Q. *The tip of the head demagnetizer I use on my home deck is not long enough to reach into the cassette player I have in my car. A salesman told me that since the car unit was only a player and not a recorder its heads would not become magnetized, so I wouldn't need a demagnetizer for it. Is that right?*

EDWARD NIX
Atlanta, Ga.

A. It is certainly true that the large bias currents needed for recording have a greater potential for magnetizing tape heads than the relatively minuscule signals generated by the tape during playback. Nonetheless, I think you should invest in a suitable demagnetizer for your car player, if for no other reason than that its capstan may develop a magnetic field that can add hiss and reduce high-frequency response. And while you're using it on the capstan, it makes good sense to degauss the heads at the same time.

Dolby Defects?

Q. *Is it true that the Dolby-B and Dolby-C noise-reduction systems eliminate or decrease some instrumental sounds in the recording process and that they add distortion? That seems like a high price to pay for reducing hiss.*

DWAYNE BELLE
Lawton, Okla.

A. Given a properly adjusted recorder and Dolby system of either type, you need have no fear that the noise reduction will get rid of anything but the hiss. If you look at STEREO REVIEW's cassette-deck test reports, you will find that the measured

"Dolby tracking error"—the difference in frequency response with the Dolby system switched in and out—is typically ± 1 dB (2 dB at worst) throughout a recorder's useful range.

What causes many people to think that some of the treble range somehow gets lost in the noise-reduction process is that they are accustomed to judging the high-frequency content of recorded music in the presence of highly audible high-frequency tape hiss. When the hiss is subtracted there isn't as much total treble energy as there was before (hence the illusion of lost high frequencies), but the music part of it is still there, and it can be enjoyed all the more when it doesn't have to compete for attention with the hiss.

As for distortion arising in the noise-reduction process, the curious thing is that if you measure the harmonic distortion of a sine-wave signal recorded with and without the Dolby system, you get less, not more, distortion in the Dolby version! This is because the harmonic-distortion products (higher-frequency multiples of the original frequency) are not boosted by the Dolby encoding (record) process, but, like tape hiss, they are cut back in the decoding (playback) mode.

In short, it sounds as if someone's been filling your mind with baseless fears about a process that often makes the difference between listenable and unlistenable cassette recordings. Listen critically for yourself and I think you'll agree.

Reusing Tape

Q. *How often can a high-quality tape be rerecorded before it loses its ability to reproduce sound faithfully?*

JON M. SMITH
Las Vegas, Nev.

A. Magnetically, there is no limit at all, though on general principles I'd bulk erase a tape that has been recorded previously before using it for a critical application. The real limitation is physical: after a certain number of passes the tape edges are likely to get damaged and some of the coating will probably be worn away. In studio mixdowns, where a tape may have to go through a hundred or more passes, often in a high-speed cueing mode, tape wear is a worry, but I have yet to find it a problem with high-quality tapes in ordinary use.

Tape Switching

Q. *I have both an open-reel and a cassette deck, but my preamplifier has only one set of tape jacks. Is there any accessory device that will let me: (1) use either deck without switching cables, (2) copy from deck to deck directly, and (3) make simultaneous dubs of an LP or FM broadcast?*

PETER LARGMANN
Jersey City, N.J.

A. If you can't find a suitable switching unit at a local hi-fi dealer or Radio Shack store, I'm sure you can get one to fit your needs from Russound/FMP, Inc., 135 McDonough Street, Industrial Building, Portsmouth, N.H. 03801. □

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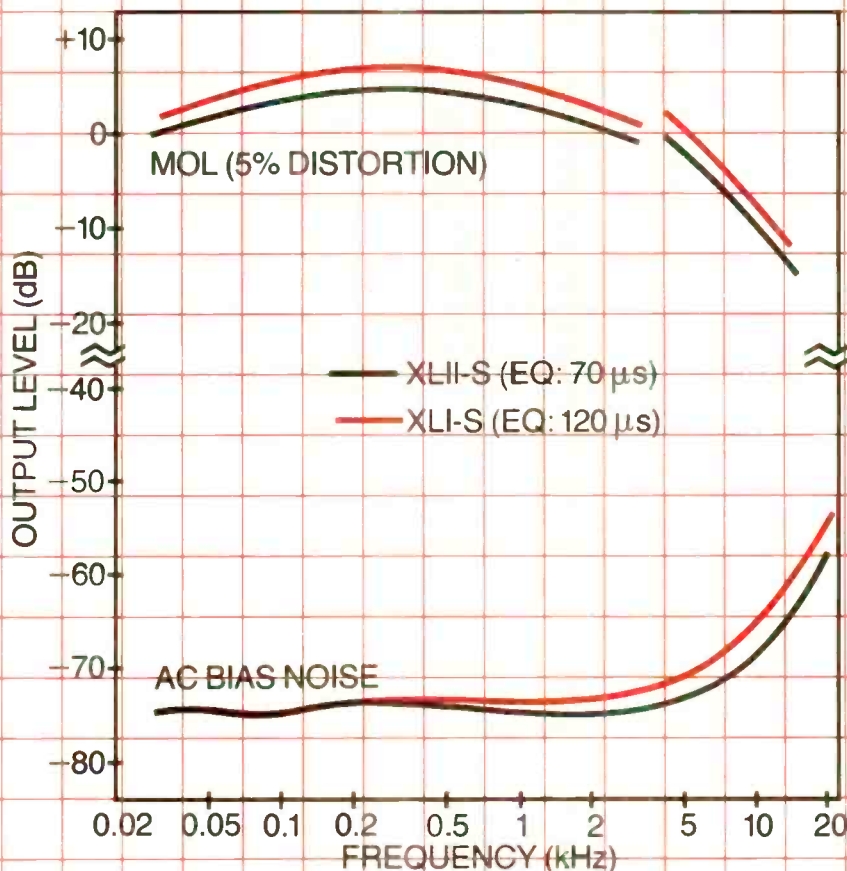
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CIRCLE NO. 27 ON READER SERVICE CARD

Car Stereo

By Christopher Greenleaf and Julian D. Hirsch



FUJITSU TEN CM-6530

THE Fujitsu Ten CM-6530 is a straightforward car stereo receiver/cassette player that costs about half as much as any of the auto sound products we have tested previously for this column. Its analog AM/FM tuner section has no station presets or pushbutton tuning functions. The auto-reverse cassette player has 120- and 70-microsecond equalization: as in many other car stereo units, the latter setting is labeled "Metal" although it is more likely to be used with high-bias ferric or chromium-dioxide tapes. Unlike most recent cassette players, however, this one does not have Dolby-B noise reduction. Instead, there is a switchable DNR (Dynamic Noise Reduction) circuit that operates with the tuner as well as the tape player to reduce hiss in both media. The integral amplifier handles one pair of speakers. A pair of phono-plug preamplifier outputs allows use of an external power amplifier for a second pair of speakers.

Fairly large buttons flanking the cassette opening (above the analog tuning scales) control tape rewind, fast forward, and eject. Smaller buttons along the bottom edge of the panel control the tape direction (PROGRAM), which is indicated by small amber illuminated arrows to the right of the dial scales, and the APS system. The latter is an automatic high-speed program selection mode that operates in either fast-forward or rewind and stops at the next selection (actually, at any silent period of at least 4 seconds' duration) and begins play. Similar buttons control the loudness compensation, the DNR, tape playback-equalization selection or stereo/mono mode selection in FM, and FM/AM selection. Lighted legends on the dial face indicate the program selected and the presence of a stereo pilot carrier on an FM signal.

The concentric knobs at the left of the panel are the bass tone control and the volume control. The latter also operates the on/off switch; when pulled out it becomes the balance control, and when pushed in it

is the front/rear fader control. At the right of the panel are concentric knobs for the treble tone control and tuning. The tone and balance controls are center detented. A feature rarely found in this price range is the automatic disengagement of the tape pinch-roller when the car's ignition is shut off, which avoids possible tape damage or denting of the pinch-roller. Price: \$269.95. Fujitsu Ten Corp. of America, 19281 Pacific Gateway Drive, Torrance, Calif. 90502.

Lab Tests

Like all car receivers with analog tuning, the Fujitsu Ten CM-6530 has short, crowded dial scales for both radio bands. In a heavily populated area with many stations, one can do little more than guess from the dial position which is being received, but in many parts of the country these scales would be adequate. Fortunately, the tuning was free of backlash and easy to use.

Although the FM tuner section of the CM-6530 was not very sensitive, it surprised us with some of its other characteristics. For instance, the capture ratio was a remarkable 0.4 dB at 65 dBf (500 microvolts, or μV) into its 75-ohm antenna input jack, though it deteriorated to a rather unremarkable 4.6 dB at 45 dBf (50 μV). The apparent selectivity of the tuner was equally surprising; for alternate-channel spacing it exceeded our measurement limit of about 80 dB, and even with adjacent-channel spacing it was a very good 19 dB. We describe these figures as "apparent," since the tuner has AFC (automatic frequency control), which can sometimes give the effect of very high selectivity. In any case, the measured selectivity was very good.

The apparent stereo threshold (at which the ST light came on) was about 17 dBf (2 μV), but this was misleading since the tuner has an automatic channel blend that starts at about 48 dBf (70 μV) and reaches a fully mono condition at about 37 dB (20 μV). Strong signals are received in stereo, but weaker ones will not be, even if the stereo signal light is on.

The CM-6530's frequency response (combining the tuner and audio response with the tone controls at their center-detent positions) was reasonably flat from 50 to 15,000 Hz, but it dropped off at lower frequencies (not an important consideration since most car stereo speakers cannot reproduce frequencies below 70 Hz or so very well anyway). The channel separation was about 26 dB through the midrange, falling to 15 dB or so at low frequencies and to about 20 dB at 10,000 Hz. These measurements were made with a 65-dB input; with lower signal levels, as noted, the separation decreases considerably and finally disappears. The AM-tuner frequency response was similar to the FM and tape response at middle and low frequencies but fell to -6 dB at 2,600 Hz.

The FM signal-to-noise ratio was about 60 dB in mono and 56.5 dB in stereo. Using the DNR system made an audible reduction in tuner hiss. The FM-tuner distortion, as in most car stereos, was rather high, between 0.5 and 0.7 per cent depending on mono/stereo mode and signal strength.

The cassette playback frequency re-

Hirsch-Houck Lab Measurements

FM mono usable sensitivity (75-ohm input): 23 dBf (3.9 μV)

Mono 50-dB quieting sensitivity (75-ohm input): 25 dBf (5 μV)

Stereo 50-dB quieting sensitivity (75-ohm input): 31 dBf (10 μV)

Tuner signal-to-noise ratio at 65 dBf: mono, 60 dB; stereo, 56.5 dB

Tuner distortion at 65 dBf: mono, 0.53 per cent; stereo, 0.7 per cent

FM frequency response: 30 to 15,000 Hz 0, -7.5 dB (-3 dB at 50 Hz)

Stereo separation at 100, 1,000, and 10,000 Hz: 22, 26, and 19.5 dB

Capture ratio at 65 dBf: 0.4 dB

AM rejection at 65 dBf: 60 dB

Alternate-channel selectivity: not measurable (see text)

Adjacent-channel selectivity: 19 dB

Image rejection: 54 dB

AM frequency response: -6 dB at 40 and 2,600 Hz

Tape-playback frequency response

(standard BASF test tapes, -3 dB limits): forward—90 to 8,000 Hz (120- μs EQ), 100 to 6,800 Hz (70- μs EQ); reverse—100 to 10,500 Hz (120- μs EQ), 110 to 12,000 Hz (70- μs EQ)

Tape signal-to-noise ratio (referred to 250 nWb/m at 315 Hz, 120- μs EQ): unweighted—51 dB, 54 dB with DNR; CCIR/ARM weighting—54.5 dB, 62.5 dB with DNR

Flutter (measured at both start and end of a cassette, with same results): ± 0.2 per cent CCIR-weighted peak; 0.13 per cent JIS-weighted rms

Tape speed accuracy: at start, -1.2 per cent; at end, -1.1 per cent

Fast rewind time for C-60: 132 seconds

Tone-control range: +13, -14.5 dB at 100 Hz; ± 10 dB at 10,000 Hz

Amplifier power into 4 ohms at clipping (1,000 Hz): 14.1 watts per channel

sponse, as in most auto-reverse systems, was quite different in the two directions of operation. On our sample, the reverse-play response was considerably flatter than in forward play, but which direction tests better is usually a function of the head alignment of the particular unit being tested. In the better direction, the highs were satisfactory,

... the CM-6530 offers, at a very reasonable price, a ... combination of simple operation, useful features, and a good amplifier."

although they fell off markedly above 12,000 Hz. In the other direction, however, there was little useful output above 10,000 Hz. The results were similar with both equalization characteristics (using the appropriate test tapes, of course).

The CM-6530 delivered a healthy 14 watts or more per channel at 1,000 Hz into 4-ohm loads. Its distortion (including the tuner distortion, at a reduced modulation percentage) varied from about 0.3 per cent at a fraction of a watt output to about 1.5 per cent at 14 watts. Unlike most home amplifiers, the power section of this receiver does not clip abruptly but rounds off smoothly and gradually; it therefore does not generate a large number of offensive high-order harmonics when overdriven.

Overall, the Fujitsu Ten CM-6530 offers, at a very reasonable price, an unusual combination of simple operation, useful features (auto-reverse, APS, and DNR), and a good amplifier. The FM tuner performs adequately in most respects, and it is capable of startlingly good performance under some conditions (especially when dealing with strong signals). It seems likely that the perceived qualities of this receiver will be strongly dependent on the user's location and specific listening habits. —J.H.

Road Tests

The Brooklyn Bridge is a hundred years old this year, and as if to emphasize this the ancient street system below the celebrated span has developed a profusion of new holes, buckles, and protuberances. Along with a fine assortment of gravel roads near the Delaware Water Gap, these provided us with unusually challenging test sites for the tape-transport mechanism of the Fujitsu Ten CM-6530.

In brief, the player stood up to the worst that my Volvo and the various road surfaces could show it. It even managed to continue working while I drove on the heavily rippled asphalt near the Brooklyn Navy Yard. The repeated undulations there and the steel dividing strips in the concrete roadways of Delaware River-area highways occasionally caused small amounts of chatter to come through. Still, I never feared for the safety of the terrible old C-120 I use for part of the test. A metal cassette dubbed from a digital LP of nineteenth-century French organ music that has sustained tones at all frequen-

cies would have exposed any transport irregularities. There were none except the slight chatter already mentioned, and since the CM-6530 was clamped to my car's transmission hump, this should be interpreted as a worst-case kind of result. Such abuse simply doesn't happen to most car tape players in normal use.

The same organ tape provided a check on the effectiveness of the unit's tone controls. The bass and treble knobs boosted and cut the response where they were supposed to, and it was a pleasure to find that the loudness compensation complemented rather than duplicated the low-end contouring of the bass control. Another tape I've used before to test tone performance, of a Nonet for Winds and Strings by Louise Farrenc (Leonarda LPI 110), gave me a chance to hear both solo and massed passages for the various instruments. The bass was generally full and solid with no flabbiness. There was some midrange unevenness, but it seemed to derive from my speaker array and installation; it mostly disappeared when I substituted a new pair of home-type minispeakers for my standard three-way pair. In the high treble I did note a falling off of response, which the treble knob partially cured, but at the expense of an accentuated upper midrange. The sound overall could be characterized as smooth, even, and—using an external power amplifier and rear speakers—as crisp as needed.

AM sound was fairly full, but I was able to get a few less stations than I'm used to picking up. Impulse noises from other vehicles and even from a purposely disconnected spark-plug lead were minimal and tended not to be irritating during AM listening because they were at low volume. The same was true with FM, which mostly resisted such intrusions. Again, fewer FM stations than usual were receivable, but those I could get were listenable until distance or the normal metropolitan New York obstructions caused the signals to disappear into noise. Multipath distortion on FM was seldom loud enough to be objectionable and even failed to distract me from my favorite morning newscast on one particularly dreadful (for radio) stretch of the Brooklyn-Queens Expressway. In the steel-and-masonry canyons around the Empire State Building, I detected one brief flash of FM crossmodulation (in which a station from one part of the dial shows up elsewhere), but listenability even there was good. I liked having the choice of switching to mono for FM, since clean mono sounds better than unstable stereo in urban areas.

The DNR circuit seemed to work quite well, noticeably reducing background hiss on both FM and tapes. Having a noise-reduction system that works on an unencoded source is a real pleasure. My one gripe with the CM-6530 is its lack of station presets. While some people may have only a single favorite station, I don't, and with two or three to select among, electronic or mechanical presets are a must to keep from endangering other drivers as you hunt up and down the dial manually. (Of course, the CM-6530 is a relatively inexpensive unit, and Fujitsu Ten has other models that include presets.) Otherwise, this is a simple, uncluttered car stereo that is easy to use and eminently capable of good, musical performance. —C.G.

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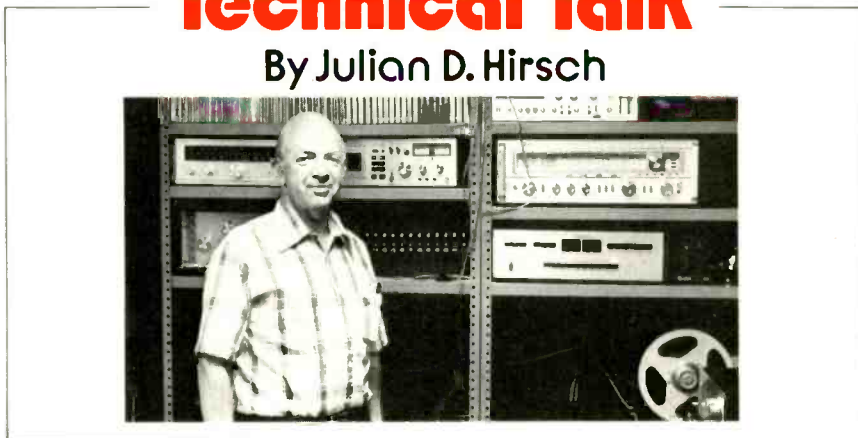
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CIRCLE NO. 10 ON READER SERVICE CARD

Technical Talk

By Julian D. Hirsch



Dynamic Range and Decibels

MANY technical terms are used loosely, incorrectly, or with incomplete understanding by audio hobbyists. Personally, I am not a stickler for unvarying adherence to the rules of language, even technical language, since it is only by our stretching those rules that language can evolve with the changing world it seeks to describe. Of course, these deviations must not interfere with meaningful communication.

The problems arising from using undefined terms are nicely illustrated by the numerous attempts to describe sound quality in non-acoustical terms. These efforts have not been altogether successful because the words used to describe sounds do not always convey the same meanings to different people (see Bruce Bartlett's article on page 57). Even a term that does have some application to acoustics, such as "imaging," may lack the semantic precision to be really useful in the context of hi-fi. It is certainly tempting to use the concept of an optical image to describe a characteristic of a sound field, but, unfortunately, the human senses do not interpret the visual and auditory fields in quite the same ways.

Let us consider "dynamic range," long a popular term in audio circles and destined for even greater use with the arrival of digital recordings and home digital playback equipment. It has several related but not equivalent meanings that are sometimes incorrectly used interchangeably.

Dynamic range is officially defined in the IEEE (Institute of Electrical and Electronics Engineers) *Dictionary of Terms* as "the difference, in decibels, between the over-

load level and the minimum acceptable signal level in a system or transducer." A note to the definition adds that the minimum acceptable signal level is ordinarily fixed by one or more of the following: noise level, low-level distortion, interference, or resolution level.

This is a rather comprehensive and apparently unambiguous definition of a term we all use. From past service on technical standards committees with the IRE (predecessor of the IEEE), I can attest to the extreme thoroughness with which each definition is examined and criticized before being accepted as a standard.

But as applied to audio systems, the standard definition still allows some leeway in defining the limit conditions for the "floor" and "ceiling" of the overall dynamic range. For example, the overload level is usually defined in terms of the percentage of harmonic distortion measured at the output of the system, but the amount of distortion chosen as signifying overload may differ widely among different types of audio equipment. In the case of magnetic tape, for example, the overload distortion level is likely to be either 3 or 5 per cent (the higher distortion percentage will result in a "better" dynamic-range specification). In the case of an amplifier, the onset of significant distortion is usually so abrupt that it is easier to use the appearance of waveform clipping at the amplifier output than a particular percentage level as the criterion for overload.

Usually, the floor of the audio dynamic range is set by noise, either wide-band ran-

dom noise, periodic noise such as hum, or a combination of the two. Again, problems arise from the psychoacoustic response to noise by a human listener. Some audio noise frequencies are much more audible or annoying than others, and it has become customary to "weight" noise measurements to discriminate between frequency components that are relatively inaudible or inoffensive and those that are disturbing even at low levels.

The much-vaunted dynamic range of digital audio recording and playback systems has quite definite floors and ceilings. These limits are so precise that they can be calculated from knowledge of just one number: the resolution of the digital-audio system, measured in bits. For example, the master recorders and disc players for the Compact Disc system usually have resolutions of sixteen bits. This means that these machines handle audio signals as a series of discrete level measurements, with the total number of levels that can be discerned (resolved) equal to 2^{16} , or 65,536. Resolution of this order is equivalent to an audio dynamic range of 98 dB.

What happens if the signals to be recorded require greater resolution, 65,537 levels, say? At the high end of the range (the loudest signal) most current digital recorders would simply clip the signal at their theoretical limit (65,536). This clipping would be audible in the same way that amplifier clipping is audible: for very short signal peaks, it would not be heard, but continuous clipping would sound very distorted. At the other end of the dynamic range,

Tested This Month

Marantz CD-73 Compact Disc Player • Celestion Ditton 110 Speaker System
VSP Labs Trans MOS Power Amplifier • Pioneer F-90 AM/FM Tuner
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what happens if the softest signal to be recorded falls below the noise floor of the system? The wide-band noise level of a sixteen-bit system can never be lower than 98 dB below maximum output level. (Lower noise levels can be measured when a digital system is playing back an all-zero signal. This is equivalent, however, to turning off the digital-to-analog converters, a situation never encountered in music playback.) Human beings, though, with our highly adapted and specialized hearing systems, can hear signals that are *below* the overall background-noise level. In a paper delivered to the October 1982 Audio Engineering Society convention, John Vanderkooy and Stanley Lipshitz of the University of Waterloo, Ontario, showed that, with the addition of a "dither signal," a digital audio system *can* record and reproduce signals at resolutions below the "least significant bit"—but with the minor penalty of a slightly higher overall noise level. Thus, to handle a signal below the system's floor, the dynamic range as defined above is actually *decreased*.

In the case of digital recording we have a finite dynamic range with both limits well defined. With analog recording (and playback), the two limits are less easily calculated since they are affected by psycho-acoustic phenomena (such as the relative imperceptibility of "soft clipping") as well as physical limitations of the medium. As it happens, the dynamic range that we have been discussing is that of the recording/reproducing system and not that of the recorded program itself. The distinction is vital, since a compressed program source

(such as a hard-rock recording with a 10-dB overall dynamic range) will have the same limited range in the digital-disc format as it does in today's analog records.

In the preceding paragraph, I used "dynamic range" in a different sense than previously (I did say that many of our definitions were used somewhat loosely, didn't I?). A *program's* dynamic range is the difference, in decibels, between the levels of its loudest and softest signal passages. Obviously, for undistorted reproduction this should be less than the *system's* dynamic range. That is not always possible with certain types of music and recording systems. In these cases the program's dynamic range must be reduced to fit the limits of the medium, by electronic compression of some kind, by deliberately limiting the dynamics of the live performance, or (usually) both.

Finally, there is the matter of signal-to-noise ratio (S/N), which is related to dynamic range but not identical to either system or program dynamic range. The S/N is a function of *both* the signal and the medium, for it is the difference in decibels between the highest program signal level and the system's noise level (which may be weighted for this measurement). It is clearly desirable for the system's S/N to exceed the program's dynamic range, so that all the audible background noise during pauses in the program is the recording studio's ambient noise and not hiss or hum added by the recording system.

In this discussion, and in practically every other aspect of high fidelity, the term *decibel* (abbreviated *dB*) appears. Letters from readers over the years have indicated an un-

derstandable confusion over the meaning of this term, which I have even seen used without definition in completely nontechnical publications. Basically, it is an expression of a ratio between two electrical powers. The relationship of two different power levels can be expressed simply by the logarithm (to base 10) of their ratio. For example, if we have a power of 1 watt at one point in a system and 10 watts at another, their ratio can be expressed as 1 *bel* (the common logarithm of 10). [The term *bel* originated in the telephone industry and is a contraction of the name of telephone pioneer Alexander Graham Bell.] Generally the smaller, decibel unit (one tenth of a bel) is more convenient to use. In this case the same power ratio would be expressed as 10 dB.

A logarithmic expression like this has many advantages, but one of the most easily appreciated is its ability to deal with very large or very small numbers in a more convenient form. For example, power amplification by a factor of one million is more commonly described as a 60-dB increase of power (or -60 dB if it is a power reduction by the same factor). The decibel is also frequently used to relate different voltage levels. Since the power in a given circuit is proportional to the square of the voltage, the logarithm of a voltage ratio must be multiplied by twenty instead of ten to obtain the decibel value. Although this usage is strictly correct only when both voltages are applied across the same impedance level, the convenience of the decibel notation has led to its widespread use for expressing voltage as well as power ratios without regard for impedance values. □

Equipment Test Reports

Hirsch-Houck Laboratories: Julian D. Hirsch and Craig Stark



Marantz CD-73 Compact Disc Player

THE styling of the gold-colored Marantz CD-73 Compact Disc player matches that of other Marantz audio components. Its low-profile design (only 3 1/4 inches in height) makes it one of the more compact CD players on the market.

For play, a disc is placed on a horizontal "turntable" that emerges smoothly from

the front panel of the CD-73 when the OPEN/CLOSE button (above the power button at the left side of the panel) is pressed. A second touch of the OPEN/CLOSE button causes an overhead retaining arm to clamp down over the record and spindle as the drawer returns to its normal position within the player. A large window occupying most

of the right half of the panel contains a horizontal row of fifteen green LED's, corresponding to the programming capacity of the player's memory system, and a similar row of small amber lights extends across the bottom of the window area.

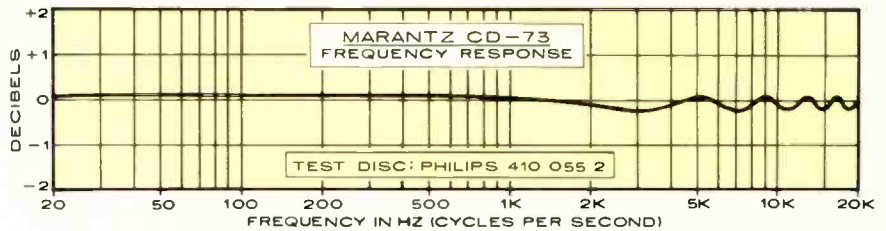
A disc can be played from its beginning by pressing the NEXT PROGRAM/PLAY button

below the loading door. As soon as the disc begins to rotate, the player's circuits determine the number of selections ("tracks") and light up a corresponding number of the green LED's in the display window. In operation, an amber light always indicates the particular track being played and the green lights show how many remain to be played. Pressing the NEXT PROGRAM/PLAY button at any time advances the player to the beginning of the next programmed selection (or simply to the next track if there is no programmed sequence).

Like most CD players, the Marantz unit has a PAUSE button that instantly interrupts play, which resumes at the same point the next time the button is pressed. Buttons marked REV. and F.F. slew the laser pickup back or forward while they are held in. In this mode, however, there is no audio output and no indication of pickup position other than the amber light designating the track being scanned.

The programming controls of the CD-73 are located under the display window. They can be set to play or to omit any of the tracks on a disc, to a maximum of fifteen. The amber light corresponding to any track can be lit by pressing the SELECT button from one to fifteen times, and pressing PRESET enters that selection into memory (its green track-number light remains on to show that it has been programmed). Alternatively, the CANCEL button can be used to delete a selection from the program (extinguishing its green LED).

After the player has been programmed, pressing NEXT PROGRAM/PLAY starts the playback sequence. The disc turns and the amber lights advance sequentially to the first programmed track, which is then played. The playing sequence follows the programmed pattern until the last selection has been completed, after which the unit shuts off. At any time, pressing STOP/ALL CANCEL cancels the programmed sequence and stops the player. Pressing REPEAT causes all programmed tracks to be repeated indefinitely until the button is pressed again.



Much of the rear apron of the Marantz CD-73 is occupied by a heat sink and a portion of the unit's power transformer that extends from the chassis. In addition to the gold-plated signal-output phono connectors (meant to feed a line-level amplifier input), there are two phono jacks marked rather cryptically IN (REMOTE) and EASY (OUT). These are intended for use with an optional remote-control accessory that the company plans to introduce later. The CD-73 is 16 1/2 inches wide and 13 1/2 inches deep; weight is 17 1/2 pounds. Price: \$999. Marantz Co., Inc., 20525 Nordhoff Street, Chatsworth, Calif. 91311.

● **Laboratory Measurements.** Our test procedure for the Marantz CD-73 was essentially the same as that used for the eleven CD players we tested for the July 1983 issue. The operating features and test results are summarized in the accompanying box using the format established in that issue, which we plan to follow in future reports on CD players. We were not always able to use the full capabilities of the standard Philips and Sony test discs, however, for these discs have from thirty-six to thirty-nine distinct tracks, and the CD-73 has no easy means of selecting tracks numbered higher than fifteen. (It is possible, though very time consuming, to reach tracks numbered above fifteen by repeatedly pushing the NEXT PROGRAM/PLAY button.)

The CD-73's (fixed) output level from a 0-dB, 1,000-Hz test tone measured 2.12 volts, with the channel levels matched within 0.12 dB. The frequency response, identi-

cal for both channels, showed a slight cyclical variation above 2,000 Hz, but the overall level fluctuation of +0.1, -0.2 dB from 20 to 20,000 Hz was certainly negligible. The unweighted signal-to-noise ratio (S/N) relative to the player's maximum output at 1,000 Hz was 104 dB, and the A-weighted S/N was 114 dB. Both figures are outstanding.

The 1,000-Hz harmonic distortion for recorded levels from 0 to -24 dB was measured using the Philips TS3 test disc (catalog number 410 055 2). We found it to consist of a number of harmonic components, all at very low levels (typically from -90 to -100 dB). All significant harmonics up to the ninth were included in our measurement. The distortion was in the range of 0.0044 to 0.0052 per cent at recorded levels from 0 to -6 dB, rising slightly to 0.0089 per cent at -12 dB and to 0.011 per cent at -24 dB. Distortion readings could not be made at lower recorded signal levels since the low-level distortion products were masked by system and test-instrument noise. It should be noted that the relatively "high" 0.011 per cent reading at a -24-dB level corresponds to -103 dB referred to the 0-dB level, or 0.0007 per cent as we usually measure distortion. So much for the alleged excessive low-level distortion from digital program sources!

The intermodulation distortion (using mixed signals of 60 and 7,000 Hz in a 4:1 ratio) was 0.007 per cent at 0 dB. The 1,000-Hz channel separation was a very good 99 dB, and it was 96 dB at 20,000 Hz. The flutter was at most the residual of our test equipment, somewhat less than 0.002 per cent.

The CD-73 traverses a disc rather slowly; it took 11.5 seconds to slew from Track 1 to Track 15 of the Philips TS3 disc. But it had superior resistance to external shock and to disc defects. It took firm blows on the player's top or side to jar the laser pickup from its correct position relative to the disc, earning it an "A" rating in this respect. The CD-73 also had no difficulty playing every part of the Philips TS4A test disc, whose progressively greater built-in surface defects eventually cause dropouts or even worse audible effects with most other CD players.

● **Comment.** Obviously there is little to criticize in the listening performance or general behavior of the Marantz CD-73. It is in many ways a superior performer in a field of outstandingly fine units. We particularly liked the CD-73's compact dimensions. It is about half the height of most other CD players and can easily be stacked with most audio components. And we also appreciated the unusual CANCEL feature,

Marantz CD-73 Operating Features and Hirsch-Houck Labs Test Results

Manual Features

- Skip to next selection?: Yes
- Skip back to previous selection?: No
- Scan/search?: Yes
- Program audible during scan/search?: No
- Repeat selection/side?: Yes
- Repeat phrase: No
- Cue by selection number?: Yes
- Cue by index number?: No
- Cue by time?: No

Programming Features

- Number of selections in sequence: 15
- Can order be random?: Yes
- Can sequence be repeated?: Yes
- Skip forward to next item?: Yes
- Skip back to previous item?: No

Lab Measurements

- Maximum output level: 2.12 volts

Total harmonic distortion at 1,000 Hz:

0.0044 per cent referred to 0 dB; 0.011 per cent referred to -24 dB

Intermodulation distortion: 0.007 per cent referred to 0 dB; did not measure referred to -24 dB (test-disc track not accessible)

Signal-to-noise ratio: 104 dB unweighted; 114 dB A-weighted

Channel separation: 99 dB at 1,000 Hz; 96 dB at 20,000 Hz

Frequency response: +0.1, -0.2 dB from 20 to 20,000 Hz

Cueing time: 11.5 seconds

Other Lab Tests

- Impact resistance: top, A; side, A
- Cueing accuracy: test track not accessible
- Defect tracking (figures are size of largest defect successfully tracked): signal-surface damage, 900 micrometers; painted dots, 800 micrometers; simulated fingerprint, pass

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3. Enter as often as you wish, but each entry must be mailed separately to: J&B Third Annual "It Whispers" Photo Contest, P.O. Box 3258, Syosset, NY 11775. Entries must be received by December 31, 1983. No responsibility is assumed for lost, misdirected or late mail.
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points). Winners will be selected under the supervision of National Judging Institute, Inc., an independent judging organization whose decisions are final on all matters relating to this contest. All prizes will be awarded and winners notified by mail. Prizes are not transferable or exchangeable. Only one prize to an individual or family.

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6. Before receiving a prize, each entrant must warrant his age, that the photograph was taken by himself, that he is an amateur photographer, and that he has full rights to the photograph and that it has won no previous award or competition.

7. The contest is open to U.S. residents, except employees and their families of The Paddington Corporation, its affiliates, advertising and sales promotion agencies, liquor wholesalers and retailers, and professional photographers. Void where prohibited. All federal, state and local regulations apply. Taxes on prizes, if any, are the responsibility of the individual winners.

8. Entrants must be of legal drinking age in the state of their residence as of September 1, 1983. For a list of major winners, send a stamped, self-addressed envelope to: J&B Third Annual "It Whispers" Photo Contest Winners, P.O. Box 3259, Syosset, NY 11775. Winners list will be available as of March 15, 1984.



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which permits the user to "select out" the tracks he does *not* want to hear without having to specify all those he does.

