Ultimate Beatles Collection: 14-Disc Audiophile Set (Page 79)

FICIN FICEIT

The Compact Digital Audio Disc Is Here! Hands-On Test!

THE BEATLES

ENTENARY EDITION OF BARTOK'S RECORDS

BARTOK AT THE PIANO

FCORDS

ANO ROLLS E RECORDINCS

THE MAGAZINE

Exclusive! Award-Winning Recordings Picked by International Critics

OF AUDIO, VIDEO, CLASSICAL MUSIC, AND POPULAR MUSIC

Basic Guide to Car, Home, and Video Tape Deck Care

RODUCT

U.K. £1.10 DECEMBER 1982 \$1.50

Christmas Component Special!

11 New Personal Portables "Street Tested"! Nifty Gadgets That Perk Up Video Pictures Tested! AR's Best Speaker Yet, 5 More <u>Components</u>

DICINCAT EN IT SEES

In the history of recorded music, there have probably been one ... maybe two

people who liked every song on a record. If you're not one of them, chances are

you'll take an immediate liking to the new Pioneer PL-88F turntable. It's programmable.

Which, simply put, means that your index finger can now spare your ears from a less-than-favorite tune. Just push a button or two, and the turntable will play only the cuts you select. And skip right over the

ones vou don't. Of course, before you know what order to play them in, you'll want to know what order



they're recorded in. And for that, there's Index Scan, which plays the first ten seconds of each cut.

What makes this turntable so smart? A brain.

A tiny microprocessor that works in

conjunction with an optical double eye sensor. The sensor actually "reads" the record grooves to carry out the commands you've programmed into the turntable.

That same microprocessor even makes the PL-88F smart enough to improve

your recordings. A special deck-synchro system sees to it that the tape deck is placed in the pause mode whenever the turntable tone arm lifts off the record.



At the touch of a button the PL-88F's platter glides out, Drop a record on, push the button again and the platter retracts and starts to play automatically

(Providing that you're smart enough to use a Pioneer Auto Reverse Tape Deck.)

Of course, the most impressive part of the new PL-88F turntable comes when you put on your favorite record, sit down in your favorite spot, relax and do something you've probably been too busy to do with your ordinary turntable. Listen to music.





©1982 Pioneer Electronics (USA) Inc., P.O. Box 1540, Long Beach. CA 90801.

AUDIO

High Fidelity News		
Audio-Technica's disc stabilizer; Revox redux; Rockman pro-portable		
CrossTalk by Robert Long		
Merits of different stylus shapes; Pers		18
* Retsoff's Remedies by Alexander I	N. Retsoff	
Cleaning and demagnetizing home, v	ideo, and car tape decks	20
Basically Speaking by Michael Rig	382	
Amplifiers: Power ratings can be dec	eptive	24
Sound Views by Sam Sutherland		
Audiophile discs: Quality in transition	1	26
*New Equipment Reports		
Yamaha PX-3 turntable	29 Sony STR-VX33 receiver	38
Acoustic Research AR-9LS speaker .		41
Kyocera D-601 cassette deck	Goldring G-900 IGC phono pickup	42
* Digital Sound: It's Here! by Mich	ael Riggs	
Special hands-on report on the first d	igital audio disc player-Sony's CDP-101	44
*The New Generation of Personal Pe	ortables by Peter Dobbin	
	on radios, tape decks, and accessories	48
-	•	
	en en ester	51
Yamaha PX-3 turntable Acoustic Research AR-9LS speaker Kyocera D-601 cassette deck Digital Sound: It's Here! by Mich Special hands-on report on the first d The New Generation of Personal Po	32QED Model 330 power amplifier34Goldring G-900 IGC phono pickup34gigtal audio disc player—Sony's CDP-101ortablesby Peter Dobbinon radios, tape decks, and accessories	41 42 44

VIDEO TODAY & TOMORROW

VideoFronts

Portable power pack; Minolta video gear; Sylvania's wide-screen set	52
*Hands-On Reports: Two Useful Video Accessories by Edward J. Foster Vidicraft's outboard enhancer and Showtime Video Ventures' stabilizer	53
Video Q. & A. by Edward J. Foster Taping a computer's output; Tips on live sound recording	55
TubeFood by Susan Elliott New video programming: Cassette, disc, and pay services	56

CLASSICAL MUSIC

Bach's "Choruses": The Record Cleared by Joshua Rifkin His final word on the size of Bach's vocal forces	58
*15th Annual HF/International Record Critics Awards by James R. Oestreich 1982 turns out to be a good year for the British	60
Sixty-Eight Years of the Berlin Philharmonic Reviewed by Joseph Horowitz Lavish recorded salutes to the orchestra's centenary	63
Mozart's Struggles: The Mass Reviewed by Paul Henry Lang The unfinished C minor documents a disconcerting encounter with Bach's music	67
Reviews: Serkin's Beethoven Fourth; Argerich's Tchaikovsky First; The Met's Strauss	69
Critics' Choice	72
The Tape Deck by R.D. Darrell Splurging and budgeteering	77

BACKBEAT/Popular Music

* The Audiophile	e Collector by Sam Sutherland	
Fifteen "special	ty" discs from the Beatles to Steely Dan	78
Pop Reviews:	Billy Joel; The Who; Vanilla Fudge; Bruce Springsteen	83
Jazz Reviews:	Roy Eldridge; Joe Albany; Keith Jarrett; Pharoah Sanders	88

DEPARTMENTS

Letters	3	Advertising Index	98
General Index for 1982 94			

High Fidelity



Sound Revolution



Picture Perker-Upper 53



International Winner



Audiophiles' Delight

8

Presenting High Bias II and the Ultimate Tape Guarantee. Memorex presents High Bias II, a tape so

Memorex presents High Bias II, a tape so extraordinary, we're going to guarantee it forever.

We'll guarantee life-like sound.

Extraordinarily flat frequency response at zero dB recording levels, combined with remarkably low noise levels, means music is captured live. Then

Permapass,[™] our unique oxide-bonding process, locks each oxide particle—each musical detail—onto the tape. So music stays live. Not just the 1st play. Or the 1000th. But forever.

We'll guarantee the cassette.

We've engineered every facet of our transport mechanism to protect the tape. Our waved-wafer improves tape-wind. Silicone-treated rollers insure precise alignment and smooth, safe tape movement. To protect the tape and mechanism, we've surrounded them with a remarkable cassette housing made rigid and strong by a mold design unique to Memorex.

We'll guarantee them forever.

If you ever become dissatisfied with Memorex High Bias II, for any reason, simply mail the tape back and we'll replace it free. YOU'LL FOREVER WONDER, IS IT LIVE, OR IS IT MEMOREX

Letters

Fully Loaded

Here are a few comments on products that did *not* show up in Gary Stock's "Car Stereo Components for 1983" [October]:

Decorative grilles in colors other than black or silver, so as not to advertise the presence of an expensive stereo setup to would-be thieves. (I guess if you want speaker grilles that blend in you have to spray paint them!)

Flat (or nearly so) speakers that could be mounted *on* the kick panels or doors, so you don't have to chop holes in the car's interior.

Tweeters that could be placed on the headliner above the windshield, rather than on the dash. For that matter, where are the speakers that will fit on a dash?

A stereo receiver that would have a plug-in module to turn it into a burglar alarm. It seems to me that about half the necessary circuitry (including the speakers) is already present in current units.

Sometimes I think that gimmicks take precedence over useful innovations and that car stereo designers never actually *use* their products. Or perhaps they just listen to high-power rock stations, not the low-wattage classical ones that I prefer. Stock's mention of lighted controls and variable-bandwidth tuners makes me think that there are at last some designers now who live in the real world.

Brendan Wehrung Royal Oak, Mich.

Cross Talk

Contrary to Robert Long's expectations, neither I nor any technically minded audiophile is likely to "exclaim" (with or without an "aha") that Scotch 206 tape is "noisier" than Maxell UD ("CrossTalk," October). Indeed, with bias and equalization properly adjusted, UD does provide greater headroom, but the Scotch formulation is typically quieter at a given level. Hence it is more, not less, surprising that the quarter-track Akai GX-77 should equal or surpass the halftrack Denon DH-510 in signal-to-noise ratio. Mr. Long's well-taken comments on ultimate dynamic ranges notwithstanding, when the tortoise beats the hare (even in a sprint) eyebrows, not "molehills," will be raised.

May I suggest that the real explanation for this theoretical unlikelihood lies in playback equalization, or perhaps in input level settings. Incidentally, since Mr. Long transposed the respective signal-to-noise ratios of two of the decks in question early in his reply, his extrapolations are consistently inaccurate and could be misleading to prospective buyers. Joseph E. Mahady

Brooklyn, N.Y.

Mr. Long replies: Since we have tested neither the Scotch nor the Maxell open-reel formulations, I cannot comment on which tape gives greater headroom or is quieter. The signal-tonoise figures in the "CrossTalk" item were, unfortunately, transposed. The correct ones are as follows. Akai: 60 dB below reference level plus 8 dB headroom. Denon: 59¼ dB S/N plus 10¼ dB headroom. Pioneer RT-909: 55¼ dB S/N plus 8 dB headroom. The totals are 68 dB (Akai), 69½ dB (Denon), and 63¼ dB (Pioneer). Given the disparity between the A-weighting S/N measurement and the single-tone headroom measurement, the 1½ dB difference between the Akai and the Denon is insignificant.

As far as Mr. Mahady's suggested explanations are concerned, playback equalization is a standardized value in our testing program and could not be responsible for the signal-to-noise differences. It is possible that input level settings could account for the differences, but here again Diversified Science Laboratories uses a standardized input voltage when testing recorders, so that explanation is unlikely.

Loesser's More

Whatever the term "freewheeling Romanticism" might mean to a particular music critic, 1 think James R. Oestreich's use of it to describe Arthur Loesser's Bach playing ["Reviews," October] is highly misleading. Readers will be puzzled if they expect a performance style ă la Fischer, Arrau, Lipatti, Kempff, or any other Harold-Schonberg-approved "Romantic" pianist, because they will hear instead the relatively strict and rhythmically precise playing of someone who at times could be taken for Charles Rosen or the late Glenn Gould.

The freer approach can be beautiful and even persuasive as some other kind of music (although Martins has never made it so, and although in Bach I myself prefer steady momentum and clarity to huff-and-puff swooning). But it was not Loesser's approach, as Harris Goldsmith pointed out in his original review [July 1979], to which Mr. Oestreich refers. David Moran

Auburndale, Mass.

Mr. Oestreich replies: Mr. Moran provides a second useful corrective to my capsule comment on Loesser's Well-Tempered Clavier, for which, kindest thanks. It's not easy, in a review that has already run long, to indicate briefly and precisely why one ultimately prefers one recording over many others available. The term "freewheeling Romanticism" indeed does not adequately characterize Loesser's performance as a whole: it was intended to characterize what I find "a bit rich" -- particularly the rumbling final cadences with their octave doublings in the bass. These I would consider "freewheeling" and "Romantic" even if they were executed on the sixteenfoot harpsichord stop Goldsmith's imagination supplies. Still, though I can't hold it up as my first recommendation, Loesser's good recording is safely ensconced on my shelf, and I'm glad; therefore, I provided my own first useful corrective-the reference to Goldsmith's highly favorable review, which I here reiterate.

Equal Treatment

Isn't it about time that cassette buyers were treated the same as LP buyers? We pay the same prices, but we are often denied notes or texts. Over the past several months I have bought about fifteen Angel and Seraphim cassettes. Four had texts but no notes, and eight had neither text nor

Fo	r Infor	mation 8989	Ľ			
		REC	EIVER	S		
JVC Technics Kenwood	RX40 40h RX60 55h SA626 SA222 30h SA206 SA424		.00 .00 .95 .95 Sa .00 all for	STR STR STR	IVX5 33 IVX4 28 IVX33 20 IVX22 17 00 25 00 31 00 51 00 61 12 15 21 21	9.00 9.00 4.00 8.95 7.95 9.00 7.00 5.95 4.95 2.00 9.00 5.00 9.00
TUI	RNTAB			ESSO	-	_
Dual	SLB 20 SLD 20 SLD 20 SLD 30 SL 5 SL 7 SLQ 20 1258-52	\$ 69.95 84.95 99.95 115.00 132.95 249.95 136.95 115.00	Allsop tap Demagneti Allsop dis	yfi cleaner e cleaner i ze r	1	9.95 6.95 9.95 14.95 15.95
200	1268-55 508-55 607-55 627Q-55	148.00	ADC	SS5 SS10 SS20 SS30	\$7 13 19	72.95 97.95 97.95 99.95
		CASSE	TTE D	ECKS	;	
JVC Technic: Sony	KDD10 KDD20 KDD30 KDD40 5 RSM 201 RSM 221 RSM 221 RSM 221 TFX 33 TFX 44X TFX 20	4 127.9 5 136.9 5 238.9	00 00 00 95 95 95 95 95 95 95 95 95	et CT 9R CT 9R CT 8R CT 7R CT 6R CT 5R CF 5R CF 512 CF 512 CF 512 CF 512 CF 512 CF 513	429.9 379.9 249.9 189.9 139.9 129.9 149.9 169.9 199.9	15 15 15 15 15 15
M	TAPES in. 10 p			орно	NES	AF
Audio Cas TDK ADC TDK SAC TDK D 90 Maxell UO Maxell UO BASF Pro Fuji Metal Fuji FX II	selte 90 90 XLII XLIIS II C90 C90	1.89 2.49 1.39 2.85 3.79 2.29 4.95 2.25		414 420 424 430 222 HVXLC HVXLC HVXLC HVILC HVILC HVILC HVILC HVILC HVILC HVILC HVILC HVILC HVILC HVILC HVILC HVILC HVILC	\$25,95 44,95 63,95 66,95 66,95 45,50 39,70 35,95 29,95 49,50 24,95	LER • AVID •
VIDE	O EQU	PMENT		LKAB	\$22.00	FIS
Sharp Panasonie IVC	VC 9400 VC 8500 1275 PV 5500 PV 1775 HR 7300 HR 7650 HR 2650	\$459.00 495.00 465.00 869.95 879.95 579.95 899.95 979.95	Walkmai Walkmai Walkmai Toshiba Radio Fl Walku & III JVC PC Sanyo C	n II n III KTR1 M Ior man I 3	59.95 82.95 94.95 84.95 26.00 269.00 239.00	HER • KO
TDK Panasonic Maxetl Sony Sony	EO TA T120 T120 T120 L830 L750	PES \$11.25 10.95 11.50 14.00 12.95	Shaip P GF 8 GF 1740 GF 5252 Sharp C	ortables	139.00 49.00 99.00	SS • AR •
ca 1 V	ISA IASTEI Branc	rs Free 847-42 RCHAR I new r ed wit	226 RGE merch		se	DUAL • SHAF



MPROVE THE SOUND

MPROVE THE SOUND MPROVE THE SOUND OF YOUR PERSONAL PORTABLE TAPE MACHINE PORTABLE TAPE UP ACTIV

WITH MODEL MATE MALE MININ WITH MODEL HD AOW!

n muuel nu au Low-impedance model with mini phone plug.

If you think lightweight headphones mean lightweight sound, prepare to be amazed.

They're the incredible new HD 40, Sennheiser's latest-and lightest-Open-Aire® model. With the electrifying clarity and definition that earned their forerunners world renown. Plus the wide frequency response and natural dynamic range that are Sennheiser trademarks.

Come hear Sennheiser's latest triumph at your dealer today. The price is so modest, you won't feel anything but the music.

SENNHEISER

10 West 37th Street, New York 10018 (212) 239-0190

© 1981, Sennheiser Electronic Corporation (N.Y.)



Circle 43 on Reader-Service Card

William Tynan, Editor-in-Chiel/Associate Publisher

- Shirley Fleming, Editor, Musical America Susan Elliott,
- Managing Editor/Editor, Backbeat James R. Oestreich, Classical Music Editor

- Michael Riggs, Technical Editor Peter Dobbin, Electronics Features Editor
- Electronics Peatures El Robert Maddocks, Director of Graphics Peter Hemingson, Copy Editor Susan E. Fingerhut, Assistant Music Editor

- Janet Wolf
- Assistant Editor
- Mildred Camacho-Castillo, A. Heather Wood,
- Editorial Assistants Consulting Technical Editors: Edward J. Foster, Robert Long

Contributing Editors: Christine Begole, Crispin Cice, R. D. Darrell, Harris Goldsmith, Edward Greenfield, R. D. Darrell, Harris Goldsmith, Edward Greenfield, Davld Hamilton, Dale Harris, Don Heckman, Stephen Holden, Nicholas Kenyon, Allan Kozinn, Paul Henry Lang, Irving Lowens, Robert C. Marsh, Fred Miller, Andrew Porter, Steven X. Rea, Susan Thiemann Sommer, John S. Wilson. Contributing Graphics Staft: Robert Curtis, Photogra-phy; Roy Lindstrom, Technical Art.

Kathleen Davis, Director of Production Production Editors: Randy Brozen, Audio-Video; Lida A. Silverman, Music; Paula Ballan, Assistant Susan M. Allyn, Circulation Director, Subscription Sales

- Dominic Mustello, Circulation Director, Newsstand Sales William P. Johnson

Villiam P. Johnson, Circulation Service Manager Suzanne Hochman, Direct Mail Manager Steven I, Rosenbaum,

Publishe

Cover photo: Robert Curtis

ADVERTISING

ADVERTISING New York: ABC Leisure Magazines, Inc. 825 7th Ave. 7th Fioor. New York. NY 10019. Telephone: (212) 265-8360. Sey-mour Resnick, Advertising Director: Raymond Foster, Associate Advertising Director: Richard A. Frank, Eastern Advertising Man-ager: George Dickey, Record Advertising Manager Yella Peltz-man, Classified Advertising Manager, Robert Maddocks, Director of Graphics. Kathleen Davis, Director of Production; Janet Cer-mak, Advertising Production Manager; Cecelia M. Giunta, Admini-Istrative Assistant. Midwest: ABC Leisure Magazines, Inc., 415 South Ioka Avenue, MI, Prospect, III. 60056. Telephone: (312) 389-7580. Wil-Iiam P. Gordon, Midwest Advertising Manager. Lo Angeler: ABC Leisure Magazines, Inc., 2020 Avenue of the Stars, Suite 245, Century City, Caill. 30067. Telephone: (213) 557-6482. Rita Weitzen, Western Advertising Manager. National Reps: Kathleen Charla, Kathleen G. Charla Associates, 21000 W. Fourteen, Mile Road, Birmingham, Mich, 48010. Telephone: (313) 642-3482. Bill Good, Sr. Good Maga-zines, Inc.; 50 East 42nd Sireet, New York, NY, 10017. Tele-phone: (212) 682-0385. Peter McCann. The McCann Group, 333 Nichcigan Avenue, Chicago, III. 60601. Telephone: (312) 782-Vage.

4492

Tokyo: Japan Advertising Communications, Inc., New Ginza Bldg., 7-3-13 Ginza, Chuo-ku, Tokyo 104, Japan, Tele-phone: (03) 571-8748, Shigeru Kobayashi, President.

prioner (03) 5/1-8748. Shigeru Kobayashi, President. HIGH FIDELITY and HIGH FIDELITY/MUSICAL AMERICA are pub-lished monthly by ABC Leisure Magazines, Inc., a division of ABC Publishing, Inc., and a subsidiary of American Broadcasting Companies, Inc. ABC Publishing, Inc., Robert G. Burton, Presi-dent, ABC Leisure Magazines, Inc. Rohald Sluar, President, Her-bert Keppler, Senior Vice President, Photographic Publishing Division; Anthony F. Morgano, Vice President, Her-bert Keppler, Senior Vice President, Photographic Publishing Division; Anthony F. Morgano, Vice President, Finance: Ernest G. Scartone, Vice President, High Fidelity Group Member Audit Bureau of Circulation, Indexed in Reader's Guide to Periodical Literature Current and back copies of HIGH FIDELITY and HIGH FIDELITY/MUSICAL AMERICA are available on microfilm from Uni-versity Microfilms, Ann Arbor, Mich. 48106, Microfiche copies of these magazines (1973 forward) are available through Bett & Hovell Micro Photo Division, Old Manshield Road, Wooster, Ohio 44691.

Editorial correspondence should be addressed to The Editor. HIGH FIDELITY, 825 7th Ave., New York, NY 10019. Edito-rial contributions will be velcomed, and payment for articles accepted will be arranged prior to publication. Submissions must be accompanied by relum postage and will be handled with rea-sonable care, however, the publisher assumes no responsibility for reluming unoficient of burbanesses are no responsibility. for return of unsolicited photographs or manuscripts

High FibeLITY is published monthly at 825 7th Ave., New York, N.Y. 10019, by ABC Leisure Magazins of Manaschipts. High FibeLITY is published monthly at 825 7th Ave., New York, N.Y. 10019, by ABC Leisure Magazines, Inc. Copyright © 1982 by ABC Leisure Magazines. Inc. The design and contents are fully protected by copyright and must not be reproduced in any manner. Second-class between year and the York, and at additional malling offices. Author/zed as second-class mail by the Post Office Department, Ottawa, and for payment of postage in cash. Yearly subscription IU.S.A. and Possessions \$13.95, reisewhere \$19.95. Single copies \$15.05. Subscribers: Send subscriptions, including 21P code. Enclose address label from last-issue and allow fire weeks for change to become effective. Postmaster: send Form 3579 to HokH FibeLITY. P.O. Box 10759, Des Moines, Iowa 50340, Postal Identification Number 243820.



Only technology this advanced can achieve music reproduction this pure. The Technics Digital Cassette Recorder.

No tape hiss. No wow and flutter. Not even head contact distortion. With the digital technology in the Technics SV-P100 Cassette Recorder, they no longer exist.

Utilizing the Pulse Code Modulation (PCM) digital process, the SV-P100 instantaneously translates musical notes into an exact numerical code, stores them on any standard VHS cassette, then "translates" them back into music on playback. Duplicate tapes are exactly the same as the original. Thus, every recording and every copy is a "master."

The revolutionary size of the Technics SV-P100 Cassette Recorder (17"x11"x10") is the result of stateof-the-art semiconductor technology. The built-in videotape transport mechanism brings the convenience normally associated with conventional front- oading cassette decks to a digital application. Tape loading is

completely automatic. And, frequently used controls are conveniently grouped on a slanted panel with LED's to confirm operating status.

Despite its compact size, the SV-P100 Recorder offers performance beyond even professional open-reel decks. Since the digital signal is recorded on the video track, the space usually available for audio can therefore be used for editing "jump" and "search" marks. The unit employs the EIAJ standard for PCM recording. And, in addition, editing and purely digital dubbing are easily accomplished with any videotape deck employing the NTSC format.

The Technics SV-P100 Digital Cassette Recorder is currently available at selected audio dealers. To say that it must be heard to be appreciated is an incredible understatement.



The ADC Sound Shapers. Improvements on perfection.

When you make a line of equalizers that audiophiles consider to be the best, it's difficult to make them better:

But we did. And our exciting new Sound Shaper* line reinforces our reputation as the leader in the equalizer world.

You'll find the same superb electronics and high performance technology that you've come to expect from ADC. With LED-lit slide controls that let you custom-tailor your sound to compensate for room and system deficiencies. And now, you'll find our Sound Shapers updated with new refinements and sleek styling that makes them look as good as they function.

Our top-of-the-line SS-30 is a perfect example. A ten-band equalizer with LED meters and two-way tape dubbing, it has its own integrated spectrum analyzer built in, so you can clearly see the altered frequency response. And unlike many other equalizers with integrated spectrum analyzers that require outside pink noise sources, our SS-30 has its own pink noise generator built right in. So now, you can accomplish corrective equalization of your room without an additional component.

The rest of the line is equally impressive. From our (2-band SS-20 to our ten-band SS-10 to our five-band SS-5, all ADC Sound Shapers offer you fingertip control of your frequency response, with features geared to your equalization needs.

If you're serious about equalization and want to maximize the potential of your present system, an ADC Sound Shaper is your answer. The new ADC Sound Shapers. Perfect examples of sound thinking. Improved.



Sound thinking has moved us even further ahead.



Letters

notes. CBS and RCA are also at fault: The former's cassettes of the Berlioz Requiem and the Strauss *Four Last Songs* had no text or notes; the latter's *Cavalleria rusticana* came with only a cast listing.

By contrast, all of my London, Philips, and DG cassettes came with texts and notes, as did several operas purchased on such small labels as Hungaroton and Supraphon. Now how about it, Angel, RCA, and CBS? Wilfred J. Healey

Los Angeles, Calif.

If Mr. Healey reads "Tape Deck," he will realize that R.D. Darrell has been fighting this good fight for years. CBS Masterworks, for one, recently announced that it will provide liner notes with all cassettes.—Ed.

Two to Tangle

I am appalled that Matthew Gurewitsch reviewed a tango album ["Classical Reviews," August], when it is clear that he doesn't know the form.

Having grown up with the famous tangos of the past, I can assert that few non-Argentine singers have captured the flavor and authenticity of this Latin music as well as Placido Domingo. The "bloated commonplaces that mean nothing" mean a lot to those who understand the language and the feeling behind the words. Clearly Mr. Gurewitsch does not.

May he choke on a red-hot tomato from Argentina for his biased review of a great album!

Ruben S. Sauceda Downey, Calif.

Mr. Gurewitsch replies: It's the old story: If you don't like it, you didn't get it. If Mr. Sauceda will cast a glance back on what I had to say in the same review about Nonesuch's bewitching "Tango Project," he may come to realize how questionable his propositions are in the part of his letter to which one might care to replay.

Stravinsky Conducts

In Robert Craft's letter about the CBS set devoted to the Stravinsky legacy [September], he deplores the absence of the father/son recording of the piano concerto. Yet RCA did issue a 10inch LP of Stravinsky's piano concerto with Soulima Stravinsky as soloist and his father conducting (LM 7010, long out of print). I possess this little gem, which also contains the Scherzo à la russe and two Russian church choruses. Since the early days of the LP, RCA has issued quite a few remarkable Stravinsky recordings. I have never heard a better version of Danses concertantes than the one by Stravinsky and the Victor Symphony (on LM 1075), or of the Concerto in D for string orchestra by the same performers (on LM 1096). Here's hoping that RCA decides to reissue them, perhaps in its half-speed remastered German pressings. That would be treasure indeed!

Donald Weeks West Hollywood, Calif.

Letters should be addressed to The Editor, HIGH FIDELITY, 825 7th Ave., New York, N.Y. 10019. All letters are subject to editing for brevity and clarity.

EVEN AT FACE VALUE, THERE'S NOT ANOTHER DECK LIKE IT.



AKAI flies in the face of convention.

Again. This time with the incomparable GX-F91. A bold new design that looks—and performs—like no other cassette deck in the world.

It is literally the face of the future. No knobs. No keys. And no clutter. Instead, a polite presentation of just the basics.

But press the "door" button and, almost by magic, the faceplate automatically lowers to reveal the main control panel.

Now, insert a cassette. Two microcomputers take charge, first automatically setting the bias. Then, executing a 64-step "tape tuning" analysis that makes sure the GX-F91 gets the maximum from any tape.

For superior frequency response and dynamic range, the GX-F91 is also endowed with a 3-head design, record-cancel that virtually guarantee professional quality recordings.

In short, it's the proud flagship of our entire 10-deck AKAI family. A family that now includes three outstanding autoreversing record/playback designs.

> So audition the new GX-F91 at your AKAI dealer's soon. And come o-face-to-

AKAI Super GX Heads and Dolby* B & C systems.

Plus operational features like auto-fade, auto-mute and autoAnd com face-to-face-toface with the future.



The Only Receiver Built Like A Mitsubishi.

On the subject of receivers, we can perhaps be accused of a bit of priggishness.

Having established certain standards in our components,we aren't about to put our name on a receiver if the receiver doesn't measure up.

Which brings us to a receiver in our 25/30 series, the R-25.

It owes a great deal to developments incorporated in our separates.

The R-25 features Quartz

Synthesized tuning for hairsplitting tuning accuracy. And if you have greater tuning accuracy you're going to have less distortion and noise, and maximum stereo separation.

Each station is illuminated on a fluorescent digital display. Tap the control bars and it proceeds to lock on to the first available station. Hold the bars down and it will scan up and down the band.

You can pre-select up to seven

AM and seven FM stations for storage in memory.

To combat noise—the highfrequency variety that FM stereo falls prey to when stations are weak or far away—the R-25 has an Automatic Hi-Blend feature. It blends stereo signals into monaural in the noisy highfrequency ranges. But it leaves the undisturbed low-frequency signals in the stereo mode.

This removes almost all the perceived noise while preserving



MITSUBISHI DA-R25 stereo receiver

the broadcast in stereo.

Having solved the noise problem, we moved on to that of signal strength.

Strong signals, by nature, will bully the weak ones, drowning them out, pushing them aside.

Our automatic IF(Intermediate Frequency) switching circuit solves this problem by narrowing the tuning window, thereby excluding interference.

However, since narrowing the window increases distortion, this switching function is introduced-with laudable discretiononly at that precise point where evil than signal interference.

As a result, the best possible signal is delivered automatically.

The R-25 Pre-Amp section features a continuous loudness control of ten settings. Rather than the usual single on or off loudness mode. This lets you contour the low and high frequency ranges at low volumes for much richer tonal balance.

Built into the pre-amp section as well is a moving coil amplifier. A simple push of a switch and you're ready to use a high-grade moving coil cartridge without any other external unit.

Meanwhile, back in the amplifier, crossover and switching distortion is reduced to negligible the increased distortion is a lesser levels by a linear switching circuit.

A rather ambitious array of features for a receiver.

And on the subject of distor-

tion, High Fidelity (March, 1982) commented, "At low power... the distortion barely reaches 0.01% – the threshold below which we consider distortion altogether negligible."

They also had another nice thing to say about Mitsubishi:

"The flimsy and the tacky are as inconceivable from its design studios as a pianissimo is from Ethel Merman"

Or, as we like to put it, if it says Mitsubishi, it's got to sound like a Mitsubishi.



Mitsubishi Electric Sales America, Incorporated, 3030 Victoria Street, Rancho Dominguez, California 90221. Available at specialty houses nationwide. Specifications are subject to change without notice



AUDIO High Fidelity News

New equipment and developments

A Stabilizing Force from A-T

Employing a vacuum "chuck" to stabilize an audio disc is not a new concept. In the cutting room, vacuum-equipped turntables have been used for many years to keep the lacquer blank in place. A year ago Luxman brought vacuum stabilization to home turntables, but only in its more expensive models. With the AT-666EX, however, Audio-Technica now offers the possibility of retrofitting even a modest turntable with this uncannily effective warp-reducer/resonance damper.

The heart of the AT-666EX is a diecast aluminum platter pad equipped with soft rubber sealing rings and internal air passages. The aluminum pad replaces whatever platter pad you are presently using (Photo 1). A chamois cloth is included to clean the pad and the rubber sealing rings; wiping the rings with a moistened section of the cloth (Photo 2) prior to use also helps ensure a long-lasting vacuum. The hose from the battery-powered suction pump is attached to a valve on the perimeter of the pad (Photo 3). A rubber-footed trivet helps force warped 12-inch discs into contact with the sealing rings as the suction pump is activated (Photo 4). (The placement of the sealing rings precludes use of 7-inch discs.) The pump automatically switches off when vacuum between the pad and the LP has been achieved. The hose and trivet can then be removed, and playback can begin. Lifting a disc can damage the sealing rings if



the vacuum is still intact; to remove a record quickly, you open a small release valve on the pad's perimeter.

In our hands-on test of the system, only the most outrageously warped LPs did not succumb to the flattening effects of the AT-666EX. Though using the system entails a minute or so of preplay setup, we found the sonic results well worth the extra effort. Low bass notes were tighter and sounded more controlled after stabilization. Improvements in reproduction of high-frequency transients were also noted. Bells and cymbals, for example, emerged with delightful clarity, followed by a slow natural decay. Though we will resist the temptation to theorize on specific causes for these audible changes, it is logical to assume that the stabilized LP—forced into intimate and uniform contact with the massive platter system (original platter plus aluminum pad)—will show increased immunity to acoustic feedback and excellent damping of stylus-generated vinyl resonances.

Provided your turntable has sufficient torque and a suspension rigid enough to deal with the addition of a 3-pound platter pad, the AT-666EX may well prove a worthwhile, albeit expensive, investment. The AT-666EX is priced at \$295.—P.D. *Circle 79 on Reader-Service Card*



Nakamichi on a Budget

At \$300, the BX-1 is the least expensive cassette deck ever offered by Nakamichi. The highly regarded deck manufacturer is quick to point out, however, that the BX-1's humble price does not connote humble performance. It is a two-head design equipped with Dolby B noise reduction circuitry. Recording level is set with a single master slider in conjunction with a separate balance control; once these settings have been made, the master input slider can be used for easy fades. The unit's LED level meters are calibrated from -30 to +5 dB.

For an additional \$150, Nakamichi's new BX-2 adds Dolby C, a 4-digit electronic tape counter (in place of the BX-1's 3digit mechanical counter), memory play, recording mute, and an output level control. Both decks use the same hyperbolic laminated-sendust record/play head and doublegap erase head.

Circle 70 on Reader-Service Card

Midprice Microprocessing

Equipped with a built-in programmable timer with three memories, Sansui's Z-3000 receiver brings microprocessor-based operating flexibility to midprice receivers. Rated at 55 watts ($17\frac{1}{2}$ dBW) per channel,



the receiver has frequency-synthesized tuning with sixteen channel presets (eight AM and eight FM). In addition, three other tuning modes are available: manual stepping, station search, and preset scanning. A switchable clock display, a vertical volume slider, and provision for two tape recorders give added panache to this \$400 receiver. *Circle 78 on Reader-Service Card*

Practicing with a Personal Portable

Tom Scholz, founder of the rock group Boston (as well as its recording engineer,

Five of the music world's finest instruments re made by T



Like any fine musical instrument, **TDK Professional Reference audio** cassettes and open reel tapes are products of genius. In TDK's case, it's the genius of constantly-advancing audio technology. And now, TDK technology has advanced again in the reformulation of our MA-R metal, SA-X high bias, and AD-X normal bias cassettes.

MA-R, SA-X and AD-X are formulated to an incredibly strict, new set of audio tape standards based on measurements and values no audio cassette manufacturer has ever attempted to meet. TDK cassettes deliver clarity, fidelity and quality unmatched by any other cassettes on the market today. MA-R, with its unique unibody metal ©1982 TDK Electronics Corp.

alloy frame and Reference Standard Mech- mastering tape offers a wide dynamic anism is the first metal reference tape in the industry. SA-X pushes high bias to its limits. AD-X normal bias is extraordinary in its wider dynamic range and its freedom from saturation at high frequency. SA-X and AD-X both feature TDK's specially engineered Laboratory Standard Mechanism. Each cassette comes with a Lifetime Warranty.

TDK's superior technology is just as evident in our SA/EE (Extra Efficiency) and GX open reel tapes. TDK SA/EE is the first open reel tape to use TDK's famous Super Avilyn particle. This gives SA/EE almost double the coercivity and high frequency MOL of conventional open reel tapes. GX

range, high MOL and low noise. Both SA/EE and GX feature low distortion and extended frequency response.

MA-R, SA-X, AD-X, SA/EE and GX-they're five of the music world's finest instruments for all of the music and instruments you record. One final note. TDK's new Professional Reference Series of audio cassettes now comes in bold, new packaging. So they stand out in sight just as they stand out in sound.



Once again, JVC harnesses higher tech in the pursuit of higher fidelity.

The power of higher tech, harnessed by superior engineering. Once again, it's the mark of JVC's leadership. Even in the realm of moderately priced components like these.

The intricacy of JVC turntable design.

You see it, and hear it, in attention to subtle, yet significant details. Like a straight, low-mass tonearm with *tracing hold* to stabilize tracking. And quartz control to insure virtually perfect platter rotation.

Powerful, yet musically pure receivers.

A JVC innovation called Super-A removes subtle forms of distortion. So

musical overtones and transients are amplified intact for a pure, musically natural sound. Add graphic equalization and quartz tuning, and you have receivers unsurpassed for performance and versatility.

The innovators in metal cassette decks.

It was JVC who first put together the technology needed to record metal tapes. Now we've added Dolby* C for ultra-quiet recordings. Plus features like Music Scan to find selections automatically. Spectro-Peak metering. Logic controls, digital indication, memory and more. Speakers more precise than the ear itself.

Our Dyna-Flat ribbon tweeter extends to 100 kHz, higher than the ear can hear. By doing so, it helps provide correct amplitude and phase characteristics in the audible range. So music takes on the focus, detail and spatial image of live sound.

Your JVC dealer is waiting to demonstrate the full new line of higher tech components. Computerized tuners. "Thinking" tonearms. Self-optimizing cassette decks. Higher tech engineering all focused on one goal – achieving the highest fidelity possible.



AUDIO High Fidelity News



chief songwriter, lead guitarist, arranger, and producer), is making his debut as a manufacturer with a personal portable aimed at the practicing musician. Dubbed the Rockman, this 15-ounce battery-powered device provides headphone-level amplification for electric guitars and keyboards. In addition, Scholz Research and Development has packed in enough special effects generators to satisfy a variety of musical styles. A four-position switch can call up two levels of distortion as well as a choice of two equalized clean settings. A solid-state reverb creates stereo echo, and a custom-built doubler provides a stereo chorus effect; a three-position switch allows access to each effect separately or in combination. You can accompany tapes or discs by routing signals from a receiver or tape deck (home or portable) into the unit's aux input; two "Rockmen" can be daisychained, using an auxiliary input and an extra headphone-level output. The Rockman can be used as a special effects generator for public address or recording use and comes with a pair of folding headphones. Price is \$250.

Circle 71 on Reader-Service Card



Don't Let the Faceplate Fool You!

Reasonably priced, chock full of goodies, and sized to fit X-body cars, Jensen's R-220 receiver/cassette player is far more sophisticated than its faceplate lets on. A quick glance tells you that all the standard features are there, plus a loudness control for low-level listening and an automatic reverse mechanism in the cassette player. A more careful inspection reveals line-level outputs, an illuminated slot for fumble-free tape loading at night, automatic local/distance switching in FM, and a tuner-activated control lead for a power antenna. A special circuit assures the best possible FM performance, despite changes in signal quality and strength. The R-220 comes with Circle 77 on Reader-Service Card



Pocket Full of Sound

Designed for use with personal portables, Denon's lightweight AH-P5 headphones fit into a cassette-sized carrying case. The folding headphones use high flux-density samarium-cobalt magnets and low-mass diaphragms for high efficiency and extended frequency response. Denon also includes a three-foot extension cord with a minijack-to-phone-jack adapter for use with home stereo systems. Price is \$67. *Circle 74 on Reader-Service Card*



A Wallflower by Design

Just 10 inches deep and 121/4 inches high, Allison Acoustics' Model 8 is a true bookshelf speaker system. A bookshelf loudspeaker in Allison's view, however, is more than just a compact design; the Model 8 is specifically engineered to deliver the smoothest frequency response when mounted on a shelf (with at least 12 inches of unimpeded space above it) or on brackets several feet above the floor. A three-way system with an 8-inch woofer, a 3¹/₂-inch midrange driver, and a 1-inch tweeter, the speaker features two sets of linked input terminals that provide easy conversion to biamplified operation (with the addition of an external electronic crossover and second amplifier). Nominal impedance is rated at 4 ohms, and the speaker is said to produce a sound pressure level of 87 dB with a 1-watt



A tuli time of the new to meet models is available now to meet your performance needs. Simply plug the cartridge in, tighten one screw, and you've got Shure quality, trackability, and unsurpassed performance—with surpassed performance—with surpassed performance—with surpassed performance in wires to connect or tracking no wires to connect or tracking no wires to connect or tracking force or alignment adjustments force or alignment adjustments for great sound, get the Shure For great sound, get that P-Mount phono cartridge that



13

Circle 50 on Reader-Service Card

AUDIO High Fidelity News

input (measured at 1 meter). Low-frequency half-power point is given as 41 Hz. Allison recommends using an amplifier rated at between 30 and 200 watts per channel to drive the Model 8. Each speaker weighs 29 pounds and costs \$345.

Circle 75 on Reader-Service Card

Turn on The Radio

Performance as good as (or better than) the best component tuner or receiver is the ambitious claim of Proton Corporation for what it styles The Radio. The \$280 AM/FM stereo table radio incorporates tuner circuit-



ry developed by designer Larry Schotz for extremely high sensitivity and ultimate quieting. The Radio's built-in speaker system is biamplified: The $4\frac{1}{2}$ -inch woofer is driven by a 20-watt (13-dBW) amplifier, while the $1\frac{3}{4}$ -inch dome tweeter is fed by a 5-watt (7-dBW) amp. Additional speakers are available for \$140 each. The basic Radio configuration includes just one speaker, so a system capable of stereo playback requires purchase of an extension unit. *Circle 69 on Reader-Service Card*



Japanese Ceramics

Kyoto Ceramic Company has drawn on its expertise in high-quality ceramics to create the Kyocera PL-901 turntable. A belt-drive design, the turntable features a 6-pound platter formed of a high-density ceramic compound. Use of this material in place of metal is said to improve the platter's resonance-damping characteristics. Ceramic is also used in the center spindle and thrust bearing for increased durability, says the manufacturer. The PL-901 costs \$3,500 without tonearm. (See page 34 for our report on another recent Kyocera introduction, the D-601 cassette deck.) *Circle 73 on Reader-Service Card*



Curvaceous

Housed in an unusual cylindrical enclosure, the Model 355 is the David Hafler Company's first loudspeaker system. According to the company, the shape was chosen for a combination of factors: It offers excellent rigidity, while minimizing undesirable internal reflections associated with parallelwalled enclosures; the smooth, edge-free surface reduces the possibility of imagesmearing reflections and diffraction; and the shape permits a large internal volume without expensive fabrication costs. The 355's driver complement consists of two 6¹/₂-inch polypropylene woofers and 1-inch fluid-cooled dome tweeter. Sensitivity is rated at 89 dB for a 1-watt input, and amplifier power recommendations range from 30 to 125 watts. The 301/2-inch high speaker costs \$200.

Circle 61 on Reader-Service Card

They'll sound as good in your home as they measure in our lab.

Although all our Norman Laboratories speakers are designed to measure well in the lab, we never forget where they have to sound best — and that's in your home.

That's why we use polypropylene woofers, ferro-fluid damped tweeters, and computer-designed crossovers — because they sound better where it counts ... in your home. Just as our genuine walnut and oak cabinets look better. Listen to our Norman Labs speakers. They sound, and look, more expensive than they cost.

Norman Laboratories, Inc. 2278 Industrial Boulevard, Norman OK 73069 Write for the name of your nearest dealer, or call (405) 321-3205.

Circle 33 on Reader-Service Card

Aida



America in Central Park



Kingston Trio

RIENN VARBROUGH MARY TRAVERS The Music of

Melissa Manchester

MELISSA





George Shearing

Dave Mason

LaserDisc

DAYE MASUN

AT PERSON ?

CLAUDE DOLLING- CONCER

Liza in Concert





La Bohéme



Grover Washington, Jr. Down and LaserDisc

GROVER WASHINGTON JR



Horowitz

VLADIMIR

HOROWITZ

IN LONDON

Rostropovitch



Paul McCartney & Wings "Rockshow"



Pippin



The Tubes Video



Dvořák's Symphony #9



Queen/Greatest Flix

I sterbise stereo OUEEN GREATEST FLIX

Pioneer LaserDisc YOU MAY NEVER LISTEN TO A RECORD AGAIN.

Since the very beginning, there's been an enormous gap between the feeling of being at a concert and the feeling of its reproduction.

Stereo could give you great sound, but the picture was missing. TV could give you the picture, but with sound never worth listening to.

At last, picture and sound come together. in Pioneer Laser Disc™

It's stereo as good as the best conventional audio records made today. It's a picture as good as if you were in the TV studio itself. It's a remarkable combination of

sight and sound that gives you a sense of performance, a feeling of being there you've simply never experienced at home before.

There are a lot of systems that show you movies at home. And we believe that Pioneer LaserDisc is clearly the best of them. But if you care about music, if you really care about music, there simply is no other way.

For the Pioneer Video Showcase Dealer nearest you, call (800) 621-5199,* or write PioneerVideo, Inc. 200 West Grand Avenue, Montvale NJ 07645. *(In Illinois, 800-972-5855)



Credits: Pioneer Artists, Optical Programming Associates and Pioneer Video Imports. Simulated TV picture of Pioneer Artists' "The Music of Melissa Manchester." Available titles subject to change without notice. © 1982 Pioneer Video Inc. All Rights Reserved







McIntosh Labora East Side Station Binghamton, N.Y	P.O. Box 96	HF
NAME		
ADDRESS		
CITY	STATE	ZIP
L		

If you are in a hurry for your catalog please send the coupon to McIntosh. For non rush service send the Reader Service Card to the magazine.



High Fidelity News

AUDIO

Quarter-Time Dubs

Though two-transport dubbing decks are not new, Aiwa's entry takes the concept to hitherto unexplored territory. The AD-WX110 will copy both sides of a cassette simultaneously at double speed, cutting dubbing time to one-quarter of real time. Thus, a C-60 cassette loaded into the deck's playback (origination) compartment can be copied in 15 minutes. This neat trick is accomplished with four-track playback and record heads. The deck is equipped with Dolby C noise reduction and has a bias finetuning adjustment for Type 1 tapes. The AD-WX110 costs \$430.

Circle 68 on Reader-Service Card



AKG's Brush Off

With one million carbon fiber filaments. each just 8 microns in diameter, AKG's RCB-1 record cleaning brush is said to remove both surface and groove-bound dust. The conductivity of the carbon fibers and the brush's aluminum handle expedite cleaning by bleeding off the disc's dustattracting static charges. The RCB-1 sells for \$15.



Revox Refined

Though a cursory look discloses little difference from its predecessor, the new Revox B-791 turntable adds a guartz-lock variable speed control (±9.9% in 0.1% increments) to the B-790, a modern classic. (See test report, March 1979.) The turntable's tangential-tracking tonearm remains unchanged: Just 13/4 inches long from pivot to stylus, the arm maintains tangency to the groove via a photoelectric servo system. Offered with a Shure TXE-SR phono pickup (for a vertical resonance spec of 11 Hz), the B-791 is priced at \$750. Circle 76 on Reader-Service Card



16



NOW YOU CAN HAVE DIGITAL RECORDING WHERE YOU WANT IT MOST: AT HOME.

There are moments when a musician is so inspired he stops making music and starts making magic. And, as most artists agree, these peak periods of supreme inspiration don't always occur in the clinical conditions of the recording studio. Which explains why Sony, the inventor of digital audio processing, has just created the world's smallest, lightest and most compact digital audio processor — the PCM-F1.

Already touted by every major audio magazine, the PCM-F1 leaves one awestruck by its vital statistics.^{*} Its level of performance surpasses that of even the most sophisticated analog recording studio.

Its unique 3-way power supply allows you to use it anytime, anyplace.

And because Sony consciously designed it without a built-in VCR, it can be used with any VCR – $\frac{1}{2}$ or $\frac{3}{4}$ inch.

But perhaps its greatest feature is its price.

Obviously, we can go on and on about the brilliance of this new machine, but by now we figure you've heard enough about it and you're ready to go to your Sony dealer and hear it for yourself.



requency response = 10-20.000 Hz, ± 0.5 dB Weight = 9 lbs.

*Features and Specifications: Wow and flutter – unmeasurable; dynamic range – greater than 90dB; distortion – less than 0.005%; frequency response – 10-20 height – 344"; depth – 124"; width – 842". 14- and 16-bit quantization. © 1982 Sony Corp. of America. Sony is a registered trademark of the Sony Corp.

AUDIO CrossTalk

Practical answers to your audio questions by Robert Long

What's in a Shape?

What are the relative merits of conical and elliptical phono cartridge styli? How do they compare for playing LPs and 45s, and does it make a difference whether the LPs are true stereo or rechanneled stereo or mono or whatever?—Mrs. C. W. Proctor, Ft. Worth, Texas.

"Conical" styli-more properly called spherical, since the playing surface at the tip is shaped like a portion of a sphereare, in general, the gentlest of all stylus shapes from the record's point of view, but the least adept in extracting high-frequency information from the groove. The smaller the radius of the tip's spherical surface, the better its high-frequency performance. Though it's generally considered immaterial what sort of a microgroove you're going to play with these styli, purists insist that mono LPs and 45s from the 1950s should be played only with the larger (nominally, 1mil radius) spherical tips. Only modern stereo discs, they say, will really benefit from the smaller radii (meaning about 0.7 mil for sphericals). The real problem comes when you try to use early mono cartridges to play stereo records, which require free movement of the stylus vertically as well as laterally, instead of just laterally.

Elliptical (or biradial) styli simply make it possible to use smaller contact radii (often about 0.4 mil) without having the stylus tip ride in the bottom of the groove where there is a lot of noise (as a spherical of that radius would do). This idea has been carried yet farther in the many multiradial tip designs (hyperelliptical, Shibata, van den Hul, and so on) now available in the premium pickups.

Mr. Clean

I clean my cassette-deck heads with Q-Tips and 91% isopropyl alcohol. I have heard that cleaning a deck's rubber pinch roller with alcohol could ruin the roller, but it gets very dirty. Can you recommend a cleaner that won't leave a deposit that could get onto the tape?—Dan Smiraglia, Stamford, Conn.