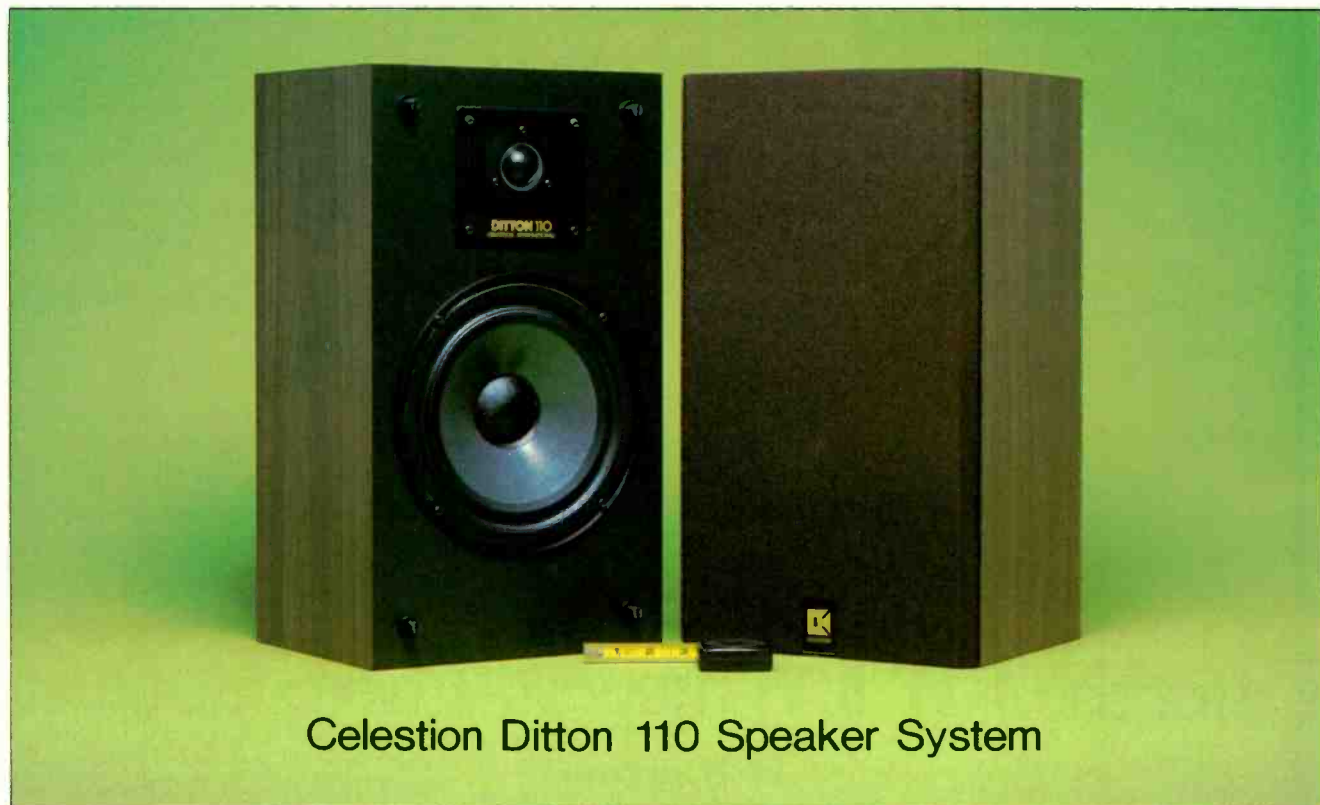
On the other hand, users who want or need the more extensive programming or cueing capabilities available on some other

players may miss them on the CD-73. While few, if any, music discs will contain more than fifteen tracks, the CD-73 also lacks such niceties as phrase repeat, an elapsed-time counter, index cueing, and so forth. None of this, however, need bother

anyone who just wants a well-built, well-designed, and fine-sounding CD player, which this Marantz unit certainly is.

—Julian D. Hirsch

Circle 140 on reader service card



Celestion Ditton 110 Speaker System

THE Celestion Ditton 110 is a compact two-way speaker system whose 6³/₄-inch-diameter woofer operates in a sealed enclosure and crosses over at 2,300 Hz to a 1-inch soft-dome tweeter. The speaker has a nominal system impedance of 8 ohms, and it is rated to deliver a sound-pressure level (SPL) of 87.5 dB at 1 meter when driven by a 1-watt input. It can handle up to 60 watts of "music-power" input and is recommended for use with amplifiers rated from 10 to 60 watts per channel.

The frequency response of the Ditton 110 is rated at 78 to 20,000 Hz \pm 3 dB. The cabinet, veneered in walnut-grain vinyl, measures about 17¹/₄ inches high, 10 inches wide, and 8¹/₄ inches deep. Weight is about 14³/₄ pounds. Recessed spring-loaded connectors in the rear accept the stripped ends of speaker cables. There are no external controls. The dark-brown cloth grille is retained by plastic snaps.

The Ditton 110 is packed and sold in pairs. Price: \$400 per pair. Celestion Industries, Inc., P.O. Box 521, Holliston, Mass. 01746.

● **Laboratory Measurements.** For most of our tests, the Ditton 110's were placed on a shelf against the wall; we also listened to them in a free-standing placement on floor

stands, with very good results. The smoothed and averaged room frequency-response plot was quite flat, and it was easily spliced to the close-miked woofer-response curve. The woofer's output reached its maximum at 140 Hz, falling off smoothly from there up to 500 Hz and remaining within \pm 2.5 dB from 500 to almost 2,000 Hz. The low-frequency output fell at 12 dB per octave below 100 Hz.

The composite frequency response was within \pm 2.5 dB from 300 to 20,000 Hz. The maximum level, at 140 Hz, was about 5 dB above the average midrange level. Overall, it was \pm 4 dB from 62 to 20,000 Hz—an excellent response for a speaker of this size and consistent with its published ratings. The system impedance was at least 7 to 8 ohms from 20 to 4,000 Hz, with maximums of 30 to 35 ohms at 85 and 2,000 Hz. Impedance dipped to a minimum of 5 ohms from 8,000 to 9,000 Hz.

The Ditton 110's sensitivity was 89 dB SPL with a 1-watt input (slightly better than rated), and when it was driven with an input corresponding to a 90-dB midrange-output sound-pressure level, the woofer's distortion was remarkably low for its size (or, indeed, for a much larger driver). Starting with about 1 per cent harmonic distortion at 100 Hz, the readings rose to

4 per cent in the 40- to 50-Hz range and to only 6 per cent at 20 Hz. Of course, the actual fundamental output of the speaker at the lowest frequencies was quite low, but the low distortion readings indicate that, unlike many other speakers, the Ditton 110 does not generate a synthetic bass quality by emitting only distortion harmonics of the lower bass frequencies.

Quasi-anechoic frequency-response measurements made with our IQS FFT analyzer confirmed the essential features of the room-response curves, including a maximum high-frequency output at about 14,000 Hz and a slightly falling one from there to 20,000 Hz (this is our upper frequency limit for a room-response measurement). Being able to measure response up to 30,000 Hz, the FFT analyzer showed an axial response that was down only 9 dB from the average midrange level at 28,000 Hz. By subtracting the response measured 45 degrees off axis from the speaker's axial response, the IQS system also showed us that tweeter directivity was minimal up to about 16,000 Hz (there was less than 5 dB difference between the two curves). The output became directional only at higher frequencies, with a maximum difference of about 18 dB at 20,000 Hz. The time coherence of the Ditton 110 was also good, with a group-

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delay variation of less than ± 0.4 millisecond from about 500 to 23,000 Hz.

● **Comment.** The Celestion Ditton 110 sounds every bit as good as its measured performance would suggest. It is smooth, balanced, and musical—a trio of virtues that every hi-fi speaker should have but not all do. Probably because of the frequency of

its maximum bass output, the speaker has a slightly warm quality that is noticeable (though not excessive) on male voices and gives some welcome body to music that might otherwise sound "thin."

We played a number of digital Compact Discs through the Ditton 110, using amplifiers somewhat more powerful than recommended (in the 100- to 200-watt range).

Neither the speakers nor our sensibilities suffered from this experience, and the superb quality of the recordings we played could be thoroughly appreciated through these fine little speakers whether the volume level was moderate or a bit louder than that.

—Julian D. Hirsch

Circle 141 on reader service card

Fosgate Research Model 101A Tate II Surround Stereo System



FOSGATE RESEARCH has been involved in the development of an effective surround-sound system for some years, and the Model 101A Tate II audio/video unit is the latest embodiment. Built under license from CBS and Tate Audio, the 101A is more than an SQ-matrix quadraphonic disc decoder, although it is certainly one of the finest examples ever of that now very limited product category. (For those of you who don't remember or weren't involved in audio ten years ago, CBS invented SQ quadraphonic encoding, and Tate developed a method of enhancing the decoding system for greater channel separation.) The more general "surround stereo system" nomenclature for the Model 101A is a clue to Fosgate's current intentions for its use: as a signal processor to enhance listening to normal stereo recordings and as a decoder for the "surround-sound" signals in many stereo video-cassette and video-disc copies of feature films.

In essence, the Fosgate 101A makes use of the complex and constantly changing relationships between the levels and phases of the two stereo signals to control the distribution of those signals to four loudspeakers, two of them in the usual front position, the other two located toward the rear of the room (although there are no firm rules for their placement). A matrixed four-channel record is actually nothing more than a two-channel record in which the four original program channels have been mixed down to two in the mastering process, with their phase relationships adjusted according to the requirements of a specific matrixing (encoding) system. When played back through a suitable inverse matrix, the two stereo channels can (in theory) be re-separated into the four original channels. In practice, the separation is only partial, and it has proved necessary to use dynamic

signal-controlled variable-gain stages (a "logic" system) to modify the gains of the four playback channels continuously in order to give the psychoacoustical effect of more complete channel separation.

The Fosgate 101A receives its input signals from the tape-output jacks of the system amplifier, returning its front-channel outputs to the amplifier's tape inputs. The 101A's rear-channel outputs go to a second stereo amplifier that drives the rear speakers. The tape-monitoring functions of the main amplifier are replaced by corresponding circuits and jacks in the 101A, which has a switch to replace the regular program with a tape playback.

The front panel of the 101A has a pair of knobs for adjusting the input balance (left/right) and level and another pair for the output balance (front/rear) and volume. Three three-position toggle switches control the other functions of the system. One of these switches is used to select between the tape or main program inputs, and there is a mono setting for the latter that reduces the front/rear separation for monophonic programs to 3 dB instead of the usual 35 to 50 dB (as set by the front-panel INPUT BALANCE control). The BYPASS/NORM/ALTERNATE switch can completely bypass the signal-processing circuits of the 101A, silencing the rear channels, or, with the ALTERNATE setting, it can change the system's operating time constants to give better results with some imperfect program sources. The SQ position of the SQ/CINEMA/SURROUND switch is used for playing SQ-encoded records, and SURROUND synthesizes the rear channels from ordinary stereo programs. The CINEMA setting is intended for use with stereo video tapes or discs; it positions the synthesized images further forward than in the SURROUND mode.

An amber-colored light on the front panel

shows the degree of mono (in-phase) program content. It is labeled BALANCE and can be used for a rough setting of the input balance adjustment (although that is best done by listening for a null in the rear outputs with a mono source). A green MINIMUM LEVEL (-10 -dB) light shows that the input level is adequate for good signal-to-noise performance, and a red CLIPPING light flashes to show that the maximum signal capability of the unit has been exceeded. An optional remote-control accessory plugs into either a socket on the front panel or one on the rear of the unit. It duplicates the functions of the VOLUME, L/R BALANCE, and F/R BALANCE controls as well as the SQ/CINEMA/SURROUND switch, and its 20-foot connecting cable makes it easy to adjust the system balance from any listening position.

The Fosgate 101A is a compact unit measuring 17 $\frac{1}{4}$ inches wide, 5 $\frac{3}{4}$ inches deep, and 1 $\frac{3}{4}$ inches high and weighing about 7 pounds. Price: \$499.95; remote control, \$75. Fosgate Research, Inc., 215 West Leroux, Prescott, Ariz. 86301.

● **Laboratory Measurements.** Like any dynamic signal processor whose operating parameters are controlled by the signal characteristics, the Fosgate 101A cannot be readily evaluated by conventional laboratory-instrument tests. In fact, there is little we could measure between the input and output jacks of the Fosgate 101A that would convey a sense of its subjective performance, which is based on psychoacoustic phenomena. We limited ourselves to static or sweeping sine-wave measurements of its input/output response characteristics, distortion, noise level, gain, and overload levels. Some of these (in particular, the frequency-response tests) do not show the inherent properties of the 101A but only its response to a sine-wave test signal, which is quite un-

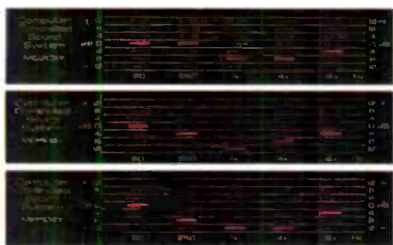


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representative of its normal operating conditions. Nevertheless, the measurements did give us a few clues regarding what the device was doing to its input signals.

The frequency response was measured with only the left channel driven, and each of the four outputs was plotted separately for the SQ, CINEMA, and SURROUND modes. In the SQ and CINEMA modes, the left-front output response was the flattest; the level at less than 60 Hz was about 5 dB below the level at 100 Hz and higher frequencies. The output from each of the other channels was flat between 20 and 60 Hz but dropped off by 40 or 50 dB from there to 200 or 300 Hz. After a generally flat response up to 2,000 or 3,000 Hz, the output rose slightly at higher frequencies. The response in the SURROUND mode looked very similar, except that the left-rear response was strongest with a left-front input.

Part of the setup adjustment of the 101A involves balancing the system to null the sound in the rear speakers with a mono input signal. This can be done either by ear or by watching the BALANCE light on the front panel. When we measured the balance null, we found it to be an impressive 50 to 55 dB in the midrange (1,000 to 2,000 Hz) and better than 40 dB from 100 to 10,000 Hz.

All this information, although interesting, tells only a part of the story. A similar knowledge of the unit's phase-shift characteristics and the operating time constants of

its control circuits would be necessary to understand its behavior fully. And, since the performance of the 101A has to be judged subjectively in any case, we felt that making such a complete and time-consuming set of measurements was unwarranted.

The input sensitivity of the Fosgate 101A is rated at 0.3 volt, and we found that the red 0-dB (overload) light came on at inputs between 0.38 and 0.12 volt depending on frequency. The maximum output voltage is rated at 3.5 volts, but we found that the output waveform clipped at about 6 volts (at 1,000 Hz). Reducing the level about 0.5 dB from the point at which the red light came on resulted in an undistorted output as viewed on our oscilloscope. The harmonic distortion was 1.8 per cent at 6.4 volts output, 0.05 per cent at 3.5 and 1 volt, and 0.1 per cent at 0.1 volt. The output noise, relative to the rated 3.5-volt output level, was -67 dB unweighted and -81 dB with A-weighting.

Although we could not measure all of the properties of this device, we took the opportunity to remove its top cover (the entire case is made of heavy-gauge steel) and admire its beautiful construction. The 101A is built on a single large circuit board, and its components and workmanship are of a quality rarely found in consumer products.

● *Comment.* Our evaluation was greatly simplified by two demonstration cassettes,

supplied by Fosgate, containing more than sixty program excerpts chosen to reveal the 101A's performance potential. One cassette contained SQ-encoded quadrasonic material, the other only stereo recordings. The operating instructions suggest experimenting with different operating modes and program sources to learn how to obtain the best results from the 101A, and we did just that.

First, as an SQ decoder, the Fosgate 101A was far and away the best we have used. A number of SQ records in our collection were put to good use in this evaluation, and our ears were aided by a four-channel-monitor oscilloscope that unmistakably identified the spatial distribution of the decoder's outputs. Anyone who has a sizable collection of SQ discs could benefit from the Fosgate 101A, which lets them be heard as they were meant to be.

We were even more impressed, however, by what we heard from ordinary two-channel stereo programs, both on the Fosgate demo cassette and from our own sources, including FM, records, tapes, and digital Compact Discs. Properly adjusted, the 101A gave us room-filling sound from most good stereo sources, with no obvious localization of the rear speakers. This might seem to be a fair description of a properly operating time-delay ambience-enhancement system too, and indeed it is. The two techniques produce very different sonic effects, however, as we were able to verify by A/B comparisons between the Fosgate device and a good time-delay system. Which technique for improving sonic spaciousness is preferable depends on the listener, the program, and probably a number of other factors as well.

Fosgate points out that the Model 101A is especially suitable for playing back movie soundtracks that were originally made to be heard in theaters equipped for Dolby Stereo multichannel reproduction. Many of these films actually have matrixed multichannel-encoded soundtracks, and the theaters use Tate decoding circuitry to send left-, right-, and center-front signals to the corresponding speakers behind the screen and the "surround" sounds to the rear speakers. In their prerecorded video-cassette or video-disc forms, these movies' soundtracks can be decoded by the Fosgate 101A to give the home listener/viewer much the same sonic effect that would be experienced at a showing in a properly equipped theater. (At home, the center-front soundtrack channel is a phantom center image.)

Fosgate's audio demo tapes included portions of the soundtracks of *Star Trek* and *Apocalypse Now*, which are both noted for their powerful, sometimes overwhelming sound in a theater. Hearing them in our listening room was a stimulating experience (aided by a few hundred watts of amplifier power and speakers that could take such treatment). The subjective effect in both cases was all that could be hoped for—a visceral experience that was impressive and unforgettable.

It would be fruitless (and unnecessary) to expound in full detail on what the Fosgate 101A did and did not do during our tests. As Fosgate suggests, there is nothing sacred about the panel nomenclature, and experi-



"I realize that it's short notice, but I'm having guests over for dinner this evening. . . . Could you have it fixed by six o'clock?"

test reports

mentation will surely bring listening rewards (for example, we much preferred hearing the movie soundtracks using the SURROUND setting rather than the CINEMA one). This is a fascinating, highly effective

product that lives up to the claims made for it in full measure. If you have long since relegated multichannel sound to the dim past, adding the Fosgate 101A to your system could give you a pleasant surprise, and

it can enhance listening enjoyment with ordinary stereo recordings as well.

—Julian D. Hirsch

Circle 142 on reader service card



VSP Labs Trans MOS Power Amplifier

THE name of VSP Labs' Trans MOS power amplifier contains key clues to its special features. Trans refers to its circuit topology (a *trans*conductance amplifier), and MOS refers to its output devices (power *MOS*FET's). It is rated to deliver 150 watts per channel into 8-ohm loads from 20 to 20,000 Hz with no more than 0.05 per cent total harmonic distortion.

A "transconductance amplifier" is merely one in which an input *voltage* signal is converted to an output *current* signal. This is the basis for the operation of all vacuum-tube amplifiers, and MOSFET's (metal-oxide-semiconductor field-effect transistors) have similar operating characteristics. Ordinary bipolar transistors, on the other hand, amplify an input *current* to a larger output current. In an ideal world, there probably would be little difference between the two types of amplification, since all dynamic loudspeakers must be driven by both a current *and* a voltage (in other words, they are neither infinite- nor zero-impedance devices). But all transistors have inherent nonlinearities and response-time limitations that usually require the use of considerable amounts of negative feedback to achieve the low distortion values attained by today's amplifiers.

In recent years, much has been said and written about the transient distortions that can occur when very large amounts of overall negative feedback (from output to input) are used in a power amplifier having a limited open-loop bandwidth. One way to reduce these effects is to use nested feedback loops, with lesser amounts of feedback being applied around individual stages of the amplifier, and a smaller than usual amount

of overall feedback around the whole amplifier. Properly executed, such a design can provide the low distortion of a high-feedback amplifier along with the transient stability of a low-feedback amplifier.

In the VSP Trans MOS, the MOSFET output devices provide a tube-like amplifying characteristic (believed by some to produce a sound quality superior to that of a transistor amplifier) while retaining the other advantages of solid-state design (small size, low heat dissipation, long life, etc.). In addition, the amplifier uses nested feedback loops for minimum high-frequency distortion and high stability. The self-limiting characteristic of power MOSFET's eliminates any need for the usual current-limiting protective circuits, which have been known to have undesirable side effects. The VSP Trans MOS is fully protected, however, by high-temperature sensors that guard against excessive operating temperatures by reducing the signal level and flashing an OVER TEMP warning light.

The Trans MOS is a compact but rather heavy amplifier. It measures 14 inches wide 13½ inches deep, and 5 inches high, but much of the width is accounted for by the massive heat sinks on both sides. Perhaps because of its visual compactness, the amplifier feels even heavier than its 40 pounds. On the front are a rocker-type power switch, a green pilot light, the red OVER TEMP light, and two amber clipping lights. The rear of the amplifier contains heavy-duty five-way binding-post speaker terminals, the phono-jack inputs, two slide switches, and the line-fuse holder. One of the slide switches selects mono or stereo operation (in mono, the Trans MOS becomes

a 300-watt amplifier for a 16-ohm load), and the other connects an active infrasonic filter (rolling off at 18 dB per octave below 20 Hz) into the otherwise fully direct-coupled signal path. The suggested retail price of the VSP Trans MOS power amplifier is \$975. It is also available in kit form for \$850. VSP Labs, 670 Airport Boulevard, Ann Arbor, Mich. 48104.

● **Laboratory Measurements.** The exterior of the Trans MOS became fairly warm (though never too hot to touch) during our tests, and it was perceptibly warm even when idling, but the OVER TEMP light never came on. When we tried to measure distortion at high-power outputs into 2- and 4-ohm load impedances, the amplifier shut down. To restore operation we had to switch off its power for periods of a few seconds to a couple of minutes (the green power pilot light went out when the amp shut down). This mode of protection was not discussed in the instruction manual, but it was undeniably effective in safeguarding the amplifier without limiting its short-term power output.

The clipping-power output at 1,000 Hz (both channels driven) was 200 watts per channel into 8 ohms and 300 and 400 watts into 4 and 2 ohms, respectively. Using the tone-burst signal of the dynamic-power test, we were able to measure clipping-power outputs of 302, 480, and 625 watts into impedances of 8, 4, and 2 ohms. The 8-ohm clipping headroom of the Trans MOS was 1.25 dB, and its dynamic headroom was a substantial 3 dB.

In its distortion characteristics the Trans MOS was distinctly different from most

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CIRCLE NO. 40 ON READER SERVICE CARD

HERE'S A TECHNOLOGY STORY THAT'S TRULY ABSORBING.

Every story has a protagonist and an antagonist. And this one's no different.

The hero, in this case, is an unassuming, little technological breakthrough from Pioneer called the Dynamic Resonance Absorber™ (DRA).

And the arch-villain, the ever-present Resonant Tonearm Vibration. What the Dynamic Resonance Absorber does, to make a long story short, is to absorb the resonant frequency of the tonearms on all of our new turntables.

Thereby eliminating distortion which causes music to lose clarity and accuracy of reproduction.

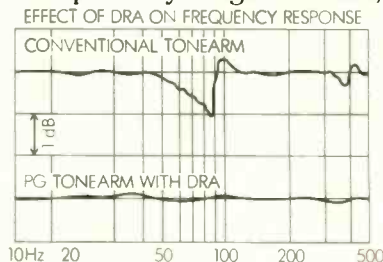
As if this weren't thrilling enough, there's also an exciting subplot. The DRA eliminates acoustic feedback that results when the turntable is too close to speakers played at high volume.



How the Dynamic Resonance Absorber causes all this to happen is actually quite simple, as most acts of genius usually are.

The DRA is composed of a damper made of extremely dense butyl rubber enclosed in a weighted collar on the tonearm.

Working within the precisely weighted collar, the butyl rubber acts just like a spring. When the pipe of the Polymer Graphite™ (PG) tonearm vibrates, the "spring" compresses and simultaneously soaks up vibrations.



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Furthermore, frequency response, as you can also see, is tremendously flat.

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Every Pioneer turntable also features a Stable Hanging Rotor™ that improves stability by reducing friction which decreases wow and flutter.

A zero-clearance dust cover allows you to place the turntable flush against a wall, yet still open it all the way.

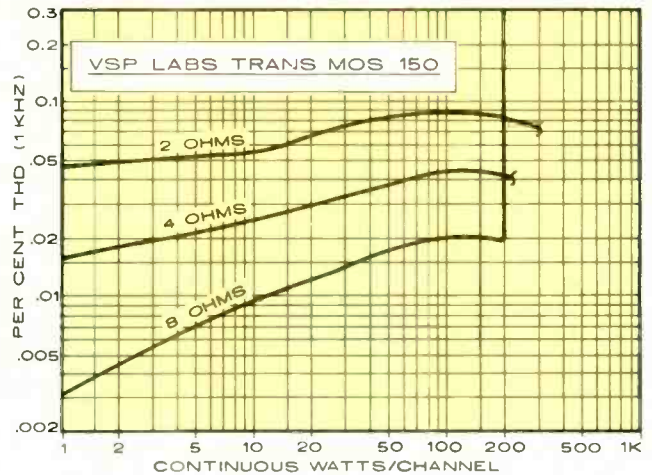
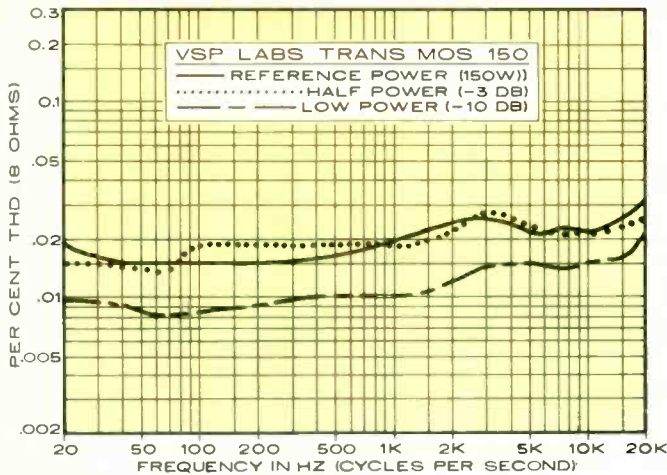
And another convenience item: all controls are located outside the dust cover.

In addition, the PL-S70 (shown here) has two other ease-of-operation features: an automatic disc size selector (ADSS) and auto repeat function.

Naturally, you'll want to audition each new Pioneer turntable with Dynamic Resonance Absorber at your earliest convenience.

If only to convince yourself that this story falls in the non-fiction, not the science-fiction category.

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other amplifiers we have tested. The total harmonic distortion was almost independent of frequency and also varied little over a wide range of power output. It consisted of a number of harmonics (we measured up to the fifth, but even higher orders could be seen at reduced amplitudes on our spectrum-analyzer screen) whose amplitudes fell off rather slowly with increasing frequency. But since the amplitudes were typically in the range of -80 to -90 dB, their rms sum was still low. At rated power or half power into 8 ohms the total distortion was typically 0.02 per cent (varying from 0.015 to 0.03 per cent between 20 and 20,000 Hz). At one-tenth power (15 watts) it was between 0.008 and 0.02 per cent, averaging about 0.01 per cent.

At 1,000 Hz, the distortion into 8-ohm loads rose smoothly from 0.0032 per cent at 1 watt (it was below the system noise at lower power levels) to 0.02 per cent between 100 and 200 watts. Driving 4 ohms, the dis-

ortion curve was nearly the same, with readings of 0.015 per cent at 1 watt and just over 0.04 per cent between 100 and 200 watts. When we tried to measure distortion at 300 watts, the amplifier shut down in about 20 seconds, before the measurement could be completed, although it had not yet clipped. Into 2-ohm loads, the distortion was about 0.05 per cent from 1 to 10 watts, and it was in the range of 0.08 to 0.85 per cent from 30 to 300 watts (at which point the amplifier again shut down). The IHF IM (intermodulation) distortion, using a two-tone test signal of 18 and 19 kHz with a peak amplitude equivalent to 150 watts into 8 ohms, was a very low -93 dB for the 1,000-Hz difference product and -60 dB for the third-order product at 17 kHz.

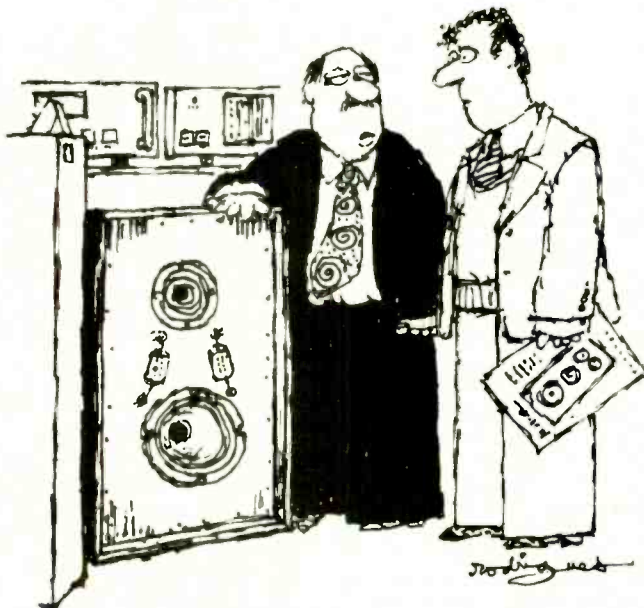
The amplifier required an input of 13.5 millivolts for a reference output of 1 watt, and its A-weighted noise level was -97 dB referred to 1 watt. The slew factor exceeded our measurement limit of 25, and the Trans

MOS was completely stable with our reactive simulated-loudspeaker loads.

● **Comment.** Perhaps those audiophiles who can detect audible differences between tube and transistor amplifiers would be able to classify the Trans MOS as akin to one or the other. Frankly, since we have never been able to detect such distinctions in the absence of clearly measurable performance differences, we can only say that the Trans MOS sounds very much like any other fine power amplifier of similar output capability and low noise and distortion.

That does not mean, however, that the overall performance of the Trans MOS is identical to that of such other amplifiers. For one thing, the Trans MOS is capable of delivering enormous power outputs to very low load impedances, and it apparently has none of the problems associated with typical protective circuits. In this connection, we noted with interest some studies made in Finland by Dr. Matti Ojala and others and described in a paper given at the Audio Engineering Society convention last March in Eindhoven, Holland. The studies suggest that some highly respected commercial (not "exotic") loudspeakers may under some conditions (when driven by pulses or square waves) draw signal currents four to five times greater than would be delivered to a substituted 8-ohm resistor. Dr. Ojala has since informed me that he has measured current ratios as high as nine with some speakers. One can infer from this experimental study that an amplifier incapable of delivering such high currents (that is, unable to drive a very low load impedance, possibly 1 ohm or so, at a substantial power level) may distort under some conditions even when it is being operated well below its normal maximum output. If this should prove to be a real problem (that is, one encountered with normal music signals), it would seem that the Trans MOS would be able to "loaf along" under circumstances that would severely overtax many comparably rated amplifiers.

In any case, we were strongly impressed by the ruggedness, both mechanical and electrical, of the VSP Trans MOS amplifier. Nothing we could do to it seemed to bother it in the least. In listening tests, naturally enough, it sounded perfectly fine, with a gratifying absence of transient turn-



"... If you'll pardon my saying so, sir, I'm somewhat taken aback that you're not aware that Sri Lanka is famous for two things—elephants and Audioputra speakers."

on thumps or other unwelcome sonic intrusions (even without the infrasonic filter switched in).

We do not know how much work is involved in assembling the Trans MOS in its

kit form, and the saving is only a modest one, but at the kit price it is competitive with comparable better-known power amplifiers. Even in kit form, the VSP Trans MOS is a fairly expensive amplifier, but,

considering what it can do and how it is built, it is not at all overpriced.

—Julian D. Hirsch

Circle 143 on reader service card



PIONEER'S F-90 digital-synthesis AM/FM tuner features a "Direct Digital Decoder" (DDD) circuit that provides exceptional immunity to interference from adjacent FM channels as well as greater stereo channel separation and lower noise and distortion than are usually found in its moderate price range. In fact, the specifications of the F-90 include some figures that are well beyond the measurement capabilities of most standard FM test-signal generators, including the Sound Technology 1000A that we use. The distortion is rated at less than 0.01 per cent in mono and 0.02 per cent in stereo, the stereo channel separation at up to 65 dB, and the signal-to-noise ratio at 93 dB in mono and 86 dB in stereo (measured at an 80-dBf signal level).

Although Pioneer has released little detailed information on the DDD circuit, it apparently involves a second conversion of the received signal from the regular 10.7-MHz intermediate frequency (i.f.) to another i.f. at 1.26 MHz. This second i.f. signal is then changed to a train of pulses whose timing corresponds to the instantaneous frequency deviation of the received signal. A somewhat similar process has been used in some other FM tuners in which the pulses are integrated in a "pulse-counting discriminator" to generate an audio signal whose waveform matches that of the program modulation. Usually a separate multiplex-decoder stage derives the two stereo channels. Pioneer's DDD circuit combines the demodulation and stereo-decoding functions by using the 1.26-MHz pulse train to switch (demodulate) the 38-kHz subcarrier that carries the stereo difference information. Because the 38-kHz subcarrier is retained in sine-wave form (instead of being converted to a square wave), spurious side bands and harmonics are centered at 1.26 MHz, eliminating audible problems with beat frequencies created by harmonics of the switching signal.

The Pioneer F-90 is a slim-profile tuner measuring about 16½ inches wide, 12½ inches deep, and only 2¾ inches high and

weighing just under 10 pounds. It is tuned in steps of 100 kHz for FM and 10 kHz for AM (switchable to 9 kHz for use in countries employing that spacing). A rocker-type pushplate shifts the tuned frequency in either direction according to which side is pressed. The tuned frequency is digitally displayed in a small darkened window, which also has LED's that show when a station is tuned in, when a stereo pilot carrier is present in the received signal, and when the MEMORY button has been pressed preparatory to storing a signal frequency in one of the tuner's eight presets (each can be used for both an FM and an AM frequency).

Pushbuttons to the left of the display window select either AM or FM reception and switch the power on or off. To the right of the tuning plate are buttons marked MEMORY, REC LEVEL CHECK (which replaces the received program by a 330-Hz tone at approximately 50 per cent FM-modulation level), MANUAL SEARCH/MUTE OFF, and FM IF BAND NARROW. Normally the tuner scans (with its audio output muted) when the tuning control is momentarily pressed, stopping on the first signal that exceeds its internal threshold level. If the MANUAL SEARCH/MUTE OFF button is engaged, the tuner is switched to mono, the muting is disabled, and the frequency shifts by only one increment each time the tuning button is pressed, scanning rapidly only while it is held in.

The F-90 FM tuner can be switched between two i.f. bandwidths, the narrow one being useful when a strong interfering signal is on an adjacent channel (that is, one that is only 200 kHz away from the desired signal). Since the distortion level is increased and a few other characteristics of the tuner are degraded somewhat in the narrow-band mode, in most situations the normal wide-i.f. bandwidth should be used. The remaining front-panel controls are the eight large STATION CALL preset buttons. Red lights next to the buttons show which one has been engaged.