In general, pure isopropyl alcohol is a good bet, as long as you don't use it too liberally or too often, though the compounds used in pinch rollers—and therefore, presumably, their susceptibility to alcohol—do vary. In choosing a solvent, you should be more concerned about how it affects the heads than the pinch roller: The physical condition of the latter is less critical to performance, and its replacement cost is much lower.

Ah, Wildemess!

My stereo system consists of a Denon DP-33 turntable with an Ortofon MC-20 cartridge and MCA-76 head amp, a Harman Kardon preamp, a DBX 3BX Dynamic Range Expander, an Audio Control C-22 equalizer, a Nakamichi 680ZX cassette deck. two Carver M-400 amps (each strapped for mono operation), and a pair of JBL L-112 speakers. Unless I use the rumble reducer in the equalizer, the rumble in my system is so bad that once I thought I blew my speakers. But with the reducer engaged, isn't the actual rumble still present, and wouldn't this detract from the overall sound quality?-Ron Haffner, Auke Bay, Alaska.

Only in the wilds could you get away with the kind of awesome dynamic range you apparently have created-along with what sounds like gargantuan acoustic feedback. When you say you "thought" you blew your speakers, it sounds as though you tried the system only once without the C-22's rumble reducer (which blends the two channels below 200 Hz, thereby canceling any output generated by vertical stylus motion, including most rumble). You probably never discovered that the feedback doesn't occur with the Nakamichi as the source. What you presumably need to do, then, is to isolate your turntable acoustically from the rest of the system-in its own padded cell, if possible. [See "Retsoff's Remedies," October.]

Any rumble will remain in the signal up to the point in your system where it passes through the summing circuit. If the rumble is really severe, it can cause trouble by overloading the phono preamp and perhaps creating harmonics at higher frequencies before you've had the opportunity to cancel them out. Such harmonics could conceivably influence the behavior of the 3BX, cajoling it into expanding the signal in response to rumble-created effects instead of musical ones, thus aggravating the problem.

There's also the possibility that something other than the turntable has microphonic properties that can cause feedback (though the turntable and its placement remain the prime suspects). Turn on the system as you normally have it set to play records, but with the rumble reducer defeated and the tonearm on its rest. Gently thump all parts of the system to test for microphonics. The arm and other turntable parts that are mechanically coupled to it will necessarily pass the thumping on to the speakers, but anything else that does so will have to be isolated acoustically from the turntable. Now turn down the volume, start playing a record, disconnect the power to the turntable, and turn the volume back up. Then-again, very gently, until you're sure any particular spot is not hypersensitivestart tapping the turntable, its base, the surface on which it's standing, and so on, to determine where the acoustic sensitivities lie and, therefore, where you will need to provide acoustic isolation or damping. In most cases, this approach will yield the correct diagnosis.

Tracking Down Senalloy

My Sanyo RD-4300 cassette deck is old and simple, but sufficient for my requirements. It needs a new head, and my local repairman says that its performance and life expectancy would be improved by a replacement made of senalloy. So far, however, I haven't been able to find one. Is he right, and if so, where can I get what I need?—B. Walters, Ft. Myers, Fla.

He's right to the extent that senalloy outwears and outperforms conventional head materials in some key respects. However, replacing a head in a specific deck involves rather crucial physical and electrical matches—it's not a simple procedure. I advise that you stick to a replacement head manufactured specifically for the Sanyo. Your repairman should have catalogs from aftermarket suppliers that will list the correct replacement. Your problem in locating a senalloy head may, in fact, reflect the unsuitability of this material for your deck.

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

MAXELL IS PLEASED TO PRESENT AN EVEN HIGHER PERFORMANCE TAPE.



If you're familiar with Maxell UD-XL tapes you probably find it hard to believe that any tape could give you higher performance.

But hearing is believing. And while we can't play our newest tape for you right here on this page, we can replay the comments of Audio Video Magazine.

"Those who thought it was impossible to improve on Maxell's UD-XL II were mistaken. The 1981 tape of the year award goes to Maxell XL II-S."

How does high bias XL II-S and our normal bias equivalent XL I-S give you such high performance? By engineering smaller and more uniformly shaped epitaxial oxide particles we were able to pack more into a given area of tape. Resulting in a higher maximum output level, improved signal-to-noise ratio and better frequency response.

To keep the particles from rubbing off on your recording heads Maxell XL-S also has an improved binder system. And to eliminate tape deformation, XL-S comes with our unique Quin-Lok Clamp/Hub Assembly to hold the leader firmly in place.

Of course, Maxell XL II-S and XL I-S carry a little higher price tag than lesser cassettes.

We think you'll find it a small price to pay for higher performance.



AUDIO **Retsoff's Remedies**

Simple solutions to common stereo system problems

by Alexander N. Retsoff

Cleaning and Demagnetizing Home, Video, or Car Tape Decks

GETTING THE BEST possible performance from any tape recorder means adopting a proper cleaning regimen. Even microscopic particles of debris adhering to a tape head will cause severe dropouts and impair highfrequency response.

The most likely source of debris is the tape coating itself. Microscopic particles of oxide can flake off and adhere to the heads quite tenaciously. Off-brands are particularly prone to shedding, but even the bestquality tapes will shed some, especially the first time they are used. You can see the debris as a discoloration of the rubber pinch roller, the wheel that presses the tape against the capstan.

Inspect the heads, pinch rollers, and capstans on your audio deck regularlycertainly before any important recording session. On an open-reel deck, the heads and capstans are out in the open and readily visible, but a small dentist's mirror is a very handy tool, nonetheless. The heads on a cassette deck are somewhat less accessible, but it's even more important to inspect them regularly because of the shorter wavelengths inherent in cassette recording. On front-loading decks, the cassette cover can usually be removed. (Check your owner's manual for instructions.) You may or may not be able to fit a dentist's mirror into the head area; if not, try to find an inspection cassette-a cassette housing, without tape, that has a mirror tilted at a 45-degree angle built into its front edge

Whenever you probe about inside a tape recorder, be very careful not to scratch the surface of the heads or upset their delicate alignment. Any tool that you insert should be nonmagnetic, have a soft plastic surface, and be used gently. All sorts of gizmos designed specifically to clean the heads, capstans, and pinch rollers. Some use an abrasive tape to scour the debris away; others have solvent-soaked pads that automatically scrub the heads as the deck is set into motion. And there are a variety of cleaning solvents on the market.

I prefer the simple do-it-yourself approach and use cotton-tipped swabs soaked in either Freon or pure isopropyl alcohol, both of which are fairly gentle and reasonably effective. They do not attack most plastics and head materials, although it's wise to check the restrictions and reconmendations in your owner's manual. Do not use acetone, toluene, or any other strong solvent. I don't use head lubricants: They may gum up the works, and goodquality tape has a built-in dry lubricant, anyway.

Cleaning using a cotton swab is fairly simple. Soak the swab (preferably a good brand that won't shed) in solvent and gently rub it across the surface of the head. Rotate it as you scrub, and discard it as soon as it becomes discolored. Continue working on the same head until a swab comes away clean, then go on to the next. Clean each head, capstan, and pinch roller as well as any guide post that contacts the tape.

Don't let solvent drip into the pinch roller and capstan bearings, or it may wash away lubricants. Be sure to rotate the pinch roller and capstan so you clean their entire circumference. (If you have the power on and the deck in the play mode, the motor will turn them for you.) After you've cleaned all of the parts, wait a few moments for the solvent to evaporate and then inspect the tape path carefully for debris or lint.

The deck in your car will need cleaning more frequently than the one at home automobiles aren't exactly known to be dust- and debris-free environments. If you notice a decrease in treble response or erratic tape motion, you know the deck needs cleaning. It's best not to wait that long, though, so set up a regular cleaning schedule and stick to it. Many car decks are very difficult to clean; the heads and rotating components are recessed so deeply. If you can't get at them with a swab, try using an automatic head-cleaning cassette. The type that uses liquid-cleaner is safer than the one that uses abrasive-tape, but I wouldn't rule out occasional and prudent use of the latter.

VCRs are problematic. I don't recommend that the average user open his deck for inspection: A VCR's internal workings are extremely delicate. You can usually peer in through the cassette holder to get a general idea of conditions, but keep your fingers out!

The video heads are embedded in the periphery of a canted metal drum; inspect it first. You may or may not be able to see the audio and control heads, which are located along the tape path. Check the general condition of the capstan, pinch roller, and guide posts, too. You'll probably find that your VCR is quite clean compared to your audio deck, especially if you've used only top-quality tape. The binders used in video tape are much stronger than those used in audio tape, and name-brand video cassettes shed very little.

When the video heads get dirty, dropouts increase—perhaps to the point of a total loss of picture. I hesitate recommending the solvent/swab approach, because access to the heads is usually very poor. You might use one of the abrasive video cassettes that indicate when the heads are clean by producing a legend on the monitor. Video cleaning cassettes that use a solvent are also available. If your VCR doesn't respond to these methods, I suggest you take the deck to an authorized service department and have it done professionally.

Demagnetization

A magnetized head in an audio deck increases tape hiss and can permanently diminish the high-frequency level of the recording. So it's important that the heads be magnetically "clean."



A dental mirror (left center) simplifies physical examination of often inaccessible tape heads for dirt and oxide buildup.



A cotton swab thoroughly wetted with Freon (available as Dust-Off II) is an effective and gentle tape-head cleaner.



Housed in a cassette shell, the battery-powered HD-01 from TDK is a fool-proof automatic head demagnetizer.



One of the best cassette decks you can buy happens to be a Walkman.

Introducing the Walkman Pro.

Don't judge our cassette deck by its size. Judge it by something a lot more meaningful.

Our specs: Dolby* noise reduction. Manual record level. LED recording meter. Playback speed control. Signal-to-noise ratio of 58dB with metal tape. Sendust and Ferrite head for frequency response of 40-15,000Hz, ±3dB. Disc

drive system for wow and flutter of less than 0.04%. And quartz-locked capstan servo, for speed accuracy of $\pm 0.3\%$.

As you can see from our list of specifications, the Sony Walkman Pro offers you more than many cassette decks ten times its

size. So when you connect it to a full-size stereo system, you can expect full-size sound. In fact, it sounds so good you'll want to take it with you everywhere you go.

Which you can easily do. (Remember, it happens to be a Sony Walkman.)

With our featherweight stereo headphones, you'll be able to enjoy the same incredible sound outdoors that you do in your favorite



• 1982 Sony Corporation of Americal Sony and Walkman are trademarks of Sony Corporation Model shown: WM-Pro. • Dolby is a registered trademark of Dolby Laboratories.

Perfect reception



No matter where you listen.

Whether you live in a ground floor apartment or a cabin at 22,000 feet, only an Onkyo receiver can deliver FM the way it was meant to be heard.

market. Outstanding features like Quartz Synthesized and Servo-Locked tuning. Dual gate MOS FETs for optimum bandwidth selectivity. Linear Switching and Super Servo

amplifier design. And, built-in CX[™] decoders that when used with CX records let you experience a 20dB increase in dynamic range. So, whether you select our flagship TX-61 model, our basic TX-11, or any of the four



receivers in between, one thing is certain. The sound will be clean, solid, punchy and unmistakably Onkyo. Our perfect reception will make for perfect listening.

Onkyo receivers are designed to handle all the particular problems perfect FM reception entails. Weak stations with their undesirable noise levels. Strong ones that can overload a tuner's front end. Room temperature and

 humidity changes. And, even the aging of the tuner itself.
 receivers in between

 In fact, there's probably more high technology and
 be clean, solid, pi

 value in an Onkyo receiver than in any other on the
 perfect receiver

ONKY

200 Williams Drive, Ramsey, NJ 07446

C7 is a trademark of CBS Labs. Receiver shown is the Onlyro TX-51 Nobody knows more about audio than Onkyo®

The need for demagnetization depends entirely on the deck's electronics and the design of the heads. A well-designed head—one that's shielded and made with a core material of very low coercivity—connected to properly designed electronics should not become magnetized under normal circumstances and so should never require demagnetization.

However, if the bias supply or the recording amplifier allows even a small amount of direct current to flow through the head, or if there is a strong turn-on transient, or if the playback preamp leaks DC into the playback winding—either continuously or at turn-on—the heads can become magnetized. And if the heads are subjected to a strong external magnetic field, they can retain some of that magnetization.

If you are quite sure that demagnetizing is necessary, here's the procedure to follow. First, select a powerful demagnetizer whose probe is long enough to reach into the recorder's head compartment. The tip of the demagnetizer should be covered with soft plastic (electrician's tape will do) so that it does not scratch the surface of the head.

With the deck switched *off*, energize the demagnetizer while it is at least a foot or two away from the heads. Slowly bring the demagnetizer's probe up to one head, move it back and forth so that the entire surface is covered, and withdraw it slowly. Do not switch it off until it is a foot or two away from the deck. There is no need to keep the demagnetizer in contact with the head for more than a second or so, and there is no need to press it firmly against the head. Just keep it in contact.

The most important step in the procedure is withdrawal, which must be done slowly. If you remove the demagnetizer too quickly or switch it off prematurely, you may leave the head in a greater state of magnetization than it was to begin with. Do each head in turn, following the full approach/withdrawal procedure. Unless you have a particularly powerful professional demagnetizer, do not bother trying to demagnetize the capstan or guide posts. They are usually made from non-magnetic stainless steel (in which case the procedure is unnecessary) or conventional steel (which requires a very strong field to demagnetize it).

I consider head demagnetization a risky procedure. I do it only when it's absolutely necessary. For safety's sake, you might want to investigate the battery operated cassette-head demagnetizer available from TDK (Model HD-01). Within the cassette housing is an electronic circuit and a coil that together induce a smoothly decaying field in close proximity to the head. The complete operation takes place with the cassette in place, making it ideal for demagnetizing a car stereo's play head.



AUDIO Basically Speaking

Audio concepts and terms explained

by Michael Riggs

Amplifiers: The Limits of Power

Your system's muscle is its power amplifier. It may be a separate component or one section of an integrated amplifier or receiver. Regardless of the configuration, its job remains the same: to transform a preamp's output voltages into the power necessary to drive a loudspeaker.

An amplifier's power rating is, of course, the most basic indication of whether it will be right to drive a particular loudspeaker. A typical loudspeaker, however, can present a troublesome load to an amplifier, a reality that amplifier designers try to

factor into their designs. HIGH FIDELITY's amplifier tests are aimed at disclosing how successful a designer has been in this: We have tested units in the past that easily met their power ratings when connected to 8-ohm load, but whose behavior into more complex or lower impedance loads proved sadly wanting. Understanding how an amplifier does its job and the tradeoffs involved in its design is one way to insure against possible mishaps.

Luckily, this doesn't require

a degree in physics. In some respects, the operation of an amplifier can be compared to the dynamics of water flowing through a garden hose. Imagine a hose connected at one end to a spigot and at the other end to a nozzle. (Later we'll equate the quantity of water that comes out of the nozzle with electrical current, the water pressure with voltage, and the nozzle itself with a simple resistive load.)

For a given pressure, the rate at which water flows through the hose is determined by how wide you open the nozzle. The wider you open it, the faster the water flows through. Similarly, the higher the water pressure (for a given nozzle opening), the greater the flow rate. The amount of force you would feel if you were to put your hand in front of the nozzle depends, therefore, on both the rate of flow and the water pressure. If either or both are increased, the force exerted on your hand will also increase.

We can increase the strength of the stream from the hose as long as we can continue to increase the water pressure or widen the nozzle opening. Inevitably, however, there will be some limit to the water

pressure (analogous to an amplifier's clipping voltage), which is one factor limiting the maximum rate of flow through the hose. The other is that as the nozzle is opened wider and wider, a point will eventually be reached at which the rate of flow then demanded by the water pressure requires more water to sustain than is available from the supply feeding the spigot. When this point is reached, the water pressure will drop to keep the rate of flow equal to the maximum rate of supply. Something similar happens in an amplifier. When the current capacity of its power supply is exceeded, its output voltage will drop to maintain equilibrium. This is what engineers are talking about when they speak of a power supply "sagging under the load."



An amplifier with a tightly regulated, or "stiff," power supply will continue to deliver increasing amounts of current (water) into ever-decreasing load impedances (wider nozzle openings) longer than will a less well-regulated, or "soft," power supply. In other words, for a given input voltage (water pressure) an amp with a stiff power supply has less of a tendency to "sag" than a soft one; it will tend to maintain its output voltage regardless of load.

It may seem that such an amplifier is inherently better than one with a softer power supply, but this is true only if you have low-impedance speakers. Otherwise, you are better off with an amp with a relatively soft power supply, which can deliver short-term bursts of power well above its continuous power rating. This ability, in fact, is the reason for the dynamic headroom measurement in HF's amplifier test reports. (A low-power amp that "acts" like a more powerful design can prove a very good value.)

An amp with a stiff power supply, therefore, should deliver a lot of power into

low-impedance loads, but not have much dynamic headroom. Following the same logic, an amp with a soft supply can be assumed to work less well into low-impedance speakers, but exhibit greater peak power into typical 8-ohm loudspeakers. Alas, life is not so simple. Many Japanese amps and receivers, in particular, deliver hardly any more power into 4 ohms than into 8, yet have relatively poor dynamic headroom ratings. To untangle this apparent paradox, we must delve deeper into the way amplifiers work and there discover a hidden limitation.

A power amplifier actually consists of several stages. The input stage provides the appropriate interface with the preamp output. Another stage steps up the voltage

> delivered from the preamp, which is then used to drive the output transistors. The task of the output stage is directly analogous to that of a hose: It must deliver current (water) from the power supply to the loudspeaker according to the impedance (nozzle opening) presented by the speaker and the voltage (water pressure) from the preceding amplification stages. The relationship between water pressure, rate of flow, and nozzle opening is the essence of Ohm's Law, which states that current is equal to the voltage divided by the resistance;

similarly, output power (the force exerted on your hand) is proportional to voltage (pressure) and current (flow).

Transistors, however, vary in the amount of voltage and current they can carry. Just like a hose that bursts when asked to carry more water at higher pressure than it can sustain, a conventional bipolar transistor will self-destruct when asked to deliver too much current at too high a voltage. Consequently, most amplifiers have circuits that limit the current flow (by reducing the voltage) if an unexpectedly low load impedance demands more current than the output transistors can safely deliver.

Thus, selecting an amplifier on the basis of its power rating alone can prove self-defeating. Usually it will tell you only what power the amp will deliver continuously into 8 ohms. Ideally, you should know something about its power supply, the nature of its protective circuitry, and the type of transistors used in the output stage. In a future column, I will explain how to interpret specifications to find out more of what you need to know.

The Kyocera R-851 AM/FM Tuner/Amplifier... Beneath the sleek styling lurks the devastating power of an MOS/FET output Unsurpassed technology. Uncompromising guality. From beginning to end.

"Never design solely for the sake of design, never change solely for the sake of change." This is the philosophy that has kept Kyocera at the forefront of technology in sophisticated audio components. A philosophy that led to the Kyocera R-851.

It utilizes Kyocera's unique MOS/ FET output supported by uniform negative feedback at each frequency stage. The result...high power, a full 85 watts/channel* with low distortion. An amazing low 0.015% TIM/ THD; a slew rate of 70v/usec and a rise time of 0.9 usec. A successful Kyocera design with brilliant audible results. Having satisfied the first goal, Kyocera advanced on the second.

"Never change solely for the sake of change." The 3-band parametric equalizer proved vastly superior to conventional tone controls. Quartz locked electronic tuning provided precise station selection with the added convenience of 14 station programmable memory (7 AM and 7 FM) and automatic scanning and station seek. A direct reading LED digital flouroscan panel vividly presents you with accurate frequency and mode indications. Both MM and MC phono inputs combined with two-way tape dubbing and monitoring produce the versatility required by today's component enthusiast. A flip-down control access panel insures that once vital controls are adjusted, they're not easily tampered with...and the refinements continued, each satisfying a specific goal...improve performance!

Please stop by your local audio retailer and see why once you get past the sleek styling, the Kyocera R-851 is just one of a distinguished series of devastating audio components and systems.





*85 watts/channel minimum RMS both channels driven into 8 ohms from 20-20,000 Hz with no more than 0.015% THD.

CYBERNET INTERNATIONAL, Seven Powder Horn Drive, Warren, N.J. 07060 U.S.A. • Telephone: (201) 560-0060

Circle 11 on Reader-Service Card

AUDIO Sound Views

Opinion and comment on the changing audio scene

Audiophile Discs: Quality in Transition

IN THE LATE '70S, specialty labels aimed at dedicated audiophiles widened their gaze to include established pop repertory. Combining the allure of familiar artists and performances with a reputation for high-quality sonics, Mobile Fidelity Sound Lab, Nautilus Recordings, Direct Disk Labs, and their peers tapped a sensitive nerve in consumers' increasing dissatisfaction with the quality of mass-produced dises.

It seemed particularly likely that superior pressings would sell to a wider audience, because the aging rock and pop fan population raised on improved audio equipment was increasingly prepared to invest in high-quality sound. From their existing beachheads in high-end audio stores, purveyors of remastered hits encountered only slight resistance from savvy record and tape dealers who saw potential prosperity in the costlier half-speed and later-"digitized" reissues of catalog albums:

Initially, the pop audiophile format delivered on that potential. But despite the field's greatly enlarged catalog (see "The Audiophile Collector," page 78), the past year has heard rumblings of slowing sales. (It's significant that these problems didn't surface until well after mass-market record labels ran into trouble in 1979.) Part of the reason is, of course, tied to the general economy, Less obvious but more crucial are indicators that firms specializing in halfspeed remasters have been heading toward a loudly ticking time bomb, similar to that plaguing the home video field: The number of programs available for rerelease is finite, a factor that carries with it the higher risk and much higher investment of original programming.

The number of recordings *appropriate* for high-tech release is also finite. Indeed, in some instances one would think that the number had already been reached. Call it overzealousness, or just the profit motive, but it's clear many audiophile marketers, giddy at the prospect of reaching regular album buyers, have let commercial considerations overshadow technical ones. In choosing masters, the lure of a Rolling Stones or a Bruce Springsteen as a presold name was too tempting; that a specific master may have been created with an

intentionally rough, raw sonic character, making audible gains problematic, was sometimes overlooked. Nearly every label succumbed at some point, dutifully carting the master tapes of a commercial monster into its mastering room. In some cases, the original multichannel master had been passed across the recording heads for so many overdubs that the final two-track tape boasted a noise floor well above that of even the worst pressing compound.

But while audiophile labels may be momentarily losing ground, their early suc-

Some audiophile marketers have let commercial factors overshadow technical ones.

cess has had a positive effect within the music business at large. CBS, MCA, and RCA have all launched their own premium disc and cassette lines. And some high-profile rock and pop acts have adapted elements of audiophile production—including finicky plating and mastering techniques, as well as the use of premium pressing compounds and even digital master recording into their regularly priced releases.

One of the most telling examples of the lessons learned among corporate titans has been PolyGram Classics' line of imported jazz reissues. Long familiar with the superior quality of its classical imports. that division took over PolyGram's languishing jazz vaults and commissioned Japanese pressings of its otherwise deleted Verve, Emarcy, Philips, Mercury, and Limelight titles, sidestepping the need to launch new production here. As a result, PolyGram's tarnished reputation in jazz was transmuted into pure gold. With their in-between price (about \$12, as compared to the \$6 or \$7 fetched for regular \$8.98 LPs or the \$13 to \$18 charged for audiophile products), these premium jazz discs have enjoyed unexpectedly strong sales. The reaction has since spurred PolyGram to begin bringing in pop and rock imports as well.

At the other end of the commercial spectrum, small independent labels in jazz,

by Sam Sutherland

folk. and other specialized fields have quickly grasped what their peers in the classical realm have long understood: Close attention to product quality is a relatively cheap insurance policy when producing small quantities of discs for a discerning clientele. And somewhere between the poles of, say, an all-digital recording on the tiny Windham Hill Records and a digitally mastered disc on Warner Bros., the ersatz audiophile record emerged. In some cases, these discs' only claim to audiophile status is the appearance of the word on their jackets.

Where does this leave the true audiophile business? Poor overall record and tape sales for mainstream dealers would seem to forestall spreading high-tech software farther into the heartlands, if not lead to a cutback in the number of retail stores carrying them. So audio dealers may indeed dominate again, at least for the short term. That prospect may explain why one of the bestknown audiophile vendors, Mobile Fidelity, is placing strong emphasis on its more expensive UHQR dises and such projects as its new boxed collection of the entire Beatles catalog. (See page 79.)

At the same time, Mobile Fidelity's chief rival, Nautilus, is again actively bankrolling its own productions, creating an exclusive catalog of new digital and direct-to-dise titles. This takes the company part way back to its roots, which, like those of most other audiophile record companies, are in original, but not necessarily top-forty material.

The ultimate future for premium records and tapes may well be tied to how rapidly true digital home software enters the marketplace. (See "Digital Sound: It's Here," page 44.) One telling indicator has been the stance taken by the biggest U.S. record/tape conglomerate, Warner Communications, Inc., which hasn't followed CBS, RCA, PolyGram, and MCA by setting up its own audiophile division or brokering imports from its licensees. What WCI is doing, according to an announcement made in late August, is blueprinting an entry into the manufacture of Compact Discs. If WCI is correct in its market analysis, then the audiophile business may be simply an interim solution on the way to all-digital. If, on the other hand, its competitors are on the right track, the realm of superior quality, high-priced analog software may only be experiencing temporary doldrums and will continue as a viable, if minority, music business interest. HF





Because Sony redesigned the car stereo, the auto makers don't have to redesign the car.

The interior of an automobile is designed with a lot of purposes in mind. Unfortunately, great stereo sound reproduction isn't one of them.

Fortunately, Sony did more than just tackle this problem. They actually solved it. By designing a stereo system that meets the acoustical challenges inherent in a car.

INTRODUCING THE SONY SOUNDFIELD™ SYSTEM.

As the very name of our system indicates, we started with the acoustical sound field itself by treating the entire front of the car as a stage. The very directional high-end and midrange frequencies emanate from this stage in an accurate stereo image.



© 1982 Sony Corporation of America. Sony and SoundField are trademarks of Sony Corporation. Models shown XS-L20 Super Woofers. XS-301 Front Speakers. XR-551 m-dash Cassette/Receiver. XM-E7 Graphic Equalizer/Amplifier and XM-120 Amplifier. So the highs come across clear and soaring. The midrange, natural and accurate.



The bass frequencies below 100Hz actually are directed from the rear of the car, where the Super Woofers are placed. However, since these frequencies are omnidirectional, they seem to be coming from the proper "stage" location.

The result is richer, fuller, and more dramatic bass.

CONVERT WITH COMPONENTS. The optimum SoundField System consists of a powerful amplifier (XM-120) driving a pair of 8" Super Woofers (XS-L20), along with a medium-powered amplifier driving the front speakers. This means fullrange speakers can be used without risk of modulation distortion.

But you can begin to enjoy the



A SOUND THAT TAKES A BACKSEAT TO NONE.

Although the technology of the Sony SoundField System is complex, the reason for it is simple.

It will give you high dB levels with very low distortion, extremely precise stereo imaging, and an amazingly broad frequency response. In addition, you'll be pleasantly surprised at just how easily a SoundField System can be installed in your car.

So come into your local Sony dealer and ask to hear the next generation in autosound systems.

One listen and you'll know why the auto makers don't have to redesign the car.



SONV

AUDIO New Equipment Reports

Preparation supervised by Michael Riggs, Peter Dobbin, Robert Long, and Edward J. Foster. Laboratory data (unless otherwise noted) supplied by Diversified Science Laboratories.



Yamaha's Straightforward Turntable

Yamaha PX-3 two-speed (33 and 45 rpm) tangentialarm semiautomatic turntable. Dimensions: 18½ by 17 Inches (top). 6 inches high with cover closed; additional 8¼ Inches clearance above and 1 Inch behind the unit required to open cover fully. Price: \$670. Warranty: "limited," one year parts and labor, Manufacturer: Nippon Gakki Co., Ltd., Japan; U.S. distributor: Yamaha Electronics Corp. USA, 6660 Orangethorpe Ave., Buena Park, Calif. 90620.

SPEED ACCURACY no measurable error at either speed, 105-120 VAC

WOW & FLUTTER (ANSI/IEEE weighted peak) = 0.045% average: = 0.052% maximum

TOTAL AUDIBLE RUMBLE (ARLL) -61 dB

STYLUS-GAUGE ACCURACY no measurable error. 0.5-2.5 grams

TOTAL LEAD CAPACITANCE 150 pF

THOUGH A RELATIVE NEWCOMER to tangenttracking turntables. Yamaha has been so surefooted in designing the PX-3 that we might be tempted to believe the company wrote the book on the genre. The intelligence behind the PX-3 manifests itself not only in flawless technical performance, but also in the manufacturer's approach to automating control functions. This results in arguably the most "user-friendly" turntable available—tangential or pivoted though this is, admittedly, very much a matter of taste.

A tangent-tracking tonearm is one that holds the pickup stylus tangent to the record groove from beginning to end. The stylus remains aligned because the arm pivot (which in this case operates only vertically) is continually repositioned along a fixed track during playback. Such arms are also called "linear tracking," because the stylus follows a straight line in moving from the lead-in groove to the runout rather than the curve described by the stylus in a conventional arm with a fixed pivot. The important point, however, is the almost perfect tangency of the stylus to the groove, which drastically reduces the maximum lateral tracking-angle error and consequent distortion. And because the whole arm is tangent to the groove as well, it eliminates the asymmetrical geometry that creates skating

forces with conventional arms, so antiskating compensation is unnecessary.

The arm is mounted on a truck that is powered by its own servo motor. Whenever the arm is deflected from perfect tangency to the groove, a photoelectric system triggers the servo motor, causing the truck to take corrective action. (The whole assembly rides in a well at the back of the unit.) A rectangular counterweight, which controls the arm's balance, is adjusted by a knurled ring. Screw-in weights at each end of the counterweight can be replaced by heavier ones (supplied) to raise the balance range from 5-11 grams (which will take care of most current cartridges) to 10-16 grams. Vertical tracking force is set with a sliding collar (calibrated in tenths up to 2.5 grams) on the front of the tubular arm.

The headshells—two of which are supplied with the PX-3—connect to the arm via standard EIA couplings (the sort that used to be called universal, though other designs now are competing for that title). Thus, standard shells for S- or J-shaped arms can be plugged into the PX-3, or you can use a pickup with an integral headshell, such as the ADC Integra or Shure M-97HE-AH, provided it can be adjusted for stylus overhang. A gauge supplied with the turntable makes it easy to set overhang which, of course, is zero in a linear arm,



New. And different.

Till today, ADS has been famous for superb speakers. And digital delay systems. And automotive audio.

Now for something completely different. What you see below are the first of the new ADS "Atelier" audio components.

Each of them, the record player (P2), the receiver (R1), the cassette deck (C2), is about as thick as a Michener novel.

An audiophile will be comfortable buying one, or all, on performance specifications alone.

But the refinements that make them so easy to live with, and the future we have planned for them set these handsome instruments forever apart.

While they can be bought separately, the case for buying all is almost irresistible. When each unit is cabled to its neighbor, all cables are hidden by hinged covers on the back of the units. They can be stacked, placed side-by-side, or placed on and

plugged into the optional pedestal shown below.

It's the first audio arrangement that can be neatly placed on a table, shelf, or in the middle of any room or decorating scheme, at your discretion.

And other components housed in modules of the same size and shape are on the drawing board, which is to say that what you see on this page is the beginning of a system which can someday soon satisfy all your audio dreams.

"Atelier" components are at your ADS dealer's now. To find the dealer nearest you write us.

Analog & Digital Systems, Inc., 246 Progress Way, Wilmington, MA 01887. Or call 800-824-7888 (in CA 800-852-7777) Operator 483.

ADS. Audio apart.

AUDIO New Equipment Reports



since the straight path it follows from the record's rim to its center would, if extended, pass directly through the spindle axis. At the base of the arm are two knurled wheels. One adjusts arm height (to allow for differing pickup dimensions or other such contingencies); the other locks the arm height once it has been adjusted.

The only other adjustment you must make in initial setup is to turn the shockabsorbent feet until the PX-3 is level (which you'll have to determine by your own means). The feet form part of a very effective shock-and-vibration isolation system: We have tested few turntables that are as resistant to transmitted noise or mistracking due to footfalls and similar shocks. The other setup procedures are all very simple (aside from the always-pesky job of mounting pickups), creating an impression of hassle-free behavior even before you've played a record.

The control scheme, however, is the element that strikes us as the most subtly telling in the entire design. Even our most died-in-the-wool manualists find it a delight; only those who demand an automatic changer or some form of automated random access should find it wanting. The key to the controls' utility is their universal-override design: Any button you press will override whatever function is in process, so that you never find yourself locked into a sequence you didn't intend and don't want to pursue. This may sound like a very small matter, but in contrast to the large majority of automated turntables we've tested over the years, the PX-3 seems almost to be thinking with us as we use it. Its response may be rather deliberate of pace (for example, in removing the arm from one record when you're ready to go on with the next), but it's essentially incapable of working at cross-purposes to its user.

Part of the credit must go to the way the control functions are conceived and grouped on the top plate. At the left of the top plate's control panel is a group of buttons that govern arm motion: one for DOWN and two for UP (one for each horizontal

direction). If you begin by tapping UP for motion toward the center of the record, the arm will move slightly away from its resting position and the platter will begin rotating, giving you an opportunity to clean the record before you play it. (The turntable has enough torque to withstand the friction of a Discwasher, incidentally.) If you begin playing a record and decide you have the wrong band, you press one of the horizontal-motion buttons. Since they also control the UP function, the arm automatically raises before beginning its lateral trek, preventing damage to the groove or the stylus, even if you're careless. A forceful press on either UP button moves the arm along at a good clip, and a quick tap moves it just a hair, for precise cueing.

Once chosen, REPEAT works continuously until you press any function buttonincluding REPEAT itself. You must engage one of the two automatic-cycle buttons (for 12- or 7-inch discs, respectively) before you press REPEAT (otherwise there would be no programmed starting point for the replays), but there is no size/speed interconnection to prohibit the playing of 7-inch LPs or 12-inch 45-rpm "superdiscs." Arm return and shutoff are automatic at the end of the record side, whether or not an automatic-play cycle is engaged, or they can be induced manually by pressing the REJECT (which Yamaha for some reason chooses to label "cut").

Performance of the Hall-element direct-drive motor is excellent: Flutter and rumble are extremely low, and speed error is essentially nonexistent. With the Shure V-15 Type III we use for tonearm measurements, Diversified Science Laboratories found low-frequency resonance points that, while not extreme in amplitude, are low enough in frequency to raise questions about warp tracking. As a practical matter, though, we encountered no trouble of any sort in playing warped records, even when we used the highly compliant Shure V-15 Type V with its damping system disabledwhich should represent about as extreme a case as we would expect most readers to confront. If the figures still worry you, you might choose a relatively low-compliance or low-mass cartridge to raise the frequency of the resonance, but we don't really consider such measures necessary.

The PX-3 is such a joy that we found ourselves dragging out old recordings we

hadn't heard in years, just for the pleasure of using it. And that, perhaps, is the ultimate accolade: It has literally been a pleasure to test this model. The pleasure admittedly doesn't come cheap, but such rarities rarely do.

Circle 99 on Reader-Service Card



AR Rolls Another Nine

Acoustic Research AR-9LS floor-standing foudspeaker system, in wood cabinet with wainut veneer finish. Dimensions: 16½ by 51¼ inches (front), 14½ inches deep. Price: \$750. Warranty: "fuli," flive years parts and labor. Manufacturer: Teledyne Acoustic Research, 10 American Drive, Norwood, Mass. 02062.



Use of a single magnet structure for both drivers enables AR to position the 9LS's tweeter and midrange domes close enough together to act as a virtual point source, eliminating acoustical interference between the outputs of the two drivers in the crossover region. The design intent is improved vertical dispersion and a tonal balance that is substantially independent of listener position. THE ORIGINAL AR-9 (test report, October 1978) was Acoustic Research's first all-out assault on the state of the loudspeaker art in quite a few years. That model was, to a very considerable extent, responsible for the revival of AR's reputation as a premier manufacturer of quality loudspeakers. It also became one of the company's all-time best sellers. Now, almost exactly four years later. AR has retired the 9 (and its little brother, the 90) and introduced an updated version dubbed the AR-9LS. The price of the new unit, wonder of wonders, is the same as that of the original 9 when it was first introduced and \$150 less than when it was finally dropped from the line.

In basic form, the 9LS is little changed from the 9. Both are tall, columnar fourway systems with five drivers: two acoustic suspension woofers, an 8-inch acoustic suspension lower-midrange driver, a $1\frac{1}{2}$ -inch upper-midrange dome, and a $\frac{3}{4}$ -inch dome tweeter. Crossovers are also similar, occurring at 200 Hz, 1.1 kHz, and 5.5 kHz. And the design goals are essentially unchanged—high sensitivity, excellent power-handling ability, wide dispersion, and flat frequency response when placed as recommended, against the rear wall and at least a couple of feet from any side walls.

In the new speaker, however, AR has tended to the problem of room boundary interactions somewhat differently. Instead of two side-firing 12-inch woofers, there is a single forward-facing 12-inch driver and a 10-inch driver aimed down into a foamlined "Bass Contour Chamber" that is vented to the front. This cavity shapes the response of the bottom-mounted woofer so as to compensate for a cancellation notch in the front woofer's response, which is induced by its distance from the rear wall. The result is a flat bass response overall. One benefit of the new arrangement is that it gives better bass response than two sidemounted woofers when the speaker is moved out into a room, away from the rear wall, thus increasing its versatility. (AR does note, however, in its unusually candid and complete owner's manual, that bass response will begin to roll off about an octave higher in this position than when placed, as recommended, against a wall.)

The company's engineering team has also attacked a subtle problem detected in the 9's high end. The vertical driver alignment prevented irregularities in horizontal dispersion, but it did nothing to ameliorate the corresponding problem with vertical dispersion. Consequently, the 9's perceived frequency response depended partly on how high or low you were sitting when you listened to it. The problem of acoustical interference was particularly acute in the treble. AR's solution for the 9LS was to design an upper midrange/tweeter assembly with a shared magnet structure, so that the domes could be mounted extremely close to one another-so close, in fact, that they behave acoustically as though they were a single driver. Their output in the critical crossover region, therefore, remains in phase, thereby preventing any acoustical comb filtering.

Other, less dramatic changes include improved drivers, elimination of the driver level controls, and a handsome new styling. The eagle-eyed may also spot the lack of an "Acoustic Blanket" around the 9LS's drivers. AR found that by going to a new grille mounting system it could eliminate destructive reflections between the inner edges of the grille frames. The remaining diffraction effects turned out to be inaudible, so the blanket was dispensed with. As with the AR-9, amplifier connections are made to color-coded binding posts on the rear.

Diversified Science Laboratories tested the AR-9LS in the position recommended by the manufacturer. The speaker's sensitivity turns out to be quite high, but at the expense of a very low-lying (albeit smooth) impedance curve, with a maximum of only 7.6 ohms at 600 Hz and a minimum of 3.3 ohms at about 65 Hz. The average impedance is just slightly greater than 5 ohms. Most amplifiers should have no trouble driving a pair of 9LSs, but we would counsel against running another pair of speakers in parallel with them.

In power-handling tests, the ARs took in stride everything DSL dished out. With 300-Hz tone bursts, the 9LSs proved capable of accepting the full 631/2-volt peak output of the lab's amp-equivalent to 27 dBW (504 watts) into 8 ohms, or a stupendous 30 dBW (a kilowatt) into 4 ohms. The benefit of the speaker's four-way design and two large woofers is clearly evident in DSL's harmonic distortion measurements, which are exceptionally low, even in the deep bass and near the crossover frequencies-regions where most other speakers run into trouble. At a moderately high sound pressure level (SPL) of 85 dB, total harmonic distortion (THD) remains below 11/2% over the entire test range, from 30 Hz



Sony is about to widen your ideas of audio tape.

INTRODUCING UCX-S WITH WIDE FIDELITY SOUND.

Sony's revolutionary UCX-S has the widest dynamic range of any high-bias tape; it has <u>expanded</u> recording capacity. We call it Wide Fidelity Sound.[™] With UCX-S, you can record at higher volume levels with less distortion than any other high-bias tape.

UĆX-S has unsurpassed frequency response in the low and middle ranges. And at the very delicate high frequency



ranges, its enhanced responsiveness gives exceptionally beautiful high notes. The incredible specifications include Retentivity and Squareness higher by far than any other high-bias tape. Retentivity: 1800 Gauss. Squareness: 93%, an astounding figure.

But the real test comes when you lean back and listen. You'll hear everything with more clarity than you've ever heard before on a high-bias tape. On Sony UCX-S, with

Wide Fidelity Sound.



© 1982 Sony Tape Sales Co., a Div of Sony Corp of America. Sony is a trademark of Sony-Corp. Wide Fidelity Sound is a trademark of Sony Corp. of America.

AUDIO New Equipment Reports

ROOM RESPONSE CHARACTERISTICS



SENSITIVITY (at 1 meter; 2.8-volt pink nolse, 250 Hz to 6 kHz) 911/4 dB SPL

to 10 kHz, and averages less than $\frac{1}{2}$ %. The figures barely change at 90 dB SPL. At 95 dB SPL, THD reaches a maximum of $3\frac{1}{2}$ % at 63 Hz, but remains less than 1% from 100 Hz up. And at a very loud 100 dB SPL, it reaches a maximum of 6%, again at 63 Hz, and averages only about 2%. These are superb results.

As we expected, the AR-9LS's bass response is unusually extended and its overall response exceptionally smooth, remaining within a mere $\pm 2\frac{1}{2}$ dB from 35 Hz to 20 kHz on axis. Indeed, except for a dip between 200 and 500 Hz (apparently a cancellation from a floor reflection) and another from 3 kHz to 11 kHz (centered near the tweeter/midrange crossover frequency), the curve is almost dead flat. The off-axis curve is commendably similar, with a range of $\pm 3\frac{1}{2}$ dB from 40 Hz to 20 kHz. Few other loudspeakers can match these new ARs for smooth, extended frequency response and wide, even dispersion.

The sound of the 9LS is likewise smooth and extended with an immediate, gutsy quality. Its crowning glory is its bass: perhaps the deepest, firmest, cleanest, and most natural reproduction we have ever heard. Completely gone is the slight heaviness that marred the sound of the original 9. Some members of our panel report hearing what might be described as a tinge of hotness on some high-frequency material (for which we have no ready explanation), but that has been the sole reservation. Imaging is precise and stable, and the speakers can be played, very, very loud without strain.

The AR-9LS is yet another fine loudspeaker from a company that has long made a habit of top-drawer engineering and construction. It is an altogether worthy successor to the AR-9, and congratulations are due to all concerned.

Circle 96 on Reader-Service Card



A Debut Deck from Kyocera

Kyocera D-601 cassette deck, with Dolby B and C noise reduction. Dimensions: 18 by 4 inches (front panel), 12¼ inches deep plus clearance for controls and connections. AC convenience outlet: one unswitched (200 watts max.). Price: \$520. Warranty: "limited," one year parts and labor. Manufacturer: Cybernet Electronics Corp., Japan; U.S. distributor: Cybernet International, Inc., 7 Powder Horn Drlve, Warren, N.J. 07060.

PLAYBACK RESPONSE (TDK test tape; -20 dB DIN)



THIS IS THE FIRST TIME we've tested a Kyocera product, though the company is hardly an unknown to us. Kyocera is a sort of abbreviation for Kyoto Ceramic Co. Ltd., which is the parent of Infinity and KLH, as well as Cybernet. As we remarked in September's equipment report on the Cybernet SRC-80 receiver, that division's products are designed for relatively broad appeal; Kyocera units, on the other hand, are hightech audiophile components. Consequently, it is no surprise to find that the D-601 is a high-quality cassette deck, with all the characteristics that would imply-including such features as Dolby B and C noise reduction circuitry

Clear white lettering against a dark bronze and black faceplate gives the D-601 a handsome, functional appearance that is further enhanced by wood-veneer end panels. The control scheme is unusual, but not

Report Policy: Equipment reports are based on laboratory measurements and controlled listening tests. Unless otherwise noted, test data and measurements are obtained by Diversified Science Laboratories. The choice of equipment to be tested rests with the editors of High FIDELITY. Samples normally are supplied on loan from the manufacturer. Manufacturers are not permitted to read arbitrary. Once you're used to the block of large rectangular and square pushbuttons that constitutes the transport control section, for instance, you'll find that your finger homes in on the button you want more readily than with the usual string of relatively undifferentiated buttons.

The lower right button in this group is marked APMR for "Automatic Program Mute recording." Despite the intimidating designation, it turns out to be simply our favorite kind of recording mute. A touch when you're in the recording mode kills the signal to the recording head but keeps the transport going for about five seconds and then shifts the deck to the recording-pause mode; if you hold the button in instead of tapping it, the machine will continue to record a blank until you release the button, creating longer intervals. This can be useful when recording an opera, for example,

reports in advance of publication, and no report or portion thereof may be reproduced for any purpose or in any form without written permission of the publisher. All reports should be construed as applying to the specific samples tested. High FibELITY and Diversified Science Laboratories assume no responsibility for product performance or quality.

AVERAGE IMPEDANCE (250 Hz to 6 kHz) 5.3 ohms
Toshiba's CX receivers give you so much music, there's no room for noise.

Toshiba's new CX receivers can do more for music than you've ever heard.

But to understand just how much, it's necessary to understand two things: record surface noise and dynamic range.

WHERE DOES RECORD SURFACE NOISE COME FROM?

Not from the music, but from the record itself. Other than dust on the record, the reason you hear noise is that it lies in the same grooves as the music.

In the past, you had to go out of your way to try to silence this problem, with everything from expensive audio equipment to premium audiophile discs.

But now you don't have to go any further.

CX RECORDS ARE WHAT YOU'VE BEEN WAITING TO HEAR.

CX records are the latest development in audio technology. CX is a coding process that actually extends the dynamic range of music, and in the process virtually eliminates record surface noise.

Dynamic range is simply the difference in sound level between the loudest and softest passages of music. The dynamic range of live music is usually around 85 dB. But the same music on an ordinary record only approaches 65 dB.

What CX does, is give you the 20 dB of sound you would otherwise miss. Loud passages are louder, soft passages are softer.



And because there's more room for music, there's less room for noise.

YOU HAVEN'T HEARD EVERYTHING YET.

You can play a CX record on an ordinary receiver and it will sound ordinary. But we know you won't settle for that.

That's why Toshiba has included a CX decoder circuit in our new receivers, so you can hear the startling difference CX makes.

Close your eyes and you might think you're in a concert hall. That's how close a CX record comes to reproduction of live sound. And we've given you a lot more than just a CX switch on our new receivers. Our SA-R3 CX Receiver has 40 watts per channel, with a digital-synthesized tuning system and 12 station pre-sets.

You'll get 25 watts per channel from our SA-R2 CX Receiver, along with servo-lock tuning.

Now all you have to do is listen to our CX receivers for yourself. We think you'll be amazed at what you'll hear.

And what you won't.