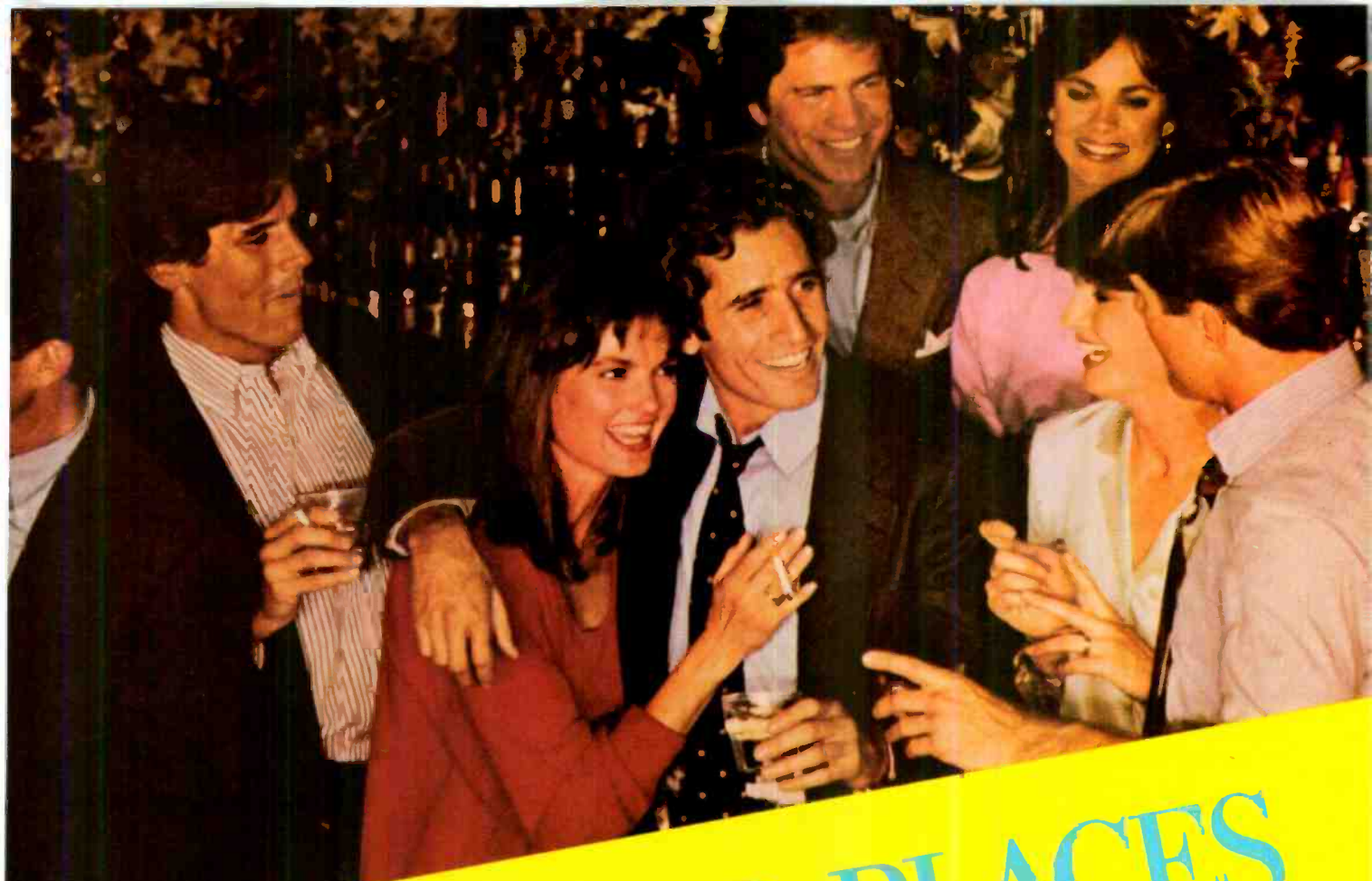
In the rear of the tuner are binding-post terminals for an AM antenna and a 300-

ohm FM antenna as well as a coaxial jack for a 75-ohm FM antenna. The supplied AM loop antenna, fitted with a couple of feet of connecting wire, can be located and oriented for best reception. In addition to the stereo audio-output jacks, there is a single phono jack marked AM STEREO for use with a possible future stereo-AM decoder. A slide switch selects either 9- or 10-kHz AM-channel spacing. Price: \$300. Pioneer Electronics (USA), Inc., 1925 East Dominguez Street, Long Beach, Calif. 90810.

● **Laboratory Measurements.** Although some of the specifications of the Pioneer F-90 far exceed the ratings of our signal generator, we had no difficulty in discerning its strong points.

In most respects, our measurements (when we could make them) were equal to or better than the good to excellent performance specs of the tuner. For instance, the distortion in mono measured only 0.074 per cent at 65 dBf (1,000 μV) in the wide-i.f. mode and 0.15 per cent in the narrow-band mode. The former reading is so close to the residual distortion of our signal generator that the tuner's actual distortion could well be the rated 0.01 per cent. In stereo, the respective distortion readings were 0.09 and 0.34 per cent. The tuner's signal-to-noise ratio was 78 dB in mono and 70 dB in stereo in the wide mode and perhaps 1 dB better in the narrow mode; these readings are also close to the inherent noise levels of our signal generator and may in fact be limited by that instrument.

The stereo properties of the F-90 were most impressive. Its channel separation measured a uniform 50 dB (the rating of our signal generator) from 30 to 3,000 Hz, falling to 44 dB at 10,000 Hz and rising to 48 dB at 15,000 Hz. These readings were not seriously affected by narrow-i.f. operation. The FM frequency response increased smoothly with frequency, from -1.3 dB at 30 Hz to +1.2 dB at 15,000 Hz. Despite the rising high-frequency response, the 19-kHz pilot carrier in the output was at a low



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As a stereo buff, it's important to have your amplifier combined with units that are not only compatible, but equally demanding of sound perfection. Take a look at the BASIC C1, a preamp engineered to match the high standards of the M2 exactly. With tremendous sensitivity to highs and lows, it delivers even the most dynamic source material clearly and smoothly.

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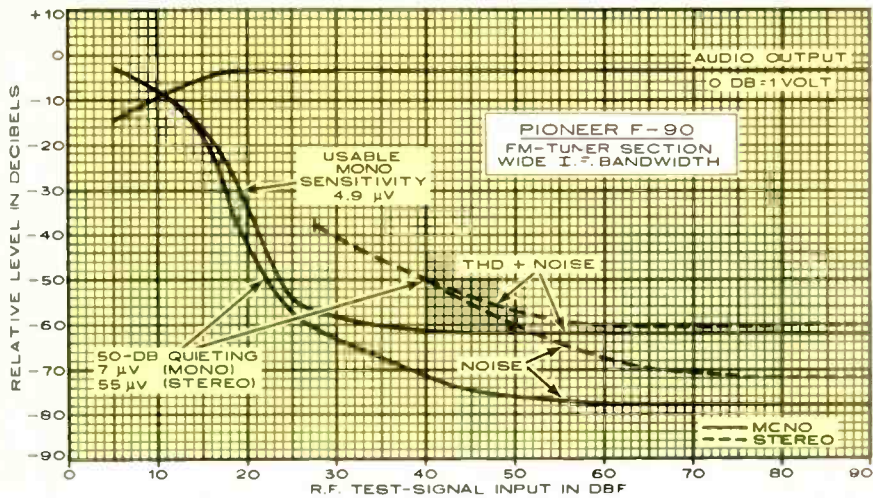
It will more than satisfy your appetite.



Kenwood's BASIC T1 stereo tuner and C1 preamp are also perfectly compatible with the M1 power amp pictured here.

KENWOOD

Kenwood Electronics
1315 E. Watsoncenter Rd., Carson, CA 90745.



—64-dB level, and power-line hum was an almost unmeasurable —78 dB.

The tuner's capture ratio was 1.25 dB at both 65 and 45 dBf (100 μV) in the wide-i.f. mode, increasing (as would be expected) to 3.4 dB at 45 dBf in the narrow mode. The AM rejection of the F-90 was the greatest we have ever measured—a remarkable 88 dB at 45 dBf (wide-i.f. bandwidth). It fell to a still outstanding 74 dB at 65 dBf, and in the narrow-band mode the 45- and 65-dBf readings were 80 and 73 dB, respectively.

Living up to its promise, the F-90 exceeded our measurement capability for alternate-channel selectivity with a reading of at least 87 dB in the narrow-i.f. mode. With the wide-i.f. bandwidth the selectivity was 25 dB, still a perfectly adequate figure unless one has to cope with a fairly strong alternate-channel signal. In the wide-i.f. mode, the adjacent-channel selectivity was 2.7 dB, which increased to an excellent 14.3 dB in the narrow-i.f. mode. The FM image rejection was a very good 84 dB. The muting and stereo thresholds were each 27.5 dBf (13 μV).

Perhaps the most interesting (but not necessarily important) difference between our test data and the tuner's specifications was in measured sensitivity. Although Pioneer expresses the F-90's sensitivity in terms of microvolts across a 75-ohm antenna circuit (instead of on the 300-ohm basis almost universally used for rating home components), the specs also include ratings in terms of decibels referred to 1 femtowatt (dBf), which are independent of circuit impedance. The usable mono sensitivity in the wide-i.f. mode fell short of its rating by about 6 dB, measuring 17 dBf (3.9 microvolts, or μV, into 300 ohms). The 50-dB quieting sensitivity in mono was 22.1 dBf (7 μV) instead of the rated 16.2 dBf; in stereo it measured 40 dBf (55 μV) instead of the rated 37.7 dBf. With the narrow-i.f. bandwidth, the sensitivity figures were a few decibels better (although Pioneer does not include those ratings in the tuner's instruction manual). We repeated these measurements on another sample of the F-90 with identical results. Despite these discrepancies between the F-90's sensitivity specifications and our measurements, its performance in this respect is more than adequate for all but deep-fringe reception areas.

The IHF IM (intermodulation) distortion was very low in mono (wide-i.f.), with third-order distortion products of 13 and 17 kHz at —76 dB relative to the 100 per cent modulated 14- and 15-kHz test tones. The second-order (1,000-Hz) distortion was 72 dB below 100 per cent modulation at that frequency. In stereo the distortion was greater but still lower than we usually find in the output of an FM tuner. Narrow-i.f. operation increased all distortion products substantially, as it normally does. There is no obvious correlation between these IM products and any audible effects, but the intermodulation products we found in the output of the F-90 were relatively few in number and low in amplitude compared with those from most FM tuners we have tested. The REC LEVEL CHECK tone level was —5.2 dB relative to 100 per cent modulation (representing a 55 per cent modulation level), which makes it a convenient means of setting tape-recorder level meters before recording FM broadcasts.

As usual, the only measurement we made on the AM-tuner section was of its frequency response, which was down 6 dB (from its maximum midrange level at about 400 or 500 Hz) at 90 and 2,300 Hz.

● **Comment.** As we have often pointed out, sensitivity as such is one of the least important characteristics of an FM tuner for most users. There are, of course, some people located far from FM transmitters who need all the sensitivity they can get—sometimes more than is available from *any* tuner. But for most users, the ability of an FM tuner to reject interference from various sources (such as from other stations or multipath reception) is much more important than its sensitivity. In this area of performance, the Pioneer F-90 proved to be a superior tuner. To be sure, it lacks many of the visual adornments that occupy so much front-panel space on many other tuners (even a signal-strength indicator has been omitted). But it also lacks another typical feature: a high price tag! Most users would find it difficult to get better FM performance than the Pioneer F-90 tuner can provide, even for several times its modest price.

—Julian D. Hirsch

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Installation of the Month

WHEN installing audio equipment it is important to arrange easy access to the backs of the components so that you can check connections and change inputs with a minimum of effort. For this reason many owners mount their units in racks or cabinets that are on casters which make it possible to roll them away from the wall whenever it is necessary to alter or inspect wiring.

Michael Valenti of New York City has another reason for putting his equipment on wheels. Valenti is a composer, and he says the equipment is vital to his work. His apartment is a combination office, studio, and home, and he spends the day at his Steinway piano in the same way a writer would work at a desk. The equipment is mounted in a Gusdorf VistaRak component cabinet that he can roll right up to the piano when he needs it. This enables him to make tapes for instant replay of whatever music he is working on. He also makes demo tapes of work in progress that he can send to producers.

At the end of the working day, the Gusdorf cabinet is rolled back to its niche in a storage unit Valenti built to house his records and tapes, and the stereo equipment is then available for recreational use. It includes a Philips Model 212 turntable, Onkyo TX-6000 receiver, Hitachi D-E99 cassette deck, and Teac X-3R open-reel tape deck. The speakers are JBL 4310 control monitors.

The musical theater is where Valenti has done most of his creative work. In his teens and early twenties he served his apprenticeship as a performer in such shows as *How to Succeed in Business Without Really Trying* and *Hair*. Since then he has been represented as a composer and lyricist in Broadway shows and in several smaller-scale works off-Broadway.



Valenti's musical comedy *Oh, Brother!* was on Broadway last season, and an album from the show has been released on the Original Cast label. A touring company of his show *Lovesong* opened in Buffalo, N.Y., in July, then went to Indianapolis, and played on Cape Cod for the rest of the summer.

A new TV series hosted by Bill Moyers, *A Walk Through the Twentieth Century*, which will begin on CBS in January, has a score composed by Valenti. And at press time he was composing songs for a show tentatively

called *Bahama Rhythms* scheduled to open in Nassau in November. It has given his tape recorders quite a workout, but he still listens to records in the evening. His favorite composer is Gustav Mahler. —William Livingstone

Is your system an Installation of the Month? To find out whether it is, send a clear snapshot and a brief description of its components to STEREO REVIEW, Dept. IOTM, One Park Avenue, New York, N.Y. 10016.

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How to Buy an Amplifier

By Peter W. Mitchell

TRUE OR FALSE? 1. The amplifier should be the easiest part of the stereo system to select, because all amplifiers sound pretty much alike. Just pick one that has the features and power that you want at the price you are prepared to pay. 2. The choice of an amplifier is critically important because it serves as the heart of the whole system, controlling and affecting the reproduction of every sound from every program source.

Actually, there's truth in both of these propositions. Different amplifiers *do* sound much more alike than, say, different models of phono cartridges or loudspeakers, and you won't go seriously wrong by selecting an amplifier solely for its features and price. But amplifiers do *not* always sound completely identical. Audible differences do exist, and if you are going to listen to an amplifier every day for several years, common sense suggests that you should be aware of why such differences can arise and then try to get the best sound for your money.

By "amplifier" here we mean an integrated amplifier (or, what is the same thing, the amplifier part of a stereo receiver), but virtually everything we will say applies as well to "separates"—preamplifiers and power amplifiers purchased individually. An integrated amplifier has three parts:

(1) The phono preamplifier, which accepts the tiny output signal (about 0.003 volt) from the phono pickup cartridge, amplifies it up to "line level" (around 0.5 volt), and applies RIAA equalization (a precisely defined degree of bass boost and treble cut) to compensate for the bass cut and treble boost built into every vinyl record.

(2) The line-level control preampli-

Speakers 4-16 ohms

Tandberg 3012 integrated amplifier

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fier, consisting of an input selector, switches for tape monitoring and copying, and an array of controls that enable you to adjust volume, balance, tone, etc. The phono and control preamplifiers are usually combined in any separate "preamplifier" unit.

(3) The power amplifier, which is the section that actually drives the speakers. It is basically just a large d.c. power supply (metaphorically, a full tank of well-filtered electrical power ready for use) along with a set of large transistors that act as valves to feed current from the power supply to the loudspeakers on demand; these valves are smoothly opened and closed by the waveform of the line-level audio signal.

Should you buy your preamplifier and power amplifier as separate units or combined on a single integrated chassis? Separates offer two advantages, higher available power and greater flexibility of operation and installation, but usually at a higher price. Since integrated amplifiers generally offer adequate flexibility and the best ratio of output power to price, they remain the most popular choice.

The Phono Preamp

Every amplifier has an input for a conventional moving-magnet (MM) phono cartridge. One of your first shop-

ping decisions will be whether yours should also include a high-gain, low-noise input circuit for low-output moving-coil (MC) pickups. In the past, MC inputs were available mainly in the form of rather costly outboard step-up transformers or pre-preamplifier circuits. But lately the cost of low-noise transistors has declined steeply, allowing manufacturers to include an MC input stage even in mid-priced amplifiers. At the same time, the need for a special MC input has declined as cartridge makers have found ways to make high-output MC pickups that connect to the standard MM phono input.

The next shopping decision: is one phono input enough, especially if its characteristics can be switched to accommodate either an MM or a low-output MC cartridge? Or do you really want two separate phono inputs in order to provide convenient switching between two turntables? The latter arrangement would allow you, for example, to have a delicate, high-compliance cartridge in a high-quality turntable reserved for your own use, while a second turntable (perhaps an automatic player with a more rugged cartridge) is available for the rest of the family.

In many MM phono cartridges treble response is affected by the *load impedance* that the pickup is connected to, that is, by the phono preamp's input re-

sistance (normally 47,000 ohms) together with the total capacitance of the phono-input circuit and the turntable's connecting cables. If the cables supply 150 picofarads (pF) of capacitance but your cartridge needs 400 pF for flattest response, you could raise the capacitance by adding longer cables or by using a plug-in capacitor kit. But it's more convenient if your amplifier is equipped with switch-selectable capacitance for its MM phono input. If it also allows you to vary the input resistance (reducing it to 33,000 ohms, for instance), so much the better. MC pickups, on the other hand, are relatively unaffected by load resistance or capacitance. Preamplifier input impedances of 47,000 ohms for a high-output MC cartridge or 100 ohms for a low-output one are common but not mandatory. The effective high-frequency response of an MM cartridge can be further altered by a complex interaction between its output impedance and the input impedance of the phono-preamplifier circuit. Specifications usually don't cover this, but it is one of the many aspects of phono-preamp performance that Julian Hirsch considers in his test reports for STEREO REVIEW.

Specifications and test-report results mainly serve, however, to confirm what we already know, which is that the phono-preamplifier section of virtually



Tandberg 3012

every amplifier now on the market fulfills the basic requirements. In terms of RIAA equalization, input sensitivity, total harmonic distortion (THD), signal-to-noise ratio (S/N), and phono-input overload, it's rare to find an amplifier that doesn't qualify for a "good" rating, and many are excellent. (For instance, an MM phono-overload spec of 100 millivolts gives enough headroom for the largest signal that a phono cartridge can generate, and many amplifiers are rated at 200 mV or more.) But

the numbers probably won't help you to make fine distinctions between good and excellent *sound*. This does not mean that subtle differences cannot be explained by measurements, but to do so requires much more precise and detailed data than spec sheets provide (see box below).

The Control Preamp

While amplifiers differ substantially in power output and only subtly in cir-

cuit refinement, they differ dramatically in the design, operation, and sonic effect of their controls. A preamplifier or integrated amplifier may have as few as five or as many as forty control knobs and switches, many of them having less to do with accurate reproduction than with giving you the ability to manipulate and change the sound. Additional control flexibility isn't free, of course; by a rough rule of thumb, every extra knob or button (with its associated circuitry) adds about five dollars to the re-

Specs and Sound Quality

MANY of the specifications of an amplifier tell you very little about its sound quality; most of them merely serve to confirm that the manufacturer has done nothing seriously wrong.

The rated distortion of an amplifier, for example, has no discernible relationship to its perceived sonic quality, simply because in virtually all modern amplifiers the distortions that are being measured are far below the ear's threshold of audibility. Most people can't hear harmonic distortion below levels of about 0.5 per cent; even the most "golden" ears, in the most demanding tests, can't hear levels below about 0.1 per cent. So 0.001 per cent total harmonic distortion (THD) isn't "better" than 0.01 per cent THD; once the distortion is below the ear's audibility threshold, it makes no difference.

In fact, extremely low levels of distortion were once viewed with suspicion in certain audiophile quarters, on the assumption that the designer must have used very large amounts of negative feedback to suppress the distortion in a steady-state test tone, which hypothetically could cause severe distortion of the transient sounds that are common in music. But manufacturers soon found ways to produce ultra-low THD ratings without causing audible transient distortion, so that issue became moot.

Of course, THD is measured with a constant single-frequency test tone, while music contains many simultaneous frequencies. Therefore, a variety of other tests have been developed, with an alphabet-soup collection of names (SMPTE IM, TIM, CCIR and IHF IM, etc.), which use a blend of two or more test frequencies to detect any distortion caused by "intermodulation" between the frequencies in a musical sound. But over the years I have observed a behavior pattern that I propose to call Mitchell's Rule of Specifications: by the time the entire hi-fi industry agrees on a standardized way of measuring a new specification (so that the relevant numbers are really comparable by consumers), every manufacturer will have eliminated the fault that the specification

was intended to take account of. As a result, published specifications *always* represent good product performance. It may be, for example, that some older amplifiers suffered from audible amounts of high-frequency IHF IM distortion; but by the time the IHF IM distortion test came into widespread use, this type of distortion had been reduced to insignificant levels in almost all new amplifiers.

This does *not* mean that all amplifiers sound identical, nor that all specifications are meaningless, but it does make it more of a challenge to extract useful information from specs. The task becomes still more complex when manufacturers *fail* to adhere to a consistent way of stating the numbers. Back in 1978 the audio industry voted to adopt an improved set of standard procedures for measuring amplifier performance; these later became the official EIA (Electronic Industries Association) test standards, which are used by STEREO REVIEW. But some manufacturers are still using the obsolete 1966 IHF (Institute of High Fidelity) test procedures, making comparisons difficult. For example, any company still using the 1966 IHF method is measuring phono S/N with a short-circuited input, which can yield unrealistically inflated S/N figures of 90 dB or more, whereas a figure of around 82 dB measured according to the 1978 standard is state-of-the-art.

Fortunately, in nearly all amplifiers the noise of the phono-preamp circuit is far below the surface noise of most records. In other words, preamp S/N's are good enough that the exact number is usually unimportant.

As dozens of careful listening tests over many years and in several nations have shown, frequency response accounts for more audible differences among hi-fi products than any other single parameter. But frequency response can be deceptive: a small difference in tonal balance is often heard by the ear as something else—"air," image, depth, height, clarity, warmth, etc.

The variable character of frequency response matters because there are sev-

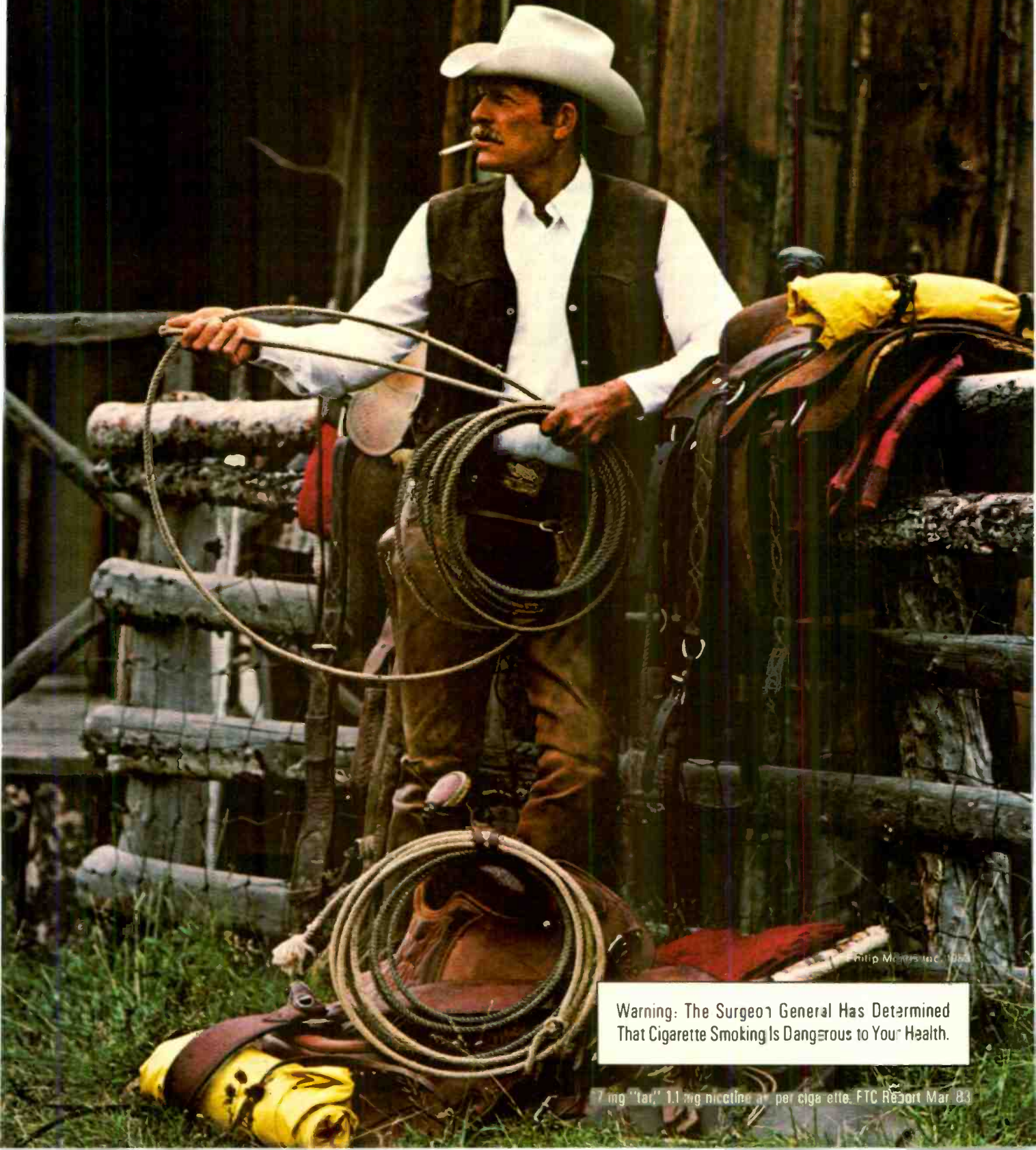
eral circuit stages in any amplifier, each of which can have small departures from flat response. These can then add up to an overall difference that is perceptible in direct comparisons. Departures of two or three tenths of a decibel from ideal phono RIAA equalization are common even in high-priced "esoteric" amplifiers. Tone-control circuits show similar departures from exactly flat response when they are set to "flat." Even power-amplifier output circuits and speaker wires can contribute small response errors because their impedances are in series with that of the loudspeaker.

Because of the common practice of summarizing frequency-response measurements in the form "x Hz to y kHz $\pm z$ dB," it is easy to assume that two amplifiers with the same response rating actually measure and sound identical. But if one amplifier rated at "20 Hz to 20 kHz ± 0.5 dB" is 0.5 dB down in the bass and 0.5 dB up in the treble, while a second amp with the same published rating is up the same amount in the bass and down in the treble, the broad 1-dB difference in response will be plainly audible in direct comparisons. One amplifier will sound thin and dry to those who don't like it, clear and open to those who do; the other amp will be perceived as mellow and full-bodied by those who prefer it, congested and two-dimensional by those who don't.

Audiophiles, however, tend to exaggerate the importance of such small perceived differences in their search for the best sound. While response aberrations on this scale are audible in direct comparisons, they don't matter much in the long run. After all, even the largest response errors in an amplifier are likely to be less than 1 dB, which is small compared with the ± 2 -dB tolerance of a typical phono cartridge, the ± 5 -dB variations among good loudspeakers, and the ± 10 -dB peaks and valleys contributed by the acoustics of a listening room. Once you get a new amplifier home, the ear quickly adapts to its comparatively small colorations (and to many of the larger ones just mentioned), allowing you to "hear through" the system's imperfections to recognize and enjoy the musical sound, just as a person wearing sunglasses easily recognizes the true color shadings of objects despite alterations by the tinted glass.



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tail price of the product—as well as adding potential for operating confusion or unintended losses in sound quality if all the controls aren't optimally designed. So it's up to you to decide how much flexibility you really want.

For decades, every stereo amplifier has had an auxiliary (AUX) input, but few people have had any use for it. Now, with the current population explosion in high-quality audio program sources, you are likely to need every line-level input you can get. Here's just a short list of things you might want to connect to an AUX input: a digital Compact Disc player, a video-cassette recorder used with an adaptor for digital audio, a stereo video-disc player, a wide-range stereo VCR using the Beta Hi-Fi or VHS Hi-Fi systems, and the audio output of a video tuner (especially if the FCC authorizes stereo TV broadcasts next year). If your amplifier doesn't have enough line-level inputs, you can always add a low-cost outboard switchbox to connect several program sources to a lone AUX input. Of course,

you could simplify your connection problems by employing a separate video-tuner/preamplifier to handle the input switching for all video sources—or by dedicating one room to your music system and a completely separate room for your home video theater with its own stereo gear.

Some manufacturers are relabeling the old AUX input DAD to accommodate the digital audio disc, but that doesn't mean there's anything special about the input circuit. In most amplifiers all of the line-level inputs are connected directly to the input selector and then to the volume control, with no intervening active circuitry that could be overloaded by the wide dynamic range of a digital disc.

How many input/output circuits should your amplifier have for tape recorders and external signal processors? It's wise to plan for future needs, although, as with AUX inputs, you can always add an external switchbox later for multiple tape decks. (I use a \$25 Radio Shack switchbox that provides

monitoring and copying connections for up to three recorders.) Remember that a complex array of switches for monitoring and dubbing may become confusing and frustrating to use. Note whether the controls are arranged and labeled in a clear, logical way. Do you understand what happens when each switch is activated? Does the manual explain things clearly? Can you tell at a glance the setting of each switch? (With some short-travel pushbuttons it's not immediately obvious visually whether the button is in or out, and you could spend many frustrating hours with an apparently dead amplifier just because you couldn't see that the tape-monitor button was pushed in.)

Independent INPUT SELECT and RECORD SELECT controls offer a special kind of flexibility, allowing you to tape from any signal source while listening to any other (for instance, taping from FM while listening to a record, or vice versa). But do you really need this capability? On the other hand, having two tape circuits instead of one, with a

How Much Power Do You Really Need?

THE COST of an amplifier depends heavily on its output power (and especially on its output-current capacity), so of course the first question to ask yourself *before* going to shop for an amplifier is, How much power do I really need? The accompanying chart, which relates power to sound level for typical speakers, provides a couple of clues.

First, the power is scaled logarithmically with respect to the sound-pressure level (SPL). This means that you have to *triple* the number of watts to increase the attainable sound level by just 5 dB. Thus, a 50-watt amplifier will not play appreciably louder than a 40-watt amp of similar design.

Second, most listening involves *average* power levels ranging from a small fraction of a watt up to only 10 watts or so. Even the biggest symphonic climaxes produce sustained sound levels of only about 95 dB in the concert hall, which corresponds to 10 watts amplifier output. Why, then, would anyone need an amp rated for more than 10 watts? Answer: to reproduce the transient sounds, lasting only a small fraction of a second, that contribute a great deal to the liveness of music. Transient levels typically reach 10 to 15 dB higher than sustained sound levels—to more than 105 dB at the peak of a symphonic *fortissimo*, for example. Attempting to reproduce disco and rock music at "live" sustained sound-pressure levels, a very loud 105 dB, requires much higher average am-

plifier power, about 100 watts. Most people, however, play music at lower levels, even during the wildest parties at home. Reducing the sustained sound level from 105 to 100 dB, a small audible difference, reduces the necessary average amplifier power from 100 to only 31.6 watts.

What you are buying in a powerful amplifier is not merely sound *quantity*—the ability to play music loud—but a potential improvement in sound *quality*: clear, undistorted reproduction of the transients and details in loud passages of music. And since high-powered amplifiers generally have larger power supplies and transistors, you are also buying more of the output-current capacity desirable for controlling the motion of the speaker voice coils.

There is no general rule to predict how much power a given listener will need, but two suggestions are obvious:

(1) If you listen to music mainly at background levels, either by preference or because loud music would disturb your neighbors, you don't need much power. Large amplifiers are for audiophiles who play music at live (or louder-than-life) levels. Listen to amplifiers with different power levels in the showroom; do you hear a *sonic* difference that matters to you? (Make sure to play the amplifiers at the same volume level for this test—their control positions for the same audible level may vary. Also, use the same speakers with each ampli-

fier.) Or take home a medium-power amplifier for a few days in a trial-purchase arrangement; if it proves unsatisfactory, most dealers will give you full credit toward a bigger model.

(2) If you will be listening mainly to FM radio and/or cassettes, where the highest-level transients are usually somewhat compressed, you probably can get quite satisfactory quality with a modest amplifier. But if your primary program source will be digital (or dbx-encoded) recordings in which the full dynamic range of the transients has been preserved, you may need all the power you can afford to buy.

Continuous output power is not the only power specification to be concerned with in choosing an amplifier, however. It *would* be enough if music consisted only of constant tones and if loudspeakers behaved electrically like the 8-ohm resistors used to test amplifiers. But music is dynamic and speakers complex.

An amplifier is rated in watts, like a light bulb. But unlike, say, a 100-watt bulb, which consumes a constant 100 watts from switch-on to turn-off, a 100-watt-per-channel amplifier playing music will rapidly vary its a.c. power consumption from a few watts to more than 200 watts as it tries to reproduce faithfully every variation in the audio waveform. It must have the brute force to drive the woofer in a bass-drum wallop and the delicacy to reproduce the subtle shimmer of a plucked harp string.

facility for cross-dubbing from one deck to another, can be handy even if you plan to own only one tape deck. Many signal-processing devices (graphic and parametric equalizers, special speaker equalizers, noise filters, noise-reduction systems, dynamic-range processors, etc.) are designed for installation in a tape-monitor loop, and they do not always provide tape connections to replace the ones they use up.

Some amplifiers provide "external processor" connections as pseudo-tape-monitoring loops, but usually with one essential limitation: the EXT PROC is "downstream" from the taping circuits and processes only the sound being amplified; it can't be used to process a signal before it is recorded on tape. Many dubbing circuits, including those in some outboard switchboxes, have a similar limitation: they allow only direct tape-to-tape dubbing. You can't play a tape on one deck, run it through an equalizer or other sound-improver, and then record the fixed-up signal on a second deck. If this is something you will

want to do, either expect to reconnect your signal cables frequently or select a signal processor that has built-in switching to insert the processing in the recording path.

Integrated amplifiers that are equipped with PREAMP OUT and POWER AMP IN jacks offer an extra degree of flexibility that was formerly available only to users of separate amplifier components. Speaker equalizers, stereo-image enhancers, ambience-reproduction devices, dynamic expanders, and other signal processors can be connected here, leaving your taping circuits free for tape decks. (Exception: signal processors whose operation depends on the setting of a signal threshold—such as CX-disc decoders—must be installed in the signal path ahead of the volume control.)

In an ideal world every amplifier could have response flat down to 0 Hz. But records are not physically flat, turntables operate in environments filled with vibration (including their own motor/bearing rumble), every

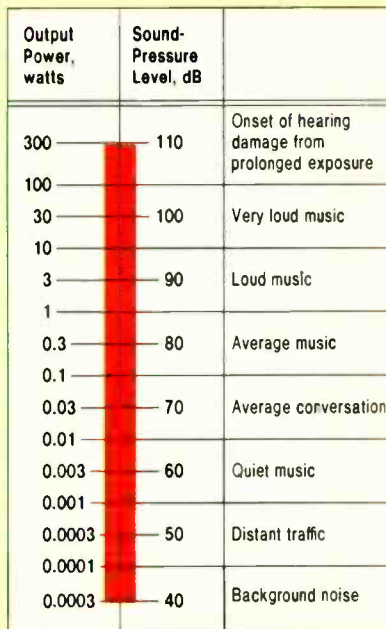
phono-cartridge/tone-arm combination has an infrasonic resonance that mechanically amplifies these nonmusical signals in the 5- to 20-Hz range, and, thanks to RIAA equalization, the typical phono preamp boosts the deep bass by about 50 dB. If infrasonic signals are sent to speakers amplified to full strength, they tend to overdrive woofers and intermodulate with the music, producing flutter and muddy bass. This problem can be avoided by an infrasonic filter (often misnamed "subsonic," which means "slower than sound") that rolls off the amplifier's response below about 20 Hz, but if the filter has too high a turnover frequency (30 Hz, say) or too shallow a slope, it may weaken the lowest octave of musical bass. You may then need to switch the filter out in order to hear pipe-organ pedal tones at full strength. If the filter cuts in at 15 to 20 Hz and has a steep rolloff slope (12 or 18 dB per octave), it can be a permanent part of the amplifier circuit; it need not be switchable.

(Continued on next page)

Power is simply voltage multiplied by current. Voltage is the amount of "force" moving the electrons through a circuit, and the current represents the number of electrons moving through the circuit every second. It is the current flowing through the loudspeaker voice coils that causes the speaker cones to vibrate. If the speaker's impedance is high and uniform over frequency, like that of an 8-ohm resistor, an amplifier connected to it will produce undistorted power up to the level at which the peaks of the audio waveform reach the voltage limits of the amplifier's power supply. After that point any further amplification will "clip" the signal, producing severe (and usually audible) distortion. The rated power of an amplifier refers to its maximum continuous, unclipped output into a constant-impedance resistor over a broad range of frequencies.