AUDIO New Equipment Reports

RECORD/PLAY RESPONSE, TYP	E 2 TAPE (-20 dB)
DB	
0	
-5	
HZ 20 50 100 200 500 1H	K 2K 5K 10K 20K
	B, 23 Hz to 19 kHz
	B, 23 Hz to 19.5 kHz
with Dolby B noise reduction	
	3, 23 Hz to 17.5 kHz
with Dolby C noise reduction	IB, 23 Hz to 19 kHz
$ R ch + \frac{1}{2}, -3 d$	10, 23 H2 10 13 KH2
RECORD PLAY RESPONSE, TYP	PE 4 TAPE (-20 dB)
DB	
+5	1
	man and a second
0	
-5	
HZ 20 50 100 200 500 1	IK 2K 5K 10K 20K
L ch ±3 dB, 2	3 Hz to >20 kHz
	3 Hz to > 20 kHz
with Dolby B noise reduction	
	3 Hz to >20 kHz
with Dolby C noise reduction — — — R ch +63/4, -3	dB, 23 Hz to >20 kHz
	00, 20 112 10 20 1112
RECORD/PLAY RESPONSE, TY	PE 1 TAPE (-20 dB)
DB	T T T T T
0	
-5	
D-601 (4)	
	K 2K 5K 10K 20K
	dB, 23 Hz to 15.5 kHz
	dB, 23 Hz to 16 kHz
with Dolby B noise reduction	dB, 23 Hz to 14 kHz
with Dolby C noise reduction	
	dB, 23 Hz to 13.5 kHz
BIAS CONTROL RANGE (Type 2	2 tape; -20 dB)
DB	
0	
-5	
HZ 20 50 100 200 500	1K 2K 5K 10K 20K
HZ 20 50 100 200 500	1K 2K 5K 10K 20K
HZ 20 50 100 200 500 maximum bias	1K 2K 5K 10K 20K
HZ 20 50 100 200 500 maximum bias minimum bias	
HZ 20 50 100 200 500 maximum bias mlnimum bias SIN RATIO (re DIN 0 dB; R/P; C	CIR/ARM-weighted)
HZ 20 50 100 200 500 maximum bias mInimum bias S/N RATIO (re DIN 0 dB; R/P; C Type 2 tape Type 4 t	CIR/ARM-weighted)
H2 20 50 100 200 500 maximum bias minimum bias S.N RATIO (re DIN 0 dB; R/P; C Type 2 tape Type 4 t without noise reduction	CIR/ARM-weighted) ape Type 1 tape
H2 20 50 100 200 500 maximum bias minimum bias SIN RATIO (re DIN 0 dB; R/P; C Type 2 tape without nolse reduction 55 dB 541/4 dB	CIR/ARM-weighted) ape Type 1 tape
H2 20 50 100 200 500 maximum bias mlnimum bias SIN RATIO (re DIN 0 dB; R/P; C Type 2 tape twithout nolse reduction 55 dB 541/4 dB with Dolby B	CIR/ARM-weighted) ape Type 1 tape 531/4 dB
H2 20 50 100 200 500 maximum bias minimum bias SIN RATIO (re DIN 0 dB; R/P; C Type 2 tape without nolse reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 637/4 dB
H2 20 50 100 200 500 maximum bias mlnimum bias SN RATIO (re DIN 0 dB; R/P; C Type 2 tape Type 4 t without nolse reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 637/4 dB
H2 20 50 100 200 500 maximum bias minimum bias S/N RATIO (re DIN 0 dB; R/P; C Type 2 tape Type 4 t without noise reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB
H2 20 50 100 200 500 maximum bias mlnimum bias SIN RATIO (re DIN 0 dB; R/P; C Type 2 tape without nolse reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB INDICATOR READING FOR DIN	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 4 0 DB (315 Hz)
H2 20 50 100 200 500 maximum bias minimum bias SIN RATIO (re DIN 0 dB; R/P; C Type 2 tape without nolse reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB INDICATOR READING FOR DIN Type 2 tape +1 dB (CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 1 0 DB (315 Hz) with 1.9% THD)
H2 20 50 100 200 500 maximum bias minimum bias SIN RATIO (re DIN 0 dB; R/P; C Type 2 tape twithout nolse reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB INDICATOR READING FOR DIN Type 2 tape +1 dB (Type 4 tape +1 dB (CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 1 0 DB (315 Hz) with 1.9% THD) with 1.5% THD)
H2 20 50 100 200 500 maximum bias minimum bias SIN RATIO (re DIN 0 dB; R/P; C Type 2 tape Type 4 t without nolse reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB INDICATOR READING FOR DIN Type 2 tape +1 dB (Type 1 tape +1 dB (CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 4 0 DB (315 Hz) with 1.9% THD) with 1.5% THD) with 2.6% THD)
H2 20 50 100 200 500 maximum bias maximum bias maximum bias minimum bias Type 2 tape Type 2 tape Type 4 twithout noise reduction 55 54 bit 54 v4 dB with Dolby B 65 dB 64 v2 dB with Dolby C 74 dB 73 v4 dB INDICATOR READING FOR DIN Type 2 tape + 1 dB (Type 1 tape + 1 dB (100 LCATOR READING FOR 3%	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 1 0 DB (315 Hz) with 1.9% THD) with 1.5% THD) with 2.6% THD) DISTORTION (315 Hz)
H2 20 50 100 200 500 maximum bias minimum bias Type 100 0 dB; R/P; C Type 2 tape Type 4 t without noise reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB INDICATOR READING FOR DIN Type 2 tape +1 dB (Type 1 tape +1 dB (1 INDICATOR READING FOR 3% Type 2 tape +2 dB (CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 10 DB (315 Hz) with 1.5% THD) with 2.5% THD) DISTORTION (315 Hz) for +34 dB DIN)
H2 20 50 100 200 500 maximum bias minimum bias SIN RATIO (re DIN 0 dB; R/P; C Type 2 tape Type 4 t without nolse reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB INDICATOR READING FOR DIN Type 2 tape +1 dB (Type 1 tape +1 dB (Type 2 tape +1 dB (Type 2 tape +1 dB (Type 2 tape +1 dB (Type 4 tape +1 dB (Type 2 tape +1 dB (Type 4 tape +1 dB (Type 4 tape +1 dB (Type 4 tape +1 dB (CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 4 0 DB (315 Hz) with 1.9% THD) with 1.5% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for + 11/2 dB DIN)
H2 20 50 100 200 500 maximum bias minimum bias SIN RATIO (re DIN 0 dB; R/P; C Type 2 tape Type 4 t without nolse reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB INDICATOR READING FOR DIN Type 2 tape + 1 dB (Type 1 tape + 1 dB (INDICATOR READING FOR 3% Type 2 tape + 2 dB (Type 2 tape + 3 dB (CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 10 DB (315 Hz) with 1.5% THD) with 2.5% THD) DISTORTION (315 Hz) for +34 dB DIN)
H2 20 50 100 200 500 maximum bias minimum bias SN RATIO (re DIN 0 dB; R/P; C) Type 2 tape Type 4 t without noise reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB INDICATOR READING FOR DIN Type 2 tape +1 dB (Type 1 tape +1 dB (Type 2 tape +2 dB (INDICATOR READING FOR 3% Type 2 tape +2 dB (Type 2 tape +2 dB (Type 4 tape +3 dB (CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 721/4 dB 10 DB (315 Hz) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +11/2 dB DIN) for +1/2 dB DIN)
H22050100200500maximum biasminimum biasType 2 tapeType 2 tapeType 4 tapeType 2 tapeType 4 tapeType 4 tapewith Dolby B65 dB64 V2 dBwith Dolby C74 dB73 V4 dBType 2 tape+ 1 dB (Type 4 tape+ 1 dB (Type 4 tape+ 1 dB (Type 2 tape+ 2 dB (Type 4 tape+ 3 dB (Type 1 tape+ 2 dB (Type 2 tape+ 2 dB (Type 1 tape+ 2 dB (Type 1 tape+ 2 dB (Type 1 tape+ 2 dB (Type 2 tape+ 2 dB (Type 1 tape+ 2 dB (Type 1 tape+ 2 dB (Type 1 tape+ 2 dB (Type 2 tape- 2 dB (DISTORTION (third harmonic; alType 2 tape- 1.1%	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 0 DB (315 Hz) with 1.9% THD) with 1.5% THD) with 2.6% THD) DISTORTION (315 Hz) for +1/2 dB DIN) for +1/2 dB DIN) tor +1/2 dB DIN) tor +1/2 dB DIN) tor +1/2 dB DIN)
H2 20 50 100 200 500 maximum bias minimum bias Type 2 tape Type 4 t without noise reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB INDICATOR READING FOR DIN Type 2 tape +1 dB (Type 1 tape +1 dB (100/2000 SOC) INDICATOR READING FOR 3% Type 2 tape +2 dB (Type 1 tape +1 dB (100/2000 SOC) 100/2000 SOC) INDICATOR READING FOR 3% Type 2 tape +2 dB (Type 1 tape +1 dB (100/2000 SOC) 100/2000 SOC) INDICATOR READING FOR 3% Type 4 tape +2 dB (100/2000 SOC) INDICATOR READING FOR 100 SOC) Type 4 tape +2 dB (100/2000 SOC) INDICATOR READING FOR 3% Type 4 tape +2 dB (100/2000 SOC) INDICATOR READING FOR 3% Type 4 tape +2 dB (0.6000 SOC)	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 10 DB (315 Hz) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +11/2 dB DIN) for +11/2 dB DIN) 1 - 10 dB DIN) % 50 Hz to 5 kHz %, 50 Hz to 6 kHz
H2 20 50 100 200 500 maximum bias minimum bias Type 2 tape Type 4 t without noise reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB INDICATOR READING FOR DIN Type 2 tape +1 dB (Type 1 tape +1 dB (100/2000 SOC) INDICATOR READING FOR 3% Type 2 tape +2 dB (Type 1 tape +1 dB (100/2000 SOC) 100/2000 SOC) INDICATOR READING FOR 3% Type 2 tape +2 dB (Type 1 tape +1 dB (100/2000 SOC) 100/2000 SOC) INDICATOR READING FOR 3% Type 4 tape +2 dB (100/2000 SOC) INDICATOR READING FOR 100 SOC) Type 4 tape +2 dB (100/2000 SOC) INDICATOR READING FOR 3% Type 4 tape +2 dB (100/2000 SOC) INDICATOR READING FOR 3% Type 4 tape +2 dB (0.6000 SOC)	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 0 DB (315 Hz) with 1.9% THD) with 1.5% THD) with 2.6% THD) DISTORTION (315 Hz) for +1/2 dB DIN) for +1/2 dB DIN) tor +1/2 dB DIN) tor +1/2 dB DIN) tor +1/2 dB DIN)
H22050100200500maximum biasminimum biasType 2 tapeType 2 tapeType 4 tapeType 2 tapeType 2 tape5d B54/4 dBwith Dolby B65 dB64/2 dBwith Dolby C74 dB73/4 dBType 2 tape+1 dB (Type 4 tape+1 dB (Type 4 tape+1 dB (Type 2 tape+2 dB (Type 1 tape+2 dB (Type 1 tape+2 dB (Type 2 tape+2 dB (Type 2 tape+2 dB (Type 1 tape+2 dB (Type 2 tape+2 dB (Type 1 tape+2 dB (Type 2 tape+2 dB (Type 4 tape+3 dB (Type 4 tape+3 dB (Type 1 tape<2 dB (CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 721/4 dB 0 DB (315 Hz) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +1/2 dB DIN) for +1/2 dB DIN) for +1/2 dB DIN) for +1/2 dB DIN)
H2 20 50 100 200 500 maximum bias minimum bias Type 2 tape Type 4 t without noise reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB INDICATOR READING FOR DIN Type 2 tape + 1 dB (Type 1 tape + 1 dB (100/100 FOR 3% Type 2 tape + 2 dB (Type 4 tape INDICATOR READING FOR 3% Type 2 tape + 2 dB (Type 1 tape + 1 dB (100/100 (third harmonic; at Type 4 tape ≤ 3.06 (0.600/100 (third harmonic; at	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 10 DB (315 Hz) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +11/2 dB DIN) for +11/2 dB DIN) 1 - 10 dB DIN) % 50 Hz to 5 kHz %, 50 Hz to 6 kHz
H22050100200500maximum biasmaximum biasmaximum biasminimum biasstandardType 2 tapeType 4 tapetwithout noise reduction55 dB641/2 dBwith Dolby B65 dB641/2 dBwith Dolby C74 dB731/4 dBType 2 tape+1 dB (Type 2 tape+1 dB (Type 2 tape+1 dB (Type 1 tape+2 dB (Type 1 tape+2 dB (Type 1 tape+2 dB (DISTORTION (third harmonic; atType 2 tape\$ 1.1%Type 1 tape\$ 0.60'Type 1 tape\$ 0.36'ERASURE (100 Hz)	CIR/ARM-weighted) ape Type 1 tape 531/a dB 631/a dB 721/a dB 721/a dB 0 DB (315 Hz) with 1.9% THD) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/a dB DIN) tor +3/a dB DIN) tor +1/a dB DIN) tor +1/a dB DIN) tor +1/a dB DIN) tor +1/a dB DIN) 5, 50 Hz to 5 kHz %, 50 Hz to 5 kHz
H2 20 50 100 200 500 maximum bias minimum bias SN RATIO (re DIN 0 dB; R/P; C) Type 2 tape Type 4 to Type 2 tape Type 4 to Type 2 tape Type 4 to without noise reduction 55 dB 541/4 dB with Dolby B 65 dB 641/2 dB with Dolby C 74 dB 731/4 dB INDICATOR READING FOR DIN Type 2 tape +1 dB (Type 1 tape +1 dB (100 INDICATOR READING FOR 3% Type 2 tape +2 dB (Type 1 tape +3 dB (Type 4 tape +3 dB (Type 2 tape $x = 2 dB ($ 0.50 Type 4 tape $x = 3 dB ($ Type 1 tape $x = 1 dB ($ 0.50 Type 4 tape $x = 3 dB ($ Type 2 tape $x = 2 dB ($ 0.50 Type 4 tape $x = 0.60$ Type 4 tape $x = 0.60$ Type 1 tape $x = 0.30$ ERASURE (100 Hz) CHANNEL SEPARATION (315 H) $x = 0.50$	CIR/ARM-weighted) ape Type 1 tape 531/a dB 631/a dB 721/a dB 721/a dB 0 DB (315 Hz) with 1.9% THD) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/a dB DIN) tor +3/a dB DIN) tor +1/a dB DIN) tor +1/a dB DIN) tor +1/a dB DIN) tor +1/a dB DIN) 5, 50 Hz to 5 kHz %, 50 Hz to 5 kHz
H2 20 50 100 200 500 maximum bias minimum bias SN RATIO (re DIN 0 dB; R/P; C) Type 2 tape Type 2 tape Type 4 t without noise reduction 55 dB 54¼ dB with Dolby B 65 dB 64½ dB with Dolby C 74 dB 73¼ dB INDICATOR READING FOR DIN Type 2 tape +1 dB (Type 2 tape +1 dB (Type 4 tape INDICATOR READING FOR 3% Type 2 tape +2 dB (Type 1 tape +3 dB (Type 2 tape +2 dB (INDICATOR READING FOR 3% Type 2 tape +2 dB (Type 2 tape +2 dB (1.1% Type 1 tape ≤ 0.36 ERASURE (100 Hz) CHANNEL SEPARATION (315 H INDICATOR "BALLISTICS"	CIR/ARM-weighted) ape Type 1 tape 531/a dB 631/a dB 721/a dB 721/a dB 10 DB (315 Hz) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/a dB DIN) for +3/a dB DIN) for +1/2 dB DIN) tor +2/a dB DIN tor +
H2 20 50 100 200 500 maximum bias minimum bias maximum bias minimum bias SN RATIO (re DIN 0 dB; R/P; C) Type 2 tape Type 4 time twithout nolse reduction 55 dB 541/4 dB 65 dB 641/2 dB 641/2 dB with Dolby B 65 dB 641/2 dB inDICATOR READING FOR DIN Type 2 tape +1 dB (Type 2 tape +1 dB (Type 1 tape +1 dB (INDICATOR READING FOR 3% Type 2 tape +2 dB (Type 1 tape +2 dB (Type 4 tape +2 dB (DISTORTION (third harmonic; al Type 1 tape ≤ 0.60' Type 1 tape ≤ 0.60' Type 1 tape ≤ 0.60' Type 1 tape ≤ 0.60' Type 1 tape ≤ 0.36' ERASURE (100 Hz) CHANNEL SEPARATION (315 f) INDICATOR "BALLISTICS" Response time Time Time Time	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 633/4 dB 721/4 dB 0 OB (315 Hz) with 1.9% THD) with 1.5% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +1/2 dB DIN) for +1/2 dB DIN) 10 - 10 dB DIN) 5.50 Hz to 5 kHz %, 50 Hz to 5 kHz \geq 651/2 dB Hz) 52 dB 0.8.msec
H22050100200500maximum biasType 2 tapeType 2 tapeType 4 tType 2 tapeType 4 twithout nolse reduction55 dB54/4 dBwith Dolby B65 dB64/2 dBwith Dolby C74 dB73/4 dBINDICATOR READING FOR DINType 2 tape+1 dB (Type 1 tape+1 dB (INDICATOR READING FOR 3%Type 2 tape+2 dB (Type 4 tape+3 dB (Type 4 tape+3 dB (Type 2 tape>2 dB (Type 1 tape>1.1%Type 4 tape< 0.60	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 721/4 dB 10 DB (315 Hz) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +11/2 dB DIN) for +11/2 dB DIN) 1 -10 dB DIN) \sim 50 Hz to 5 kHz \sim 651/2 dB Hz) 52 dB 0.8.msec \sim 620 mesc
H2 20 50 100 200 500 maximum bias minimum bias maximum bias minimum bias SN RATIO (re DIN 0 dB; R/P; C) Type 2 tape Type 4 time twithout nolse reduction 55 dB 541/4 dB 65 dB 641/2 dB 641/2 dB with Dolby B 65 dB 641/2 dB inDICATOR READING FOR DIN Type 2 tape +1 dB (Type 2 tape +1 dB (Type 1 tape +1 dB (INDICATOR READING FOR 3% Type 2 tape +2 dB (Type 1 tape +2 dB (Type 4 tape +2 dB (DISTORTION (third harmonic; al Type 1 tape ≤ 0.60' Type 1 tape ≤ 0.60' Type 1 tape ≤ 0.60' Type 1 tape ≤ 0.60' Type 1 tape ≤ 0.36' ERASURE (100 Hz) CHANNEL SEPARATION (315 f) INDICATOR "BALLISTICS" Response time Time Time Time	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 633/4 dB 721/4 dB 0 OB (315 Hz) with 1.9% THD) with 1.5% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +1/2 dB DIN) for +1/2 dB DIN) 10 - 10 dB DIN) 5.50 Hz to 5 kHz %, 50 Hz to 5 kHz \geq 651/2 dB Hz) 52 dB 0.8.msec
H22050100200500maximum biasminimum biasm	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 633/4 dB 721/4 dB 0 OB (315 Hz) with 1.9% THD) with 1.5% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +1/2 dB DIN) for +1/2 dB DIN) 10 + 1/2 dB DIN 10 + 1/2 dB DIN 1
H22050100200500maximum biasminimum biasType 2 tapeType 2 tapeType 4 twithout noise reduction5556541/4 dBwith Dolby B65 dB641/2 dBwith Dolby C74 dB731/4 dBType 2 tape+1 dB (Type 4 tape+1 dB (Type 4 tape+1 dB (Type 2 tape+2 dB (Type 4 tape+2 dB (Type 1 tape+2 dB (Type 2 tape+2 dB (Type 2 tape+2 dB (Type 1 tape+3 dB (DISTORTION (third hamonic; alType 2 tape ≤ 0.60 Type 1 tape ≤ 0.36 ERASURE (100 Hz)CHANNEL SEPARATION (315 IINDICATOR "BALLISTICS"Response timeDecay timeOvershoot	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 721/4 dB 10 DB (315 Hz) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +11/2 dB DIN) for +11/2 dB DIN) 1 -10 dB DIN) \sim 50 Hz to 5 kHz \sim 651/2 dB Hz) 52 dB 0.8.msec \sim 620 mesc
H22050100200500maximum biasmaximum biasType 2 tapeType 4 tapethe boldy B65 dB64 V2 dBwith Dolby C74 dB73 V4 dBINDICATOR READING FOR DINType 2 tape+ 1 dB (Type 2 tape+ 1 dB (Type 2 tape+ 2 dB (Type 2 tape+ 2 dB (Type 2 tape+ 2 dB (Type 4 tape+ 3 dB (Type 4 tape= 3 dB (Type 1 tape< 1.1%	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 10 DB (315 Hz) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +11/2 dB DIN) for +11/2 dB DIN) 1 -10 dB DIN) .50 Hz to 5 kHz %, 50 Hz to 5 kHz %, 50 Hz to 5 kHz 2 651/2 dB Hz) 52 dB 0.8.msec 620 mesc 0 dB with, 105-127 VAC
H22050100200500maximum biasminimum biasm	CIR/ARM-weighted) ape Type 1 tape 531/a dB 631/a dB 721/a dB
H22050100200500maximum biasmaximum biasType 2 tapeType 4 tapethe Dolby B65 dB64 V2 dBwith Dolby C74 dB73 V4 dBINDICATOR READING FOR DINType 2 tape+ 1 dB (Type 2 tape+ 1 dB (Type 2 tape+ 2 dB (Type 2 tape+ 2 dB (Type 2 tape+ 2 dB (Type 4 tape+ 3 dB (Type 4 tape= 3 dB (Type 1 tape1.1%Type 4 tape≤ 0.60Type 1 tape≤ 0.36ERASURE (100 Hz)CHANNEL SEPARATION (315 I)INDICATOR "BALLISTICS"Response timeDecay timeOvershootSPEED ACCURACY0.9% fa	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 10 DB (315 Hz) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +11/2 dB DIN) for +11/2 dB DIN) 1 -10 dB DIN) .50 Hz to 5 kHz %, 50 Hz to 5 kHz %, 50 Hz to 5 kHz 2 651/2 dB Hz) 52 dB 0.8.msec 620 mesc 0 dB with, 105-127 VAC
H22050100200500maximum biasminimum biasType 2 tapeType 2 tapeType 4 toType 2 tapeType 4 towithout noise reduction55 dB54/4 dBwith Dolby B65 dB64 tz dBwith Dolby C74 dB73/4 dBINDICATOR READING FOR DINType 2 tape+1 dB (Type 2 tape+1 dB (INDICATOR READING FOR 3%Type 2 tape+2 dB (Type 4 tape+3 dB (Type 4 tape< 0.60	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 721/4 dB 10 DB (315 Hz) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +11/2 dB DIN) for +11/2 dB DIN) for +11/2 dB DIN) 1 -10 dB DIN) 5 -50 Hz to 5 kHz %, 50 Hz to 5 kHz %, 50 Hz to 5 kHz 2 651/2 dB Hz) 52 dB 0.8.msec = 620 mesc 0 dB stst, 105-127 VAC 1 peak; R/P) $\pm 0.20\%$
H22050100200500maximum biasmaximum biasType 2 tapeType 4 tapethe Dolby B65 dB64 V2 dBwith Dolby C74 dB73 V4 dBINDICATOR READING FOR DINType 2 tape+ 1 dB (Type 2 tape+ 1 dB (Type 2 tape+ 2 dB (Type 2 tape+ 2 dB (Type 2 tape+ 2 dB (Type 4 tape+ 3 dB (Type 4 tape= 3 dB (Type 1 tape1.1%Type 4 tape≤ 0.60Type 1 tape≤ 0.36ERASURE (100 Hz)CHANNEL SEPARATION (315 I)INDICATOR "BALLISTICS"Response timeDecay timeOvershootSPEED ACCURACY0.9% fa	CIR/ARM-weighted) ape Type 1 tape 531/a dB 631/a dB 721/a dB
H22050100200500maximum biasminimum biasSN RATIO (re DIN 0 dB; R/P; C)Type 2 tapeType 4 toType 2 tapeType 4 towithout noise reduction55 dB54/4 dBwith Dolby B65 dB64/2 dBwith Dolby C74 dB73/4 dBINDICATOR READING FOR DINType 2 tape+1 dB (Type 1 tape+1 dB (INDICATOR READING FOR 3%Type 2 tape+2 dB (Type 1 tape+3 dB (Type 2 tape+2 dB (Type 4 tape+3 dB (Type 4 tape< 0.60	CIR/ARM-weighted) ape Type 1 tape 531/a dB 631/a dB 721/a dB
H22050100200500maximum biasminimum biasSN RATIO (re DIN 0 dB; R/P; C)Type 2 tapeType 4 twithout noise reductionS5 dB541/4 dBwith Dolby B65 dB641/2 dBwith Dolby C74 dB731/4 dBINDICATOR READING FOR DINType 2 tape+ 1 dB (INDICATOR READING FOR 3%Type 2 tape+ 2 dBType 4 tape+ 3 dB (Type 4 tape+ 2 dB (DISTORTION (third hamonic; atType 4 tapeSUBTORTION (third hamonic; atType 4 tapeSOBCERASURE (100 Hz)CHANNEL SEPARATION (315 1)INDICATOR "BALLISTICS"Response timeDecay timeOvershootSPEED ACCURACY0.9% faFLUTTER (ANSI/IEEE weightedSENSITIVITY (re DIN 0 dB; 315line inputmike input	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB
H22050100200500maximum biasmaximum biasminimum biasminimum biasType 2 tapeType 2 tapeType 4 twithout noise reduction55 dB541/4 dBwith Dolby B65 dB641/2 dBwith Dolby C74 dB731/4 dBType 2 tape+1 dB (Type 2 tape+1 dB (Type 2 tape+2 dB (Type 1 tape+1 dB (Type 2 tape+2 dB (Type 1 tape+2 dB (Type 1 tape+2 dB (Type 1 tape+2 dB (Type 1 tape+2 dB (DISTORTION (third harmonic; alType 1 tape≤ 0.60Type 1 tape≤ 0.360ERASURE (100 Hz)CHANNEL SEPARATION (315 HINDICATOR "BALLISTICS"Response timeDecay timeOvershootSPEED ACCURACY0.9% faFLUTTER (ANSI/IEEE weighted)SENSITIVITY (re DIN 0 dB; 315line input	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB
H22050100200500maximum biasminimum biasSN RATIO (re DIN 0 dB; R/P; C)Type 2 tapeType 4 twithout noise reductionS5 dB541/4 dBwith Dolby B65 dB641/2 dBwith Dolby C74 dB731/4 dBINDICATOR READING FOR DINType 2 tape+ 1 dB (INDICATOR READING FOR 3%Type 2 tape+ 2 dBType 4 tape+ 3 dB (Type 4 tape+ 2 dB (DISTORTION (third hamonic; atType 4 tapeSUBTORTION (third hamonic; atType 4 tapeSOBCERASURE (100 Hz)CHANNEL SEPARATION (315 1)INDICATOR "BALLISTICS"Response timeDecay timeOvershootSPEED ACCURACY0.9% faFLUTTER (ANSI/IEEE weightedSENSITIVITY (re DIN 0 dB; 315line inputmike input	CIR/ARM-weighted) ape Type 1 tape 531/4 dB 631/4 dB 721/4 dB 10 DB (315 Hz) with 1.9% THD) with 2.6% THD) DISTORTION (315 Hz) for +3/4 dB DIN) for +11/2 dB DIN) for +11/2 dB DIN) for +11/2 dB DIN) for +11/2 dB DIN) for +10 dB DIN) t = -10 dB DIN) t = 50 dB DIN) t = 50 dB DIN) t = 50 dB DIN) t = 51 dB DIN) t = 52 dB 0.8 msec = 620 mesc 0 dB hst, 105 - 127 VAC t = 65 kHz t = 0.20% t = 0.20%

since such works sound rushed if there's only a five-second "breather" between acts.