But this power rating may not reflect its performance with music signals driving speakers. First, in a typical power supply the voltages sag when the maximum rated power is being drawn continuously. Thus, an amplifier can deliver *more* than its rated output power in momentary bursts (such as in musical transients lasting a few milliseconds) if they are separated by short periods of lower power drain. Since the loudest peaks in music tend to involve brief bursts (cymbal clashes and the like), this transient output capability (expressed by the IHF dynamic-headroom measurement) may be a truer guide to how well the amplifier handles loud passages. Of course, the rated continuous output still tells you something about the amplifier's power for sustained brass chords, pipe-

organ pedal tones, operatic choruses, etc. As STEREO REVIEW's Larry Klein puts it: If two amplifiers produce the same rated continuous power, the one with the greater dynamic power will play louder. If two amplifiers produce the same dynamic power, the one with

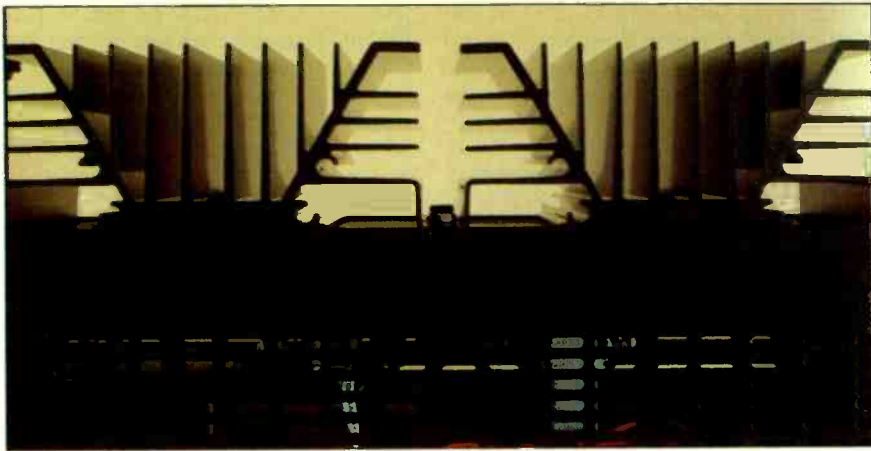


The relationship between amplifier output power and the resulting sound-pressure level (SPL) from a pair of typical speakers in a typical listening room. The SPL could be up to 5 dB higher for the same output power with very efficient speakers or up to 5 dB lower in a large room.

the greater continuous power will play louder.

There is another important reason why the continuous power rating may be an inadequate guide to an amplifier's capability: many loudspeakers have a characteristic impedance of only 3 to 6 ohms, particularly at those frequencies where the maximum power demands in music occur. With an impedance lower than 8 ohms the current flow increases, implying greater power output—but the increased current drain causes the power-supply voltages to sag more, lowering the clipping level. More amplifier output current means higher temperatures in the output transistors, risking their breakdown unless the designer employs larger transistors and hefty (costlier) heat sinks. To decrease cost and increase reliability, many amplifiers contain protection circuits that severely limit the output current—and these circuits, rather than the rated 8-ohm clipping output power, may be what limits an amplifier's ability to drive loudspeakers to room-shaking volume levels.

This is especially true during dynamic, transient conditions. Loudspeakers don't absorb power passively; they are "reactive," storing energy during transients and dumping it back into the output transistors while shifting the phase of the current relative to the voltage. In effect, from the amplifier's point of view, the speaker's impedance looks even lower than its steady-state value. In lab tests, an amplifier's ability to deliver unfettered current into a 4-ohm (or even 2-ohm) impedance is an index of its ability to drive difficult speakers with complex musical waveforms.



VSP Labs Trans MOS power amplifier

A sharp-cutoff infrasonic filter is especially important with vented speakers (ported, bass-reflex, or passive-radiator types) since their woofers can flap uncontrollably when fed strong signals from below the speaker's useful frequency range. That's why some manufacturers supply an equalizer/filter unit with their vented speakers. Acoustic-suspension speakers tend not to respond to infrasonic signals, so they are more tolerant of shallow filtering. (Incidentally, an infrasonic filter is best located in the phono preamp or in a line-level input circuit so that it will prevent infrasonic energy from getting to a tape recorder and overloading its input.)

At the high-frequency end of the spectrum, the top octave of many recordings and broadcasts (above 8 or 10 kHz) contains more noise and distortion than music, so a high-cut filter can add substantially to the pleasure of listening, particularly to video program sources and old records. Unfortunately, most high-cut filters have shallow, 6-dB-per-octave slopes that give approximately the same broad rolloff characteristic as a turned-down treble control, dulling the music by removing much of the mid-treble together with the top octave. A sharp filter that remains flat to about 8 kHz and then rolls off at 12 or 18 dB per octave will do a better job of removing the noise while preserving most of the musical overtones.

At low volume levels the human ear is relatively insensitive to low-frequency sounds, so in theory a LOUDNESS COMPENSATION circuit that boosts the bass as the volume is lowered should be useful, maintaining a subjectively life-like tonal balance at every listening level. In practice, however, the loudness button is often just a "boom and tizz" switch that fattens the lower midrange and boosts the treble. You can test a loudness circuit by noting what it *doesn't* do: the maximum boost should be in the very deep bass, so it should not

dramatically alter the tone of a voice or other midrange sound. And to provide accurate compensation it should have two controls, one to calibrate your maximum listening level and a second to add compensation progressively as the sound level is lowered. But only a few manufacturers do it this way. A practical alternative is to create your own loudness compensation by adjusting the tone controls until the music sounds right.

A few amplifiers feature a BASS EQUALIZER circuit that boosts only the bottom octave of the deep bass to compensate for the low-end rolloff of most popular loudspeakers. If your speakers have adequate deep-bass response, such a circuit is also useful for undoing the bass rolloffs in recordings, and it may provide more authentic loudness compensation than the loudness switch.

Tone controls are perennially controversial. Some audiophiles favor omitting or bypassing the tone controls entirely, listening to recordings "straight" and accepting whatever tonal balance the engineers may have imposed upon the musical sound. If you are one of these, look for a BYPASS, DIRECT, or TONE DEFEAT switch.

Among those who design and/or use tone controls there are two schools of thought: (1) TONE controls should affect the basic *tonal balance* of the music, making it brighter or duller, heavier or thinner; (2) BASS and TREBLE controls should, as their names suggest, operate only on the low bass (the solid foundation, the beat) and on the high treble (the crisp detail, the airy sparkle) *without* changing the basic tonal balance of the middle range where most of the musical sound resides. To discover which approach was taken in the amplifier you are considering, play some vocal recordings (for instance, folk ballads or light rock) and observe whether the character of the voice is substantially altered as the bass and treble control

settings are changed. Some amplifiers let you have it both ways, with switches that alter the "turnover frequency" of the bass and treble circuits. One widely used bass-control circuit configuration has a sliding turnover frequency: a small motion of the control away from center affects only the deep bass, but extreme settings produce a broad boost or cut that affects the midrange too.

If two tone controls are good, are three better? They can be, especially if the added MIDRANGE control is centered not at 1 kHz but in the "presence" octave around 2 or 3 kHz, where a boost can clarify an inarticulate vocal and a cut can do wonders to tame a too-forward solo or a raucous, edgy-sounding multimiked recording. The next level of flexibility is a built-in graphic or parametric equalizer. An even rarer option that promises to become more common in the future is a SLOPE control. Instead of boosting or cutting a narrow frequency band it maintains a flat overall response but tilts it up for a brighter, more "open" sound or down for a mellower, less aggressive one.

If you are going to use an amplifier every day for several years, its sonic performance may be less important than its "ergonomics," or human engineering. Does the arrangement of the controls permit easy use? Are the buttons too close together for large fingers? Are they confusingly identified? Will you be able to read the front-panel labels at home, without the store's bright lighting? Do the controls behave logically, or do they invite errors? If the volume control is a slider or an up/down pair of pushbuttons, can you set it as precisely as you can a round knob? Do the controls have a feel that is smooth and solid, or do they feel stiff, loose, or flimsy? Try out a variety of models and pick one that not only sounds good but also feels good to use.

The Power Amp

Conceptually, the power-amplifier stage is the simplest section of an integrated amplifier or receiver. You should make a choice here purely on the basis of performance, with few gadgets and frills to distract your attention (see box on pages 50 and 51). Still, there are a few other things to consider.

Should you have some kind of power-level indicators? Many critics regard these as purely cosmetic features, offering visual distraction but little or no genuinely useful information. Of course, an *accurate* peak-reading display with a wide range (from below 0.01 watt up to the amplifier's maximum output) *can* be educational, at least for the first few times you watch it

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while correlating its indications to the apparent volume level of the sound. But after that you may never look at it again.

Do you need connections and built-in switching for two or more pairs of loudspeakers? Do you want five-way binding posts or any other type of large speaker terminals? (Standard press-to-connect speaker terminals are okay for an amplifier of modest power, but a high-power amp should accept wires thicker than 18-gauge lamp cord.) While you are looking at the rear panel, are there enough a.c. convenience outlets for your equipment? If you are shopping for a separate preamp, does it have a switched outlet with enough power capacity to handle your power

amplifier, or will you have to switch the power amp on and off separately? Is there a headphone output?

A Closing Word

If you have been paying close attention to the suggestions in these pages, you may have noticed what we have *not* recommended. We have not suggested that you should or should not select amplifiers employing discrete circuitry instead of IC's, circuits that are DC-coupled rather than capacitor-coupled, output stages employing MOSFET's or RET's (ring-emitter transistors) instead of ordinary bipolar-junction transistors, one particular class of operation rather than another (see the box be-

low), or any other special technology. We've said it before: *how* something is done is not as important as how well it is done, and there are both superb and mediocre examples of virtually every kind of technology, audio or not. If there is one special ingredient that guarantees a superior amplifier, it's the thoughtfulness of its designer. Virtually the same silicon chips are available to every manufacturer; it's the intelligence of the designer that determines how well that silicon is used. □

Peter W. Mitchell, one of hi-fi journalism's most prolific writers, is also president of the Boston Audio Society and of his own electronics consulting firm.

A Question of Class

MUCH of the special jargon about power-amplifier circuits relates to various ways of dealing with two problems: how to reproduce soft sounds without generating distortion and how to reproduce loud sounds without generating excess heat.

The problem of low-level distortion arises because virtually all modern amplifiers are "push-pull" systems in which one set of output devices (transistors or tubes) amplifies the positive half of a waveform while another set handles the negative half. The two halves of the signal are spliced back together into a continuous waveform at the amplifier's output, and if there is any discontinuity at the joint it may be audible as so-called "crossover" distortion. Such a push-pull system, with the crossover between the two halves of the waveform occurring at 0 volts, is called *class-B* amplification.

Transistors, unfortunately, are very nonlinear (distortion-generating) at low voltages. They don't even begin to conduct electricity until the input voltage reaches about 0.6 volt, which would make class-B reproduction of soft musical passages very distorted indeed. The standard solution to this problem is to use a modified form of class B, *class AB*; in this operating mode a constant d.c. current is added through the output stage, offsetting (biasing) each transistor by at least 0.6 volt so that it handles slightly more than half of the waveform and stays "on" for even the smallest signal voltages. This eliminates most of the distortion at the crossover point and is how most amplifiers are designed.

Some designers choose a higher bias point, however, so that a larger portion of the waveform is handled by each set of transistors. This yields slightly lower levels of measured distortion, but with more current constantly flowing through the output transistors, more heat is gen-

erated, requiring the use of larger and more costly transistors and heat sinks—or, in a high-powered amplifier, a cooling fan. Carrying this trend to its extreme, the bias point can be set at one-half of the power-supply voltage. Called *pure class-A* operation, this allows the entire waveform to be handled by a single set of transistors, eliminating any possibility of crossover distortion. But this advantage in potential sonic purity is bought at a high cost: because of the resultant heating of the output transistors, pure class-A operation tends to be restricted to amplifiers of relatively low maximum power. Using essentially the same set of hardware (power supply, transistors, heat sinks), a manufacturer can build either a 30-watt amplifier operating in class A or a 120-watt amplifier operating in class AB with about 1 volt of bias—and sell them at the same price.

Lately many manufacturers have been using *dynamic bias circuits* in which the effective bias point of the output stage continually varies, approaching class A for low-level signals and moving back toward class B for more efficient (cooler) operation when the music gets loud and high power levels are required. Companies using this approach invent their own names for it: "non-switching," "new class A," "super-A," etc. Purists will insist that these should not be confused with pure class-A operation, because the latter's high bias current yields an extra degree of sonic purity: constant heating of the transistors avoids any slight temperature-dependent variations in linearity. In any case, the audible benefit of class A is very subtle at most, especially compared with its dramatically higher cost for a given wattage level and the possibility of clipping at relatively low output powers.

The same questionable cost-benefit ratio applies to vacuum-tube amplifiers, which have been staging a mini comeback after two decades of solid-state design despite their drawbacks of high initial cost, variable performance, and the need for regular replacement of scarce and costly tubes. A tube amplifier may indeed sound different from transistor designs in a direct comparison, but that difference does not necessarily denote superiority: in a few controlled listening tests the audible differences have simply been traced to the tube models' poorer damping factors and resulting higher output impedances (which yield frequency-response aberrations that follow the impedance curve of the speaker).

Even with a class-AB design, an amplifier generates substantial heat when delivering high power continuously to a loudspeaker, and it requires a large and costly power supply to produce high continuous output power. Since the highest power levels are needed only during brief transients, the current trend, accompanying the spread of digital audio, is toward designs that emphasize higher *dynamic* power rather than higher continuous power. To achieve high dynamic power capabilities, some companies employ a "soft" power supply whose voltage remains high as long as power is being drawn only in short transients but sags to a lower level during periods of continuous high-current drain. Other manufacturers do the opposite, using a power supply that operates at a heat-conserving medium voltage level most of the time and switches instantly to a higher level during brief high-power transients. (Examples of the latter approach include Hitachi's "Class-G," Soundcraftsmen's "Class-H," Phase Linear's DRS series, Carver's "Magnetic-Field," and Yamaha's "X" amplifiers.) In either case, the result is an amplifier that can reproduce brief very-high-level transients without having the kind of massive and costly power supply that would be needed to produce extra-high power levels continuously.

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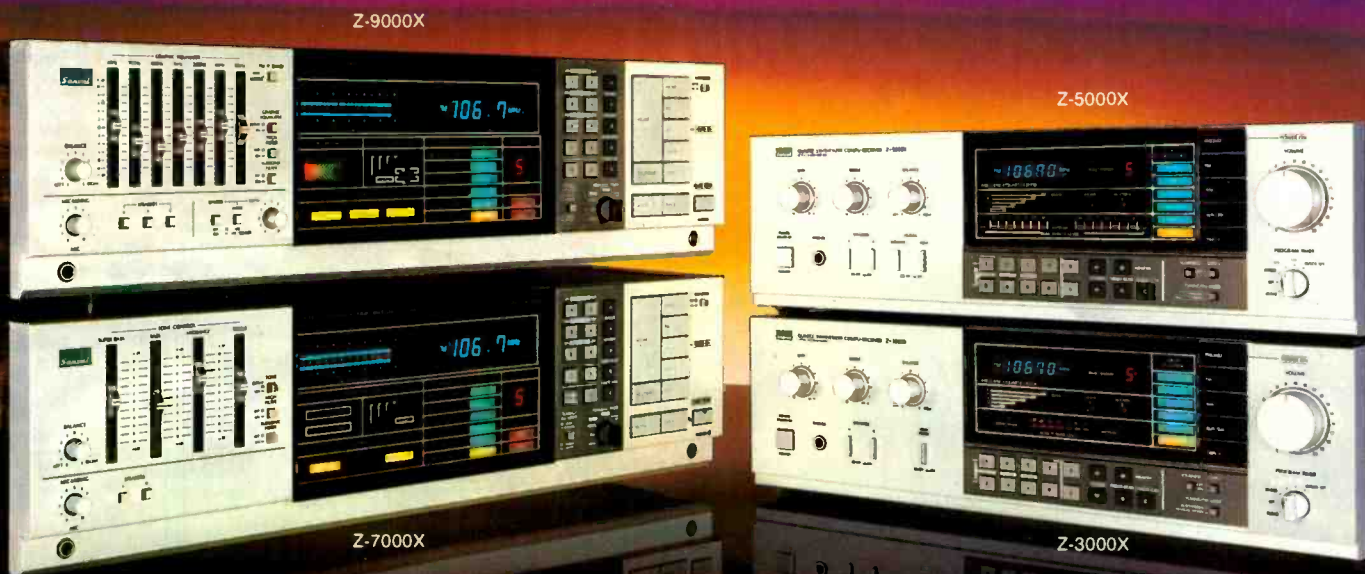
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Jargon!

An examination of
some of the most commonly
used descriptive audio terms

By Bruce Bartlett

WHEN a hi-fi salesman says that a loudspeaker sounds "warm" or a record reviewer claims a recording sounds "smooth and airy," just what are they trying to say? These are only two examples of attempts to describe the perceived sound qualities of audio equipment and recordings without using technical terminology (which is woefully inadequate for the job anyway). Among other similes a critic might use are those comparing sounds to materials (woody, steely, silky, glassy, airy), to temperatures (hot, warm, cool), to visual qualities (bright, sparkling, dull, dark), or to bodily qualities or sensations (fat, gutsy, punchy). Unfortunately, the *audio* application of these terms is relatively vague and may vary from person to person. What's needed is a translation of these popular "subjective" terms into such measurable qualities as frequency response, noise, distortion, etc.

The following glossary is an attempt to clarify the situation, but it is in no way meant to codify or otherwise standardize the terms defined. In fact, some of them have several *conflicting* meanings that correspond to the different ways in which the terms are used by audiophiles, recording engineers, critics, and others.

How can you use the glossary? The first and most obvious application is decoding advertising puffery. When you read an ad extolling a speaker's "full, rich lows" and "crisp, sparkling highs," you'll have a better idea of what actual

acoustical qualities the ad writer was probably referring to. Another use is deciphering the subjective comments on the sound quality of equipment or recordings made by other audiophiles. And the glossary might be particularly handy for dealing with hi-fi salespeople, who often use these terms to impress customers. You will not find definitions for every term you might hear or read, however. Some are so idiosyncratic as to be virtually untranslatable. You're on your own if you come across someone describing a speaker's "bluish upper midrange" or "vinyl-coated transients."

Still another important use for the glossary is for audio self-education. Using a multiband equalizer (or even just your amplifier's or receiver's tone controls), you can easily make a stereo system sound "warm," "woody," "covered," "punchy," "restricted," "airy," and so on. If nothing else, such an exercise will convince you how important even small frequency-response changes are in determining the perceived quality of reproduced sounds.

Words have to be defined using other words, of course, and in our definitions of subjective audio terms we'll be using a number of "objective," technical audio or acoustical terms. Most will be quite familiar to regular readers of STEREO REVIEW, but a few of the less familiar ones may require explanation themselves. So we'll begin by defining these key technical terms, then go on to the glossary proper. ▶

Jargon!

ambience. A sense of the acoustical environment surrounding the recorded instruments that is caused by *reverberation* (see definition below) and early room reflections being picked up by the recording microphone(s).

boost. Emphasis or exaggeration of a portion of the audio spectrum that creates a peak in the frequency-response curve. "Boosted lows," for instance, means that the low frequencies are unduly emphasized relative to the rest of the audio spectrum.

cut. An attenuation of a portion of the audio spectrum that creates a dip in the frequency-response curve. A cut at one end of the curve is a *rolloff* (see below). The subjective effects of boosts or cuts depend greatly on their magnitude and on how much of the audio spectrum they affect.

modulation noise. Noise or hiss that varies in strength along with the program signal.

overhang. Unwanted vibrations continuing after the original sound has decayed; underdamped resonance. A loudspeaker cone with overhang continues to vibrate after the electrical signal driving the speaker has stopped.

reverberation. Sound that is reflected repeatedly off the walls, ceiling, and floor of the recording room and persists after the original sound ceases; room acoustics or room sound. For example, the sound you hear just after you shout in an empty gymnasium or corridor.

rolloff. A decrease in acoustic output at one or both of the frequency extremes. If a speaker has "high-frequency rolloff," its output drops as the frequencies being reproduced rise above a certain point in the audio spectrum.

transient response. The ability to reproduce rapid changes in audio waveforms, such as the attack and decay of sounded notes on an instrument. Good transient response is a result of flat frequency response and linear phase response.

accurate. 1. Providing true-to-life, high-fidelity reproduction. 2. Having a flat frequency response, low noise, and low distortion.

airy. 1. Having a sense of "air" or space surrounding the instruments. 2. Having a pleasant amount of reverberation; containing early reflections or echoes from the walls, ceiling, and floor of the recording room. 3. Having an extended and/or slightly boosted high-frequency response.

anemic. Lacking bass; weak low-frequency response. Opposite of "full" or "warm" (see below).

articulate. 1. Well-defined. 2. Boost around 5 kHz or higher.

ballsy. Low-frequency boost below about 200 Hz.

barrelly. Low-frequency peaks or resonances around 200 to 300 Hz.



Illustrations by Lincoln Perry

bathroom sound. 1. Too much reverberation. 2. Resonances at mid-bass frequencies.

big. 1. Wide stereo spread. 2. Full frequency response. 3. Adequate ambience.

blurred. 1. Poor focus of stereo image. 2. Poor transient response.

body. Boost around 250 Hz.

boomy. Low-frequency boost around 100 to 300 Hz.

boxy. 1. The music sounds like it's in a box. 2. Mid-bass boost around 200 to 600 Hz. 3. Recorded in too small a room.

brassy. 1. Edgy. 2. Emphasis of upper harmonics.

bright; brilliant. 1. Clear reproduction of high-frequency sounds such as cymbals, triangle, and other percussion. 2. Extended high-frequency response. 3. High-frequency boost above about 5 kHz. 4. Having a pleasant amount of reverberation.

cavernous. Too much reverberation.

cheap. 1. Narrow bandwidth, lacking highs and lows. 2. Distorted.

clean. 1. Free of noise, distortion, and overhang. 2. Having a low-frequency rolloff that removes rumble and muddy bass.

clear. 1. Free of noise and distortion. 2. Boost around 5 kHz or higher. 3. Absence of the masking of one instrument by another.

clinical. Sterile, studio-perfect, "lacking humanity." Too clean, too detailed, too closely microphoned; not enough ambience.

colored. Peaks and/or dips in the frequency-response curve; unflat response; unnatural tonal balance.



cool; cold. 1. Weak or rolled-off low-frequency response; opposite of "warm." 2. Emphasis of highs over lows.

covered. 1. Muffled sound; weak high-frequency response. 2. Containing odd-order harmonic distortion.

crisp. 1. High-frequency boost above about 7 kHz. 2. Clear reproduction of high frequencies.

dark. Dull sound; weak or rolled-off high-frequency response. Opposite of "bright" or "sparkling."

dead. 1. Insufficient ambience or reverberation. 2. Lacking resonance; overdamped; lacking high frequencies (referring to musical instruments).

defined. 1. Clear, having "presence." 2. Flat, extended high-frequency response. 3. Boosted high frequencies. 4. Good transient response, good attacks. 5. Sharp imaging. 6. Well-controlled reverberation.

depth. Sense of nearness and farness of instruments. Distant-sounding instruments are recorded with a high ratio of reverberant sound to direct sound, close-sounding instruments with a high ratio of direct sound to reverberant sound.

detailed. 1. Details are easily audible, including such things as small differences in timbre among instruments or small changes in an instrument's timbre as it is playing (like the plucking of each string within a strummed guitar chord). 2. Flat, extended high-frequency response, good transient response, and low distortion. 3. Close microphone placement

directionless. Poor, unfocused stereo imaging; out-of-phase recording.

dirty. Distorted (often desirable for electric guitars).



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 Nakamichi

Jargon!

disembodied. Dip in response around 250 to 1,000 Hz.



distant. 1. Excessive reverberation; microphones placed too far from the musician(s). 2. Dip in response in the upper midrange.

distorted. Fuzzy or raspy sounding; frequency components have been added that weren't in the original signal.

dry. Lacking sufficient ambience or reverberation.

dull. Weak or rolled-off high-frequency response; muffled. Opposite of "bright" or "sparkling."

echoey. Too much reverberation.

edgy. High-frequency boost above about 7 kHz. Opposite of "round."

effortless. A sense of ease in sound reproduction; flat, extended high-frequency response, low distortion, adequate amplifier power, adequate speaker efficiency. Opposite of "strained."

etched. High-frequency boost above about 7 kHz.

fat. 1. Bassy, low-frequency boost. 2. "Doubled" sound, in which an echo very closely follows (within milliseconds) the original sound.

flat. Dull, lifeless, unexciting sound; too neutral; lacking character or color. (Note: not to be confused with "flat frequency response," which means an even response curve without peaks or dips.)

focused. Sharp or well-localized stereo imaging.

forward. 1. Boost around 2 to 3 kHz. 2. Close microphone placement.

full, full-bodied. Flat and extended low-frequency response.

fused. Sharp or well-localized stereo imaging.

fuzzy. 1. Distorted or noisy. 2. Having modulation noise. 3. Unclear stereo image.

glare, glassy. 1. Usually applied to strings that sound strident because they were miked too closely. 2. A high-frequency boost.

grainy. 1. Distorted. 2. Containing modulation noise or tape flutter.

gritty. Very distorted.

gutsy. 1. Flat, extended, undistorted low-frequency response. 2. Low-frequency boost below about 100 Hz.

hard. Boost around 2 to 5 kHz; containing upper-midrange peaks.

heavy. Low-frequency boost below about 200 Hz.

hissy. Noisy, particularly with a "ffff" or "ssss" sound from recording tape, the recording process, or amplifier noise.

hole in the middle. Weak or poorly focused phantom center image. In a recording this is caused by using a pair of microphones placed too far apart, in playback by placing the loudspeakers too far apart.

hollow. 1. Too much reverberation. 2. Boost around 500 to 700 Hz.



honky. Nasal sounding, usually because of a boost or peak between about 500 and 3,000 Hz; sometimes associated with horn drivers having narrow dispersion or horn resonances.



hot. 1. Boosted high frequencies. 2. Overall "loud" sound, probably due to signal compression.

intelligible. Clear, easy to understand speech, usually associated with a boost around 2 to 5 kHz and a minimum of reverberation.

liquid. 1. Non-electronic sounding; natural, smooth, full reproduction of fundamentals. 2. Flat, extended frequency response. 3. Having a pleasant amount of reverberation.

live. Having noticeable reverberation, especially in the midrange.

loose. 1. Opposite of "tight"; containing a lot of sound picked up off-mike. 2. Noticeable ambience. 3. Poor transient response, lots of overhang.

mellow. Lack of stridency or harshness; smooth response. Often the lows are slightly emphasized and/or the highs are slightly de-emphasized.

metallic. Boost around 3 kHz.



muddy. 1. Opposite of "clean," "clear," or "defined." 2. Excessive reverberation, especially at low frequencies. 3. Low-frequency masking of one instrument by another. 4. Boosted low-frequency response. 5. Weak high-frequency response. 6. Boost around 500 Hz.

muffled. Dull; weak or rolled-off high-frequency response. Opposite of "bright" or "open."

musical. 1. Non-electronic sounding; natural; flat, extended frequency response, low distortion. 2. Euphonic; colored in a way that enhances the sound of the music.

nasal. Strong boost or peak around 500 to 3,000 Hz.

natural; neutral. High-fidelity, true-to-life reproduction; flat, extended frequency response; no coloration.

noisy. Containing unwanted sounds such as tape hiss.

open. 1. A sense of "air" surrounding instruments; a pleasant amount of ambience and reverberation. 2. Flat, extended high-frequency response. 3. Wide dispersion of tweeter output. 4. Containing slight even-order harmonic distortion.

phasey. Having many sharp dips in the frequency response caused by phase interference.

piercing. Boost around 2 to 5 kHz.

pinched. 1. Restricted frequency response. 2. Restricted depth. 3. Weak low-frequency response, possibly a boost around 3 kHz.

pinpointed. Sharply focused or well-localized stereo imaging.

powerful. 1. Low-frequency boost below about 100 Hz. 2. Full reproduction of lowest frequencies.

presence, present. 1. Apparent closeness of instruments; sense of instruments being in the listening room. 2. Clarity and articulation. 3. A boost around 5 kHz for most instruments; a boost around 1 to 2 kHz for others.

Jargon!

projected. Boost around 2 to 3 kHz.
punchless. Weak low-frequency response; weak upper-midrange response. Colorless, too flat.
punchy. 1. Low-frequency boost around 100 to 300 Hz. 2. Upper-midrange boost.
raunchy. Highly distorted (often desirable for electric guitars).
resonant. Having a pleasant amount of reverberation.
restricted. Narrow-bandwidth, rolled-off highs and lows.



rich. 1. Flat, extended low-frequency response. 2. Containing full fundamentals and many harmonics. 3. Having a pleasant amount of reverberation.
robust. Low-frequency boost below about 500 Hz.
rough. Harsh; mid- or high-frequency response has noticeable peaks and dips. Opposite of "smooth."
round. High-frequency rolloff, full reproduction of fundamentals. Opposite of "edgy" or "thin."
rumbly. Containing very-low-frequency noise, either recorded (from air-conditioning, trains, traffic, room noise) or from record-surface imperfections or turntable-motor vibrations.
"ss-y," essy. Emphasis of "s" sounds; high-frequency boost around 5 to 10 kHz.
sharp. 1. High-frequency boost above about 5 kHz. 2. Focused, well-localized stereo imaging. 3. Good transient response, good reproduction of percussive attacks.
sibilant. Emphasis of "s" or "sh" sounds; high-frequency boost around 5 to 10 kHz.
silky. Flat, extended high-frequency response; smooth. Usually applied to strings.

sizzly. High-frequency boost above about 7 kHz.
smeared. 1. Poor transient response. 2. Poor focus of stereo image.
smooth. 1. Easy on the ears. Opposite of "rough" or "harsh." 2. Gentle high-frequency rolloff. 3. Flat frequency response, especially in the mid-to-high frequencies.
solid. Flat, extended low-frequency response.
spacious. 1. Open, "airy"; a sense of space surrounding instruments; having a pleasant amount of reverberation. 2. Flat, extended high-frequency response.
sparkling. 1. Bright; clear reproduction of high-frequency sounds such as cymbals, triangle, and other percussion. 2. Extended high-frequency response. 3. Boosted high-frequency response.
spread. Poorly focused stereo image of a single instrument. "Stereo spread" is the apparent width of the reproduced musical ensemble.
sputtering. Intermittent noises from an amplifier.
steely. High-frequency boost above about 3 kHz; often applied to violins miked too closely.



sterile. 1. Studio-perfect; lacking "humanity." Too clean. 2. Lacking reverberation or ambience.
strained. Slightly distorted; insufficient amplifier power, especially at low frequencies. Opposite of "effortless."
strident. Hard, harsh; boost around 3 to 5 kHz.
sumptuous. 1. Having a pleasant amount of reverberation. 2. Full low-frequency response.
thick. 1. Bassy; low-frequency boost around 100 to 200 Hz. 2. "Doubled" sound, in which an echo very closely follows the original sound. 3. Listener is unable to distinguish individual instruments clearly.
thin. Lacking bass; weak or rolled-off low-frequency response.
thumpy. 1. Containing low-pitched "thumps" or noises (such as piano-pedal noises). 2. A low-frequency boost around 100 Hz; often applied to acoustic guitars miked too close.

tight. 1. Well-controlled or reduced off-mike sound. 2. Good transient response; well-damped; lack of overhang.
tinny. Sounding like a tin can; weak bass, rolled-off low-frequency response; sometimes a peak around 1 kHz.
transparent. Reproduction calls no attention to stereo-system equipment. Flat, extended frequency response; low distortion and noise; "uncolored."
trashy. 1. Too much pickup of off-mike sound. Opposite of "tight." 2. Narrow bandwidth.
trebly. High-frequency boost.
tubby. Low-frequency boost or resonances around 200 to 300 Hz.
uncolored. Flat frequency response; no part of the audio spectrum is emphasized or attenuated by the recording or reproduction.
veiled. 1. Slightly unclear, not "transparent." 2. Weak or rolled-off high-frequency response. 3. Slight noise or distortion. 4. Poor transient response.



washed-out. 1. Too much reverberation; too distantly recorded. 2. Lacking a full dynamic range.
warm. 1. Slight low-frequency boost and/or high-frequency rolloff. 2. Having a pleasant amount of reverberation. 3. Diffuse reverberation that seems well spread-out and possibly surrounds the listener.
woody. A boost around 200 to 400 Hz.

Bruce Bartlett is project engineer for the Microphone Development Department of Crown International. He derived this glossary from observing the way audio terms are used by recording producers, musicians, audiophiles, and salespeople.



"That night
I was listening to
the bass player cook.

As his hands went
spidering up and down
the strings

his thum-thum-thum
became the group's
heartbeat — and mine too.

In my living room, I had
traveled once again to that
smokey little jazz club long ago."

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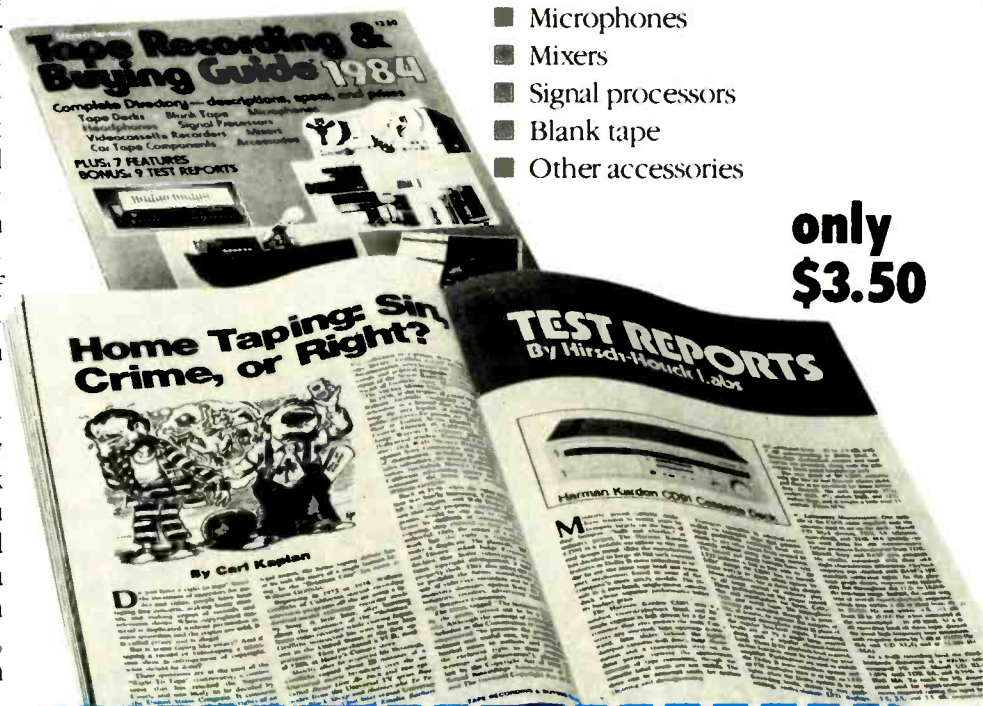
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Best of the Month

Stereo Review's Selection of Recordings of Special Merit

Mitch Ryder Returns
In Style with "Never
Kick a Sleeping Dog"

MITCH RYDER'S "Never Kick a Sleeping Dog" is a nearly perfect comeback album. Produced by an admiring John Cougar (under the pseudonym "Little Bastard"), it restores Ryder to the aggressive, popular rock format he unwisely and unluckily abandoned at the end of the Sixties. Given a chance to return to the mainstream, Ryder has responded with the relief of an outcast welcomed back into the fold, but he has not compromised either his talent or his experience. Rather, Cougar's interest and respect, and the

spare, two-fisted instrumentation he has provided, has triggered Ryder's greatest sustained vocal performance yet. His singing here is forceful, fluid, dignified, and exciting all at once.