Both the signal-level display and the level-adjustment sliders work vertically, with right and left channels tightly paired. This makes it easy to assess and correct channel balance (which requires difficult visual or digital gymnastics on many machines), while fades remain fairly easy to perform, even when the sliders must be staggered to correct balance. Furthermore, slider friction is nicely adjusted for smooth, positive action.

The LED recording-level indicator is calibrated from -30 to +7 dB with respect to its own 0 dB point (shown as Dolby reference level on the escutcheon), which measures 1 dB below the DIN reference level of 250 nanowebers per meter. In the critical area between the +3 and -3 calibrations, the scale resolves 1-dB steps. Rise and decay times are well chosen for visual assessment, which is important in the absence of a peak-hold feature.

Because this is a "two-head" deck. the output-level slider adjusts either the source feed-through in the recording mode or the reproduction level in playback. A similar slider fine-tunes bias for the three basic tape options: metal (Type 4), "chrome" (Type 2), and "normal" (ferric tapes, which could include both our Type 0 and Type 1, thanks to the bias adjustment). Bias and equalization are not individually selectable, so Type 3 (ferrichrome) tapes are not recommended for the deck. And because this is a two-head deck with no built-in oscillator, bias adjustment must rely either on guesswork or on separate instrumentation, if you have it. The manual, which is very good in most respects, ducks the question of tape brands and bias adjustment altogether, stating only that you should buy good brands, plan to leave the bias adjustment at its detented "0" center position, and add or subtract bias only if you hear, respectively, an excess or a shortage of high-frequency response. The advice is sound as far as it goes, but it does limit the control's utility.

A Quick Guide to Tape Types

Our tape classifications, Type 0 through 4, are based primarlly on the International Electrotechnical Commission measurement standards.

Type 0 tapes represent "ground zero" in that they follow the original Philips-based DIN spec. They are ferric tapes, called LN (low-noise) by some manufacturers, requiring minimum (nominal 100%) bias and the original, "standard" 120-microsecond playback equalization. Though they include the "garden variety" formulations, the best are capable of excellent performance at moderate cost in decks that are well matched to them.

When we asked Kyocera what tapes we should adopt for Diversified Science Laboratories' bench measurements, the company suggested three TDK formulations: SA ferricobalt for Type 2 (the tape used in all tests for which no other tape type is specified), MA for Type 4, and D ferric for the remaining "normal" option. (TDK has progressively upgraded D from Type 0 toward Type 1 over the years.) As always, DSL ran its tests with the bias control at the zero setting. Dolby tracking proved excellent with all three tapes, and the bias adjustment excellent for both SA and D. There is a tendency for the MA to peak at the extreme top end of the frequency range-a sign of underbiasing. When DSL came to test the bias adjustment range for metal tapes, though, the minimum setting provided extremely flat response. We show the curves at the zero bias setting (and with the peaks) because they represent the sort of results that users will get if they follow the manual, but you should be aware that the bias adjustment will, indeed, control the extra brightness.

The transport mechanism in both of our D-601 test samples performed excellently with all the standard-brand Japanese cassettes we tried, but balked at some other brands. (The internal construction of those tapes evidently produce what the transport "reads" as either inadequate or excessive tape tension, triggering STOP.) And, for the record, the actual total harmonic distortion at -10 dB is slightly higher than the thirdharmonic figures shown in our data, because of the (unusual) presence of similar quantities of the second harmonic. The mike-input overload point is a little lower than average at 43 millivolts, but home decks seldom are distinguished by ample microphone-preamp headroom.

Overall, we view the D-601 as an auspicious first step, and a fine introduction to what we expect will be our ongoing exploration of the Kyocera line. It is well designed for its intended audience, is independent-minded without being oddball, and is both handsome and capable. Circle 94 on Reader-Service Card

Type 1 (IEC Type I) tapes are ferrics requiring the same 120-microsecond playback EQ but somewhat higher blas. They sometimes are styled LH (low-noise, high-

output) formulations or "premium ferrics." Type 2 (IEC Type II) tapes are intended for use with 70-microsecond playback EQ and higher recording blas still (nominal 150%). The first formulations of this sort used chromium dioxide; today they also include chrome-compatible coatings such as the ferricobalts.

Type 3 (IEC Type III) tapes are dual-layered ferrichromes, implying the 70-microsecond ("chrome") playback EQ. Approaches to their biasing and recording EQ vary somewhat from one deck manufacturer to another.

Type 4 (IEC Type IV) are the metal-particle, or "alloy" tapes, requiring the highest bias of all and retaining the 70-microsecond EQ of Type 2. For the first time a computer that "hears" has been used to design a music system.

Third in a series on how Delco Electronics and Bose

technology contribute to your enjoyment of driving. Traditionally the design of music systems has been based on measurements of sound waves produced by loudspeakers. These measurements tell us about the operation of the speakers and other components, but they say little about how people really <u>perceive</u> sound. Thus, traditional measurements are not very useful in designing better <u>sounding</u> music systems.

Now we have found a way around this fundamental problem. From research on the hearing process, we developed a computer that "hears." The computer receives signals from microphones in the ears of a mechanical head. It then processes these

signals using knowledge of human hearing mechanisms.

 \bigcirc

With this computer we can evaluate and design music systems in a completely new way. Just one example: instead of a listener trying to describe where sounds appear to come from, the computer draws a "map" of sound localization. We can then adjust the placement and orientation of the four speakers so the sound is perceived as a panorama across the car. And, we do a unique design for <u>each</u> automobile model.

How much difference does our "hearing" computer make to your enjoyment? When you visit your GM dealer* and experience the Delco-GM/Bose Music System, you will know. Just try not to get excited! Available as a factory-installed option on Olds.mobile Toronado, Buick Rivera, and Cadilles Eldorado and Seville. A totally new class of music systems from Delco-GM.



Sound so real, it will change how you feel about driving.

AUDIO New Equipment Reports



Sony's Accessible Computer-Age Receiver

Sony STR-VX33 AM/FM receiver. Dimensions: 17 by 4 Inches (front panel), 101/2 Inches deep plus clearance for controls and connections. AC convenience outlets: one switched, one unswitched (100 watts max. each). Price: \$310. Warranty: "limited," two years parts and labor. Manufacturer: Sony Corp., Japan; U.S. distributor: Sony Corp. of America, Sony Drive, Park Ridge, N.J. 07656.

FM tuner section

MONO FREQUENCY RESPONSE



STEREO RESPONSE & CHANNEL SEPARATION



>231/2 dB, 20 Hz to 15 kHz

LAST MARCH. IN REVIEWING the Sony TA-AX5 integrated amplifier, we commented: "Every now and then a product seems to sum up what's going on among its peersto be a signpost of sorts, indicating which way to look for a glimpse of the future." That statement is equally apt for the STR-VX33, one of two new Sony receivers that bring a distinctly computer-age feel to moderate-price stereo gear. The TA-AX5 amplifier's essential radical element was its circuitry; what sets this receiver apart, on the other hand, is the way it and the user interrelate, via a keyboard instead of the usual switches and knobs. That interface is much more than skin deep; once you have used the VX-33 for a while, you may conclude that the thinking behind conventional products has acquired a premicroprocessor tarnish (or patina, depending on your point of view).

The keyboard has a set of ten rectangular buttons numbered from 1 through 0, and, like the touchpads of computer keyboards, they are capable of multiple functions, depending on the sequence in which the controls are pressed. This versatility is hinted at by "subtitles" on the 9 and 0 keys: PHONO and DAD/AUX, respectively. DAD stands for "digital audio disc" (see "Digital Sound: It's Here," page 44), its presence here demonstrates how important auxiliary inputs will doubtless become in the near future. (If you find you need a second AUX and have only one tape deck in your system, you can use the VX-33's Tape 2 input.) When you push the power switch (which causes the receiver to come on set as it was when last turned off), and then press 9, the phono input becomes live. If you press either of the two (FM and AM) tuning-band buttons at the lower left of the keyboard and then punch 9, the STR-VX33's microprocessor will take the 9 as the first digit of a frequency you are asking it to tune to. It will continue accepting digits as part of a station frequency until its register is full—at which point pressing 9 once more will again select the phono input.

Because the receiver is designed for international use, FM tuning is in 0.05-

MHz intervals—not just the 0.2-MHz spacing of U.S. stations—so you must supply an extra zero to complete your entries and fill the register. Thus, a station at 101.3 is selected by punching up 101.30. The AM tuning is set for 10-kHz increments to match U.S. practice. (You need not punch up the last digit: For example, pressing 88 will tune to 880 kHz.) There are eight memory positions (buttons 1 through 8), each of which will store one station and remember which band it is on. Memory is active even with the power off, as long as you have supplied the back-panel battery holder with the necessary pair of AA cells.

As delivered, the front-panel markings suggest that keys 1-5 be used for FM, 6-8 for AM. Actually, the two can be mixed in any order and any proportion. Sony supplies sheets of frequencies for all stations so you can customize the front panel to match the frequencies you have actually stored in the memory. The MEMORY-SCAN feature enables you to review the eight stations in sequence, sampling some five seconds on each; it will repeat the sampling litany until you make your choice and press the appropriate button. If you're on the FM band and you press the UP or DOWN tuning button, the receiver will scan for receivable stations; it cannot be stepped from channel to channel. Conversely, the AM band can only be stepped-slowly or rapidly, depending on whether you tap the tuning button or hold it in. And there's a final detail in this section that is unique in our experience: When you switch the FM mode to mono and then touch any other button in the keyboard or tuner-control sections, the tuner automatically reverts to stereo, preventing you from inadvertently leaving it in mono when you switch to a strong station.

All this sounds very elaborate, but the STR-VX33 is actually an exceedingly simple receiver and very simple to operate despite its sophisticated microprocessor logic. It would be a good choice as a first receiver for a music lover who is ready to move up to components for the first time. Some of the simplifications will be welcomed by more experienced users (we

The New Polk Audio SDA-1



A Fundamental Breakthrough In Loudspeaker Technology Achieves Dramatic Audible Benefits

"The Polk Stere D/Dimensional ArrayTM may well be the world's finest sounding loudspeaker. It will stand as a landmark in the development of audio technology in the service of music." Gff the Record

The revolutionary SDA-1[™] allows you to experience a new dimension in musical reproduction

Polk's unique Stereo/Dimensional technology is based on a tundamental analysis of stereo recording and the auditory process. For the first time, a pair of loudspeakers has been designed to work to≣ether property and thus to realize the full potential of stereophonic reproduct on. It could be said that the SDA-1™ is the world's first true "stereo" speaker. Listening to them will be a revelation.

C-rcle 56 on Reader-Service Card

You Must Hear the SDA-1.

Use the reader's service to receive the location of your nearest Polk dealer as well as information on the SDA-ITM and our other superb sounding speakers starting at less than \$100 each.

Polk Audio, Inc. 19 5 Annapolis Rd., Baltimore, MD. 2 230.



AUDIO New Equipment Reports

FM SENSITIVITY & QUIETING DE 10 20 -30 40 50 60 DBE 0 10 20 30 40 50 60 70 80 90 100 stereo quieting (noise) Stereo sensitivity (for 50-dB noise suppression) 381/2 dBf at 98 MHz, with 0.44% THD+N (40 dBf at 90 MHz; 401/4 dBf at 106 MHz) Mono sensitivity (for 50-dB noise suppression) 16 dBf al 98 MHz Stereo threshold 25 dBf Stereo S/N ratio (at 65 dBf) 67V4 dB Mono S/N ratio (at 65 dBf) 701/4 dB CAPTURE BATIO 1 dB SELECTIVITY (alternate-channel) 501/2 dB HARMONIC DISTORTION (THD+N) mono sterec at 100 Hz 0.34% 0.18% at 1 kHz 0.26% 0 10% at 6 kHz 0.26% 0.52% STEREO PILOT INTERMODULATION 0.12% IM DISTORTION (mono) 0.054% AM SUPPRESSION 64 dB PILOT (19 kHz) SUPPRESSION 663/4 dB SUBCARRIER (38 kHz) SUPPR. 571/2 dB Amplifier section RATED POWER 16 dBW (40 watts)/channel OUTPUT AT CLIPPING (both channels driven) 171/2 dBW (56 watts)/channel 8-ohm load 4-ohm load 183/4 dBW (75 watts)/channel 151/2 dBW (35 watts)/channel 16-ohm load DYNAMIC HEADROOM (re rated power, 8-ohm load) +2 dB HARMONIC DISTORTION (THD; 20 Hz to 20 kHz) ≤ 0.014% at 16 dBW (40 watts) at 0 dBW (1 watt) < 0.01% FREQUENCY RESPONSE 0, -3/4 dB, 23 Hz to 34.2 kHz; +0, -3 dB, <10 Hz to 78.8 kHz RIAA EQUALIZATION +1/2, -11/2 dB, 20 Hz to 20 kHz; 63/4 dB at 5 Hz INPUT CHARACTERISTICS (re 0 dBW; A-weighting) sensitivity S/N ratio 0.33 mV 751/2 dB phono input

PHONO OVERLOAD (1-kHz clipping) 145 mV PHONO IMPEDANCE 44.4k ohms; 210 pF

24 mV

80 dB

DAMPING FACTOR (at 50 Hz) 55

DAD/aux input



The STR-VX33's keyboard provides centralized access to the receiver's on-board computer. The 12 keys allow for: preset station recall, tuner band selection, direct frequency tuning, as well as input selection. Note the 0/DAD/AUX selector button; it might simply have been lack of space that prevented Sony from also inscribing "TV Audio" on this multi-function input selector. (See p. 44 for our coverage on Sony's DAD player.)

delight in the absence of a power meter, for example), but others may be regretted by some. There is no tuning indicator of any sort; with a rotatable antenna in a fringe reception area, you must rely on your ears for optimum antenna orientation. In many strong-signal areas, though, you won't need to give the omission a second thought. This also applies to the lack of a blend control for FM. And we suspect few users will even notice these days that, except in FM, there is no mono mode. There is also no high filter-they are seldom used these days, anyway. If your phono system is unduly responsive to warps, the omission of an infrasonic filter may be a disappointment, but we'd guess that hiss filters are seldom used these days. If you want these extras, of course, Sony (and other companies) has several models that have them, but extras are not what the STR-VX33 is all about

Performance easily matches that of other moderate-price, moderate-power receivers without setting any particular records. There is a remarkable consistency to the lab measurements. Two exceptions are the FM separation, which is lower than average, but not low enough to be a subject of complaint, and the output impedance of the tape-recording connections—which, at a notably high 11,900 ohms, is still well below the input-impedance rating of most tape decks (as it must be, if frequency response is to remain flat). Incidentally, the receiver allows tape copying, but only from TAPE 1 to TAPE 2.

The tone controls are of the generally preferable shelving variety, with a range of ± 10 to 12 dB—enough for sensible purposes, but not so wide as to permit gross effects or force major sonic changes with only slight control rotations. The loudness action adds some 10 dB of bass boost (depending on the VOLUME setting) and about 5 dB at the top end: If you're a modernist who prefers that only the bass end be tampered with, you can get almost the desired contour with the bass control.

Perhaps the most significant contribution of this receiver to the state of the high fidelity art is its implied assertion that the days when a digital tuning scheme had to mimic the behavior of a capacitor-tuned front end are gone forever. Without making a fetish of the matter, the VX-33's designers seem to have begun with the premise that whatever they do must be based on the way modern stereo components are built and used. The result is an up-to-date, exceedingly attractive receiver for an upto-date user in search of a "simple machine."

Circle 98 on Reader-Service Card

CONVERSION TABLE FOR POWER OUTPUT

About the dBW	WATTS	dBW	WATTS	dBW	WATTS	dBW
We currently are expressing power in terms of	1.00	0	10.0	10	100	20
dBW-meaning power in dB with a reference (0	1.25	1	12.5	11	125	21
dBW) of 1 watt. The conversion table will enable	1.6	2	16	12	160	22
you to use the advantages of dBW in comparing	2.0	3	20	13	200	23
these products to others for which you have no	2.5	4	25	14	250	24
dBW figures.	3.2	5	32	15	320	25
•	4.0	6	40	16	400	26
	5.0	7	50	17	500	27
	6.3	8	63	18	630	28
	8.0	9	80	19	800	29



The Proof Is in the Performance: QED

QED Model 330 power amplifier, in metal case. Dimensions: 19 by 5¼ inches (front), 8¾ inches deep, plus clearance for connections. Price: \$570. Warranty: "limited," two years parts and labor. Manufacturer: Questar Electronic Design, 2210 Cemo Circle, Rancho Cordova, Calif. 95670.

RATED POWER	21 dBW (125 watts)/channel
OUTPUT AT CLIPPING	(both channels driven)
8-ohm load	213/4 dBW (150 watts)/channel
4 ohm load	231/4 dBW (210 watts)/channel
16-ohm load	191/2 dBW (90 watts)/channel
DYNAMIC HEADROOM	(re rated power, 8-ohm load)
	+ 1 1⁄4 dB
	ON (THD; 20 Hz to 20 kHz)
at 21 dBW (125 watts)	≤0.036%
at 0 dBW (1 watt)	≤0.023%
FREQUENCY RESPON	ISE (at 0 dBW)
+0, -1/4 dB, <	10 Hz to 47.3 kHz;
+0, −3 dB, <	IO Hz to 220 kHz
SIN RATIO (re 0 dBW;	A-weighted) 1011/4 dB

SENSITIVITY (re 0 dBW) 147 mV DAMPING FACTOR (at 50 Hz) 190 WE FIRST ENCOUNTERED Questar Electronic Design (QED for those who remember having to prove the Pythagorean theorem) some two years ago, by way of its first product—a particularly forward-thinking preamp that impressed us with its spartan (but highly useful) array of controls and functions. We learned then that QED was committed to a design philosophy that combined functionality, a high regard for sonic "purity," and relatively sane ideas about pricing. The Model 330 power amp, our first review subject from QED, is a fine example of the philosophy.

First, you won't find any bells and whistles here. The amp's handsome twotone (silver and black) faceplate exhibits nothing flashier than an oversized POWER button and three LEDs—one indicating that the amp is switched on, plus separate leftand right-channel elipping indicators. The rear apron is similarly, albeit more predictably, uncluttered: There are standard fiveway binding posts for connection to a single pair of speakers, the usual fuse holders, and a rocker switch labeled STEREO/MONO for quick conversion to a bridged mode.

The Model 330 uses a quasi-Class A variable bias circuit of the type pioneered by Nelson Pass of Threshold Electronics and since adopted by several Japanese makers. Like all Class A amps, the QED applies continuous bias current, eliminating transistor switching distortion by keeping the output transistors in a conducting state, never letting either transistor in an output pair switch off. Unlike "pure" Class A amps, however, the 330 uses relatively small amounts of bias-just one-quarter the amount, says QED, often employed in conventional Class A designs. Amplifier efficiency is thus raised, allowing for high power output without undue heat generation and the consequent need for bulky heat-dissipating fins. And the use of a toroidal power transformer in place of a laminate-core unit slims the compact, relatively lightweight 330 further still. Indeed, a pure Class A amp with the same output capacity would be massive.

On the test bench at Diversified Science Laboratories, the 330's performance proved exceptional. Response is flat all the

way out to frequencies most appreciated by bats on the wing, and harmonic and intermodulation distortion are virtually undetectable. The amp's output into 4 ohms bespeaks a generous power supply and a husky output stage, which QED states will withstand the torments of even a direct short for two seconds before the fuses open. Additional protective measures in the 330 include current-limiting circuits and thermal overload relays. The 330 easily meets its power-output rating, clipping at 211/2 dBW (150 watts) on continuous tones. The dynamic headroom figure of 11/4 dB indicates the amp's ability to pump out 22 dBW (160 watts) per channel in response to musical transients.

In the listening room, the 330's performance was equally fine. The unit's built-in fan, whose use eliminates the need for any external heat sinking, is barely audible, despite the fact that it operates continuously. The owner's manual suggests that the amp be kept switched on all the time for optimum performance, but we have always resisted that idea: Though accidents with power amps are rare, operating any highvoltage electronic equipment continuously with no one in attendance is needlessly risky. Our listening sessions, therefore. proceeded from a cold start and continued for about an hour; as we expected, we could hear no appreciable difference from beginning to end. The amp, in fact, sounded just the way a well-engineered, high-power amplifier should sound-smooth and transparent, with enough muscle to respond effortlessly to the music's dynamics.

Serendipitously, our listening evaluations of the 330 coincided with the arrival of a Sony Compact Disc player. So equipped, we were able to put the 330 through tougher playback exercises than we had previously been able to impose. The Compact Disc's ability to provide a dynamic range encompassing periods of total silence quickly followed by breathtaking symphonic crescendos might well have exposed flaws in a lesser amplifier, but the QED came through with flying colors. (We could, of course, push the amp into clipping, but at levels far above realistic home playback.)

If amplifier design can be considered a

AUDIO New Equipment Reports

syllogism of sorts—with the givens and conclusions already laid out, awaiting the work of a clever thinker to join the two with creative engineering logic—then the 330 stands as an altogether elegant and successful piece of work. Simply put: quod erat demonstrandum, QED! Circle 97 on Reader-Service Card

Reaching for The Gold Ring

Goldring G-900 IGC fixed-coil phono cartridge, with van den Hul stylus. Price \$240; D-140 IGC replacement stylus, \$135. Warranty: "limited," one year parts and labor. Manufacturer: Goldring Products, Ltd., England; U.S. distributor: AudioSource, 1185 Chess Drive, Foster City, Calif. 94404.

FREQUENCY RESPONSE & CHANNEL SEPARATION (test record: JVC TRS-1007 Mk, II)



SQUARE-WAVE RESPONSE





THOUGH ITS PICKUPS have been seen as alternatives to the well-known American brands rather than as true technological exotica, Goldring has carved a niche for itself in this country with the competence of its "standard" moving-magnet designs. The G-900 IGC is the most ambitious we've tested to date from the British company—thanks, in particular, to its van den Hul stylus.

The shape of the van den Hul is computer-designed to approximate as closely as is practically possible the shape of the stylus with which a record is cut. (Of course, there is a limit as to how far you can carry such a design: Were the shape of the playback stylus identical to that of the cutting stylus, the groove would literally be recut each time the record was played.) The vertical (or bearing) radius of the van den Hul is thus a relatively large 85 micrometers for broad vertical contact with the straight line (infinite-radius) groove wall to reduce record wear. The front-to-back (or scanning) radius, which resolves the high-frequency "wiggles" along the groove wall, is a relatively small 3.5 micrometers. The van den Hul stylus approaches the sharpness of the angle formed by the burnishing facet and the trailing surface of the cutting stylus, where the cut actually takes place, and this results in reduced tracing distortion. Most important, the line of contact between playback stylus and groove wall is kept as nearly vertical as possible (that is, the rake angle is minimized) to preserve the dynamic geometry of the cut.

As you can see from the data, the pickup performs very well. We must point out immediately, however, that the extremely low mass of this model—3.9 grams forced Diversified Science Laboratories to vary its procedure slightly, raising some question about the comparability of the resonance data with those for previous reports. Specifically, the counterweight adjustment range of the SME arm on which all pickups are tested at DSL is not quite great enough to balance the featherweight Goldring, and the difference had to be made up at the vertical tracking force adjustment. (Actual tracking forces are as shown, however; they are set with the aid of an external gauge, rather than by means of the arm's VTF calibration.) Thus, the deployment of balancing weights was not quite the same as it normally would be for the specified tracking conditions, and the results might varying accordingly—though presumably by very little.

According to Goldring, ³/₄ gram is the minimum tracking force, and the pickup did squeak through our "torture test" at that setting. For the remaining tests (including listening), we adopted Goldring's recommended VTF of 11/4 gram. At this setting (which influences stylus attitude and therefore the tip's rake and vertical tracking angles), the VTA came in very close to Goldring's 24-degree spec. At the higher frequency we use to test rake angle, the measurement increased by only 2 degrees, implying good rake-angle alignment, as well.

Taken as a whole, the data suggest a clean, relatively smooth pickup with only a bit of high-end irregularity, and the listening tests confirm this impression. Stereo imaging is very good, as is tonal balance and detail. On some passages, there is a hint of brightness that, to some listeners, seemed to confirm the slight rise in the leftchannel response curves. Other auditors simply heard extra detail rather than extra highs. The bass end is very solid and open, without being in any way exaggerated, and contributes materially to the naturalness of the pickup's reproduction.

It is axiomatic in audiophile circles that the higher the price of a cartridge, the more heated the debate over its merits and shortcomings—even though the factors involved are quantitatively minute in contrast to the disparities observable in budget pickups. Thus, we have no doubt the Goldring will be argued over; that it is a serious audiophile contender is beyond dispute. *Circle 95 on Reader-Service Card*

To Order Test Report Reprints, send us a letter with the following information: the type of product, the name of the product, the model number, manufacturer, and the issue in which the test report appeared. Also enclose a self-addressed stamped envelope and send to Test Report Reprints, High Fidelity, 825 Seventh Ave., New York, N.Y. 10019. Requests for three or less reprints will be filled free of charge.

ADVENT

The one thing we never change.

Dur ng the last fifteen years, we've made a lot of improvements on cur Advent speakers. 137 to be exact. We've redesigned woofers and tweeters. Crossover networks and phase plates. Cabinets and mounting hardware. Even screws. Eut there's one thing we haven't changed. That's the value. The ability of an Advent speaker to out-perform many speakers that cost more. How? By making changes that sound good not just look good. While other speaker companies have spent their time adding all manner of dials, knobs and wild grilles, we've quietly gone about the business of perfecting the two-way speaker.

For example, our newest change is the Advent "Direct Report" tweeter. It is a parabolic rather than hemispheric design. And the special phase plate for the tweeter has been tapered to improve dispersion. Steres Feview liked it as much as we did. They said, 'We cannot recall ever having measured a front-radiating dome tweeter whose dispersion equaled that of the new Advent design."

We think you'll agree with Stereo Review. The new tweeter is indeed exceptional. The change substantially improved the sound quality. But it hasn't substantial.y changed the price. You see value has always been a part of the Advent legend. And that's something we haven't changed... never wil ...

DVEN

For the location of the Advent dealer nearest you, call toll free 800-323-1566. (In Illinois call 800-942-3502.)

ADVENT

The legend continues.

It's Here!

HF tackles the first digital audio disc player— Sony's CDP-101—in a special hands-on report. by Michael Riggs

Next month our report on the Compact Disc format concludes with an in-depth look at digital software how much, how soon, plus some serious listening by a panel of HF critics.

I am listening to a music playback system whose introduction marks a true milestone in the history of high fidelity. In fact, the digital audio disc spinning in the laser-based player beside me represents the most fundamental change in audio technology in more than eighty years.

The advantages of the new medium are in many ways similar to those the LP offered over the old shellac 78 it replaced: lower noise, longer playing time, greater durability, and generally higher fidelity. But unlike the LP, which was an evolutionary development of the mechanical playback system already in use at the turn of the century, the new Compact Disc (CD) is a radical innovation with roots in the realm of computer technology.

DELTAL

By the good offices of the Sony Corporation, codeveloper with Philips of the Compact Disc system, we received a preproduction sample of that company's first player, the CDP-101. Though this unit is currently on sale in Japan, U.S. dealers will not be receiving their initial shipments for three to six months.

The ease and convenience the CDP-101 brings to record playing makes the old-fashioned drop-theneedle-in-the-groove method seem clunky by comparison and almost painful to return to. Gone are the elaborate cleaning rituals by now almost second nature for any selfrespecting audiophile. With the Compact Disc player, you simply insert a disc in the slide-out loading drawer, press a button, and a few seconds later sound emerges out of utter silence. In's a lot like using a cassette deck, but with random access capability thrown in. That ease of operation, the versatility of the operating controls, and a handy wireless remote control are a big part of the CEP-101's somewhat startling seductiveness.

The Sound

The other contributor is, of course, the sound. Here our assessment must necessarily be preliminary, since we have at the moment only one complete recording and two sampler discs. Our consistent impression, however. is of a frequency range, clarity, and solidity sugges-



The Compact Disc itself is just 4³/₄ inches in diameter—small enough to fit into a sport coat pocket. One side has a reflective surface containing a series of pits representing as much as an hour of digitally encoded music. A layer of clear plastic protects the laser-read playing surface from physical damage or contamination. At present, the other side of the disc is used as the label area, although there is no reason, in principle, why it could not also be "pressed" into service. Philips, which originated the system and codeveloped it with Sony, wants the packaging shown here to become standard. Not surprisingly, it resembles the familiar Philips-style plastic box for Compact Cassettes, with which it shares the qualities of ruggedness and convenience.





Sony's "Linear Skate Disc Loading" system (we haven't found anyone who can explain to us exactly what that is supposed to mean) makes getting records in and out of the machine a snap. A touch on the OPEN/CLOSE button causes a loading drawer to glide forward out of the machine. A disc is placed face down in the drawer, as shown here, and a second push on OPEN/CLOSE (or on PLAY) sends the works back inside, where the disc is automatically mounted and aligned for playback. The entire procedure takes only five or six seconds. Unloading (another press on OPEN/CLOSE) is similarly rapid.

tive of direct connection to the source. Comparing these discs to analog pressings of the same material, we are consistently aware of more extended response at the frequency extremes (especially in the bass), slightly sharper attacks on transients, fine details brought out in greater relief, and the lifting of a slight haze over the sound.

To be fair, we have also been brought to a fuller awareness of just how good a top-notch analog pressing can be: The differences between analog and digital versions are sometimes very subtle, and without access to the master tapes from which these records were made we cannot make absolute judgements of fidelity. Also, digital discs can be more revealing of flaws in

the original recordings. Particularly obvious are tape hiss from analog masters and peculiarities of recording technique, such as unnatural spotlighting of solo instruments and voices.

The System

A brief look at the theory and operation of Compact Disc playback is necessary to appreciate its revolutionary nature. A conventional phonograph record is an analog medium, in which musical waveforms are represented by physical likenesses engraved in the walls of a long spiral groove. Fidelity is determined by the degree to which the likenesses resemble the original waveforms. A digital record works altogether differently: It does not store a "sonic snapshot," and for that reason, its fidelity does not depend on the similarity of stored information to the original signal. Instead, digital discs contain a very precise set of instructions, encoded in the binary language of computers, for constructing a near-perfect replica of the original waveform. (For a more complete explanation, see "The Whys and Hows of Digital Recording." August. p. 40.)

In the CD system, each "instruction" comprises sixteen binary digits, or "bits," capable of expressing more than 65,000 $(2^{16}, to be exact)$ distinct values. The more bits, the finer the replica, and therefore the

Di	igital vs. Analog: A Score Compact Disc	Card LP
Size	4 ³ / ₄ inches (12 cm)	12 inches (30 cm)
Playing Speed	500 rpm to 200 rpm, approximately (constant lin- ear velocity)	33 or 45 rpm (constant angular velocity)
Capacity	Approximately sixty minutes per stereo side; thir- ty minutes per side with four channels. Currently recorded on one side only.	Thirty minutes per side, maximum (usually less)
Playback Technique	Optical (laser), noncontact	Mechanical (diamond stylus), contact
Price	Probably about \$15 to \$18 per disc initially, or about the same as current audiophile LPs. Price should eventually become as low as (or lower than) that of conventional records, because of lower materials cost. Players will also be expen- sive at first (about \$1,000), but ultimately basic units should be available for \$200 to \$300.	Varies—around \$8 to \$9 for most commercial re- leases. Players are available for prices ranging from less than \$100 to more than \$10,000, and very good units can be had for a few hundred dollars. The market for very low-price players promises to keep the LP alive for many years to come.
Durability	Very good—highly resistant to warpage, scratch- es, and abuse; no sonic degradation from repeat- ed playback	Fair—easily warped; scratches are clearly and permanently audible. Some wear occurs with ev- ery playing, although this can be minimized by the use of a good cartridge and tonearm.
Contamination Resistance	Very good—can be cleaned with a soft cloth. Playback system ignores or corrects for most small surface flaws.	Fair—grooves must be kept scrupulously clean to prevent noise buildup and additional wear. Cleaning requires care and proper tools.
Dynamic Range	Greater than 90 dB at all audible frequencies	At best, about 70 dB (midband)—usually lower
Frequency Response	Within $\pm {}^{1\!\!/}_2$ dB from below audibility to 20 kHz	Varies according to the disc cutting and playback equipment—±2 dB from 30 Hz to 15 kHz is probably about the best that can be expected. Bass is often rolled off to prevent overcutting.
Separation	Better than 90 dB	Varies according to cutting and playback equip- ment—peritaps 30 dB, at the most. Frequencies below 100 Hz (often as high as 200 Hz) are often blended to reduce cutting problems.
Distortion	Less than 0.1%-well below the threshold of au- dibility	Several percent minimum—much higher at the inner grooves and at high cutting levels
Wow and Flutter	Virtually nonexistent—far too low to be measur- able or audible under any circumstances	Usually less than 0.2% with good equipment, provided the disc is well made. But an off-center spindle hole can increase it to several percent.
Output from Player	Can be connected directly to any high-level input (aux, tape, tuner, etc.)	Requires a special phono preamplifier circuit to bring the very weak signal up to line level. Signal also requires equalization to correct for RIAA re- cording curve.
Vibration Sensitivity of Player	Very low-no susceptibility to acoustic feedback; suitable for use in cars, boats, and aircraft	Relatively high—susceptibility to acoustic feed- back and shock, varies widely according to play- er design; not suitable for mobile operation
Overall Reproduction Accuracy	Excellent—essentially perfect	Fair to very good
Overall Convenience	Excellent	Fair to good—most players require critical setup adjustments

lower the noise and distortion. A CD player reads and executes more than 44,000 such instructions every second, for a signal bandwidth of approximately 20 kHz. (Theoretically, flat response can be maintained from DC, or 0 Hz, to a frequency equal to half the instruction-execution frequency or sampling rate. In practice, the upper frequency limit must be slightly less than that, to prevent a form of intermodulation distortion called aliasing.) The level of performance afforded by this rather roundaboutseeming approach to music reproduction is extraordinary-substantially higher than that of analog LPs and very likely as good as we'll ever need.

Physically, a Compact Disc is a sort of

sandwich—a 4¼-inch plastic disc with a reflective aluminum surface, topped off by another layer of clear plastic. Although its surface area is only about one-sixth that of an LP, a Compact Disc has about twice the maximum playing time per side. Digitized music is recorded in the aluminum layer of the disc as a series of microscopic pits, which are read by a low-power diode laser in the player. The electronic legerdemain required to read the numbers and then make the necessary translation back to an audio signal is one of the wonders of modern microelectronics.

When prototype Compact Disc players were first shown several years ago, they always trailed an umbilical cable to (literally) a footlocker stowed under the table and crammed with control circuitry and digitalto-analog converters. All that has now been reduced to a relatively small number of very high-density integrated circuits, without which the entire enterprise would be impractical at best. As it is, the ICs not only cost less to build than the footlockers, but work better, too.

The Future

Although CD player and disc prices will almost certainly drop substantially over the next few years, initially they will probably be around \$1,000 for players and \$5 to \$18 for discs. That's a lot of money in a



The CDP-101's controls are more like those of a cassette deck or VCR than of a conventional turntable. To the far left are POWER, TIMER PLAY (for automatic start-up from an external timer), a HEADPHONE LEV-Et. control (which does not affect the main outputs), and a headphone jack. The "transport" controls proper are grouped to the lower right. PLAY sets the mechanism into operation at the beginning of track one. The PAUSE, just below it, works much the same as do similar controls on tape decks: One press, and it halts playback; another, and play resumes from where you left off. A pair of keys labeled MUSIC SEARCH enable you to step forward to the start of the next track or backward to the beginning of the current one. There are also four manual SCAN buttons that enable you to search forward or backward for a particular point on

a disc. (In PLAY, you will hear disconnected snatches of music picked up as the laser flies across the disc; PAUSE mutes the output, but otherwise has no effect on the SCAN function.) Scan direction and speed are indicated by arrows on the keys: double arrows for fast forward or reverse, triple arrows for still faster scanning.

About midway up the right side, just under the display, is a row of six small buttons. The first, labeled RESET, functions like the reject on a turntable, taking the machine out of PLAY and returning the laser to the beginning of the disc. The next four control the CDP-IOI's REPEAT functions. Pressing the key labeled 1 lights a small LED in the button and causes the player to repeat the current track until the key is pressed again (which also extinguishes the LED). The ALL button works the same way,

except that it causes the entire disc to be repeated. MEMORY enables you to repeat continuously any segment of a disc, beginning with the point where you push the key the first time and ending at the point where you press it again; to return to normal playback, you simply push CLEAR. The last button, at the far right, is TIME, which switches the MINUTES/SECONDS display at the top of the faceplate from elapsed time for the current track to time remaining on the disc; a second touch restores elapsed time. There are also a MUSIC NUMBER display (indicating the selection being played), a DISC SET lamp that blinks when a disc is being loaded or unloaded and glows steadily when the disc is in position, a RECEIVED lamp for command confirmation, and a SCAN legend that glows when the search or remote's direct music select is working.

The CDP-101 comes with a battery-powered infrared remote control that duplicates almost all of the front panel controls (except TIME, OPEN/CLOSE, and POWER). In addition, the remote has a direct access keyboard that enables you to select any track you want to hear simply by keying in its number and pressing START. When you enter the desired track number, it will replace the current track number on the display and the MINUTES/SECONDS display will go blank. If you realize at this point (before pressing START) that you have made an entry error, you can start over by pressing CLEAR. When you press START, the laser will move to the selected track and the elapsed time indicator will come back on. If you do not press START within six seconds, the system will automatically clear your selection and the displays will once again reflect the status of the track in progress.



world where the average selling price of a complete stereo system is \$600 and people wince at a \$9 price tag on an LP. For audiophiles, however, who are now willing to spend as much as \$18 for a high-quality analog pressing, these prices should not seem extreme. Indeed, small audiophile labels will probably not survive the competition from Compact Discs: The digital recording you invest in today should sound the same indefinitely, a claim that even the most deluxe vinyl pressings cannot make.

Despite the theoretical advantages of digital playback, I was skeptical about the system before I had the opportunity to spend time with the CDP-101. That much complexity just to play a record seemed like overkill. Trying to assess my feelings now, I am reminded of a meeting I attended some time ago with Sony founder and chairman Akio Morita. In response to a question about the future of the Compact Disc (then still under development), he replied: "Once you get used to digital sound, there is no going back." He was right! Seeing, feeling, and (most of all) hearing is believing. The CDP-101 has a way of melting one's doubts. Everyone here who's used it wants one of his (or her) own. And so, I think, will you.







The New Generation of Personal Portables

HF checks out eleven of the season's most intriguing—and affordable ultralightweight portable radio and tape systems. by Peter Dobbin



SHARP

AUDIO EDITORS HAVE ALWAYS had a tough time coming up with holiday gift-giving suggestions. Though a new receiver or turntable would undoubtedly be a welcome present, they're hardly feasible additions to a gift list that's already over budget. It must be admitted, somewhat shamefacedly, that our solutions to the problem in years past have been less than ideal: Giving a friend or relative a bottle of antistatic fluid doesn't really communicate much holiday cheer, after all. Happily enough, personal portables make our job—and yours—a lot easier this year.

Anyone who has ever slipped on a pair of ultralight headphones and listened to a portable stereo cassette player, radio, or combination of the two knows how remarkable these units can be: They supply fullrange stereophonic playback with natural tonal balance, all from a system that fits in your palm and runs on a couple of AA cells. Indeed, it has been our experience that the sound from personal portable systems is often better balanced than the sound from home audio setups that are not as well designed.

What makes personal portables particularly attractive as gift items, however, rests less on their performance than on their price. When introduced some two years ago, personal portables were not inexpensive. The overwhelming market acceptance of the speakerless portable format, combined with vigorous competitive pressures, however, soon worked to erode the initial pricing. A quick glance through the audio ads in a major city Sunday newspaper gives evidence enough of how affordable personal portables have become. Cassette-based models that once sold for \$110 to \$175 can now be bought for \$50 to \$65, and radioonly portables that once fetched up to \$100 can be had for \$35 to \$60. If even that stretches your holiday budget, there are several inexpensive accessories available that enhance the usefulness of the compact players.

The best buys in personal portables are usually older models, whose longevity in the market has resulted in deep discounts. In fact, many of the thirty-seven models we reported on in August, 1981 ("The Personal Portable Revolution") are still available, though their "list" prices seem oddly anachronistic today. The eleven models and accessories that we report on here are all relatively recent introductions, selected on the basis of their features and performance. The suggested retail prices we include along with our short, hands-on evaluations might, therefore, seem a bit steep compared to those of older units. A bit of shopping, however, will disclose just how quickly even new models are discounted.

New Directions

In the sixteen months since our initial report, personal portables have gone through some interesting changes-not in basic sound quality (which remains high, overall), but in the range of their built-in functions. Last year, it was decidedly uncommon to find recording capability in a personal portable; now it can be had at various prices and configurations (via built-in or external mikes, in addition to direct recording from radio-equipped models). Speakers are the basic limiting factor in most portable equipment, and their omission (in favor of headphones) was initially responsible for the success of personal portables. External speakers, however, are showing up now as accessories-or, in some cases, built right into the back of the portable player or recorder! Radio-only players have also gone through a number of refinements, with miniaturization the byword in these little wonders. And "kangaroo" systems-portable units that plug into a speaker-equipped "base station"-seem to be proliferating. We even report on a combination unit that includes a color TV receiver-in its base station, of course.

The widespread inclusion of noise reduction in personal portables is one development we had hoped to see. Unfortunately, changes on that front are slow. The 3volt Dolby-B IC chip is still too new to appear in this year's models, and the 6-volt circuit is used in only three rather weighty units: Sony's Professional Walkman (for recording and playback) Infinity's Intimate (for playback only; see test report, August 1981), and JVC's CQ-1K (for playback only). DBX noise reduction, which *is* available on a 3-volt chip, has already made its bow in Panasonic's RQ-J20X, as yet the only portable player to include it.

One noise reduction approach that we were particularly keen on seeing in portable gear was National Semiconductor's Dynamic Noise Reduction (DNR) system. Audio historians may remember Dick Burwen's DNF (dynamic noise filter) circuit, which was eventually acquired by KLH, which in turn licensed it to National Semiconductor for squeezing onto a single integrated circuit. We were particularly impressed by the DNR chip in its first application as a home audio-video noise reducer in the Advanced Audio Systems Model DNR-450 (test report, May 1981). When Technidyne announced last year that it was planning to include this single-ended (no encoding necessary) device in a personal

portable, we were delighted. So far, however, the Technidyne unit has failed to materialize, and the only broad-base use of the chip has been in car stereo systems.

One final note about personal portables and battery life. We are frankly quite amazed at the number of people we've spoken to who claim that portable cassette players are unreliable: Wavering pitch and distortion after only a few hours of use are the usual bugaboos. Interestingly enough, those ailments quickly respond to treatment: namely, a fresh injection of batteries. In order to keep size and weight to a minimum, manufacturers have turned to small, but short-lived, AA cells as a power source for personal portables. Our informal tests show that three to four hours of continuous tape play is the maximum you can expect with 3-volt, AA-cell power sources. Companies such as Sony and Aiwa address this energy crisis by including an external 3-volt battery pack with some of their models: Powered by two longer-lived D cells, the battery pack provides ten to twelve times greater playing time.

Aiwa HS-J02

A superbly designed device, the HS-J02 does almost everything right. Though a shade on the heavy side, it makes up for the weight in its range of features, which



include an AM/FM-stereo tuner, record/ playback capability, and automatic bidirectional playback. There's even a button that lets you change cassette "sides" in midplay. The unit's recording functions are particularly well-planned. First, there's direct recording from stereo FM. And, though it lacks built-in microphones, the Aiwa comes equipped with two external mikes (in a single housing) that plug directly into a pair of jacks on the recorder's chassis. To minimize motor-noise pickup and increase effective microphone sensitivity, the mike module can be detached from the recorder. (A supplied cable then makes the connections.) There's even a foam windscreen for outdoor recording.

While the HS-J02's escutcheon proud-

ly proclaims that it will handle metal tape, the machine is equipped with 70-microsecond equalization only in playback. For recording, equalization and bias are optimized for Type 1 ferric tapes. There's tape noise reduction here, as well—but only in playback and not by one of the Dolby-DBX-DNR triumvirate. Though we can't be sure how it operates, Aiwa's approach is effective in reducing tape hiss with minimal treble attenuation.

Other niceties of the compact unit include a telescoping antenna for times when the headphone-cord antenna is insufficient, an external D-cell battery pack (to supplement the internal AA cells), folding headphones, and a water-resistant zip-up carrying case. Price of the HS-J02 is \$220.

Sony WM-D6

Though Sony's WM-D6, known as the Walkman Professional, satisfies two of the criteria Sony itself developed for personal portables (battery-powered operation, and



playback via high-efficiency headphones), it falls short on another count: At 26 ounces, it's hardly a lightweight. But the tradeoff is significant: The WM-D6 is capable of making true high fidelity recordings in stereo.

In fact, Sony seems to have elevated the personal portable to a whole new level of performance with the Professional. It's equipped with Dolby-B noise reduction, a quartz-locked transport to keep speed accurate, manual recording-level controls (as opposed to the usual automatic one), an LED level meter, and both 70- and 120microsecond record and playback equalization. And it's affordable: Though the \$350 list may seem stiff, it's less than half the cost of Sony's own top-notch TC-D5M portable cassette recorder.

The recordings we made on the WM-D6 were all quite good; indeed, we noted with some pleasure that this is probably the first personal portable that's really able to record on high-bias tapes.

The Walkman Professional comes equipped with a pair of headphones, a set of adapter cables (stereo miniplug to double phono plug) for line-out playback or line-in recording at home, and a carrying case. Microphones are extra, and for long-range economy, the optional rechargeable battery pack that replaces the supplied battery clip is probably justified.

Sanvo MG-4

Judging by the popularity of the MG-4 around our office, Sanyo's decision to include a pair of speakers in this record/ playback model was a smart move, indeed.



Though the response from these "stereo' speakers is a bit restricted for music, they're a terrific convenience for voice playback. The Sanyo's built-in stereo mikes proved quite adept at recording a recent meeting we attended, and in playback the ambience created by the stereo recording proved a real plus in helping identify who was speaking. Plugging in the supplied headphones automatically disconneets the speakers, and operated as a traditional personal portable, the MG-4 sounds quite on par with other models. The MG-4 requires two AA cells and costs \$180.

Panasonic RQ-J20X

If we hadn't heard it for ourselves, we wouldn't have believed that a 12-ounce portable could sound so good. The explanation is simple: Panasonic's RQ-J20X is the first



personal portable to incorporate the recently developed 3-volt DBX chip.

For classical music listeners, the inclusion of DBX tape-decoding circuitry makes possible thunderous crescendos and delicate pianissimo passages, all without the annoyance of tape hiss. Pop music also benefits from the dramatic noise reduction offered by DBX: Though many pop recordings exhibit little dynamic range, the drama of noise-free playback heightens any musical experience. Panasonic claims an astonishing signal-to-noise ratio of 81 dB at 1 kHz with the DBX on and a creditable 56

dB with the circuit off. Playback of unencoded tapes is possible via a DBX on/off switch. The RO-J20X sells for \$140.

Mura Hi-Stepper Executive

We can't corroborate Mura's claim that the Executive is the smallest FM-stereo portable radio on the market, but its dimensions are diminutive indeed. Less than 1/2-



inch thick and a hair under 4 inches high. this 21/2-ounce unit can easily pass unnoticed tucked into a shirt pocket

To emphasize its portability, Mura includes a pair of tiny speaker "plugs" in lieu of standard headphones. Though they store easily in a pocket, we found them a bit troublesome in use. Short of jamming them into the ear canal (which we didn't do and don't advise attempting), the earplugs seemed to stay put only during activities that did not involve much head or body movement-which just about rules out the Executive as a jogging companion.

A bit less sensitive than larger tuners, and possessing only fair immunity to alternate-channel interference, the Mura seems most happy when operating in a stationary position and tuned to a strong signal. For the desk-bound business person who wants a relaxing funchtime listening break, the Executive may prove a boon companion, indeed. The Executive costs \$60.

Besser MF-3G

Although a newcomer to these shores. Taiwan-based Besser Electronics has already impressed us with one of its initial offerings-a tiny (41/4 by 2 by 3/4 inches)



A nicely designed leather pouch (with a belt loop) and a set of particularly finesounding headphones complete the \$60 package. The MF-3B (pictured here) is functionally identical to the deluxe model. but lacks the rechargeable cells; it is a bargain at \$40.