A generation older than Cougar, Ryder pioneered the guttural, emotional, black-inspired vocal attack now taken for granted by nearly every white rocker. In Detroit during the Sixties, Ryder and Motown were the dominant musical forces. Both pursued a "cross-over" sound with biracial appeal, and both tried to break down obsolete socio-

Mitch Ryder: a comeback without compromise



Photo: PolyGram

musical categories—Motown for business reasons, Ryder for artistic ones.

Ryder's influence is all the more notable since he didn't have that many hits. In fact, he and his band, the Detroit Wheels, had only three: *Devil with a Blue Dress On*, *Jenny Take a Ride*, and *Sock It to Me Baby*. They might have had more, but Ryder was ruined by bad management as the decade ended, and his later recordings were sporadic. In 1971 he recorded with Booker T. and the MG's, and afterward he formed another band, Detroit. But his occasional albums on esoteric labels had no marketplace clout; his last release before "Never Kick a Sleeping Dog" was a three-disc German import that went nowhere. And during this wilderness period Ryder was writing angry, lonely, morbid songs about his personal and professional difficulties.

Ryder's freshly written material for the new album is much more accessible. Both the production and the singing revive the style of his original hits, a style that's been vindicated by time. You will seldom hear such brilliance from a performer; it's a textbook demonstration of technique, faith, and pride.

To show his ease with contemporary material, Ryder sings Prince's *When You Were Mine* and duets with Marianne Faithfull—another walking-wounded veteran—on Bill Amesbury's *A Thrill's a Thrill*, a bitter but tough-minded song that reasserts the joy of living despite the pain. Ryder's reading of the old r-&-b standard *Cry to Me* is almost paternal in its hard-boiled tenderness. And at the end of his own *The Thrill of It All*, a tune about survival, he takes a daring and beautiful a *cap-*

pella break, dropping his familiar blues voice for a husky tremolo. It is startling, but not such a surprise when you remember that Mitch Ryder was born William Levis Jr. and comes by Italian *bel canto* honestly.

Mitch or Bill—and John—you've done one hell of a job. Welcome back.

—Joel Vance

MITCH RYDER: *Never Kick a Sleeping Dog*. Mitch Ryder (vocals); vocal and instrumental accompaniment. *B.I.G.T.I.M.E.*; *When You Were Mine*; *A Thrill's a Thrill*; *Come Again*; *Cry to Me*; *The Thrill of It All*; *Stand*; *Rue de Trahir*; *Code Dancing*. RIVA RVL 7503 \$8.98, © RVC4 7503 \$8.98.

A Prize Selection of Fauré's Songs from Frederica von Stade

GABRIEL FAURÉ composed about a hundred songs, just enough to be contained in a neat anthology. There have been some complete recordings in recent years, but such releases do not produce mass sales, and none have remained in the catalog. Frederica von Stade's new Angel record of eighteen of Fauré's songs, including some of his best, is therefore more than welcome, especially in performances that turn a treat into a prize—and are excellently recorded as well.

The Fauré songs, particularly those from the earlier years of his long life,

have a deceptive simplicity that conceals harmonic and rhythmic subtleties. For the most part, they are sensuous and haunting melodies (*Après un rêve*, *Clair de lune*) not too far removed from the drawing room (*Le Papillon et la fleur*), though some are startling with their muted passion or stark despair (*Prison*, *Au cimetière*). Von Stade interprets them with a luscious tone that exploits the warmth of her midrange and with a notable sensitivity to the poetic texts. In some past recitals, an element of preciousness frequently intruded on this gifted mezzo's always pleasing vocal efforts. Happily, that is not the case here. A refreshing sense of artistic growth radiates from her singing, which is straightforward, unmannered, and, when the mood calls for it, convincingly exultant.

Jean-Philippe Collard's firm and muscular pianism supports the mezzo's approach (Fauré was a neo-Classicist, not a mystic). On at least one occasion, the singer seems to yield to the pianist's sterner view: I would have welcomed a freer, more flexible approach to *Au bord de l'eau*, but this is a relatively minor matter. Overall, we have here a beautiful record. —George Jellinek

FAURÉ: Songs. *Les Berceaux*; *Le Papillon et la fleur*; *Lydia*; *Rêve d'amour*; *La Fée aux chansons*; *Au bord de l'eau*; *Notre amour*; *Les Roses d'Ispahan*; *Dans les ruines d'une abbaye*; *Après un rêve*; *Clair de lune*; *Mandoline*; *En sourdine*; *L'Aurore*; *Arpège*; *Prison*; *Dans la forêt de septembre*; *Au cimetière*. Frederica von Stade (mezzo-soprano); Jean-Philippe Collard (piano). ANGEL Ⓢ DS-37893 \$12.98, © 4XS-37893 \$12.98.

(Continued on page 69)

Mezzo-soprano
Frederica von Stade
and pianist
Jean-Philippe
Collard



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"I'm So Proud" Is a Stunning Showcase for Deniece Williams

IN the seven years since Deniece Williams stepped out of Stevie Wonder's back-up group, Wonderlove, to make it on her own, she has achieved a mass following as the songbird of soul while maintaining exceptionally high artistic standards. Her new Columbia album, "I'm So Proud," amply demonstrates how she has been able to attain popular success without compromising: she has forged a distinctive vocal style that sizzles with brilliance.

Williams has a stunning range of rich, imaginative effects. Her voice is, indeed, almost bird-like, sounding pungently sharp but never strident as she dips and soars, plucking accurate high notes from the aural stratosphere with miraculous ease. But her formidable technique is never treated as an end in itself. Each precisely enunciated word or syllable of a lyric is the cutting edge of an emotion that is bursting to be expressed.

No less important than talent and integrity in Williams's rise has been the way her albums have been produced. Her 1976 debut, "This Is Niecy," was produced by Maurice White and Charles Stepney, who made Earth, Wind & Fire the models of progressive soul music in the late Seventies. They gave Williams the same inventive harmonies, carefully layered vocal-instrumental textures, and sonic clarity that helped thrust that flamboyant group into prominence. Her subsequent albums all displayed a level of lyrical substance and polished musicality that set them apart, especially her collaboration with the venerable Johnny Mathis on "That's What Friends Are For," which pulled him out of the MOR mushiness that had marked his work for the past two decades and pushed him toward the tougher sound of high-quality rhythm-and-blues.

On the new "I'm So Proud"—which again features a duet with Mathis, *So Deep in Love*, that is pleasant if unmemorable—the threads of Williams's previous successes have been deftly woven into a stunning, seamless showcase by a trio of producers. Williams herself was joined by Bill Neale and George Duke, the latter proving here that he's still one of the most versatile craftsmen around when he wants to be.

The title song, by Curtis Mayfield, displays Williams in a coolly assertive Sixties vein, and her own *I'm Glad It's You* abounds in vocal pyrotechnics. The very best cuts are on side two, especial-



Singer/songwriter Deniece Williams

ly an unusually successful pop-gospel song, *They Say*, by Skip Scarborough and Terri McFadden, which speaks of ancient miracles in modern cadences that ring true. When Williams is joined here by Philip Bailey—the singer who hits all those spectacular high notes for Earth, Wind & Fire—they build to a climax that will have even unbelievers shouting in ecstasy. The song, the arrangement, and the performance all rank among the best I've heard in many years.

Two other songs co-written by Williams are also impressive: the reggae-flavored *Love, Peace and Unity*, which presents a strong political message without tasteless heavy-handedness, and the closing track, *It's Okay*, which has the spirit of Brazil at Carnival time, with undulating rhythms and a back-up chorus that sounds like it's straight from the streets.

"I'm So Proud" shows why Deniece Williams has every right to be. It's simply superb. —Phyl Garland

DENIECE WILLIAMS: *I'm So Proud*. Deniece Williams (vocals); vocal and instrumental accompaniment. *Do What You Feel; I'm So Proud; So Deep in Love; I'm Glad It's You; Heaven in Your Eyes; They Say; Love, Peace and Unity; It's Okay*. COLUMBIA FC 38622, © FCT 38622, no list price.

The Cleveland Quartet Caps Its Beethoven Series With Another Winner

THIS year has brought us no fewer than four recordings of all of Beethoven's late quartets in four-disc sets: the remake by the Amadeus Quartet on Deutsche Grammophon; the reissue of the still vibrant monophonic recordings by the Hollywood Quartet imported in the HMV Treasury series; another import, part of the Prague-based Talich Quartet's survey of all the Beethoven quartets for the French label Calliope (regrettably available here all too briefly); and now the final installment in the Beethoven cycle begun a few years ago by the Cleveland Quartet on RCA. This last set must be accounted the most stimulating of the lot—the most provocative, the most thoughtful, and ultimately the most rewarding, as well as the most handsomely recorded, even if it may not dislodge the luminous Quartetto Italiano set on Philips from first place among all current versions or give the owners of the deleted Végh Quartet series on Telefunken any cause to cherish those performances less.

The five late quartets and the *Grosse Fuge* were taped before the Cleveland's

Best of the Month

Recent selections
you might have missed

CLASSICAL

- **Brahms: Vocal Ensembles.** DEUTSCHE GRAMMOPHON 2740 280. "Clear, natural singing, marvelous sound." (September)
- **Mozart: Piano Concertos Nos. 20 and 27.** LONDON CS 7251. "Elegant, passionate, and committed performances from Sir Clifford Curzon . . ." (August)
- **Mozart: Opera Arias.** PHILIPS 6514 319. "Marvelous music, gorgeous singing by Kiri Te Kanawa." (July)
- **Mozart: Symphonies Nos. 31, 35, 38, 40, and 41.** L'OISEAU-LYRE D172D4. ". . . some of the finest Mozart playing around." (September)
- **Poulenc: Solo Piano Music.** EMI/PATHÉ MARCONI C 069-73101. "A glowing new collection from Gabriel Tacchino . . . irresistible." (June)
- **Rachmaninoff: Symphony No. 3; The Isle of the Dead.** DEUTSCHE GRAMMOPHON 2532 065. "Definitive interpretations by Lorin Maazel, stunning digital sound." (July)
- **Schubert: Piano Sonata in B-flat Major.** HYPERION A66004. ". . . an exceptional realization of a great work." (August)
- **R. Strauss: Death and Transfiguration; Four Last Songs.** ANGEL DS-37887. "Profoundly satisfying . . ." (June)

POPULAR

- **Joan Baez: Very Early Joan.** VANGUARD VSD-79446/7. ". . . a spellbinding album by one of the most influential . . . popular artists of our time." (August)
- **Angela Boffili: Too Tough.** ARISTA AL 9616. "Polished, powerful, and pretty." (June)
- **Phil Collins: Hello, I Must Be Going!** ATLANTIC 80035-1. ". . . an eclectic, well-crafted album . . ." (June)
- **Local Hero.** WARNER BROS. 23827-1. "A beautiful, powerfully exciting film soundtrack by Mark Knopfler." (September)
- **Susannah McCorkle: The People That You Never Get to Love.** INNER CITY IC 1151. "Wonderful songs, wonderful singing." (September)
- **Lou Reed: Legendary Hearts.** RCA AFL1-4568. "Passionate and inspiring rock-and-roll." (July)
- **Carlos Santana: Havana Moon.** COLUMBIA FC 38642. "Soulful, fresh, and personal." (August)
- **Simon & Bard Group: Tear It Up.** FLYING FISH FF 262. "Sophisticated music played with feeling." (July)
- **Mel Tillis: After All This Time.** MCA MCA-5378. ". . . one of country music's real vocal masters." (July)
- **ZZ Top: Eliminator.** WARNER BROS. 23774-1. "Hard-rocking, low-riding, sleazy, and funny." (August)



The Cleveland Quartet

original violist, Martha Strongin Katz, was replaced by Atar Arad, so there is thorough continuity throughout the cycle in terms of personnel. Another sign of continuity is the extremely comprehensive and imaginative annotation by Paul Katz, the group's cellist, who gives us, in addition to more than the usual background information and commentary on the works, an account of some of the performance dilemmas faced by the players and the reasons for the choices they made in each case. One point Katz makes is that Beethoven was not being at all perfunctory in his indication of repeats and that, while the length of actual concert programs may frequently necessitate the omission of repeats, a recording provides an opportunity for taking all of them—and that opportunity is duly taken here.

The B-flat Quartet, Op. 130, is often the touchstone of a recorded survey of the late quartets, and the performance it receives here is an especially persuasive one in every respect. The long opening movement is beautifully proportioned, the succeeding presto is all lightness and grace, fleet-footed but never hectic, and the two movements that separate it from the cavatina are poised unselfconsciously between charm and profundity. The slow tempo for the alternative allegro finale works very well, and the *Grosse Fuge*, the original finale, blazes with impassioned conviction.

All told, the sound is exceptionally crisp and clear (if not particularly warm), the pressings are exemplary, and the performances throughout are

clearly in the same league as that of Op. 130. The lyricism and the under-rated raw strength of Op. 127 both make their full impact, as do both the mystic and folkish elements of the valedictory Quartet in F Major, Op. 135. The latter's justly celebrated scherzo (*Vivace*) is as perfectly judged—and as spontaneous-sounding—as the presto in Op. 130: robust, polished, vital, yet free from any hint of misplaced frenzy. Tempos are ideally judged in every movement, relationships between movements are made especially clear, and Opp. 131 and 132 come off almost as exaltedly throughout as one always hopes for. There may be a slightly tentative bar here or there, but the overall responsiveness and natural momentum are remarkable. I can't recall a more affecting statement of the *Heiliger Dankgesang* in Op. 132, so radiantly straightforward and unforced here, or a more convincing performance of the finale to that work.

Whether it is judged to be "the best" or simply "one of the best" (it is no small distinction, after all, to stand with the Quartetto Italiano and Végh cycles), the Cleveland Quartet's Beethoven series is a winner, and this final volume is not merely a satisfactory conclusion but a true capstone.

—Richard Freed

BEETHOVEN: String Quartets: No. 12, in E-flat Major, Op. 127; No. 13, in B-flat Major, Op. 130; No. 14, in C-sharp Minor, Op. 131; No. 15, in A Minor, Op. 132; No. 16, in F Major, Op. 135; Grosse Fuge, Op. 133. Cleveland Quartet. RCA ARL4-4509 four discs \$39.92, ©ARK4-4509 \$39.92.



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Popular Music

News Briefs



L.F.I./Reina Ltd



Robin Kaplan/Reina Ltd

The Hollies then and now: left, the original Sixties group; right, the reunited Hollies (minus Eric Haydock) today

A SURPRISING number of defunct rock groups and terminated pop partnerships have made news by re-forming or regrouping in the last couple of years. Among those continuing the reunion trend this year are **Elton John** and his songwriting buddy **Bernie Taupin**, together again for John's twenty-fourth album, "Too Low for Zero," which was reviewed here last month. Their last previous collaboration had been on "Blue Moves" in 1976.

Back together for their first U.S. tour in thirteen years were the enormously popular folk-rock duo **Paul Simon** and **Art Garfunkle**. In July of this year they started touring with a show billed as "A Summer Evening with Simon & Garfunkle." Along with such old standards as *Bridge Over Troubled Water* and *Mrs. Robinson*, they performed selections from their brand new Warner Brothers album, "Think Too Much," their first studio recording since 1970.

At most dates they drew sellout crowds in huge arenas like Houston's Astrodome. In New York they pulled more than 80,000 for their appearances at Shea and Giants stadiums, outselling their hottest touring competitors, **David Bowie** (who drew 60,000 at three Madison Square Garden dates) and the **Police** (50,000 at Shea Stadium). □

THIS year marks the twentieth anniversary of the foundation of the **Hollies** by **Graham Nash** and **Allan Clarke**. And this year finds co-founders Nash and Clarke reunited with **Bobby Elliott** and **Tony Hicks**, fellow Hollies from the old days. Nash left the band in 1968 to join Stephen Stills and David Crosby in forming the supergroup Crosby, Stills, Nash and Young. (**Crosby, Stills and Nash** reunited *last* year for "Daylight Again," their first album in five years.)

The Hollies' recent tour in support of their new album "What goes around..." (see review on page 76) included a performance on the TV music show *Solid Gold*. It had long been rumored that drummer Elliott has been as bald as Otto Preminger since the first days of the British Invasion, which explains why he never appeared publicly without a hat or a faintly preposterous Prince Valiant hairdo. In a stunning concession to maturity Elliott appeared on the show without wig or hat, sporting a chrome dome that could outshine Yul Brynner's or Telly Savalis's. □

THE most significant of the rock reconciliations was probably the September reunion concert of the **Everly Brothers** at Albert Hall in

London. Among the many artists who have acknowledged a debt to the Everly Brothers are the Beatles, Bob Dylan, the Byrds, the Mamas and the Papas, Simon & Garfunkle, and Lovin' Spoonful.

The reunion concert, their first in ten years, will be shown on cable TV shortly and will be released on video disc and cassette next spring. The Everly Brothers have never made public the reasons for their separation, and they

have not confirmed whether the reunion has a future or was a one-shot. According to Phil Everly, they chose London for the reunion concert because they were grateful for the loyalty of their English audience when interest in the duo waned back home in the Sixties. □

ALSO together again are the **Animals**, the British supergroup that disbanded in

The Animals: top, in the Sixties; bottom, today



SKR Photos/Reina Ltd



The Press Office

1966. Their current tour, which began in Canada in July, continues through the end of this month and covers North America, Europe, and Asia. So far they have drawn enormous crowds of old and new fans to hear such classics as *We Gotta Get Out of This Place*, *It's My Life*, and *The House of the Rising Sun*, as well as material from their new album, "Ark."

At a conference arranged by I.R.S. Records for the Animals to meet the press, keyboardist **Alan Price** said, "There's no point in doing this if you can't relate to both old and new generations. We're not here just to prove that we can still eat, walk, breathe, and drink beer."

When the group disbanded the various members continued to work in music, with greater or lesser degrees of success. After knocking about with several U.S. bands, guitarist **Hilton Valentine** returned to England and to Newcastle (where the Animals originated). There he played with a local band.

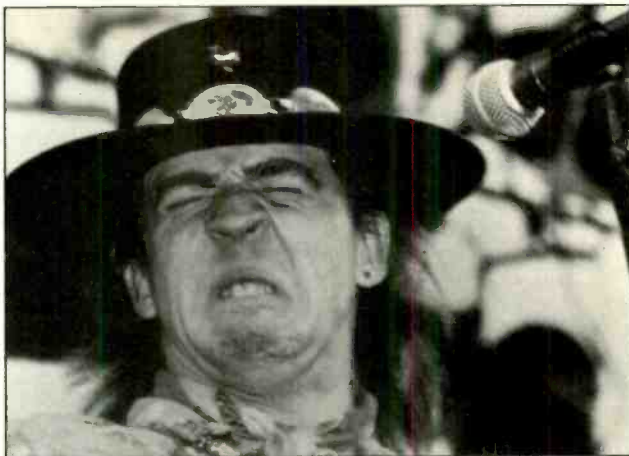
"It was called **Buddy and the Dimes**," he said. "We played bingo halls where the game was piped into the bar and the auditorium. People came to play bingo and weren't much interested in hearing us."

Although no Animals concert was scheduled for the

band's home town, Valentine hoped that a date in Newcastle could be squeezed in. "I'd like it to be the last on the tour," he said. "Then I could just hop in a cab after the show and go home." Whether they play Newcastle or not, the Animals seem to be proving that you can go home again. *P.W.*

FIRST there was the Video Disc, then the Compact Disc, and now comes (we're not making this up) the **Aroma Disc**. Called "the next frontier in home entertainment" by its creators, the Environmental Fragrance Technology Company, the Aroma Disc is a record and player system for the nose. A fragrance-scented disc is about four inches in diameter; a regular one lasts about an hour, the LP version about five. Among the hit records you can purchase for your Aroma Disc system are such faves as *Ocean Breeze*, *Movie Time* ("the nostalgic smell of buttered popcorn at the theater"), *Country Moods* ("the fun of an early autumn hayride"), and *Locker Room*, about which I will not even venture to guess. Personally, though, I'm holding out for an Aroma Disc version of Billy Joel's *Scenes from an Italian Restaurant*, for all the obvious reasons. *S.S.*

Ray Amati/Reina Ltd



Blues guitarist Stevie Ray Vaughan

GRACE NOTES: The new **Bob Dylan** album (no word yet on whether it's sacred or secular) finds the Hibbing Minstrel produced by **Mark Knopfler** of Dire Straits and backed by none other than **Sly Dunbar** and **Robbie Shakespeare**, better known as the pre-eminent reggae rhythm section of our day. Rasta Bob Dylan? . . . Sony is about to unleash a new batch of its innovative Video 45's, including two **Todd Rundgren** packages (one by Todd solo, the other in tandem with Utopia), and a collection of **Bill Wyman** ditties. Film buffs may be interested to know that one of the Wyman songs (the international hit *Si Si Je Suis un Rock Star*)

originally turned up, without vocals, as part of the Rolling Stones' bassist's score for the Ryan O'Neal/Omar Sharif movie thriller *Green Ice*. . . . Texas blues-guitar hot shot **Stevie Ray Vaughan**, who got himself noticed playing guitar on the new David Bowie album and then quit the Bowie tour in a huff over money, is now set to star opposite Burt Lancaster and Nastasia Kinsky in *Maria's Lover*. Producers of the film were so impressed with Vaughan's video clips on MTV that they pegged him to play one of Nastasia's lovers, a musician turned renegade biker. Vaughan's first album as a leader, "Texas Flood," has been released on Epic. *S.S.*

Disc and Tape Reviews

By CHRIS ALBERTSON • PHYL GARLAND • ALANNA NASH • MARK PEEL
PETER REILLY • STEVE SIMELS • JOEL VANCE

ADAM AND THE ANTS: *Dirk Wears White Sox*. Adam and the Ants (vocals and instrumentals). *Car Trouble*; *Kick*; *Cleopatra*; *Table Talk*; and eight others. EPIC FE 38698, © FET 38698, no list price.

Performance: **Loud**
Recording: **Okay**

"Dirk Wears White Sox" is the first American release of Adam and the Ants' 1980

Explanation of symbols:

- Ⓛ = digital-master analog LP
- Ⓢ = stereo cassette
- ⓐ = digital Compact Disc
- Ⓢ = eight-track stereo cartridge
- Ⓛ = direct-to-disc recording
- Ⓜ = monophonic recording

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

debut album. It has a much more stripped-down, punked-out sound than this year's model, "Friend or Foe," and it makes Adam's subsequent popularity seem a little less amazing. Even at an early age, Adam had a flair for the outrageous, sexual and otherwise. (From *Cleopatra*: "Cleopatra did a hundred Roman centurions for after-dinner mints . . . What a weak distorted image Elizabeth and Richard gave you on the screen, of the widemouthed girl." Now *that's* a mouthful.)

The music is a turgid brand of punk, derived in part from the Doors, with occasional flashes of guitar brilliance from Marco Pirroni, who owes a monumental debt to the frenetic Zoot Horn Rollo of Captain Beefheart's Magic Band. If there's an ideology behind this music, it's summed up in *Family of Noise*. While Adam's early work has energy, it lacks originality or staying power. The disc sounds exactly like what this group turned out to be: a dead end. *M.P.*

AMERICA: *Your Move*. America (vocals and instrumentals). *My Kinda Woman*; *She's a Runaway*; *Cast the Spirit*; *The Border*; *Your Move*; *Tonight Is for Dreamers*; *Someday Woman*; and four others. CAPITOL ST-12277 \$8.98, © 4XT-12277 \$8.98.

Performance: **Lightweight**
Recording: **Okay**

Back when I was in high school, I had an adolescent fix on two twelfth-grade boys who played guitars and sang original songs about lost love and freedom. They used to stand in the spotlight, close their eyes, and assume the proper look of anguish, and I thought they were *terribly* sensitive. Now, of course, I realize they were just whiners.

I'm reminded of that by America's new album, which, like all their other albums, is both whiney and adolescent. Honestly, these guys are past thirty now, but they're still hung up on pimple-cream themes—try-

Delia Bell



Warner Bros.

DELIA BELL looks like the kind of woman who's spent a lifetime waitressing down at the Mosey On Inn. A sharecropper's daughter and an ironworker's wife, Bell is one of those big ol' raw-boned country gals who makes no attempt to hide the crow's feet that spread out like road maps under her eyes. She stares out of the cover photo of her first Warner Brothers album with a mixture of friendliness and fear—and without an inkling that she has just recorded one of the most impressive old-style country-and-bluegrass albums of the decade.

A protégée of Emmylou Harris, who makes her producing debut here, Bell lays her songs out in a way that's as country as a beehive hairdo, waffling around on the notes a tad before moving on to the next in an unadorned soprano slide. While so many of today's pseudo-country queens learned their licks on the stage of an L.A. rehearsal hall, Bell grew up singing—and living—country music in Hogo, Oklahoma. Without so much as a hint of vibrato in her voice, she sings in a style that is straightforward, unpolished, and *authentic*. It takes a bit of jaw work to get three syllables into the word "hair," but, by George, she does it.

Bell isn't really a "newcomer." She has thirteen albums to her credit, most of them on her own Kiamichi label. Still, I doubt that many other producers could have made this record into the stunner it is. It was obviously a labor of love for Emmylou Harris, who found the title song of her own bluegrass album, "Roses in the Snow," on an obscure Bell LP. Not only has Harris revived a lot of great old songs for this album (*Don't Cheat in Our Hometown*, *Weary Heart*, *Will You Miss Me*) and spiffed them up with her own arrangements, but

she's brought in a host of top pickers and guest artists—including Byron Berline, Carl Jackson, Glen D. Hardin, Steve Fishell, Chet Atkins, and John Anderson—to do it up right. The fact is, though, that Harris keeps her own vocal harmonies uncommonly subdued, and she just about *overdoes* it with the instrumentalists, running the risk far too often of burying Bell alive under all that fancy fingerwork.

Despite the presence of all the big names, however, Harris took quite a risk with this project. Country music gets more citified every day, and while some may interpret Ricky Skaggs's current success as being indicative of a back-to-country movement, my guess is that within the industry Skaggs is perceived as a fluke, a token hillbilly whose style will be tolerated only as long as he continues to sell millions of records. Bell's own Warner Bros. contract calls for a total of seven LP's—if this first one sells. I hope it does. But whatever happens in the future with traditional music, Bell and Harris can be assured of one thing: "Delia Bell" is a *killer* of an album. —Alanna Nash

DELIA BELL. Delia Bell (vocals); Byron Berline (fiddle, mandolin); Carl Jackson (guitar, banjo); Steve Fishell (dobro, pedal steel); Glen D. Hardin (piano); Emory Gordy (bass); Don Heffington (drums); Chet Atkins (guitar); John Anderson (vocals); Emmylou Harris (vocals, guitar); other musicians. *Coyote Song*; *Don't Cheat in Our Hometown*; *I Forgot More (Than You'll Ever Know About Him)*; *Back Street Affair*; *Wildwood Flower*; *Weary Heart*; *Flame in My Heart*; *Good Lord a'Mighty*; *Lone Pilgrim*; *Will You Miss Me*. WARNER BROS. 23838-1 \$8.98, © 23838-4 \$8.98.

ing to get a girl who keeps "holding out" to let down her guard (*Your Move*) and sighing over failed relationships with the same disappointment as if they'd just been told they couldn't use the car for a month. On top of that, the budding little tunes never seem to sprout into real *songs*. Producer Russ Ballard (no more George Martin) does everything he can to stretch the material into some kind of shape, but all that's clearly defined are snatches of previous America songs and even a bit of Hall and Oates in the title tune. I guess we should expect as much from a duo that started out imitating Neil Young, but let's face it: musically, these guys are wimps. A.N.

PAUL ANKA: *Walk a Fine Line.* Paul Anka (vocals); vocal and instrumental accompaniment. *Second Chance*; *No Way Out*; *Golden Boy*; *This Is the First Time*; *Darlin'*, *Darlin'*; and four others. COLUMBIA FC 38442, © FCT 38442, no list price.

Performance: **Smooth**

Recording: **Good**

Paul Anka seems to have been around since the days of the cactus phonograph needle. He's still successfully hanging in there on the MOR/Vegas scene as a sort of upscale Wayne Newton, and he's still a very smooth, very assured, very clever performer. He's assisted by a solid crew on his new album, including Karla DeVito and ex-Doobie Michael McDonald, but the quality of his songs is decidedly variable. *Darlin'*, *Darlin'* is one of those bits of plastic goo that even teenagers of several generations back might have found indigestible, but the title song is an entirely professional piece of good commercial record making. Anka's voice is still resolutely pubescent, and he wails and brays his way through these selections as if he'd just sprayed his tonsils with Clearasil. On records, at least, he can still get away with it. P.R.

GEORGE BENSON: *In Your Eyes.* George Benson (vocals, guitar); vocal and instrumental accompaniment. *Feel Like Making Love*; *Inside Love (So Personal)*; *Lady Love Me (One More Time)*; *Love Will Come Again*; *In Your Eyes*; *Never Too Far to Fall*; and four others. WARNER BROS. 23744-1 \$8.98, © 23744-4 \$8.98, © 23744-9 \$8.98.

Performance: **Disappointing**

Recording: **Very good**

Until this album came along, I had thought that George Benson was incapable of making a less than satisfactory record. In moving over to the pop field, he brought along the same steely mastery he had displayed as one of the most innovative jazz guitarists in history, and his unique vocal scating was wonderful to hear. Quality seemed to be his hallmark in any kind of music.

Unfortunately, I have to revise that opinion, for with "In Your Eyes" Benson has fulfilled the worst predictions of his critics. Most of this album is dominated by the monotonous funk dance beat that has become as tyrannical today as disco once was. The worst casualty is *Feel Like Making Love*, a charming little sliver of a song that totally depends on subtlety and softness to put it across. Sweating and stomping, Benson beats it into oblivion. In contrast, the set's

"hit" song, *Inside Love (So Personal)*, is so insubstantial that the funk treatment can't hurt it any further. Granted, there are some tantalizing moments here—the velvety, intimate duet with Vickie Randle on *Late at Night* and a couple of instrumentals, *Being with You* and *In Search of a Dream*, on which Benson displays his monumental guitar technique. But the rest is just not up to the level we expect from an artist of George Benson's stature. **P.G.**

CROSBY, STILLS AND NASH: *Allies*. Crosby, Stills and Nash (vocals and instrumentals); other musicians. *War Games; Raise a Voice; Turn Your Back on Love; Shadow Captain; Dark Star; Blackbird*; and four others. ATLANTIC 80075-1 \$8.98, © CS-80075-1 \$8.98.

Performance: **Wooden**
Recording: **Okay**

Crosby, Stills and Nash recently had a special on cable TV, and it was a shock to find them looking so, well . . . mature. Stephen Stills at least remains a vigorous performer; of the six songs from that concert performance included on this album, his contributions work the best, which isn't saying much. The high points here are few and hardly worth mentioning, and the low points are too numerous to detail, except for David Crosby's unlistenable massacre of Joni Mitchell's *For Free*, which suffers the final insult of being mistitled on the jacket, liner, and label. The recession being what it is, records this dull and soulless don't get pressed as often as they used to. I wonder why they bothered in this case. **A.N.**

RECORDING OF SPECIAL MERIT

JOHN DENVER AND THE MUPPETS: *Rocky Mountain Holiday*. John Denver (vocals, guitar); the Muppets (vocals); instrumental accompaniment. *Hey Old Pal; Grandma's Feather Bed; She'll Be Comin' 'Round the Mountain; Catch Another Butterfly; Gone Fishin'; Poems, Prayers and Promises; No One Like You*; and six others. RCA AFL1-4721 \$8.98, © AFK1-4721 \$8.98.

Performance: **Charming**
Recording: **Very good**

You'd have to be an ogre not to like this encore pairing of America's favorite nonhumans and the original far-out flower child. It is apparently the soundtrack from their TV special, which perhaps explains why some of the songs are so short. Just the same, this is a charming collection of reflection, whimsy, and wit, with Denver airing out a couple of his old standbys and a lot of old standards and even writing a new tune or two. As usual, producer Milt Okun and superplayers Glen D. Hardin (keyboards), James Burton (guitars), and Jim Horn (reeds) do their thing and then stay out of the way, and Denver is clear-voiced and earnest. Actually, I enjoy the Muppets' singing more than I do Denver's, but matching them up was a natural. Heck, he even *looks* like one of 'em! **A.N.**

RECORDING OF SPECIAL MERIT

EURHYTHMICS: *Sweet Dreams*. Eurhythmics (vocals and instrumentals). *Love Is a*

Stranger; I've Got an Angel; Wrap It Up; I Could Give You (A Mirror); The Walk; and five others. RCA AFL1-4681 \$8.98, © AFK1-4681 \$8.98.

Performance: **À la mode**
Recording: **Very good**

While the group's name may suggest the latest aerobic fitness craze, Eurhythmics couldn't sound less American. This new album is, in fact, the latest in European chic, music that whispers affluence, decadence, and aloofness in a way American bands have thus far been incapable of doing. Eurhythmics is duplicating its British chart success here, just as such bands as Duran Duran and the Human League have before,

and doing it with the same triggers: a seductive disco beat, arm's-length sensuality, cool waves of synthesizer sound, and arrangements (crisp horns and stinging guitar) that are as tight as a clenched, gloved hand. Although it's soft around the tonal edges, the music on "Sweet Dreams" has a particularly sharp melodic edge, made sharper by the icy soulfulness of Annie Lennox's vocals. For the rapidly growing cult of Continental synth-pop devotees, Eurhythmics is essential. **M.P.**

THE FIXX: *Reach the Beach*. The Fixx (vocals and instrumentals). *One Thing Leads to Another; Sign of Fire; Running; Saved by Zero; Opinions; Changing*; and four oth-

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ers. MCA MCA-39001 \$7.98, © MCAC-39001 \$7.98.

Performance: **Aimless**

Recording: **Okay**

Take the chrome-plated production values of Steely Dan, vocals that combine the power of AOR and the gravity of David Bowie, *au courant* synth embellishments, and guitar catch phrases borrowed from Andy Summers, and what do you get? In the case of the Fixx, you get a jumbled mess. That may be because they neglected to borrow any melodic ideas when piecing together their style. Virtually all of "Reach the Beach" depends on Cy Curnin's vocals, which have a sort of gothic presence that is

totally without credibility, and on Jamie West-Oram's agitated guitar. West-Oram commands a decent vocabulary of licks and tricks, but he is never able to build a song from them. The keyboards are consigned to electronic window dressing, the drumming barely keeps the time—it seems to chime every hour on the hour—and Curnin is left to drift, deeply, soberly intoning some ludicrously opaque lyrics. "Reach the Beach" winds up sounding as much like a séance as a rock session. *M.P.*

GOANNA: Spirit of Place. Goanna (vocals and instrumentals). *Cheatin' Man; Solid Rock; Razor's Edge; Scenes; Children of the Southern Land; Stand Yr' Ground;* and

four others. ATCO 90081-1 \$8.98, © 90081-4 \$8.98.

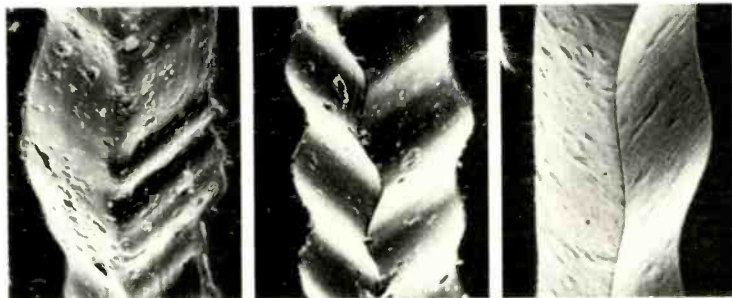
Performance: **Good**

Recording: **Very good**

I don't know what they call Goanna's music in Australia ("outback rock," maybe), but if this were an American band you'd find it shelved in country rock. It's been years since I deliberately put any of *that* on my turntable, which may be why "Spirit of Place" sounds to me as if it had dropped out of some musical time warp. But it certainly compares favorably with what Poco and Pure Prairie League used to keep America enthralled with.

Goanna isn't sophisticated: the melodies here are plain, the arrangements—soft acoustic guitar and pleasant vocal harmonies—are simple, the back beat is basic. But there are also none of the cowboy affectations that made country rock so hard to take seriously, and some of the songs are quite affecting. *Razor's Edge*, for instance, catches the uneasy freedom of people who have turned their backs on the security of middle-class life and find themselves wondering whether they've made the right choice. It's ironic, but an American band might find it difficult to get this music recorded in the synth age, while Goanna can capitalize on the current fascination with anything stamped "Made in Australia," whether it's Mel Gibson or Men at Work. Still, for Yanks who miss those days when drive-time AM radio sounded like a night under the stars around the campfire, you could do a lot worse than tether your horse to Goanna's wagon. *M.P.*

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LIQUID ARCHIVAL SOUND TREATMENT

THE HOLLIES: What goes around . . . The Hollies (vocals and instrumentals); other musicians. *Casualty; Take My Love and Run; Say You'll Be Mine; Something Ain't Right;* and six others. ATLANTIC 80076-1 \$8.98, © CS-80076-1 \$8.98.

Performance: **Mostly awful**

Recording: **Excellent**

I guess you can't go home after all. At least that's the conclusion I draw from this new Hollies album featuring the (temporary) return of Graham Nash to the fold after an absence of nearly fourteen years. It is as useless a vinyl product as has crossed my desk in years, and I say that as a Hollies partisan from way back. Their soaring harmonies are still intact, but that's about all; most of the instrumental work is provided by hired hacks (the band's great drummer, Bobby Elliot, is forced to compete with a drum machine on most of the cuts), and the boys didn't contribute a single original song to the project, which is pretty ironic when you consider that Nash quit the group in the first place because they wouldn't let him do his own material. The songs here are mostly the worst kind of MOR fluff, the kind of singles-bar junk I associate with sell-outs like the Little River Band, and there's the added indignity of a tired remake of *Just One Look*, the group's first American hit, from 1964. The only exception is a brilliant revamping of the Supremes' *Stop, in the Name of Love*, which at this writing is a radio hit, and deservedly so. *S.S.*

BILLY JOEL: An Innocent Man. Billy Joel (vocals, piano, organ); vocal and instrumen-

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tal accompaniment. *Easy Money*; *The Longest Time*; *This Night*; *Tell Her About It*; *Uptown Girl*; *Careless Talk*; and four others. COLUMBIA QC 38837, © QCT 38837, no list price.

Performance: **Archetypal**
Recording: **Good**

Like Paul Simon, Billy Joel has lived under a cloud of critical misgivings about his rock-and-roll credentials, as if being a mere pop artist or having a little sophistication were something one had to apologize for. His last two albums seemed deliberately aimed at winning over the skeptics by taking a much tougher stance. With "An Innocent Man," Joel is still trying to settle the question of his rock-and-roll status, but this time he's taken a different tack; he's returned to his roots and laid them at our doorstep.

"Innocent Man" is an album of original songs fashioned affectionately in the sound and style of the music Joel grew up with, the rock and soul of the late Fifties and early Sixties. The first couple of times you hear it, you can play at identifying the models for each song. There's James Brown and Otis Redding (*Easy Money*), the Drifters (*An Innocent Man*), the Platters (*Careless Talk*), the Four Seasons (*Uptown Girl*), and . . . but I won't spoil any more of it for you. When the fun of doing that is over, you're left with what's basically a nostalgia record, though a well-crafted one.

There's just no way around it: Billy Joel is a consummate pop stylist even when he's doing doo-wop. His phrasing is uncanny—he can go from Otis Redding to Frankie Valli (though he can't manage a falsetto) to Frankie Lyman—and, naturally, his songs are clever, perhaps too clever for the simple, unaffected music he's paying homage to. The best example of Joel's outsmarting himself is *Keeping the Faith*. The song is chock-full of period details ("Put on my sharkskin jacket/And ditty-bop shades/Combed my hair in a pompadour/Like the rest of the Romeos wore"), but they're the kind of details an outsider would observe: The surface dazzles, but you never feel you've gotten to the bottom of the character—or that there's anyone to get to the bottom of. Moreover, the production is a bit disappointing. In trying to strip the sound down to resemble the period's unadorned production style, Joel and Phil Ramone wind up with a bland, unbalanced feel.

Nevertheless, as a competent reminiscence, "An Innocent Man" confirms Billy Joel's pop-music artistry and stylistic mastery. The jury is still out on the rocker, though. *M.P.*

RICKIE LEE JONES: *Girl at Her Volcano*. Rickie Lee Jones (vocals, piano, synthesizer); vocal and instrumental accompaniment. *Lush Life*; *Walk Away Rene*; *Hey, Bub*; *My Funny Valentine*; *Under the Boardwalk*; and two others. WARNER BROS. 23805-1 \$5.99, © 23805-4 \$5.99.

Performance: **Mixed**
Recording: **Excellent**

Everything about this little project is as unusual as the voice it showcases. Pressed on a ten-inch disc (I haven't seen one since the Fifties), "Girl at Her Volcano" is a strange mix of live and studio performances, jazz and pop, classics and hidden gems, and one

original composition. As a fan of Rickie Lee Jones, I wish I could endorse it enthusiastically, but I can't. While Jones is at least as distinguished a stylist as a songwriter, her halting, quasi-jazz phrasing renders almost incomprehensible and unidentifiable the two jazz standards here, *Lush Life* and *My Funny Valentine*. Yet that very style makes you hear a pop song like *Walk Away Rene* in a fresh, deeply affecting way; I felt as if I were hearing it—and understanding it—for the first time. The arrangements (acoustic piano, strings, horns, sax) stay remarkably close to Jones's tricky vocal meandering, and when the songs come together—as all but the jazz tunes do, really—the effect is wrenching. *M.P.*

B. B. KING: *Blues and Jazz*. B. B. King (vocals, guitar); instrumental accompaniment. *Inflation Blues*; *Sell My Monkey*; *Heed My Warning*; *Rainbow Riot*; *Make Love to Me*; *I Can't Let You Go*; and three others. MCA MCA-5413 \$7.98, © MCAC-5413 \$7.98.

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

In his prime, B. B. King was one of the great bluesmen. At fifty-seven he still puts on a solid show, but, like Louis Armstrong in his later years, King is now more of a showman than a musician. On this album King sings and plays with professional gusto, backed by a big band blowing standard-

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Lynn Goldsmith

Bob Marley's Last Music

BOB MARLEY'S final album, "Confrontation," was recorded during the last months of his life, yet it gives no sense of hopelessness or sorrow. Marley died fighting, and "Confrontation" is a call to

arms. *Chant Down Babylon*, for instance, is an affirmation of reggae's power to unify the black man against an oppressor grown fat and ripe for overthrow. *Buffalo Soldier* aims to create a heroic mythology, and *Rastaman Live Up!* is an urgent plea to Marley's people to keep their culture and faith alive. Together with the musicians—the Barrett brothers, Junior Marvin, Tyrone Downie, the I Threes—who helped him fashion an art form out of religious conviction and social protest, Marley made his last music great music.

It's odd but fitting that, although Bob Marley died more than two years ago, there is no indication of it anywhere on the album. No dedication. No eulogy. Even most of the songs carry 1983 copyrights. Marley himself never acknowledged the death of Haile Selassie, whom the Rastafarians believed to be divine, and today there are followers of Marley who refuse to accept his death. Bob Marley too is becoming a mythical hero—he's depicted on the album cover as St. George, astride a horse, in combat with a dragon. If nothing else, this apotheosis is eloquent tribute to the power of Marley's music. Cult deity or not, as a prophet of hope and liberation Marley lives on through his music. —Mark Peel

BOB MARLEY AND THE WAILERS: *Confrontation*. Bob Marley (vocals, guitar); the Wailers (vocals and instrumentals); the I Threes (vocals); other musicians. *Chant Down Babylon; Buffalo Soldier; Jump Nyabinghi; Mix Up, Mix Up; Give Thanks and Praise; Blackman Redemption; Trench Town; Stiff-Necked Fools; I Know; Rastaman Live Up!* ISLAND 90085-1 \$8.98, © CS-90085-1 \$8.98.

ized charts and riffs. They all do what they're paid for but little more.

King's new original material here is pale. There are also two maudlin oldies: *Darlin'*, *You Know I Love You*, a glucose doo-wop ballad written by King and Jules Bihari in the Fifties when King was recording for the Bihari brothers' Modern label, and *Make Love to Me*, a pre-rock hit from the same period that adds sappy lyrics to a very slight alteration of the melody of the Dixieland jazz warhorse *Tin Roof Blues*. The naïve, ungrammatical, and vulgar liner-note blurb by King's manager and record producer is an insult. J.V.

THE KINKS: *State of Confusion*. The Kinks (vocals and instrumentals). *State of Confusion; Definite Maybe; Come Dancing; Property; Don't Forget to Dance; Young Conservatives;* and four others. ARISTA AL8-8018 \$8.98, © AC8-8018 \$8.98.

Performance: **Has its moments**
Recording: **Excellent**

The Kinks' Arista albums have been generally disappointing, at least compared with the band's Sixties and early Seventies output, and this one is no exception. But there are some marvelous things here that suggest Ray Davies remains a talent to be reckoned

with. "State of Confusion" finds Ray and the lads making loud, obnoxious guitar noises like a punk band half their age, being hilariously blatant about lifting melodies (here they cop the Yardbirds' *Over Under Sideways Down*), and occasionally dealing with current events. There are also some minor classics in the package, notably the tongue-in-cheek but still poignant *Come Dancing* (a hit, against all odds) and *Heart of Gold*, the kind of cheerfully ersatz folk schmaltz I thought Davies stopped writing in 1966, though I'm glad he didn't.

This is hardly a great album. As Davies ages, he's getting even quirkier than he used to be, if that's possible. But after twenty years, even a less than epochal album from these guys sounds like a letter from home. That's enough to keep me listening. S.S.

GLADYS KNIGHT AND THE PIPS: *Visions*. Gladys Knight and the Pips (vocals); instrumental accompaniment. *When You're Far Away; Just Be My Lover; Heaven Sent; Seconds;* and six others. COLUMBIA FC 38205, © FCT 38205, no list price.

Performance: **Disappointing**
Recording: **Very good**

At first, I thought my ears were deceiving me: here were Gladys Knight and the Pips,

one of the all-time great soul groups, strutting and clapping their way through the weakest kind of commercial crud—and, worst of all, sounding as though they were born to this cheap and superficial fare rather than to the rich rhythm-and-blues heritage they once carried on so proudly.

The quartet's main asset, the lustroously rich and emotionally moving voice of Gladys Knight, is showcased to some extent on three numbers—*Heaven Sent*, *You're Number One (in My Book)*, and *Hero*—though they lack sufficient depth to draw out her very best. Otherwise, she is buried in a mire of unimaginative and downright boring arrangements. *Seconds* at least has a touch of the blues and features the group in its best get-down vocal form, and *Oh La De Da* opens with a robustly harmonized African-sounding chant with percussion accompaniment that quickly shifts into a prancing, rhythmic pace. The other five cuts are best ignored altogether. A sad waste. P.G.

LITTLE RIVER BAND: *The Net*. Little River Band (vocals and instrumentals). *You're Driving Me Out of My Mind; We Two; No More Tears; Down on the Border; Falling;* and five others. CAPITOL ST-12273 \$8.98, © 4XT-12273 \$8.98.

Performance: **Strange currents**
Recording: **Busy**

The Little River Band is one of those groups you've always known was around but didn't pay much attention to, mainly because their stuff never really stood out on the radio. The lyrics were usually throwaways, and the melodies were tuneful but not particularly original. I always thought that was a pity, really, because lead singer Glenn Shorrock seemed to have a sort of Van Morrison emotional fire inside him someplace, the kind of fire that, fanned even a little, would have burned a wimp group like LRB to cinders. But Shorrock is out of the band now, replaced by John Farnham, who makes his debut with LRB on "The Net." Farnham sings with a lot more intensity than Shorrock did, but he does a lot more posturing than singing from the heart.

The real news here, however, is that the Little River Band has relaxed its stalwart MOR stance to move into funkier territory. The opening cut, *You're Driving Me Out of My Mind*, starts out with a horn assault and a throbbing bass line that suggests Chicago Gone Disco and quickly descends into the production formula that dominates this album—get everybody to play everything as loud as possible and then "enhance" it with every electronic gizmo you can think of. Easily the best cut is Graham Goble's *Down on the Border*, a great little mood piece full of thrilling vocal harmonies and nervous energy that's dangerous and oddly sexual at the same time.

Most of the other tunes are just dreadful, punctuated by a warehouse of sound effects and sounding contrived and clichéd. One song, *Falling*, sounds like a reject in a "Write a James Bond Movie Theme" contest. And the title song suffers from a hard case of Pink Floyditis, where LRB tries its hand at social commentary, cacophony, and mysticism all at once. Pink Floyd can get away with stuff like this and even give you an occasional chill. Coming from LRB, it just sounds pretentious and dumb. A.N.

LORETTA LYNN: *Lyn', Cheatin', Woman-Chasin', Honky-Tonkin', Whiskey-Drinkin' You.* Loretta Lynn (vocals); vocal and instrumental accompaniment. *The Heart to Start Over; Starlight, Starbright; I Feel Like I Could Fall in Love with Anyone Tonight; My Love's Not a One Night Thing;* and six others. MCA MCA-5426 \$7.98, © MCAC-5426 \$7.98.

Performance: **Country contractual**
Recording: **Good**

Loretta Lynn's latest album, her last for MCA, carries on with the traditional themes we've come to expect from her. While it makes some concessions to the pop movement in country music with certain of the songs, it is still a *country* album, with the usual instrumentation and Loretta's customary no-frills phrasing. And though she wrote none of the ten selections, she and her two producers, Ron Chancey and Owen Bradley, have chosen songs that sound like her own.

The album sounds like a reflection of Lynn's own life, and she delivers it with an intense honesty and with vast waves of emotion. When she begs a lover to touch her "with more than your hands," she *sounds* like that woman who spends her life cooped up in the back of a bus with the shades drawn. And to anyone who has kept tabs on Loretta's fragile mental condition, it is positively chilling to hear her wail, "Oh, I hurt 'til I nearly go *crazy* sometimes."

All the same, there's a certain excitement missing from this outing. In the end, it

sounds like exactly what it is—a contract-fulfillment release. *A.N.*

CHUCK MANGIONE: *Journey to a Rainbow.* Chuck Mangione (flugelhorn, electric piano, synthesizer); instrumental accompaniment. *Buttercorn Lady; Love Bug Boogie; Song for a Latin Lady; Please Stay the Night;* and three others. COLUMBIA FC 38686, © FCT 38686, no list price.

Performance: **Bland**
Recording: **Good**

Like a river of butterscotch sauce, Chuck Mangione's albums course sluggishly on without much change from one band to the next. On "Journey to a Rainbow" Mangione once again pours his rich, bland sound over a series of less than memorable tunes. It's strictly for hard-core Mangione fans, of which I'm told there is a surprisingly large number. *P.R.*

RECORDING OF SPECIAL MERIT

MAZE: *We Are One.* Maze (vocals and instrumentals); Frankie Beverly (vocals, piano). *Love Is the Key; Right On Time; Your Own Kind of Way; I Wanna Thank You;* and four others. CAPITOL ST-12262 \$8.98, © 4XT-12262 \$8.98.

Performance: **Like a summer breeze**
Recording: **Good**

There is nothing particularly spectacular about Maze. The performers don't arrive on stage in a cloud of smoke or destroy their

instruments or deluge their audience with deafening bursts of amplified sound. They're just eight musicians, led by vocalist-composer Frankie Beverly, who specialize in creating a mellow kind of contemporary r-&-b that flows so easily and is so laid-back that it just sort of seeps into your bones. Much of Maze's appeal is rooted in Beverly's singing, which is passionate but controlled as he croons about love with an inner ardor that illuminates every line of every song.

If you're familiar with and enjoy Maze's sophisticated understatement, you'll find much pleasure in this album, which is both spirited and sweetly enticing. Unlike some of the group's previous LP's, this one has no absolutely knockout track, being aimed more at the gradual construction of a total mood. But there are some high spots here, among them *Your Own Kind of Way, I Wanna Thank You,* and *I Love You Too Much.* Maze modestly never promises more than it can deliver, which is soothing soul music that never lets you down. *P.G.*

STEVIE NICKS: *The Wild Heart.* Stevie Nicks (vocals); vocal and instrumental accompaniment. *Wild Heart; Enchanted; Nightbird; Stand Back; I Will Run to You; Sable on Blond;* and four others. MODERN 90084-1 \$8.98, © CS-90084-1 \$8.98.

Performance: **Ethereal**
Recording: **Sublime**

In the photos on the jacket of her much-awaited second solo album, Stevie Nicks

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appears in three mysterious poses that seem to illustrate the lyrics of the album's one truly interesting offering, a song called *Nightbird*, which describes "the ones who sing at night . . . capes pulled around them tight." Whether that's the concept she had in mind, or whether she simply meant to portray the dreamy Muse or the spirits of the night who inhabit so much of her work, I don't know. But it doesn't take much of "The Wild Heart" to know that things are terribly amiss in Faerieland.

Nicks either wrote or co-wrote all but one of the songs here, but it is just about impossible to tell what she is trying to say. Almost without fail, each song has several intense, often conflicting, emotions running through it, and Nicks's opaque writing is such that we're never really sure which one to take home. But then nothing here is very clear cut. The lyrics are all pretty and enigmatic but fleshless as a stray dog.

Some of this could be overlooked if Nicks had created a strong musical framework for her spiritual ramblings, but her melodies generally drift hither and yon like a wandering wisp of incense. One exception is a piece of pure, full-tilt, L.A. pop-rock called *Enchanted*, which sounds like a Linda Ronstadt reject and even boasts Ronstadt's old guitarist, Waddy Wachtel. A song with this much kick is welcome after the three otherworldly pieces that start out the album. Still more welcome is Nicks's uptempo and direct encore duet with Tom Petty and the Heartbreakers, *I Will Run to You*, the only song on the record she did not have a hand in writing.

There are a couple of other nice things, such as *Nightbird*, which resembles the midtempo pop of Fleetwood Mac but has some of the emotional and evocative quality of Nicks's own *Rhiannon*. Her vocal problems seem to be under control, and she has one of the best in producer Jimmy Iovine, but the truth is that "The Wild Heart" is a mess. Nicks sums it up in *Beauty and the Beast*: "You say a lot . . . but you're unaware of how to leave." A.N.

ROBERT PALMER: *Pride*. Robert Palmer (vocals, keyboards); vocal and instrumental

accompaniment. *Pride*; *Deadline*; *Want You More*; *Dance for Me*; *You Are in My System*; and five others. ISLAND 90065-1 \$8.98, © CS-90065-1 \$8.98.

Performance: **Mangled**
Recording: **Hard to say**

Like a B-movie mad scientist who's been transformed into a monster by his forbidden experiments, Robert Palmer is in danger of being consumed by his obsessive drive to electrify the Caribbean. "Pride," his latest attempt to fuse synth-pop with reggae, is a hopeless tangle of incongruous sounds and structures. For one thing, Palmer's increasingly mannered phrasing—he'll do anything to stay off the beat—is sounding more machine-like and less human all the time. And his convoluted arrangements all but strangle themselves: there's simply too much of *everything* here. On *Dance for Me*, for instance, two clashing sets of background singers, one in each channel, literally pull the song apart; it's impossible to focus either on Palmer's vocal or on the main instrumental thrust of the song.

Robert Palmer can be an extremely entertaining songwriter, and there are some clever tunes buried here, such as the title song, *Pride*, a skeptical look at the fitness craze. But to make himself heard again, he's going to have to dig out from under these overblown arrangements. M.P.

ROBERT PLANT: *The Principle of Moments*. Robert Plant (vocals); instrumental accompaniment. *Other Arms*; *In the Mood*; *Messin' with the Mekon*; *Wreckless Love*; *Thru with the Two Step*; and three others. ATLANTIC 90101-1 \$8.98, © CS-90101-1 \$8.98.

Performance: **Slick**
Recording: **Ditto**

Robert Plant's last solo album sounded about as close to a Led Zeppelin album as was humanly possible, which was a mixed blessing. The Zep has rarely appealed to me on any level other than that of aural gross-out, Jimmy Page's guitar and production wizardry notwithstanding. Plant's new record sounds like Zeppelin only in the most

general ways; it's a heavy-guitar album, with the sound somewhat stripped down in a nod to contemporary fashion. While an occasional whiff of Zep does waft by, as in the Near Eastern modal quality that permeates *Wreckless Love*, this is quite obviously a conscious attempt to distance the singer from memories of his former band. All well and good, I guess, and Plant's singing has mellowed pleasantly; he no longer goes for notes that only dogs can hear. Unfortunately, his songwriting has not similarly improved. The songs here generally sound like rhythm tracks with lyrics written and recorded later, almost as afterthoughts. It's pretty tedious going, and while I'm not about to suggest that Plant should revert to singing twenty-minute blues pastiches with lyrics about women squeezing his lemon, as he did on "Led Zeppelin II," such excess might actually be a relief compared with what he's offering here. S.S.

RED ROCKERS: *Good As Gold*. Red Rockers (vocals and instrumentals). *China*; *Change the World Around*; *Til It All Falls Down*; *Running Away from You*; *Home Is Where the War Is*; and five others. 415/COLUMBIA BFC 38629, © BCT 38629, no list price.

Performance: **So-so**
Recording: **Good**

Red Rockers is a neo-punk band from New Orleans that migrated to California and won fame in slam-dancing clubs. A self-proclaimed "fun dance band" that "like(s) to make kids think for themselves" by slipping anarchistic sentiments into their songs, in the early days they decorated their equipment with hammer-and-sickle insignia for shock effect. But the group's "political" opinions are just the usual hodgepodge that youngsters embrace when they are feeling alienated or worried about growing up.

Musically, the Red Rockers aren't much more than an experienced bar band. Despite the claim that there is a special sound to New Orleans rock groups, I can't hear it in their playing. Some of their ensemble or overdubbed vocals owe a stylistic debt to the early Byrds, and the guitar reverbs on the

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Thin Lizzy's Rousing Farewell

Phil Lynott



Ebet Roberts

THIN LIZZY'S final album, "Thunder and Lightning," begins about as unequivocally as an album can, with a punishing, power-chord-packed title cut, a paean to booze, broads, and brawling that will probably raze every arena built before 1970 when Lizzy makes its last tour this fall. It's a shame the band's members are going their separate ways, but as you get caught up in the crossfire of the album's thundering rhythm section and dueling lead guitars, you have to wonder how Thin Lizzy kept up this level of intensity for thirteen years.

"Thunder and Lightning" does what all great heavy-metal does—it lets you raise a little hell vicariously. If you're like me and wouldn't even consider gambling a month's pay on a long shot or beating your best girl's escort to a bloody nub in a barroom, songs such as *Cold Sweat* and *Thunder and Lightning* are better than the real thing—they let you indulge your baser instincts while leaving your self-esteem (and your knuckles) intact.

There's more here than vicarious kicks, however. Although heavy-metal is an un-

likely environment for it, a curious strain of Christianity runs through many of leader Phil Lynott's songs. He's not so much born again as possessed by a critical, even skeptical faith. In *Holy War* it emerges as a blistering attack on wars of religion. Elsewhere, it shows in Lynott's imagery: in *This Is the One*, a burned-out misfit screams, "One day thy kingdom come," and in *The Sun Goes Down*, infidelity is punished by damnation. I expect we'll probably see more of this strain in Lynott's subsequent work. I only hope that his solo efforts, and those of the rest of the group, continue to give us the same high-powered thrills Thin Lizzy delivers on its heavy-metal valedictory.

—Mark Peel

THIN LIZZY: *Thunder and Lightning*. Thin Lizzy (vocals and instrumentals). *Thunder and Lightning; This Is the One; The Sun Goes Down; The Holy War; Cold Sweat; Someday She Is Going to Hit Back; Baby Please Don't Go; Bad Habits; Heart Attack.* WARNER BROS. 23831-1 \$8.98, © 23831-4 \$8.98.

title tune were corny when they were first used in the early Sixties. The Red Rockers are old news. J.V.

MITCH RYDER: *Never Kick a Sleeping Dog* (see Best of the Month, page 65)

DONNA SUMMER: *She Works Hard for the Money*. Donna Summer (vocals); vocal and instrumental accompaniment. *He's a Rebel; Tokyo; Unconditional Love; Woman; People People; I Do Believe (I Fell in Love); Love Has a Mind of Its Own;* and

two others. MERCURY 812 265-1 M-1 \$8.98, © 422-812 265-4 M-1 \$8.98.

Performance: **Cold Summer**
Recording: **Very good**

Donna Summer rode the crest of the disco wave with such authority that one could easily believe she invented the style, but it was not until she recorded Paul Jabara's *Last Dance* that many of her admirers realized how much voice she actually had. On "She Works Hard for the Money" the voice has not changed, but the quality of her ma-

terial has. The lady who naughtily dished out *Hot Stuff* and *Bad Girls* now sings lyrics so bland that even the Reverend Jerry Falwell might snap them into his Walkman. But it is the production by Michael Omar-tian, not the watered-down lyrics, that really separates the reborn Donna Summer from the sultry old one. Yes, the song *She Works Hard for the Money* has an engaging chart quality about it, and, yes, it certainly is an improvement over Quincy Jones's everybody-but-the-kitchen-staff session. But, as thumpers go, this album is several steps down from Summer's previous work with producers Giorgio Moroder and Pete Bellotte. C.A.

TALKING HEADS: *Speaking in Tongues*. Talking Heads (vocals and instrumentals); other musicians. *Burning Down the House; Making Flippy Floppy; Girlfriend Is Better; Slippery People; I Get Wild/Wild Gravity; Swamp;* and three others. SIRE 23883-1 \$8.98, © 23883-4 \$8.98.

Performance: **Mannered**
Recording: **Excellent**

Speaking in tongues is what some religious mystics do when suffused with some holy spirit or other. Unintelligible gibberish uttered with intense conviction is a phenomenon that makes me a little queasy. I mean, spiritual experiences are fine as long as you don't frighten the horses. Initially, I assumed head Head David Byrne was being ironic, but after listening to the record I'm not so sure. In fact, I think that the obscure doggerel and polyrhythmic noodling that make up the album are really supposed to be Byrne's version of the Transcendental. To these cynical ears, however, it's mostly tepid art-school funk. S.S.

PETER TOSH: *Mama Africa*. Peter Tosh (vocals, clavinet); vocal and instrumental accompaniment. *Mama Africa; Glass-house; Not Gonna Give It Up; Stop that Train; Johnny B. Goode;* and four others. EMI SO-17095 \$8.98, © 4XO-17095 \$8.98.

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

With the termination of Peter Tosh's contract, Rolling Stones Records' experiment with reggae is over. Whatever artistic achievements it may have produced, it was obviously a financial flop. Tosh probably won't make a lot of money for EMI, his new label, either, but he is making good music again. After the rather drab "Wanted Dread or Alive," "Mama Africa" is a significant improvement. Though no barn burner, it's a solid album of roots reggae, artfully arranged and cleanly produced. Tosh does tend to settle into a groove and stick in it for a while, which makes some of the longer tracks, such as the eight-minute title cut, seem like Rasta mantras. But there's fire in Tosh's voice, conviction in the songs, and a skillfully deployed army of instrumental forces—including synthesizers, horns, and an array of percussion and keyboards—that, if not quite enough to knock down the walls of Jericho, could at least shake them. M.P.

DENIECE WILLIAMS: *I'm So Proud* (see Best of the Month, page 69)

JAZZ



BILLY COBHAM'S GLASS MENAGERIE: *Smokin'*. Billy Cobham (percussion); Gil Goldstein (keyboards); Dean Brown (guitar); Tim Landers (bass). *Looks Bad, Feels Good; Situation Comedy; Chiquita Linda;* and two others. ELEKTRA/MUSICIAN 60233-1 \$8.98. © E4-60233 \$8.98.

Performance: **Loud**
Recording: **Good remote**

Drummer Billy Cobham used to make exciting albums. They were not great jazz masterpieces but imaginative studies that displayed how percussion could be applied to state-of-the-art electronic instruments. Now Cobham and his group, Glass Menagerie, have a new album on the Elektra/Musician label, but I'm afraid "Smokin'" does not light my fire. Guitarist Dean Brown gets in a few well-chosen bluesy licks, and there is good evidence that Cobham's talent is intact, but this quartet is more electrified than electrifying, and keyboard player Gil Goldstein's hammering is downright obnoxious at times. If a mishmash of Weather Report and souped-up Herbie Hancock is your cup of tea, pour away. C.A.

RECORDING OF SPECIAL MERIT

JOHN COLTRANE: *Bahia*. John Coltrane, Paul Quinichette (tenor saxophone); Freddie Hubbard (trumpet); Red Garland, Mal Waldron (piano); other musicians. *Exactly Like You; Cattin'; Sunday; Vodka; Goldsboro Express;* and five others. PRESTIGE ④ P-24110 two discs \$9.98.

Performance: **Vital**
Recording: **Good mono**

"Bahia" was the title of a John Coltrane album (Prestige 7353) released in 1964. This new Prestige two-record set with the same name includes all the selections from the original album and some from two others—"Cattin'" with Coltrane and Quinichette" (Prestige 7158) and "Stardust" (Prestige 7268). The period represented, 1957-1958, was a formative one for Coltrane; he was making history with Miles Davis while himself developing as a star of equal if not greater magnitude. Later in his brief career his playing would become more disciplined, but even some of his rash flourishes here seem quite palatable today. Not so pleasing is Freddie Hubbard's appearance on *Then I'll Be Tired of You*, a track that might well have been left out of this collection; it perhaps serves best to demonstrate how much progress the then twenty-year-old trumpeter has made since 1958.

Coltrane was a superb reader of ballads, and that facet of his talent is well represented here, but the most interesting part of this album is the session with Paul Quinichette, a tenor strongly influenced by Lester

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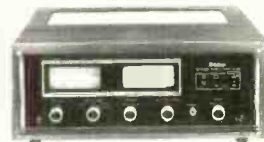
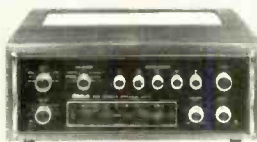
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Paul Kovit

Upbeat Richard Thompson

As Richard Thompson albums go, the new "Hand of Kindness" is something of a surprise—not because it's terrific (by now that's a given) but because it's . . . well,

for want of a better word, *jaunty*. Thompson has been Mr. Morbid for so long that the generally upbeat mood of this one seems almost shocking, especially since it's the first record he's made since splitting up with his long-time wife and collaborator, Linda. (Their last album together, "Shoot Out the Lights," was a STEREO REVIEW Record of the Year in 1982.) I was expecting a real slash-your-wrists special along the lines of his "I Want to See the Bright Lights Tonight," widely considered to be among the most depressing waxings of the last twenty years. But lyrics such as "She danced on my head like Arthur Murray" do not suggest an artist in the throes of terminal introspection.

In any case, the new songs here are among Thompson's best: they're tuneful, they're lyrically economical, and they leave just enough room for the composer to burn on guitar without being overbearing about it. This time out, there's a slight overlay of Fifties New Orleans rock-and-roll along with the sixteenth-century heavy-metal that is Thompson's forte. The result is an album that really doesn't sound like any of his other albums, or anybody else's for that matter, which should be reason enough to check it out. Pick hit: *A Poisoned Heart and a Twisted Memory*, which Elvis Presley should have lived to record. If there's any justice, Ray Charles will. —*Steve Simels*

RICHARD THOMPSON: *Hand of Kindness*. Richard Thompson (guitars, vocals); vocal and instrumental accompaniment. *Tear Stained Letter; How I Wanted To; Both Ends Burning; A Poisoned Heart and a Twisted Memory; The Wrong Heartbeat; Hand of Kindness; Devonside; Two Left Feet.* HANNIBAL HNLP 1313 \$8.98.

Young, whom Quinichette replaced in the 1951 Count Basie band. At that time, Quinichette's style and tone so mirrored Young's that it was often impossible to tell them apart, and, though Quinichette eventually came into his own, the similarity always remained. Here, then, we have two chronologically adjoining tenor styles side by side; Young led jazz tenor playing in a new direction, and Coltrane took it the next step—a giant step but a logical one. This session has not been available for a long time, and I strongly recommend that you add it to your collection before it disappears from the catalog again. C.A.

ELLA FITZGERALD: *The George and Ira Gershwin Song Book*. Ella Fitzgerald (vocals); orchestra, Nelson Riddle arr. and cond. *Who Cares?; Soon; Funny Face; 'S Wonderful; A Foggy Day; They Can't Take That Away from Me; Fascinating Rhythm; I Got Rhythm;* and forty-five others. VERVE/POLYGRAM CLASSICS 2615-063 five discs \$34.90.

Performance: **Classic**
Recording: **Excellent**

One of the most famous recording projects of the Fifties, Norman Granz's mammoth

five-LP production on Verve of "The George and Ira Gershwin Song Book" starring Ella Fitzgerald, is with us again courtesy of PolyGram Classics. The reissue includes handsome reproductions of the original Bernard Buffet jacket covers. Another plus is that the velvety French pressings are superior to their American counterparts, or at least the ones that I have heard.

How much you enjoy these performances will depend entirely on your feelings about Ella Fitzgerald. I have always been an admirer of hers rather than a true fan. Although her voice and her musicianship in these 1959 recordings are at their undisputed peak, her offhand way with the complexities and subtleties of the lyrics still turns me off. She seems to view a lyric as only something to get her from one musical phrase or effect to another. No matter how sumptuous or exciting those effects are, I still yearn for a communication of the meaning. The Nelson Riddle arrangements now sound a little dated, but that probably will not bother Ellamaniacs either. P.R.

RECORDING OF SPECIAL MERIT

GEORGE KAWAGUCHI AND ART BLAKEY: *Killer Joe*. George Kawaguchi, Art

Blakey (drums); Wallace Roney (trumpet); Slide Hampton (trombone); Branford Marsalis (alto and tenor saxophones); other musicians. *A Night in Tunisia; Big Apple Jump; Well, You Needn't;* and two others. STORYVILLE SLP 4100 \$7.98.

Performance: **Cooking**
Recording: **Very good**

George Kawaguchi is a name to be reckoned with in Japan, and this album with drummer Art Blakey's Jazz Messengers was recorded almost two years ago specifically for the Japanese market. The concept of the local hero teamed with an international giant is a commercial one, to be sure, but there is no tedious battle of the drummers here. There are a couple of duets, but no extended duels; Blakey abhors such audience-rousing devices. So good taste prevails. "Killer Joe" is a marvelous album with superb work by former Messenger Slide Hampton and by three Blakey protégés who are guaranteed prominence on the future jazz scene: trumpeter Wallace Roney, saxophonist Branford Marsalis, and pianist Donald Browne. The last thing Blakey needs, of course, is another drummer, but Kawaguchi blends in smoothly with this talented group. C.A.

GERRY MULLIGAN: *Little Big Horn*. Gerry Mulligan (baritone saxophone, vocal); orchestra. *Sun on Stairs; Under a Star; Bright Angel Falls; I Never Was a Young Man;* and two others. GRP ● GRP-A-1003 \$8.98 (from GRP Records, Inc., 555 West 57th Street, New York, N.Y. 10019).

Performance: **Grusitized**
Recording: **Disappointing**

There are no real flaws in Gerry Mulligan's new digitally recorded album, "Little Big Horn," but I almost wish there was a rough edge here and there. It's all so pat and so dull, and that includes the sound. Mulligan is, of course, capable of extraordinary performances, but here almost everything he plays sounds listless—the sort of thing you hear on elevators between floors. This is especially true of the opening tracks on each side, which feature a hireling horn section that obviously was added later. The blandness suggests all too clearly the hand of coproducer Dave Grusin. Only on one selection, *Sun on Stairs*, does Mulligan sound as if he were enjoying the session, and one out of six is a very low ratio for a player of Gerry Mulligan's talent. The compositions are all by Mulligan, including an awful ditty he sings called *I Never Was a Young Man*, where the vocalism is correct but not very interesting. C.A.

JOE SAMPLE: *The Hunter*. Joe Sample (acoustic piano); instrumental accompaniment. *The Hunter; Blue Ballet; Beauty and the Beast; Wings of Fire;* and two others. MCA 5397 \$7.98, © MCAC 5397 \$7.98.

Performance: **Jazz Muzak**
Recording: **Satisfactory**

Both as long-time pianist for the Crusaders and on his own, Joe Sample has demonstrated a facility for engaging, melodic instrumental music that reflects the spirit and cadences of popular music enhanced with the trappings of jazz. In this respect, he was

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James Newton

Itaugurs well for the future of jazz that we are seeing so many fine, dedicated young players on the scene today. Now, if only one of them would discover a new musical path, we could all breathe easier. As things stand, it seems certain that the jazz tradition will continue, but we have not had a really meaningful idiomatic change since Ornette Coleman unshackled bop almost twenty-five years ago.

If there *is* to be a dramatic change in direction in the next ten years, it could come from flutist James Newton, who still plays on the more conservative side but has the kind of musical mind from which fresh ideas easily spring. Newton's new album is a wonderful exercise in restraint and timing. It features an illustrious septet that combines the fresh talent of such brilliant newcomers as violinist John Blake, vibist

Jay Hoggard, and pianist Anthony Davis with the more experienced voices of trombonist Slide Hampton, bassist Cecil McBee, and drummer Billy Higgins. The meeting yields music that appeals to the intellect as well as to the emotions, and it shows Newton to be at least as interesting a composer as he is a flutist. There is a classical air about this album, but it also has firm roots in jazz. It is welcome relief to see a truly deserving player being given a chance.

—Chris Albertson

JAMES NEWTON. James Newton (flute); Slide Hampton (trombone); John Blake (violin); Jay Hoggard (vibraphone); Anthony Davis (piano); Cecil McBee (bass); Billy Hart (drums). *Persephone; Ismene; Budapest; Daydream; The Crips.* GRAMAVISION GR8205 \$8.98.

a member of the fusion crowd before it had a name, and now that it does, he is one of its more popular exponents. "The Hunter" is easy-listening music with the instrumentation of a small jazz combo. Sample's work on acoustic piano is consistently tasteful but safe as he sticks close to the melodic line. Phil Upchurch offers an unruffled guitar solo on *Beauty and the Beast*, and Tom Browne throws in a few trumpet licks on *The Hunter*. It is all capable and pleasant, but there's not much here if you're looking for substance or invention. **P.G.**

COLLECTIONS

RECORDING OF SPECIAL MERIT

BILL EVANS—A TRIBUTE. George Shearing, Dave McKenna, Denny Zeitlin,

John Lewis, Jimmy Rowles, Herbie Hancock, McCoy Tyner, JoAnne Brackeen, Chick Corea, Teddy Wilson, Andy Laverne, Richie Beirach, Dave Frishberg, Warren Bernhardt (piano). *Night And Day; Emily; Time Remembered; Waltz for Debby; Fun Ride; Blue and Green; I'll Remember April;* and seven others. PALO ALTO PA 8028-2 two discs \$17.96.

Performance: **All interesting**
Recording: **Good**

This album was produced by Helen Keane, the late Bill Evans's manager for almost two decades, and Herb Wong as a tribute to the art of one of the greatest jazz pianists ever. Fourteen of the very best of today's jazz pianists have contributed one performance each, and the result is a splendid entertainment. The only real problem is that

with certain artists, such as George Shearing and Teddy Wilson, a single track just serves to whet an appetite that can only be sated with their own albums. All proceeds of this release will go to the Bill Evans Jazz Piano Scholarship Fund. **P.R.**

RECORDING OF SPECIAL MERIT

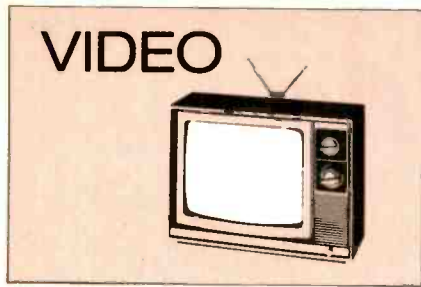
JAZZ AT THE OPERA HOUSE. Wynton Marsalis (trumpet); Lew Tabackin (flute); Wayne Shorter (soprano and tenor saxophones); Bobby Hutcherson (vibraphone); Toshiko Akiyoshi, Herbie Hancock, Denny Zeitlin (piano); Charlie Haden (bass); Tony Williams (drums). *'Round Midnight; Maiden Voyage; Sister Cheryl; Hesitation; Silence;* and six others. COLUMBIA C2 38430 two discs, no list price.

Performance: **Well-mixed bag**
Recording: **Very good remote**

When producers load the stage with big jazz names, the result is often dismal chaos, but when all-star concerts are produced sensibly, the yield can be memorable. So it is in the case of "Jazz at the Opera House," a double album recorded at the San Francisco War Memorial Opera House in February of last year. The occasion was a benefit produced by San Francisco jazz writer Conrad Silvert, who assembled some of his favorite players to fulfill a personal dream and, at the same time, a sad need. The proceeds from the concert, for which all the musicians donated their services, went to defray Silvert's mounting hospital bills, but the popular writer died of lung cancer just a few months later. This album is a sterling tribute to Silvert's memory and taste.

The opening, a pianistic stamped by the twenty fingers of Herbie Hancock and Denny Zeitlin, begins as *Free Form* and modulates discreetly into Monk's *Straight, No Chaser*. There *is* a chaser, however, a seething piano solo called *The Village*, refreshingly served by Toshiko Akiyoshi. This is followed by two more duets, a lyrical piano-and-flute romp on which Akiyoshi is joined by husband Lew Tabackin (who wrote the tune) and a rendition of *Maiden Voyage* that has composer Hancock and vibist Bobby Hutcherson easily sailing past the former's original recorded version.

Wayne Shorter, the phenomenal Wynton Marsalis, bassist Charlie Haden, and drummer Tony Williams appear on the remaining four selections. As a quartet, they dazzle with *Hesitation*, a Marsalis composition on which no one hesitates. The two horns skip effortlessly to the light propulsive work of Haden and Williams—no wonder Shorter slips into Gershwin's *I Got Rhythm*; the foundation he gets here is better than he ever got from his colleagues in Weather Report. Augmented by Hancock and Hutcherson, the quartet slithers through *Footprints*, a Shorter composition that benefits greatly from the stabbing trumpet of Marsalis but could do without Williams's bit of exhibitionism. There is also a somber Haden composition called *Silence*, which is dedicated to Silvert; sadly prophetic, it is almost a dirge, but the late writer must have been pleased, for it is a beautiful piece sensitively played. Ending the set, Shorter, with a little assistance from Hancock, delivers a somewhat choppy but compelling tenor reading of *'Round Midnight*. Good listening. **C.A.**



ASHFORD AND SIMPSON. Nick Ashford, Valerie Simpson (vocals); vocal and instrumental accompaniment. *I Need Your Light; Street Opera; Found a Cure; Is It Still Good to Ya; Mighty Mighty Love; Love It Away; I'll Take the Whole World On;* and three others. PIONEER LASERDISC PA-83-041 CX stereo, extended-play \$24.95.

Performance: **Dazzling**
Recording: **Fine**

Nowhere is the talent of Nick Ashford and Valerie Simpson more brilliantly captured than on this new Pioneer LaserDisc, which combines the lip-synched video for their four-part *Street Opera* with a concert taped in London a year and a half ago. The *Street Opera* segment suffers from a poor scenario and tacky scenic design, and the performers' wardrobes could scare a scarecrow, but the concert segments, which take up most of the disc, are crammed with vitality. The band cooks up a storm, and the talent of the soloists explodes on the screen.

The program consists of all but one of the tracks from Ashford and Simpson's Capital album "Street Opera" plus hits from their Warner Bros. and Motown periods—a most pleasing mixture. Technically, the concert is handled quite imaginatively, with well coordinated camera work and tasteful use of special video effects and lighting. Add to that excellent CX-encoded stereo sound, and you have one of the most exciting pop-music video discs released so far. C.A.

CHICK COREA AND GARY BURTON: *Live in Tokyo.* Chick Corea (piano); Gary Burton (vibraphone). *Mirror, Mirror; Song to Gayle; Señor Mouse; La Fiesta;* and two others. PIONEER LASERDISC PA-83-037 CX stereo, extended-play \$24.95.

Performance: **Stellar**
Recording: **Excellent**

You won't go broke buying all the jazz that has been released on LaserDiscs. In fact, the total bill currently should come to around \$50. Half of that will get you this superb 1981 Tokyo concert featuring Chick Corea and Gary Burton, a duo whose work has already been splendidly preserved on three ECM audio albums. Here, greatly enhanced by the added visual dimension, Corea and Burton offer fifty-eight solid minutes of compositions by Corea from all three ECM releases, and in technical quality this video disc matches the excellence ECM is known for. This has become the disc I select for demonstrating the virtues of the LaserDisc system to friends; it is as perfect a

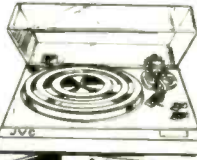
combination of flawless reproduction and artistic value as I have come across in the year and a half that I have had my LaserDisc player.

We see the two performers and their instruments against a monochromatic, mostly dark background, flanking a solitary prop of red and pink carnations that seem to be erupting from a tall, slender stand. It is all very effective and tasteful, right down to the camera work, which is often intimate, but never obtrusive. So far, most nonclassical music releases on video discs have consisted of concert material, and too often they have been made downright boring by the kind of unimaginative direction we used to see on Don Kirshner's *Rock Concert* TV shows. The approach taken here can serve as a model for future concert recordings.

Eventually, when video discs are recognized as the unique medium they are and not just repackaged television, producers will show more imagination in their approach to music. I also hope that manufacturers will revert to standard-play discs. Until recently, all musical LaserDiscs were released in the standard format, which allows full use of such playback features as freeze frame, slow motion, and frame search. Now, in exchange for a full, uninterrupted hour of play, we get only chapter search and quick scan. It is probably less expensive to manufacture a single-sided disc, but the prices did not go down when extended play became the norm, so why not give the consumer a choice of standard or extended play? C.A.

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Classical Music

News Briefs

Clive Postelweite/Phonogram International



WHEN she sang at the wedding of Prince Charles and Lady Diana Spencer in London two years ago, Dame **Kiri Te Kanawa** made almost as much an impression for the generous proportions of the hat she was wearing as for her vocalism. Somewhat scaled down but rather more traditional was the headgear that she and pianist **Alfred Brendel**

wore to receive the honorary degree of Doctor of Music from Oxford University this past summer.

It was the third time around for **Brendel**, who holds the same degree from London University and Sussex University. "When we were striding into the hall at Oxford," he reports, "Kiri told me that **Bob Hope** has eighty-seven

honorary doctorates. So I'm only just beginning."

Oxford, by the way, rarely awards honorary doctorates to performing artists, much less two in the same year. The university has traditionally confined recognition of this kind to composers. Haydn was the first. More recent recipients were **Brahms**, **Tchaikovsky**, and **Shostakovich**. □

Billett Potter



COMPOSER **Elliott Carter**, who will be seventy-five in December, was given the 1983 **MacDowell Medal** in August at the **MacDowell Colony** in **Peterborough**, **New Hampshire**. The medal is awarded annually by America's first-founded summer camp for creative artists, which was celebrating its own seventy-fifth anniversary this year. □

HAVING gotten its feet wet as a corporate sponsor of the arts by underwriting in part the **Finnish Opera's** performances at the **Metropolitan** in **New York** earlier this year, **Volvo** is now bringing another group of **Scandinavian** musicians to this country. A grant from the **Swedish** automobile manufacturer has made possible the **October-November** tour of **Eastern** and **Midwestern** cities by the **Swedish National Orchestra** of **Gothenburg** conducted by **Neeme Järvi**. Record collectors dissatisfied with anything less than the complete works of a given composer will be pleased to learn that **Järvi** and the orchestra are in the process of recording the entire or-

AT the **Salzburg Festival** last year **Riccardo Muti** conducted a new production of **Mozart's** *Così fan tutte*, which **EMI** recorded live. When the production was revived this year, **EMI's** **Peter Andry** flew to **Salzburg** to present **Muti** with the first copy of the recording. The occasion fell on **July 28**, which was not only the anniversary of the premiere of this *Così* but also **Muti's** forty-second birthday.

The 1982 cast included **Agnes Baltsa**, **Kathleen Battle**, and **José Van Dam**. "EMI knew that the singers were good," **Muti** said in a recent chat, "that the whole thing looked good, but they were totally surprised when it turned out to be the huge success it was, not only with the public. The critical response was unanimous, something that happens only once, maybe twice, in a lifetime."

The first copies of the new *Così* on **Angel** are due in **American** record stores this month. **Muti** will be back this month too in his accustomed role as music director of the **Philadelphia Orchestra**. He will conduct concert performances of **Verdi's** *Macbeth* on **October 6** and **8** in **Philadelphia** and on **October 11** at **Carnegie Hall** in **New York**. Soloists include **Elizabeth Connell**, **Renato Bruson**, and **Simon Estes**. These concerts will be the first complete opera performances by the **Philadelphia Orchestra** in more than fifty years. They will also give **American** audiences their first chance to hear **Muti** as a conductor of opera.

"I will concentrate my work in opera here with the **Philadelphia Orchestra**, and in concert form," said **Muti**. "It's sometimes better than having some crazy production staring you in the face." He had just

seen the **Met's** controversial new production of **Verdi's** *Macbeth* conceived by **Sir Peter Hall**. □

Riccardo Muti (left) and Peter Andry of EMI



Harry Weber

chestral output of Jean Sibelius. The digital set will run to twenty-five LP's on the Bis label and should be completed by May 1984. □

THE centerpiece in the five-record box of music for vocal ensembles by Brahms, cited in last month's issue as a "Best of the Month" release, is the LP that contains the two sets of *Liebeslieder* Waltzes and the Three Quartets, Op. 64, sung by Edith Mathis, Brigitte Fassbaender, Peter Schreier, and Dietrich Fischer-Dieskau. Recognizing the album's potential appeal, DG spun it off as a separate release this month (2532 094, © 3302 094). □

WHAT hasn't soprano Jessye Norman been doing these past few months? Taking it easy, that's what. After a busy summer in Europe, she came home just before Labor Day to appear as soloist in Mahler's Third Symphony, with which Seiji Ozawa and the Boston Symphony closed the festival at Tanglewood.

But dominating Norman's

schedule at the moment is her Metropolitan Opera debut, beginning with the new season's opening-night performance of Berlioz's *Les Troyens* on September 26. During the Met's run of *Les Troyens*, Norman and Shirley Verrett will alternate in the roles of Cassandra and Dido. Norman is slated to sing Dido in the Saturday matinee radio broadcast on February 18 and to sing Cassandra in the performance to be telecast by PBS in March.

In either role she should be electrifying if she can match the intensity of her great operatic success this summer at the Aix-en-Provence Festival. There Norman's portrayal of Phèdre in Rameau's *Hippolyte et Aricie* caused French critics to describe her as "more beautiful than ever, and terrifying in her despair, like a wounded lion" (*France-Soir*), "like a formidable monument . . . with a voice of immense dignity" (*Le Monde*), "majestic" (*Quotidien de Paris*), "singing with a vocal eloquence, a dramatic vigor, and above all an essential humanity to which all else gave way" (*Le Point*).



Jessye Norman (right) as Phèdre and Enid Hartle as Oenone

Between performances at Aix, Norman flew to Paris for a round of recording sessions for Pathé Marconi, singing the *Chansons madécasses* of Ravel, which will be included in a boxed set of that composer's vocal music to be released early in 1984. A current release on Philips is her album of songs by Richard Strauss, including the *Four Last Songs*, with Kurt Mazur conducting the Leipzig Gewandhaus Orchestra.

Another current Norman release is a collection of vocal music by Ernest Chausson, including the *Poème de l'amour et de la mer*, on Erato, which is distributed in this country by RCA. Soon to be released is a recording of Mahler's Second Symphony conducted by Lorin Maazel, with Norman and Eva Marton as the soloists. It is part of the complete Mahler cycle Maazel and the Vienna Philharmonic are doing on CBS. □

Disc and Tape Reviews

By RICHARD FREED • DAVID HALL • GEORGE JELLINEK
STODDARD LINCOLN • ERIC SALZMAN

J. S. BACH: Trio Sonata in C Minor (from "The Musical Offering," BWV 1079); Trio Sonata in G Major (BWV 1038). C. P. E. BACH: Trio Sonata in G Major. J. C. F. BACH: Sonata in C Major. W. F. BACH: Trio Sonata in A Minor. Jean-Pierre Rampal (flute); Isaac Stern (violin); Leslie Parnas (cello); John Steele Ritter (harpsichord, fortepiano). CBS ● IM 37813, © IMT 37813, no list price.

Performance: **Wrong-headed**
Recording: **Okay**

It is wonderful when fully mature artists join forces to play chamber music, but only if they play compositions written in the style they are used to. Jean-Pierre Rampal and

Isaac Stern, alas, have here chosen repertoire written earlier than the music they usually play, and the results are disastrous, especially in the trio sonata from J. S. Bach's *The Musical Offering*. The lines are gluey, the trills are taken from the principal note, and the appoggiaturas are the wrong length. Some vulgar slides and a harsh tone on Stern's part complete this wrong-headed reading. The one successful performance is of the powerful Sonata in C Major of J. C. F. Bach, the neglected ninth son of Johann Sebastian. The artists seem more at home in his Classical style, and John Steele Ritter's fortepiano playing is excellent.

Although the first movement of W. F. Bach's Trio Sonata in A Minor is striking, the work is only a fragment; the second movement breaks off midphrase after thirty-five seconds, and nothing follows. No explanation is offered in the jacket notes, which are equally incomplete when it comes to discussing the music. This is a frustrating album indeed. S.L.

RECORDING OF SPECIAL MERIT

BEETHOVEN: Piano Concerto No. 2, in B-flat Major, Op. 19; Piano Sonata No. 18, in E-flat Major, Op. 31, No. 3. Arthur Rubin-

stein (piano); London Philharmonic Orchestra, Daniel Barenboim cond. RCA ARL1-4711 \$9.98, © ARK1-4711 \$9.98.

Performance: **Good to exceptional**
Recording: **Fine**

The photograph of Arthur Rubinstein in *The New Grove* shows him performing a Beethoven concerto with Daniel Barenboim on the podium. Their joint RCA recording of the five Beethoven concertos (CRL5-1415), taped within three days in April 1975, when Rubinstein was eighty-eight years old, represented his last concerto performances and his third recorded cycle of these works. The second is the only part of the set not issued on a separate disc until now; it is good to have an opportunity to enjoy it on its own, sensibly laid out on a single side instead of the two it occupied in the set. It may not be the very greatest performance of the work, but it is very much alive with the musical personality Rubinstein imparted to everything he touched at every age.

The performance of the Piano Sonata very definitely is a great one. It was recorded even later than the concertos, when Rubinstein was approaching ninety, and was most enthusiastically reviewed in these

Explanation of symbols:

- = digital-master analog LP
- Ⓢ = stereo cassette
- Ⓢ = digital Compact Disc
- Ⓢ = eight-track stereo cartridge
- Ⓢ = direct-to-disc recording
- Ⓢ = monophonic recording

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



Peter Scheel/Boston Symphony

Pianist Rudolf Serkin and conductor Seiji Ozawa at Symphony Hall, Boston

Telarc's New Compact Discs

BEETHOVEN'S Third Piano Concerto has entered the Compact Disc catalog in a splendid performance by Rudolf Serkin and the Boston Symphony under Seiji Ozawa, coupled with the composer's Fantasy for Piano, Chorus, and Orchestra. Together they comprise one of Telarc's first twenty-three CD "titles," and it is a noteworthy release in part because it is the first CD to be issued ahead of its analog LP counterpart. A Telarc spokesman has said that the company was having trouble mastering for LP and decided to release the CD as soon as it was ready. In either format (Telarc does not release prerecorded cassettes), the recording deserves, and will undoubtedly enjoy, a long catalog life.

Serkin's Beethoven concerto cycle for Telarc has been on an inspired level so far, as has Ozawa's support—these are some of the best performances either of them has recorded—and their combined efforts in the Third are no exception. Serkin's tone has just the right weight in all three movements and is especially transparent in the largo, which becomes a profoundly moving statement in his hands. His rhythmic hold on the music is as firm and his energy as unfaltering and buoyant as any artist half his age could wish for. And the playing by soloist and orchestra alike is significantly enhanced by Telarc's state-of-the-art engineering. In the Choral Fantasy, the impressive sound and Ozawa's firm leadership of the orchestra, the Tanglewood Festival Chorus, Serkin, and half a dozen vocal soloists give that fairly disjointed work the aura of a minor masterpiece.

I have by no means listened to all of Telarc's new CD's, which are manufactured in Japan, but the ones I have listened to and listed below strike me as among the very best produced by any company so far. Telarc does not compress the music's dynamic range at all, not even the little bit that most other companies do to suit the limitations of home equipment (careful with the volume control!), nor do the original digital masters pass through any analog stage on their way to becoming CD's. The credit for this, and for the intelligent microphone placement, goes to producer Robert Woods and engineer Jack Renner. They also deserve credit for eliciting the really outstanding performances these little discs enshrine.

The recording of Beethoven's Fifth Piano Concerto by Serkin and Ozawa, again with the BSO, is a truly noble achievement, and Ozawa's muscular reading of the Beethoven Fifth Symphony is easily the best available on CD. In both, the Boston Symphony sounds like the Boston Symphony to anyone who has heard it often at either Symphony Hall or Tanglewood. And Symphony Hall "sounds" like Symphony Hall. Such is the realism the digital audio disc makes possible in knowing hands.

The other three recordings are absolutely first-rate too. The Tchaikovsky Fourth by Lorin Maazel and the Cleveland Orchestra, one of the first digital recordings of that work, has an expansiveness in performance that is matched by the sonic ambience, and the same can be said for their version of the Shostakovich Fifth. The Saint-Saëns *Organ* Symphony by the Philadelphia Orchestra under Eugene Ormandy, a "Best of the Month" selection in these pages when it was released on LP in 1980, was praised by David Hall for its "suavity, poise, and ravishing tonal beauty." I can only echo those words.

—Christie Barter

BEETHOVEN: Piano Concerto No. 3, in C Minor, Op. 37; Choral Fantasy, Op. 80. Rudolf Serkin (piano); Boston Symphony Orchestra, Seiji Ozawa cond. TELARC © CD-80063, no list price.

BEETHOVEN: Piano Concerto No. 5, in E-flat Major, Op. 73 ("Emperor"). Rudolf Serkin (piano); Boston Symphony Orchestra, Seiji Ozawa cond. TELARC © CD-80065, no list price.

BEETHOVEN: Symphony No. 5, in C Minor, Op. 67; Egmont Overture, Op. 84. Boston Symphony Orchestra, Seiji Ozawa cond. TELARC © CD-80060, no list price.

SAINT-SAËNS: Symphony No. 3 in C Minor ("Organ"). Michael Murray (organ); Philadelphia Orchestra, Eugene Ormandy cond. TELARC © CD-80051, no list price.

SHOSTAKOVICH: Symphony No. 5, Op. 47. Cleveland Orchestra, Lorin Maazel cond. TELARC © CD-80067, no list price.

TCHAIKOVSKY: Symphony No. 4, in F Minor, Op. 36. Cleveland Orchestra, Lorin Maazel cond. TELARC © CD-80047, no list price.

pages when it was first issued (on ARL1-2397), paired with Schumann's Op. 12 *Fantasiestücke*. The "good-humored swagger," the "exquisitely judged dynamic shadings and superb rhythmic control," and the overall "impression of inspired spontaneity" noted then are no less striking now, and the remastering has perhaps enhanced the fine qualities of the original issue. *R.F.*

BEETHOVEN: Late String Quartets (see Best of the Month, page 69)

BEETHOVEN: Symphony No. 5, in C Minor, Op. 67; Egmont Overture, Op. 84. English Chamber Orchestra, Michael Tilson Thomas cond. CBS ◉ 1M 37288, © IMT 37288, no list price.

Performance: **Clean, unfussy**
Recording: **Good**

Michael Tilson Thomas's terse, pointed way with the opening bars of the Beethoven Fifth sets the tone for this recording, the latest in his series using the kind of instrumental forces prevalent in Beethoven's day (though not original instruments or replicas thereof). The gain here lies, as with the Fourth and Sixth Symphonies previously released, in a more just wind/string balance and the resulting clarity of texture, notably in the variation episodes of the slow movement and in the famous string-bass *fugato* in the scherzo. The finale retains all its inherent force but moves along with greater liteness than usual. The only loss, and it is more apparent in the *Egmont* Overture performance, is in the music's epic quality, which seems best brought out by a full-strength twentieth-century symphony orchestra with doubled woodwinds. *D.H.*

RECORDING OF SPECIAL MERIT

BRUCKNER: Symphony No. 4, in E-flat Major ("Romantic"). Berlin Philharmonic Orchestra, Klaus Tennstedt cond. ANGEL ◉ DSB-3935 two discs \$25.96, © 4X2S-3935 \$25.96.

Performance: **Expansive**
Recording: **Splendid**

Klaus Tennstedt's expansive reading of Bruckner's *Romantic* Symphony runs a good seven minutes longer than those of his chief competitors, Sir George Solti on London and Herbert von Karajan on Deutsche Grammophon. Thanks, however, to the raptly poetic atmosphere with which Tennstedt invests the many lyrical episodes and the magnificent brazen climaxes he elicits in the end movements, the added minutes seem short indeed. One can even forgive the lack of a filler work because of the remarkable dynamic range achieved throughout the four sides and especially in the scherzo and finale. While there is not much *quasi allegretto* in the pacing of the slow movement, there is no feeling of the funereal either. Like Karajan, Tennstedt adds cymbals at the first big climax of the finale. In sum, this reading of Bruckner's *Romantic* Symphony, more heroic than bucolic, is very convincingly done. *D.H.*

FAURÉ: Songs (see Best of the Month, page 66)

(Continued on page 92)

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RECORDING OF SPECIAL MERIT

GLINKA: *Ruslan and Ludmilla*. Bela Rudenko (soprano), Ludmilla; Evgeny Nesterenko (bass), Ruslan; others. Bolshoi Theatre Chorus and Orchestra, Yuri Simonov cond. MELODIYA/HMV SLS 5247 three discs \$32.94 (from International Book & Record Distributors, 40-11 24th Street, Long Island City, N.Y. 11101).

Performance: **Manic vitality**
Recording: **Excellent**

The nineteenth century produced many fairy-tale operas (the genre would seem to be a natural one), but the most successful was *Ruslan and Ludmilla*—in Russia, at

least. For some reason, this utterly charming work has never made its way outside of Russia, possibly for lack of good translations. Sure, it's a silly story, but what fun! And what wonderful music!

Alas, Glinka died (in a duel) before he could finish the opera's libretto, based on Pushkin, and a succession of bunglers fiddled with it. The original poem is full of mockery, parody, and ironic fun. Almost all Russian composers who set their great national poet to music missed or overlooked his wit and irony. So did Glinka, but no Russian composer wrote music that sparkles as much as his, so it doesn't matter very much. Music, even the most bitter, tends to take the edge off satire and to humanize

the most parodistic characters—especially when the music is like this, in Glinka's freshest, most inspired early-Romantic manner. The heavy pathos and intense color of later Russian music are not yet present in *Ruslan*; the emotions are simple and direct, the coloration bright and magical.

In the opera *Ruslan* has to do battle with a giant head that has a men's chorus inside it. There are witches, water nymphs, a Klingsor-type evil magician (a dwarf with a long beard and a magic garden), a good wizard, a giant's sword, slave girls, magic dances, sirens (flower girls?) who lure travelers to their doom, and various abductions, spells, and enchantments. And lots of enchanting music to go with it all. I don't know how sensible all this turns out to be on the stage—not too sensible, I hope. Until I have a chance to find out, I shall treasure this recording.

Polished it isn't. You simply cannot expect tasteful, neo-Classical performances from the Russians. They have been doing this music for a long time, and they think they know how it goes: with spirit and soul. At its best Russian opera is rough and ready, and this one is no exception. From the very first note of the overture you know you are in another, older, more magical world. The dynamism, sensibility, and almost manic vitality are extraordinary.

Except for the usual one or two outstanding basses, there are no really beautiful voices in this cast. The level of the singing is not bad, however, and the sense of ensemble and unity of purpose is exceptional. The orchestral playing is not smooth, but it is rich and impassioned. Major credit should go to conductor Yuri Simonov. Western performances ought to have as much shape and personality as this. The recording is first-rate, with clarity, beautiful orchestral sound, and excellent balances between voices and orchestra. The accompanying booklet provides a note on the work, a helpful synopsis, and a full libretto with Russian transliterations and English translations. *E.S.*

RECORDING OF SPECIAL MERIT

HINDEMITH: *Cello Concerto; Clarinet Concerto.* Tibor de Machula (cello); George Pieteron (clarinet); Concertgebouw Orchestra, Amsterdam, Kiril Kondrashin cond. ETCETERA ETC 1006 \$10.98, © XTC 1006 \$10.98.

Performance: **Enthusiastic**
Recording: **Good live concert**

Both of these works are vintage Hindemith, masterpieces of their kind composed for Gregor Piatigorsky and Benny Goodman, respectively, during Hindemith's years in the U.S. Neither dedicatee, however, saw fit to record his concerto, nor has either been made available in stereo on a domestic label. Thus we are doubly blest to have both concertos on this single Dutch record. The performances are from concert broadcasts—the Cello Concerto from 1973 with the Concertgebouw's then first-chair cellist Tibor de Machula as soloist, the Clarinet Concerto from 1979 with first-chair clarinetist George Pieteron.

The Cello Concerto has a big, bluff opening movement, akin to the style of the E-flat Symphony, and a lovely slow movement (the source for Walton's orchestral Varia-



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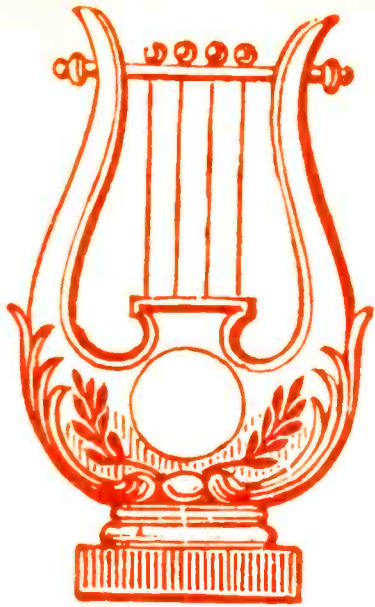
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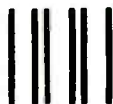
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tions on a Theme of Hindemith). There is a delectable scherzando middle section with lots of Hindemithian fugato fun and games, and the finale is a peppery march-like affair. The Clarinet Concerto is lighter and displays much of Hindemith's flowing motoric manner, at its best here in the opening pages. The scherzo is brief and flies like the wind—it's a real virtuoso showpiece. Following is one of the truly fine Hindemith slow movements, with two contrasting interludes, and then the playful finale. Delightful listening all the way.

Even with the applause and coughing, and a somewhat recessed balance for the solo cello, one is aware from first note to last of the care and enthusiasm that went into these performances under the late Kiril Kondrashin. All things considered, the live sonics are full and richly detailed, if not quite 1983 state-of-the-art. I would certainly not hesitate to add this disc to any library of twentieth-century classics. *D.H.*

LEONCAVALLO: La Bohème. Lucia Popp (soprano), Mimi; Alexandrina Milcheva (mezzo-soprano), Musette; Franco Bonisolli (tenor), Marcello; Bernd Weikl (baritone), Rodolfo; Alan Titus (baritone), Schaunard; Alexander Malta (bass), Barbemuche; Jörn W. Wilsing (baritone), Paolo; Raimund Grumbach (baritone), Colline; Friedrich Lenz (tenor), Gaudenzio; others. Bavarian Radio Chorus; Munich Radio Orchestra, Heinz Wallberg cond. ORFEO S 023823 three discs \$41.94 (from Harmonia Mundi USA, 2351 Westwood Boulevard, Los Angeles, Calif. 90064).

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

It seems fairly certain that it was Leoncavallo who first hit upon the idea of turning Henri Murger's novel about Bohemian life in mid-nineteenth-century Paris into an opera. But Puccini liked the idea too, and, working at greater speed, he beat his colleague (friend no longer) to it. Puccini's conduct in their rivalry was not quite gentlemanly, but—and of this there has never been any doubt—he created the better opera.

At the same time, Leoncavallo's treatment of the subject is by no means negligible. His approach was different in many ways and not always wise. For one thing, there are altogether too many characters in the Leoncavallo opera. For another, the kaleidoscopic "Bohemian" scenes in the first two acts seem to point toward a different kind of *dénouement* than the tragedy resulting from the oppressive poverty of the principals and from Mimi's fatal illness. Many of Leoncavallo's insights deserve to be singled out for praise. His Schaunard and Musette are fuller, better developed characters than Puccini's. His injection of "Parisian" color sounds more authentic, and the libretto (Leoncavallo's own) exposes the forlorn existence of these Bohemians even more mercilessly. But Puccini's opera takes the palm for cohesion and dramatic flow and, certainly, for melodic inspiration.

The old Everest/Cetra set that has long represented this opera in the catalog is completely outclassed by this Bavarian undertaking, even though Munich may not be the ideal place to produce idiomatic Italian operas. Lucia Popp's radiant Mimi and Al-

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exandrina Milcheva's sultry Musette walk away with the vocal honors; their scene in the third act as they decide to leave their Bohemian lovers soars with poignant emotion. Bonisolti is not the subtlest of tenors, but he brings a sturdy tone and convincing passion to Marcello's arias. In Leoncavallo's scheme of things, Marcello has the stronger role, but Rodolfo has some effective music too, to which Bernd Weikl responds with resonant but somewhat undulating tones. Alan Titus is a buoyant and entertaining Schauard; in smaller roles, Alexander Malta and Jörn W. Wilsing are very good indeed.

Conductor Heinz Wallberg and the excellent Munich orchestra make a strong case for Leoncavallo's uneven but occasionally inspiring music, which frequently echoes with melodic turns and devices reminiscent of *Pagliacci*. The overall sound is quite sumptuous but lacks transparency and spaciousness. There is a trilingual libretto, but the annotations could have done with more professional care. G.J.

RECORDING OF SPECIAL MERIT

MONTEVERDI: Addio Florida bella (Madrigals). Troppo ben può; Taci Armelin; E così pocco a pocco; T'amo mia vita; O mio bene; Mentre vaga angioletta; Luci serene e chiare; Partenza amorosa; O Mirtillo, anima mia; Ninfa che scalza il piede; Era l'anima mia; Addio Florida bella; Ahi, come a un vago sol. Concerto Vocale. HARMONIA MUNDI HM 1084 \$11.98.

Performance: **Ravishing**
Recording: **Splendid**

Madrigals are written for performers singing for themselves in intimate surroundings, and recordings of them (like public performances) usually lack the essential subtleties of the genre. Not so with these performances of some of Monteverdi's tenderest madrigals. The six singers of the Concerto Vocale sing quietly, as if to themselves, and evoke an air of intimacy that brings the listener into their midst. The selections are chosen from the Fourth Book and later, and they use everything from one voice up to the full complement of six. Each singer has an individual timbre and boasts perfect diction, yet in ensemble they achieve a smooth blend. A lute continuo fills out the ravishing sonority. This album reveals the soul of Monteverdi—it is not to be missed. S.L.

RECORDING OF SPECIAL MERIT

MOZART: Prelude and Fugue (after Bach) in F Minor (K. 404a); Oboe Quartet in F Major (K. 370); Piano Quartet in E-flat Major (K. 493). An die Musik (Eliot Chapo, violin; Barbara Hustis, viola; Daniel Rothmuller, cello; Gerhard Reuter, oboe; Constance Emmerich, piano). MUSICAL HERITAGE SOCIETY MHS 47231 \$7.75 (plus \$1.95 postage and handling charge from the Musical Heritage Society, 14 Park Road, Tinton Falls, N.J. 07724).

Performance: **Lovely**
Recording: **Good**

Although An die Musik is a thoroughly American ensemble, its playing is as Viennese as its charming name. Unafraid of

tempo changes and rubato, the five members of the group see that each melody finds its most expressive tempo; using a long-line legato replete with portamentos, they see that each phrase is lovingly molded. The group's style is so light and elegant that it all works, and Mozart's music sounds natural and warm. Recommended. S.L.

RECORDING OF SPECIAL MERIT

MOZART: Symphony No. 31, in D Major ("Paris," K. 297); Symphony No. 33, in B-flat Major (K. 319). Concertgebouw Orchestra, Nikolaus Harnoncourt cond. TELEFUNKEN 6.42817 AZ \$12.98, © 4.42817 CX \$12.98.

Performance: **Great**
Recording: **Splendid**

MOZART: Symphony No. 41, in C Major ("Jupiter," K. 551). Concertgebouw Orchestra, Nikolaus Harnoncourt cond. TELEFUNKEN 6.42846 AZ \$12.98, © 4.42846 CX \$12.98.

Performance: **Stolid**
Recording: **Splendid**

Although Mozart's Symphonies Nos. 31 and 33 were written within a year of each other, their styles are completely different. In the *Paris* Symphony, Mozart reveled in the magnificence of a large orchestra, giving Parisian audiences the grand gestures and dynamic contrasts they so loved. The B-flat Symphony, on the other hand, was conceived for the much smaller forces of Salzburg and thus dwells on instrumental detail and subtle dynamics more often associated with chamber music than the symphony. A master of authentic performance practice, Nikolaus Harnoncourt has transferred his knowledge and musicianship to the Amsterdam Concertgebouw Orchestra, and his readings of these symphonies bring out their contrast. The *Paris* is full and hearty in the outer movements, but the slow movement is wrought with song-like lyricism. The B-flat Symphony is a study in delicate coloring that brings out the carefully wrought details of the work.

The recording of the *Jupiter* Symphony by the same forces is disappointing, however. The orchestra seems to have reverted to its usual bombast; the first movement is ponderous, the strings are lost in the slow movement, and the finale, all bustle and noise, substitutes speed for verve. S.L.

RECORDING OF SPECIAL MERIT

PROKOFIEV: String Quartet No. 1, in B Minor, Op. 50; String Quartet No. 2, in F Major, Op. 92. Sequoia String Quartet. NONESUCH 6 D-79048 \$11.98, © D4-79048 \$11.98.

Performance: **Brilliant, affectionate**
Recording: **Full-bodied**

Since both of Prokofiev's string quartets are mature and substantial works, as rich in appealing melody and intriguing color as anything he wrote in any form, one would expect at least a handful of discs pairing them, but this is in fact the first to appear since the well-regarded Philips recording by the Novák Quartet of Prague, which circulated all too briefly. It actually restores Op. 50 to the catalog for the first time since the dele-

tion of the Novák record, and it faces only one other current recording of No. 2.

The Sequoia Quartet's brilliant and affectionate performances can only make one wonder about the neglect of such ingratiating works. Some listeners, particularly those who have admired the Novák version, will find the opening of Op. 50 here a little breathless, perhaps too ebullient by half. But this sort of liveliness is hard to resist, especially in the rich and full-bodied sonic frame of this well-balanced digital recording (with absolutely silent surfaces). The folk-derived tunes in the more familiar Op. 92 are set forth with a thoroughly persuasive balance of vigor, wit, and taste. The ghastly cover illustration looks less like Prokofiev than like a blurred television image of Curt Jurgens, but the back liner offers exemplary notes by Peter Eliot Stone. A most welcome release. *R.F.*

PUCCINI: Arias (see Collections—Kiri Te Kanawa)

PUCCINI: *Preludio sinfonico; Capriccio sinfonico. Le Villi; Prelude and Witches' Dance from Act II. Edgar: Preludes to Acts I and III; Three Menuetts. Manon Lescaut: Intermezzo from Act III. Crisantemi.* Berlin Radio Symphony Orchestra, Riccardo Chailly cond. LONDON LDR 71107 \$12.98, © LDR5 71107 \$12.98.

Performance: **Loving**
Recording: **Very good**

Here's a package of Puccini curios dating from before the *La Bohème* breakthrough of 1896. I find the intrinsic musical interest rather thin, but as a well-packaged and beautifully performed program designed to show the young Puccini struggling to find his own voice, it is fascinating.

The first awareness of genuine dramatic potential comes in the *Capriccio sinfonico* of 1882. The Prelude from *Le Villi*, Puccini's first theater work, displays a touch of Wagnerian influence, and there is a rather facile, cinematic quality in the Witches' Dance (*La tregenda*). The more interesting of the two excerpts from *Edgar* is the Act II Prelude, evoking the hero in disguise attending his own funeral (a complete recording of the opera is still available on Columbia). The minuets are graceful and fairly inconsequential salon fluff, but *Crisantemi* (*Chrysanthemums*), an elegiac score originally for string quartet, offers some real musical substance. The *Manon Lescaut* intermezzo shows Puccinian pathos in full bloom.

The performances under Riccardo Chailly are carried off with great affection and style, and London's digitally mastered sound is exceptionally rich in body and detailed in texture. *D.H.*

SCOTT: Piano Concerto No. 2; Early One Morning, Poem for Piano and Orchestra. John Ogdon (piano); London Philharmonic Orchestra, Bernard Herrmann cond. LYRITA SRCS.82 \$14.98 (from International Book & Record Distributors, 40-11 24th Street, Long Island City, N.Y. 11101).

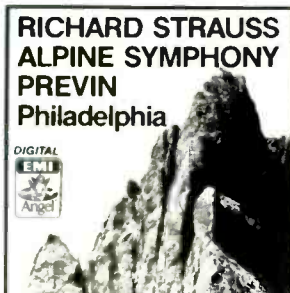
Performance: **Committed**
Recording: **Very good**

Cyril Scott (1879-1970) is remembered outside of England today almost solely for

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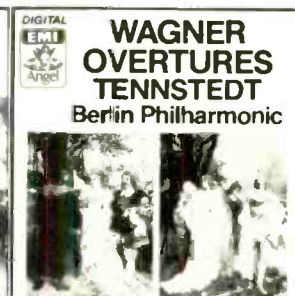
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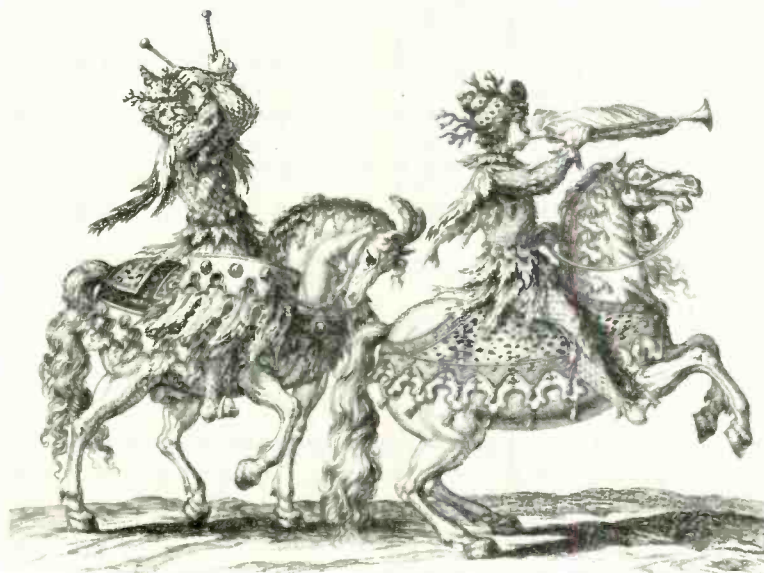
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Clive Barde/RCA(U.K.)

Conductor Vernon Handley, Ursula Vaughan Williams, and cellist Julian Lloyd Webber

British Music for Cello and Orchestra

B RITISH RCA has released a most unusual and interesting disc of works for cello and orchestra by Delius, Holst, and Vaughan Williams. The Delius Cello Concerto has had only one previous recording, Jacqueline Du Pré's memorable 1965 debut disc with Sir Malcolm Sargent conducting (unfortunately no longer available). The Holst *Invocation* and the Vaughan Williams *Fantasia on Sussex Folk Tunes* are world première recordings.

The early Holst piece, written in 1911, has something of the same passionate romanticism as the orchestral rhapsody *A Shropshire Lad* (1912) by the tragically short-lived George Butterworth. The Vaughan Williams was written for Pablo Casals, who premiered it in 1930 with John Barbirolli conducting, and the cello part is extremely brilliant. The work is a fascinating and sometimes roughhewn treatment of the folk-song material, as befits a score written during the same period as the composer's Fourth Symphony and *Job*. The music ends rather abruptly, however, which

may explain why Vaughan Williams withdrew the score after the première with the thought of elaborating it into a full-scale concerto—a project he never realized.

Julian Lloyd Webber, alertly partnered by Vernon Handley and the Philharmonia Orchestra, does splendidly with the solo work throughout, although in the sensuously ruminative and sometimes rhythmically repetitious Delius a slightly quicker pace might have helped. The beautifully transparent digital recording, however, elicits a good deal of gorgeous detail from the concerto's elegant orchestral texture.

—David Hall

DELIUS: Cello Concerto. HOLST: Invocation. VAUGHAN WILLIAMS: Fantasia on Sussex Folk Tunes. Julian Lloyd Webber (cello): Philharmonia Orchestra, Vernon Handley cond. RCA (U.K.) ● RS 9010 \$13.98, © RSK 9010 \$13.98 (from International Book and Record Distributors, 40-11 24th Street, Long Island City, N.Y. 11101).

poser considered by many to have been a master. It is no fault of theirs that even with outstanding recorded sound and a fine performance I am not converted. *D.H.*

TURINA: Danzas fantásticas, Op. 22; Rapsodia sinfónica for Piano and Strings, Op. 66; Sinfonia Sevillana, Op. 23. Frank Wubaut (piano, in *Rapsodia*); London Philharmonic Orchestra, Enrique Bátiz cond. ANGEL ● DS-37950 \$12.98, © 4XS-37950 \$12.98.

Performance: **Colorful**

Recording: **Technicolorful**

I rather enjoy Joaquín Turina's briefer works, such as the pleasantly ruminative *Rapsodia sinfónica* from 1931 or the *Oración del torero* for string quartet, but a little of the bigger pieces, even the *Danzas fantásticas*, goes a long way. Turina evidently had neither the desire nor the ability to grow creatively in his own way, as his greater countryman Manuel de Falla did in his later, classic phase. Nonetheless, the three pieces on this disc are performed with great brilliance and spirit, and they are recorded in a decidedly bright and reverberant acoustic surround. I'm not sure this is altogether right for music that is very brightly scored to begin with; if anything, it needs a room that will enhance richness and body rather than brightness. But each to his own taste. *D.H.*

RECORDING OF SPECIAL MERIT

SHOSTAKOVICH: Symphony No. 5, in D Minor. National Symphony Orchestra, Mstislav Rostropovich cond. DEUTSCHE GRAMMOPHON ● 2532 076 \$12.98, © 3302 076 \$12.98.

Performance: **Freewheeling**

Recording: **Powerful**

Mstislav Rostropovich's epic reading of the Shostakovich Fifth Symphony is conditioned not only by his own temperament but also by his long friendship with the composer and the circumstances of their parting in 1974 when Rostropovich felt compelled to leave his homeland. (The conductor describes that parting in the jacket notes in the most deeply poignant way.) Epic and freewheeling would be the appropriate terms for this reading. There are plenty of tempo modifications and rubato, but the listener's attention is held from first note to last. The opening pages are bleak indeed, as they are also in the revelatory London recording by Bernard Haitink with the Amsterdam Concertgebouw. The use of rubato in the Mahleresque scherzo gives it an unusual lilt and adds a bit more edge to its implied satire. The slow-movement climax achieves almost unbearable ferocity, and the controversial finale becomes even more so thanks to Rostropovich's very deliberate tempos, which somewhat recall those of Yevgeny Mravinsky. The close is ultrasolemn and emphatic.

The National Symphony is not the most refined ensemble, but it is certainly an immensely spirited group, somewhat like the Marlboro Festival musicians when they played under the late Pablo Casals. And the powerful and gutsy recorded sound provided by Deutsche Grammophon is wholly appropriate. *D.H.*

his piano piece *Lotus Land*. Yet until the middle 1920's he was considered among the most venturesome of the post-Debussy generation in terms of harmonic exploration, and he was highly regarded by Debussy himself. While the structuring of Scott's larger works is rooted in the classical training he received in Frankfurt, Germany, the harmonic textures are so elaborate and rich that they come close, at times, to overpowering the music's underlying continuity.

The only available recordings of Scott's large-scale works are two Lyrita discs, this one and another featuring the Piano Concerto No. 1. To be quite honest, I find the

Piano Concerto No. 2 and *Early One Morning* disconcertingly uneven. The concerto starts off imposingly with a quasi-recitative and a dissonant texture well laced with augmented fourths, but then it seems to drift off into a ruminative kind of post-Impressionist musical discussion. Both in the final movement of the concerto and throughout much of *Early One Morning*, originally composed for two pianos and orchestra, pentatonics play a large and (for my taste) somewhat wearisome role.

Due credit, however, to John Ogdon and the late Bernard Herrmann for giving their best efforts on behalf of a neglected com-

R. STRAUSS: *Ein Heldenleben*, Op. 40.
New York Philharmonic, Zubin Mehta
cond. CBS ◉ IM 37756, © IMT 37756, no
list price.

Performance: **Basically extroverted**
Recording: **Very good**

Zubin Mehta's treatment of Strauss's auto-biographical character study takes quite a different tack from that of its most recent predecessor, the reading, also digitally mastered, by Seiji Ozawa and the Boston Symphony. By stressing character and lyrical content Ozawa manages to make the piece almost endearing, but Mehta's protagonist is a bit more macho—very decisive and alert in the opening pages. The effect of digital mastering is readily apparent in the fine details of the critics' episode, and concertmaster Glenn Dicterow, with his hot fiddle tone, skillfully makes the "helpmate" both fiery and skittish.

The battle scene could have used a bit more weight on the low-end transients, but Mehta and his players are most impressive in the unison recapitulation. From there through the recollection episodes up to the point of the final pages, both interpretation and execution are at peak level—the outbursts of wrath are truly splendid! In the epilogue, however, I get the feeling that our Hero is not just savoring the fruits of life fulfillment, he is about to fall into a deep sleep. But this is the only disappointment in a performance that is often distinguished and excellently recorded. *D.H.*

VERDI: *Arias* (see Collections—Kiri Te Kanawa)

RECORDING OF SPECIAL MERIT

VERDI: *I Masnadieri*. Joan Sutherland (soprano), Amalia; Samuel Ramey (bass), Massimiliano; Franco Bonisoli (tenor), Carlo; Matteo Manuguerra (baritone), Francesco; Arthur Davies (tenor), Arminio; Simone Alaimo (bass), Moser; John Harris (baritone), Rolla. Chorus and Orchestra of the Welsh National Opera, Richard Bonynge cond. LONDON ◉ LDR 73008 three discs \$38.94, © LDR5 73008 two cassettes \$38.94.

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

Schiller's throbbing, epic, and rather unwieldy play *Die Räuber* (*The Highwaymen*) may have been a problematic subject for an opera, but in the opinion of Verdi's friend Andrea Maffei, the literary scholar, it presented "such a varied and telling unfolding of emotions and events, that I know of no other literary work which could offer situations more suited to music." Maffei's libretto for *I Masnadieri* (1847) catches the unbridled youthful spirit of the play and responds to it with the occasionally raw vigor and wide-ranging emotions that characterize Verdi's "risorgimento" operas. Musically the opera stands high among the early Verdi works. The vocal writing for all the principals is superb, with a quartet in the finale of Act I that looks ahead to *Rigoletto* only three years later.

I Masnadieri was introduced in London, and the music Verdi wrote for its principal female character, Amalia, was fashioned for Jenny Lind's light lyric voice and coloratura.



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tura agility. It also appears to be an effective part for Joan Sutherland, whose far from limitless expressive means are yet ample to lend credibility to Amalia's tragic predicament. She does not quite succeed in making the ornamentations of her first aria, "Lo sguardo avea degli angeli," seem like organic parts of the music, as Caballé did in the earlier Philips set, but overall her achievement commands admiration.

Franco Bonisoli's occasionally stirring but somewhat untidy singing as Carlo is certainly no match for Carlo Bergonzi's elegant vocalizing in the Philips set, but there are passages where Bonisoli's sturdier sound is more appropriate. Only in *Otello* will you find a baser operatic villain than Carlo's wicked brother Francesco, and Matteo Manuguerra has never had any trouble capturing evil characters with his potent, snarling baritone. Samuel Ramey finds some of Massimiliano's noble, paternal music too low for real comfort, but elsewhere his sound is rich and smoothly flowing. The part of Moser, a minister who serves as Francesco's voice of conscience, also calls for a more resonant bass voice, though Simone Alaimo is an able enough interpreter.

The Chorus and Orchestra of the Welsh National Opera perform efficiently, and Richard Bonynghe provides knowing leadership without quite matching the ultimate finish of Lamberto Gardelli's work with the New Philharmonia Orchestra on Philips. Interpolated high notes abound under Bon-

nynghe's more permissive direction, to the obvious relish of his soprano and his tenor; even Manuguerra helps himself to an unwritten high A-flat. The recorded sound is fine. *G.J.*

VIVALDI: *The Four Seasons*. I Solisti Veneti, Claudio Scimone cond. RCA/ERATO ◉ NUM 75054 \$10.98, © MCE 75054 \$10.98.

Performance: **Languid**
Recording: **Thick**

Except for the lush string sound of I Solisti Veneti, there is nothing to recommend this reading of Vivaldi's *Four Seasons*. The performance is romantically conceived; the strings slip and slide around, emasculating Vivaldi's rhythmic drive, and transform the music's tautness to mush. Supported by a gussied-up continuo of harpsichord, organ, and theorbos, solo violinist Piero Toso sounds like a gypsy roasting marshmallows over Sterno. *S.L.*

WAGNER: *The Ring of the Nibelung (Orchestral Excerpts)*. Vienna Philharmonic Orchestra, Sir Georg Solti cond. LONDON ◉ LDR 71112 \$12.98, © LDR5 71112 \$12.98.

Performance: **Competent, but . . .**
Recording: **Close-up**

Sir Donald Tovey called the usual potpourri of "orchestral highlights" from the Wagner operas "bleeding chunks of butcher's

meat!" Although George Szell, William Steinberg, Leopold Stokowski, and Arturo Toscanini presented some pretty effective rebuttals to this view in their best presentations of Wagner excerpts, this record makes me think Sir Donald was right after all.

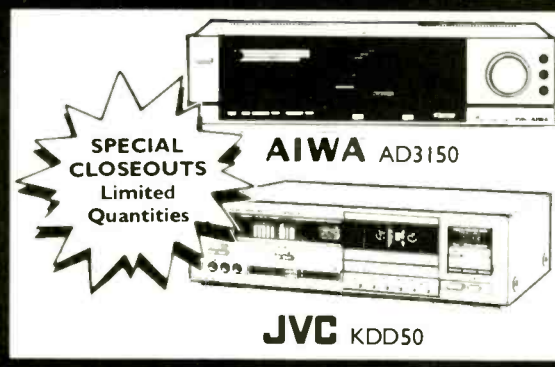
The Ride of the Valkyries is here cut from the usual five and a half minutes to just over three. The Entrance of the Gods into Valhalla entirely lacks the Rhinemaidens' song—there is just an awkward pause, then the sword motif that introduces the coda. Siegfried's Funeral Music ends on a suspension for which the portion of the Immolation Scene, beginning with Brunnhilde's leap into the funeral pyre, is hardly a satisfactory continuation. Then, for some reason, the close of *Die Walküre* is given in its extended concert version!

Although the performances as such are on the usual high level of competence we would expect from the artists involved, the record is obviously packaged for the television audience that has been following the visually perverse but often musically fascinating Chereau/Boulez Bayreuth *Ring* (recorded in its entirety on Philips). But after what Sir Georg Solti accomplished with the late John Culshaw for London/Decca in the first complete stereo recording of the *Ring*, I think this release is a demeaning disgrace that serves neither Wagner, the public, nor the performers. The sound, moreover, is too closely focused for my taste. *D.H.*

(Continued on page 102)

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RECORDING OF SPECIAL MERIT

JÓZSEF GREGOR: *The Great Buffo Scenes.* **Mozart:** *Zaide: Wer hungrig bei der Tafel sitzt. Die Entführung aus dem Serail: Solche hergelaufne Laffen; Ha! wie will ich triumphieren. Le nozze di Figaro: La vendetta.* **Rossini:** *Il barbiere di Siviglia: A un dottor della mia sorte. La Cenerentola: Miei rampolli, femminini; Sia qualunque delle figlie.* **Donizetti:** *L'elisir d'amore: Udite, udite, o rustici. Don Pasquale: Ah un foco insolito; Cheti, cheti, immantinnente* (with István Gáti, baritone). József Gregor (bass); Hungarian State Opera Chorus; Savaria Symphony Orchestra, Tamás Pál cond. HUNGAROTON SLPX 12359 \$10.98.

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

The impressive gifts of Hungarian basso József Gregor have been revealed on previous Hungaroton releases but never before to such an extent. In these scenes he is in his true element, and he proves himself to be a fine and seasoned comic artist who truly *sings* his arias without resorting to excessive buffo tricks. In the thoughtful annotation the artist himself has provided for this recital, he explains his approach to the various characters he impersonates: "I can only breathe life into a character if I feel I could accept him as *my friend*."

I recommend this disc in every possible way. Gregor's well-trained voice displays an uncommon range and flexibility. He is clear in diction, fluent in patter, secure in rhythm, and firmly centered on pitch (and what a blessing it is to find *that* quality in a basso nowadays). The repertoire too is commendable: very few of these arias are available on individual discs. The orchestra is somewhat unassertive but plays well, and the recorded sound is fine. (Savaria, or Szombathely, the orchestra's home, is a small Hungarian city near the Austrian border.) G.J.

RECORDING OF SPECIAL MERIT

CHRISTOPHER HOGWOOD: *Keyboard Music.* **Bull:** *Fantasia.* **Philips:** *Galiarda passamezzo.* **Farnaby:** *Farnaby's Dreame; His Rest; Farnaby's Conceit; His Humour.* **Johnson/Byrd:** *Pavana Delight; Galiarda.* **Gibbons:** *Fantasia; The Italian Ground; Lincoln's Inn Masque; The Queen's Command.* **C. P. E. Bach:** *Fantasy in C Major; Sonata No. 2.* **Arne:** *Sonata No. 3, in G Major; Sonata No. 6, in G Minor.* Christopher Hogwood (keyboards). L'OISEAU-LYRE DSLO 609 \$10.98.

Performance: **First-rate**
Recording: **First-rate**

Armed with a battery of harpsichords, organs, and virginals, as well as a spinet, a fortepiano, and a clavichord (eleven instruments in all), Christopher Hogwood again

reveals his tremendous talent for making music on all manner of early keyboard instruments. One of the delights of this album is hearing the striking difference in the timbres of these instruments. Side two is particularly dramatic. First you hear C. P. E. Bach on the fortepiano and then on the clavichord. (Do not be tempted to turn the volume up for the latter—enjoy its soft, dulcet tones as they are.) The sudden return to the brilliance of the eighteenth-century English harpsichord in the magnificent Arne sonatas is thrilling.

Hogwood has a keen knowledge of authentic performance practice, and he plays very intelligently, with crisp articulation, bristling ornamentation, and a strong sense of rhythm. His consistently fine musicianship and the first-rate sound make this record thoroughly satisfying. S.L.

CYPRIEN KATSARIS: *Variations.* **Liszt:** *Variations on "Weinen, Klagen, Sorgen, Zagen."* **Rachmaninoff:** *Variations on a Theme by Chopin, Op. 22.* **Schumann:** *Exercices (WoO 31).* Cyprien Katsaris (piano). TELEFUNKEN 6.42787 \$12.98.

Performance: **Committed**
Recording: **Vivid**

None of these three works in variation form is exactly overexposed, and Schumann's "Etudes in the Form of Free Variations on a Theme by Beethoven" appears to be a recording première. The *Exercices* were composed during 1831 and 1832, revised twice

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by 1833, when they were dedicated to Clara, and were never assigned an opus number or published by Schumann. They did not appear in print until 1976. The Beethoven theme is that of the *Allegretto* of the Seventh Symphony. In one of the variations we hear a reference to the first movement of that work, and there are allusions to various other Beethoven pieces, as well as reminders of some of the better-known compositions Schumann himself had in the works at the time he was composing and polishing this one. Cyprien Katsaris bases his performance on Schumann's final version, and he goes all out in its behalf. Schumann's decision not to publish it is understandable, though, for even in the hands of so committed an advocate as Katsaris it is essentially a historical curiosity that adds nothing to the composer's stature.

The Rachmaninoff and Liszt variations are on another plane altogether. Liszt's variations on a theme from a Bach cantata is a work of considerable profundity from his "post-virtuoso" maturity, and the Rachmaninoff is an exhaustive and polished masterwork from one of his richest creative periods. All three works are very well served by Katsaris, by the digital recording, and not least by Telefunken's Direct Metal Mastering, which adds a considerable dimension of vividness to the fine reproduction of the piano. *R.F.*

KIRI TE KANAWA: Verdi and Puccini Arias. Verdi: *Il Trovatore: Timor di me... D'amor sull'ali rosee. Don Carlo: Tu che le vanità conosci.* La Traviata: *È strano... ah, fors'è lui.* Puccini: *Le villi: Se come voi. Tosca: Vissi d'arte. La rondine: Chi il bel sogno di Doretta. La Bohème: Quando m'en vo' soletta. Manon Lescaut: In quelle trine morbide. Gianni Schicchi: O mio babbino caro. Madama Butterfly: Un bel di vedremo.* Kiri Te Kanawa (soprano); London Philharmonic Orchestra. John Pritchard cond. CBS ◉ IM 37298, © IMT 37298, no list price.

Performance: **Lovely, passionless**
Recording: **Okay**

In terms of musicianship, tonal refinement, and all-around vocal skill, Kiri Te Kanawa ranks very high among today's sopranos. This recital yields some exceptional instances of her superior art: the lovely trills in the *Travatore* aria and her execution of the soaring phrase "Ah, mio sogno! Ah, mia vita!" in Magda's aria from *La rondine* are but two instances.

Nevertheless, Verdi and Puccini do not seem to be the proper *métier* for this fine artist. At no time is she less than artistic or vocally satisfying, but true emotional involvement is rarely noticeable. Her Musetta, Lauretta, and Doretta seem temperamentally interchangeable and not far removed from her Tosca, and one would never guess from her account of it here that Butterfly's "Un bel di" is supposed to be heart-rending. Least successful is the scene from *La Traviata*, where her intonation lapses and the offstage tenor falls behind the beat.

Deliberate tempos and bland orchestral support are of little help. The engineers have captured the beauty of Te Kanawa's tone, but the orchestral playing lacks depth and impact. *G.J.*

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The Basic Repertoire

By Richard Freed

FOR some years critic Richard Freed, a contributing editor of *STEREO REVIEW*, has listened to all available recordings of the nearly two hundred symphonic works that form the essential core of orchestral programs and classical record collections, selecting those versions he considered the best. We have published his choices in a pamphlet, which we have updated annually, and we are now publishing his selections of the best current recordings of the *Basic Repertoire* in a regular series in the magazine. If you want the pamphlet, the most recent updating (1982) is available for \$1 (check or money order) and a stamped (40¢) self-addressed No. 10 envelope; send to *Basic Repertoire*, P.O. Box 506, Murray Hill Station, New York, N.Y. 10156.

All the selections are two-channel analog stereo discs unless otherwise indicated by one of our usual symbols: **Ⓛ** for a digitally mastered analog disc, **Ⓞ** for a digital Compact Disc, **Ⓢ** for a stereo cassette, and, in a few instances, **Ⓜ** for a mono recording.

□ **FRANCK: *Symphony in D Minor***. Despite sonic overload in some passages, the half-speed-remastered Monteux/Chicago recording is perhaps the most persuasive of all (RCA ATLI-4156, **Ⓞ** ATKI-4156). The new Bernstein, a live performance with the Orchestre National de France, is broadly drawn, at times idiosyncratic, but full of personality (DG **Ⓛ** 2532 050, **Ⓞ** 3332 050, **Ⓢ** 400 070-2). Still extremely persuasive are the economical versions under Beecham (Seraphim S-60012), Boult (Quintessence PMC-7050, **Ⓢ** P4C-7050), and Guido Cantelli (RCA AGLI-4083, **Ⓞ** AGK1-4083).

□ **GERSHWIN: *An American in Paris***. The new InSync cassette release of Leonard Slatkin's Saint Louis Symphony recording shows how good a prerecorded cassette can be and commands new admiration for the performance itself (C 4106). On discs, and less costly (but far less impressive) cassettes, try the same recording (Turnabout QTV 34594; Vox QSVBX-5132, **Ⓢ** CBX-5132, **Ⓢ** CT-2101) or the older ones by Felix Slatkin (Seraphim S-60174, **Ⓢ** 4XG-60174), Bernstein (CBS MY 37242, **Ⓢ** MYT 37242), and Ormandy (CBS MS 7258 or MG 30073; Odyssey **Ⓢ** YT 35496).

□ **GERSHWIN: *Piano Concerto in F***. The Earl Wild/Arthur Fiedler recording is still tops and the very best buy too in its new cassette release (RCA VCS-7097, **Ⓢ** CRK2-0783). The Entremont/Ormandy (CBS MS 7013 or MG 30073) and Siegel/Slatkin versions (Turnabout QTV 34703; Vox QSVBX-5132, **Ⓢ** CBX-5132, **Ⓢ** CT-2122) are also easy to take, and the well-paced Lowenthal/Abrahamovitch fits conveniently on a single side (Vanguard Cardinal VCS-10017).

□ **GERSHWIN: *Rhapsody in Blue***. The most appealing uncut recordings are still those of Leonard Pennario, with Felix Slatkin conducting (Seraphim S-60174, **Ⓢ** 4XG-60174), and Eugene List, with Samuel Adler conducting the original jazz-band version (Turnabout TV 34457, **Ⓢ** CT-4457). The ones by Entremont and Ormandy (CBS MS 7013, MG 30073, Odyssey **Ⓢ** YT 35496) and by Wild and Fiedler (RCA AGLI-3649, VCS-7097, **Ⓢ** CRK2-0783) are not far behind. Bernstein's performance, as both soloist and conductor, is superb, but he cuts the middle section (CBS MY 37242, **Ⓢ** MYT 37242).

□ **GRIEG: *Piano Concerto in A Minor***. Radu Lupu, with Previn, gives a radiantly sympathetic, straightforward performance (London CS 6840). Krystian Zimerman, with Karajan, is more dramatic but also a bit overblown (DG **Ⓛ** 2532 043, **Ⓢ** 3302 043). Bargain hunters will delight in the superb, musicianly Curzon/Fjeldstad recording (London STS 15407, **Ⓢ** STS5 15407) or the bright-eyed Bachauer/Weldon one (Seraphim S-60032), and the Lipatti/Galliera still has more than just historical value (Odyssey **Ⓢ** 32-16-0141, **Ⓢ** YT 60141).

□ **GRIEG: *Peer Gynt***. In a class by itself is Per Dreier's recording of absolutely all the music Grieg composed for Ibsen's drama—thirty-two pieces, several with chorus or vocal soloists (Unicorn-Kanchana RHS 361/362). Outstanding among single-disc offerings are the somewhat different programs conducted by Beecham (Angel RL-32026, **Ⓢ** 4RL-32026), Fjeldstad (London STS 15040, **Ⓢ** STS5 15040), and Blomstedt (Angel S-37535). For the two concert suites alone, try Ormandy's RCA remake with Judith Blegen in Solvejg's Song (ARL1-2613, **Ⓢ** ARK1-2613).

□ **GROFÉ: *Grand Canyon Suite***. Bernstein outdoes even Toscanini in making this much-maligned work seem persuasive. The latest incarnation of his recording (CBS MY 37759, **Ⓢ** MYT 37759) comes with Grofé's *Mississippi Suite* as filler (under Kostelanetz), but the original one (MS 6618) is more of a sonic showpiece.

□ **HANDEL: *Water Music***. Jean-François Paillard's spirited remake (Musical Heritage Society MHS 3092, **Ⓢ** MHC 2152), the Collegium Aureum's "original instruments" performance (Quintessence PMC-7085, **Ⓢ** P4C-7085), and the version by the Prague Chamber Orchestra under Sir Charles Mackerras (Angel S-37532, **Ⓢ** 4XS-37532) all show regard for authentic style and are well recorded. Rafael Kubelik's big-orchestra version, with the Berlin Philharmonic in stunning form (DG 138 799), is also available, with cuts but sounding even more brilliant, coupled with the *Royal Fireworks Music* (DG 138 864).

ADVERTISERS' INDEX

READER SERVICE NO	ADVERTISER	PAGE NUMBER
5	Aiwa	67
	Akai America, Ltd.	14
	Angel/EMI Records	97
14	APT Corporation	83
11	Audio-Technica U.S., Inc.	80
15	BASF	31
	Bose Corporation	59
	Carver Corporation	19
42	Consumers Company	95
	Crutchfield Corp.	43
19	Denon America, Inc.	Cover 3
10	Discount Music Club	23
9	Discwasher	Cover 4
	Harman Kardon, Inc.	4
8	Hitachi	9
	Illinois Audio	87
40	International Hi-Fi Distributors, Inc.	96
	Jack Daniel's	99
	J&B	29
39	J&R Music World	101
13	Jensen Car Audio	79
4	JVC	63
	Kenwood Electronics	42
23	Koss Corporation	53
1	Kyocera	25
24	LaBelle Camera & Stereo of Maine	85
18	The LAST Factory	76
	Marlboro	49
27	Maxell Corp. of America	21
32	McIntosh Laboratory, Inc.	83
	Memtek Products	7
	Mitsubishi	12, 13
	Musical Heritage Society	91
22	Nagaoka	75
	Nakamichi	60
	Phillip Morris/Players	41
7	Pioneer Electronics (USA), Inc.	38
37	Polk Audio	77
46	P.R.I.C.E.	102
	Radio Shack	2
	RCA/International Preview Society	71
	R. J. Reynolds/Camel	68
	R. J. Reynolds/Salem	26
	R. J. Reynolds/Vantage	34
43	Sansui Electronics Corp.	56
3	Sony Corp.	37
12	Sony Corp.	55
29	Stereo & Tape Outlet	96
38	Stereo Corp. of America	92
	Stereo Discounters	95
48	TDK Electronics	45
6	Technics	Cover 2, 1
16	Vivitar Corporation	10
17	Vivitar Corporation	11
56	Wisconsin Discount Stereo	100
	Yamaha International Corp.	33

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STEREO REVIEW

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