Sharp QT-19

"Kangaroo" systems are not particularly new, but Sharp's QT-19 is an especially attractive example of the genre. At home, it's an AM/FM-stereo radio and cassette



player combination with two detachable speakers. Press a button, however, and the cassette-player/FM-receiver section pops out to become a personal portable, leaving behind the speakers, the AM tuner, and the amplifier.

Although the external speakers are not particularly smooth sounding, they do play loud enough to fill a small room, and the QT-19's performance as a portable is above average. The unit comes equipped with an AC adapter to power the base station; alternatively, you could run it from six D cells. The ensemble is available in a choice of two color combinations-silver/blue or red/ black-and costs \$230.

Audio Source LS-6

Powering external speakers from the minuscule output of a personal portable doesn't make for thunderous sound pressure levels, but Audio Source has chosen to



(Continued on page 98)

AUDIO/VIDEO Environments

Bringing technology home

by Christine Begole

Setting Your Receiver Priorities

BEING CONSIDERED A HERETIC by my technophile friends is something 1've grown accustomed to. I'm a music lover, and 1'm fascinated by the magic of high technology put to musical ends. It's my nature, however, to ask practical questions, and if I can't perceive the difference some new computer-age feature or design has made in a component, I tend to be skeptical about calling it an "improvement." Indeed, to my way of thinking, some older, more traditional approaches to audio componentry are preferable to some of today's dazzling, costly Star-Wars marvels.

Consider the newest crop of receivers, which range from simple, traditional models to computer-controlled behemoths. For fear of missing out on some "revolutionary" new features, the purchaser of the latter may find himself with a receiver that looks impressive but really doesn't sound any better than a simpler design. Furthermore, the plethora of controls may prove irrelevant to his needs and irksome to operate. Which brings us to rules Nos. One and Two. First, regardless of how convincing a salesman might be, he does not know what you need as well as you do-or should. Second, shop with your fingers. Why? The only way to separate the helpful from the useless, the easy-to-operate controls from the needlessly complicated ones, is to get some hands-on experience.

During a recent browsing session, I examined several of the most exotic new receivers, with an eye to determining for myself the practicality of their features and controls. But first I made sure I knew what I wanted. I don't have the space for a gargantuan receiver, and thanks to a reverberant room and efficient speakers, I doubt I'll ever need more than 60 watts of power. I like the sleek, streamlined looks of an allmetal chassis, without festoons of gingerbread lights and buttons all over. And though I like the convenience of "power steering" controls. I stop short of wanting every function to be microprocessor-controlled. Here's how the rest of my shopping notes read:

1. Graphic equalizers on receivers are beyond my patience. I generally leave the tone controls on my current receiver in the flat position. My floor-mounted speakers are placed to give me bass solidity and treble clarity, and I let the recordings I listen to stand or fall on their own merits. I have friends who fiddle and fuss with their graphic equalizers for hours to achieve the "perfect" tonal balance, but I have neither the time nor the inclination.

2. Built-in clocks and programmable timers are no doubt essential for avid offthe-air tapesters, but any dubbing 1 do is disc to cassette, so I don't need them. And, since my old clock radio still does an admirable job of rousing me every morning. 1 see little reason to pay extra for that capability in a receiver.

3. Station presets are a definite plus. I have a handful of FM stations I tune to regularly, and being able to find them at the touch of a button is a real convenience.

4. Reverberation amps and mike/line mixing are helpful to performers who occasionally use their home systems as PA rigs or who like to mix their own voices with recordings. With my singing talents reserved for the occasional campfire. I think I can pass on these.

5. Electronic tuning is a nice idea, but be careful. The speed of the scan modes varies from model to model and brand to brand.

On some receivers, fast scan seems to take forever to get from one end of the band to the other. On others, it's so fast that only the most dexterous finger can lift quickly enough to stop the scan within a few digits of the desired frequency. Again, shop with your fingers—it's the best way to find the speed that suits you.

6. Electronic volume controls, which also use a microprocessor-mediated touch pad, frustrate me. By the time my brain has relayed the "stop!" message to my fingers, the volume has increased or decreased significantly above or below the level I wanted in the first place. Attaining the ideal volume thus becomes primarily a trial-and-error process. I have more precise and predictable control over the volume level with an old-fashioned continuously adjustable rotary knob.

7. Power output displays fascinated me the first time I saw them, but experience has proven them to be of no practical value. Little green and red LEDs flashing in time to the music are nice at a disco, but I really don't need them in my living room.

8. Tape-to-tape dubbing capability in a receiver is a plus for me. I'd like to purchase a second cassette deck soon, and with a tape dubbing switch on my receiver, I'd be able to copy cassettes with a minimum of fuss.

What this all adds up to is that a middle-of-the-line receiver is fine for me: I don't need all the bells and whistles that appear in the top-of-the-line models. Before deciding on one brand and model, however, I'll have to finish my homework. Measurements will have to be taken to see if a particular model will fit in my audio cabinet. And yes, I'll even turn to my "techie" friends for their opinions on comparative spees.







VIDEO TODAY & TOMORROW. VideoFronts

Latest video news and products



Minolta, a name long associated with quality photographic equipment, has entered the video market with a complete portable system consisting of two color cameras, a lightweight recorder, a multi-function tuner, and an adapter/charger. The K-2000S camera (top, right) uses a metaloxide semiconductor image sensor in place of a pickup tube for greater resistance to after-image tailing during quick pans and to burnout under strong light. The camera has a f/1.4 lens with a 6:1 power zoom ratio (12.5 to 75 millimeters focal length), but a C-mount adapter lets you use any Minolta SLR lens. The K-2000S weighs in at a scant 3¼ pounds and costs \$2,150.

Minolta's K-700S camera—with a Saticon tube in place of the MOS sensor is lighter still. The company claims that advances in tube design and microelectronics have made it possible to include an integral electronic viewfinder and boommounted unidirectional mike and still keep the total camera weight down to $3\frac{1}{2}$ pounds. The K-700S costs \$1,150.

The V-700S (\$1,150) recorder has four-heads for the best possible picture quality in the SP, LP, and EP modes. A power-saving function on the VCR is said to reduce battery drain by about 20%. The T-700S tuner/timer (\$500) is capable of eight-event, twenty-one-day programming and comes with a multifunction wireless remote controller. The tuner/timer also serves as an AC adapter and recharger for the companion V-7000S recorder; alternatively, the AC-700S adapter (\$150) will permit VCR operation via house current while its battery is recharging. *Circle 66 on Reader-Service Card*

A 3½-pound Nicad battery pack housed in a slim plastic case, the Marathon Model 10 from Enerlite Products is claimed to provide up to eight hours of power for portable video gear. Rated at 12 volts output, the unit comes with a recharger and is said to be capable of sustaining up to 1,500 charge/ discharge cycles. The manufacturer states by the Editors



that other rechargeable 12-volt power sources typically weigh about twice as much and are capable of withstanding onetenth as many rechargings. The Marathon Model 10 costs \$170 and carries a one-year limited warranty.

Circle 67 on Reader-Service Card



A cabinet only slightly wider and deeper than a typical 25-inch console makes Sylvania's latest big-screen television, the RSB-400, appropriate for living room placement. Its 40-inch black matrix screen is said to afford a particularly bright and clear image. The unit has a two-channel audio amplifier and dual speaker systems, each with a 6-inch woofer and 2-inch tweeter. Electronic tuning, 112-channel reception capability, and a wireless remote control are also included in this \$2,800 system,

Circle 65 on Reader-Service Card



A total of 133 channels (VHF, UHF, and cable mid-, super, and hyperbands) can be accessed with NEC's frequency synthe-

sized TU-831EN tuner/timer. The \$550 unit offers one-day/one-event programmability, a full-function wireless remote control, a built-in three position video-audio switcher, stereo audio inputs and outputs, and tone and balance controls. A 10-key direct-access system is used to select the channels.

Circle 64 on Reader-Service Card



The sleek look of bronze-colored tempered glass and hardwood veneer characterizes the Elite Industries EL-3 Home Entertainment Center from Apres Audio. Available in oak, walnut, teak, or rosewood, the EL-3 has three adjustable shelves, a finished back panel, and outlets for wiring. Dimensions are 32 inches high (with casters) by 49 inches wide by 18 inches deep; price is \$320.

Circle 63 on Reader-Service Card



A multiple-function video control center introduced by Compuvid combines imageenhancing circuitry, a video stabilizer, and fader control. The versatile unit has a threeposition input selector and provides four outputs. The video fade-to-black circuit, with its synchronized audio fade, is a professional feature not usually found on consumer gear, according to Compuvid. The MB-802 is priced at \$450. *Circle 62 on Reader-Service Card*

HANDS-ON REPORTS

Vidicraft Proc Amp and Showtime Video Ventures VV-170S Stabilizer

Two handy video accessories that tackle some very common problems with picture quality



These Hands-On Reports were conducted under the supervision of Edward J. Foster, Consulting Technical Editor of HIGH FIDELITY and Director of Diversified Science Laboratories.

Vidicraft Proc Amp

ONE OF THE MOST INTERESTING video accessories we've come across lately is Vidicraft's Proc Amp video distribution amplifier (\$350). The basic function of this handy little device is to distribute a single video input to as many as four other devices (VCRs, etc.) without signal loss. But along the way, it also enables you to reprocess the video signal to correct or alter luminance level, chroma gain, and phase.

For example, you can use the Proc Amp to correct a video signal when copying it from one tape to another or from disc to tape. Other applications include correcting the inaccuracies sometimes caused by a video camera's automatic luminance and color correction systems under unusual lighting eonditions; adjusting contrast, hue, and saturation for, say, a video projection system; copying onto as many as four recorders simultaneously without loss of signal strength; creating smooth fades to and from "video black"; and fine-tuning hue and color saturation. The system can be powered by AC line current or, for location work, a 12-volt battery.

Because the Proc Amp operates on the NTSC composite video signal, rather than an RF modulated signal, it must be connected between a direct video source and a video monitor, recorder, or whatever. It cannot be used between a single, self-contained home VCR and a standard TV receiver unless you have a separate RF modulator (which Vidicraft, incidentally, also offers) to remodulate the signal for input to the TV set. Fortunately, the owner's manual is detailed and well written. Browsing through it before you buy will give you a good indication of what you can and can't do with the unit.

All video connections—a single video input and four outputs—are made via pin jacks on the rear apron. You must supply your own cables. The four front-panel controls are labeled according to their technical functions, rather than by the usual nomenclature (e.g., CHROMA GAIN as opposed to "color"). Their applications are straightforward, however, and you get to learn what a TV set's contrast, hue, and color controls really do.

A four-position MODE switch selects among OFF, COLOR, BYPASS, and MONOchrome. BYPASS routes the signal around the Proc Amp circuitry, enabling you to make A/B comparisons between the processed picture and the original. COLOR is the normal operating mode, and MONO is intended to remove the color subcarrier, leaving a black-and-white picture. Faint color bars roll through the picture in this mode, but they disappear when we reduce chroma gain (or color) to minimum.

A color TV picture is created with two signals: luminance, which determines the brightness at each point on the screen, and chroma, which paints color over this blackand-white image. The strength of the luminance signal determines the brightness ratio between the lightest and darkest sections of the picture. Contrast is controlled on the Pro Amp by means of Luminance Gain. When this circuit is at its detented center position (marked "unity"), luminance is neither increased or decreased. Turning the control progressively counterclockwise reduces luminance by as much as 40 dB, fading the screen to black. (Although the automatic video-gain control on some VCRs will return the blacked-out screen to neutral gray, the picture will still disappear.) In this way. Luminance Gain can be used to create smooth fades for editing.

Advancing the control clockwise increases luminance by as much as 6 dB (a factor of two). The front-panel meter shows the luminance level as a percentage ratio of the brightest to the darkest portions of the picture and is relatively unaffected by the overall strength of the composite video signal. A normal, viewable picture registers 75% to 100%; a screen faded out to black has no luminance and so produces a reading of 0%. A luminance reading of more than 100% indicates picture saturation, which results in a loss of normal contrast between colors. You might want to experiment with the control, though: Driving luminance to more than 100% can create some interesting special effects.

Color quality is governed by two controls: CHROMA GAIN and CHROMA PHASE. In the NTSC system, the color information phase modulates a 3.58-MHz subcarrier. A color burst transmitted with the video signal serves as the reference for demodulation. Changing its phase by means of the Proc Amp's CHROMA PHASE alters the demodulation, shifting the hue from green at one extreme to purple at the other (just as the hue or tint control of a conventional TV set does). The degree of color saturation depends on the strength of the chroma signal, which is established by the CHROMA GAIN—equivalent to the color control on a standard TV set.

Each control has a center detent position which passes the chroma signal through unaltered. CHROMA GAIN can vary the chroma level from -36 dB (resulting in an essentially black-and-white picture) to \pm 8 dB (for extra saturation). The CHROMA PHASE spans a \pm 35-degree range, from green to purple.

Vidicraft's Proc Amp does its job well. We detect no loss in picture quality due to the processing, and the fade-out and color-correction controls are quite handy when dubbing a tape or recording from a camera. Although most TV sets have fullrange contrast, hue, and color controls that enable you to correct many recording errors while you're viewing, a tape that's properly recorded using the Proc Amp will need no correction and should exhibit better luminance and chroma signal-to-noise ratios. *Circle 93 on Reader-Service Card*

Showtime Video Ventures VV-170S Stabilizer

IF YOU'VE PLAYED a lot of prerecorded video tapes on your VCR, you've no doubt come across a few that just don't seem to stabilize on your TV set: The picture either rolls or shakes, or bends to the right (flags) at the top, or perhaps there's a jagged pattern over the entire screen.

In most cases, these problems can be traced directly to copyguarding, a process used by manufacturers to discourage unauthorized duplication of video cassettes. Essentially, part of the video signal is reduced so that the loss inherent in dubbing a tape will lower the signal below the threshold needed to provide a stable picture. Unfortunately, even in authorized use (such as straightforward viewing) copyguarded tapes won't play back properly on many older TV sets, which have less sophisticated circuitry. Also, many new sets don't have manual vertical and horizontal hold controls, which can be used to cure minor cases of weak picture signals. Showtime Video Ventures' VV-170S Stabilizer (\$212) is designed specifically to remedy these problems.

Understanding how the Stabilizer works requires an overview of how a video signal becomes a TV picture. A composite video signal comprises two main elements—picture information and signal synchronization (sync) pulses. It's the job of the sync pulses to make sure all the picture information ends up on the TV screen at precisely the correct place and time.

The TV picture itself is formed by a rapidly moving beam of electrons that causes phosphor dots on the inner surface of the screen to emit light whenever they are hit. The beam moves down the screen in a series of horizontal sweeps and then returns to the top and starts over again. For the picture to make sense, the scanning beam must be synchronized with the video picture signal; this is the function of the sync pulses,



which return the beam to the screen's left edge, and prepare it for the next sweep across the screen.

After vertical pass (called a field), a series of pulses returns the beam to the top of the screen (during what is called the vertical sync interval) and correctly positions it for the first line of the next field. It takes twenty times as long for the beam to go from the bottom of the screen to the top as it does to retrace from right to left. Thus a series of horizontal sync pulses are required to hold the picture steady during this vertical sync interval. Most copyguarding techniques modify the shape of the pulses during this interval, which results in various visible forms of picture instability.

All video stabilizers regenerate and reinsert the vertical sync signal. Showtime contends, however, that most neglect to regenerate the horizontal sync pulses during a portion of the vertical sync interval and therefore may not clear up the aforementioned flagging and jagged patterns. The VV-170S is designed to restore both vertical and horizontal sync signals.

The device can be permanently connected to two VCRs. There are two inputs (designated A and B) and two outputs (1 and 2, which carry the same signal). You choose which signal is sent to the outputs via a four-position SELECTOR. Either input can be processed for stabilization (IN A and IN B positions) or can be routed to the outputs without stabilization (Bypass A and Bypass B positions). There is also a LOOP THRU output that is connected directly to the selected input, for bypassing all of the VV-170S's circuitry.

The VV-170S processes direct video signals, not RF signals, and therefore must be connected to the VCR's direct video outputs. If you intend to view the stabilized picture on a standard TV receiver, you'll need to pass the signal through an RF modulator. You can, however, connect the stabilizer output directly to a video monitor, or—if you use it to make copies—to a slave VCR (the one onto which you are dubbing).

All connectors on the VV-170S are Ftype coax fittings—a rather strange choice, in our opinion, for a system that processes direct video signals. Usually, F connectors are used for RF connections, pin jacks for video. Although the sparse instruction sheet warns that the system processes video signals only, we'd not be surprised to find many a videophile feeding it RF because of the connectors. At the very least, it's necessary to use conversion cables.

Operating the stabilizer is quite simple. Select the desired source, turn on the power, and advance the STABILIZE control until the LOCKED indicator glows steadily. If you select the AUTO mode, the process is even simpler: Just turn it on, and the system locks at any setting of the STABILIZE control. Showtime warns that in the automatic mode the system may fail to lock onto some copyguarded cassettes; it therefore provides manual operation as well.

In our tests, using a number of prerecorded tapes from various sources, the system always locked automatically. In fact, it proved more reliable in the automatic mode than in manual. Either way, it does an excellent job of stabilizing the picture on those copyguarded cassettes that had given us trouble.

Circle 92 on Reader-Service Card

VIDEO **Q.&A.**

Your video questions answered

Q. I've been trying to record the output of my color computer on my VCR (a JVC HR-7300U), but nothing seems to happen. People tell me the TV output signals of a computer are different from the standard broadcast-TV signals normally handled by VCRs. Is that true, and is there anything I can do to record them?—Chet Heyberger, La Center, Wash.

A. It's hard to give you a definite answer without knowing more about your computer. Some color computers are designed to deliver independent red, green, and blue signals for the RGB inputs of a video monitor; others combine the signals onto a single NTSC color subcarrier, as used in broadcast television. Ordinary VCRs work only with the latter type.

If your computer can be connected to a standard color TV set via an RF modulator (which places the output on one of the VHF or UHF channels) and will provide a color picture under those circumstances, your VCR should accept its signal. Connect the VCR tuner to the computer through the latter's RF modulator and connect a color TV set to the VCR in the normal fashion. Set the VCR's tuner to the channel the computer transmits on (your instruction manual will tell you which), and then switch the TV set to the VCR's output on Channel 3 or 4. Turn on the VCR and adjust its tuner for the clearest picture. If you get a decent color picture, the VCR should be able to record it.

Q. Some friends are planning to videotape an amateur movie. Because I'm an audio buff, I've been put in charge of the sound. I have not worked with the sound equipment used in videotaping. What do you suggest I use?— Donald Schmidt, Jamesbury, N.J.

A. I assume that you want to use something other than the camera's built-in mike. The main thing to keep in mind is that you probably won't want to have microphones visible in your picture. Thus, you'll have to work farther from the sound source, using directional microphones.

If the action is not particularly lively and takes place in a small area, you can probably get by with a few discreetly placed cardioid mikes. The more movement, the more you'll have to move the microphones back to ensure that they're not visible. In an action-filled scene, then, you may need

DECEMBER 1982

Portsmouth, New Hampsnire Useun

10 I I I I I

by Edward J. Foster

highly directional shotgun microphones.

Professional productions use a mobile mike boom to follow the main action. If such an elaborate setup is beyond your means, you will have to make do with fixed microphones. You'll need a number of them, each covering a specific area of the stage, and a mixing console. Rather than physically moving the mikes to keep up with the action, you adjust the mix so that the microphone closest to the action is always active. This takes a deft hand at the controls, so I strongly suggest a few rehearsals. Keeping an action script at the mixing console for reference is a good idea, too.

Be sure to suspend the microphones freely so that they do not pick up floor vibrations-in other words, avoid floor stands. And route the cables so that they are out of sight and out of the performers' way. The mikes needn't have as wide a bandwidth for recording voice as they do for music, nor is dynamic range of paramount importance. Home VCRs usually have a nondefeatable automatic gain control (AGC) that establishes the audio recording level. Nonetheless, you will have to experiment to determine the best audio level to feed the deck. For example, if the level coming from the mixing console is too low, the deck's electronics may add a good deal of noise; if the level is too high, the AGC will always be compressing the sound, which can result in an unnatural quality. In any case, I suggest you use the VCR's linelevel audio inputs, rather than the microphone jacks.

Q. There are a number of video tapes in my collection that I'm tired of viewing and want to reuse. I know that I can simply record over the video programming now on the tapes, but I've heard that ''bulk erasers'' do a much better job of erasing the signal completely. Is this true?—Bruce Schenley, Atlanta, Ga.

A With all the tapes I've used over the past several years, I've noticed no real difference between those erased in my VCR and those done using a bulk eraser. The obvious advantage of a bulk eraser is that you can wipe the tape clean in one quick pass. On the other hand, if you want to save any of the programming on a video tape, using the VCR's erase head is your only option—the bulk eraser would wipe out everything.



standard of comparison. And with good reason. We are one of the largest sellers of video equipment with SONY, JVC, Panasonic, Hitachi, Advent, and over 25 other major lines in stock. And because we carry one of the largest inventories of video equipment, we must sell at below competitive prices. So, if you are looking for video tape recorder/players, blank and pre-recorded video tapes, color and black-and-white video cameras. video games, home computers, color televisions, video discs, projection (giant screen) televisions and video accessories of any kind, call the others first, get their best price. Then call us last. We won't match it . . . We'll beat it! Phone Toll Free 1-800-327-0596 In Florida (305) 940-7542 17866 IPCO ROAD • (N E MIAMI FL 33162 Sth AVE INTERNATIONAL WHOLESALERS OF MIAMI, INC. 17866 IPCO ROAD (N E SIN AVE) MIAMI FL 33162 Send \$2.00 for our 192 page catalog, covering our prices on all major manufacturers. \square LAST FIRST INTIAL STREET CITY STATE ZIP CARD NO EXP. DATE PHONE OR WRITE US FOR THE LO PRICES WHERE! WE GLADLY HONOR AMERICAN Ress, visa or master card by phone MAIL.

Circle 34 on Reader-Service Card

Drive, Plainview, N.T. Flous

55

VIDEO Tubo Food

Bach's "Choruses": The Record Cleared by Joshua Rifkin

In our September issue, Joshua Rifkin presented the thesis that the majority of Bach's "choruses" would originally have been sung one singer to a part. At our invitation, Robert Marshall responded in October. Rifkin was to have had the final word last month, but we were unable to keep pace with production schedules. Here, then, is Rifkin's reply.

To obtain a copy of the fuller response Rifkin refers to, please send a large self-addressed envelope, with \$1.00 for postage and handling, to Classical Music Editor, High Fidelity, 825 Seventh Ave., New York, N.Y. 10019.—Ed.

ROBERT MARSHALL'S "Bach's 'Choruses' Reconstituted" attempts to vindicate the traditional assumption that Bach regularly had three singers reading from each part in the choruses of his vocal works. Lacking direct evidence for this unwieldy arrangement-eyewitness descriptions or indications in the parts themselves-he must seek to establish its existence through other sources: documents that supposedly fix at twelve the number of singers with which Bach performed at least one sizable portion of his vocal output, the Leipzig church cantatas. To make these documents do his bidding, however, he misrepresents or simply ignores much of their testimony.

To take just one example, Marshall illustrates his essay with a reproduction of a list that he calls "Bach's . . . description of the choral forces in the Leipzig churches ... '' Although he does not comment on it, he obviously means the list to prove that Bach had twelve singers at his disposal for cantatas. In fact, it proves no such thing. As scholars have long recognized-I mention this only because Marshall puts such great stock in prevailing views-the list sets forth Bach's requirements: what he thought he should have, not necessarily what he did have. Should anyone doubt this, I might point out that the supervisor of the Thomasschule, whose comments on the list we still possess, explicitly characterized it as a statement of needs. These needs, moreover, had nothing to do with the performance of cantatas; a related passage in Bach's Draft for a Well-Appointed Church Music makes it absolutely clear that Bach wanted twelve in a choir so that illness among his pupils would not prevent the singing of eight-part motets-with one singer to a part. The official size of the choirs, as established in the regulations of the Thomasschule, stood at eight each. Marshall overlooks this point; perhaps he does not believe it. If so, the illustration accompanying this article should persuade him otherwise.

Marshall does, though, have me at a disadvantage. Virtually every sentence of his long and diffuse article contains a misrepresentation of the facts or probabilities on the order of the one just examined, and I could not even begin to set the record straight in the minimal space granted for this reply. It would take several hundred words, for example, to show just how Marshall has constructed the centerpiece of his case-the quotations from the Draft in. which Bach ostensibly tells us "what he had"---by combining statements that originally had nothing to do with one another, and mistranslating them to boot. In the present context, therefore, I cannot do much. Mindful that I have a newly issued record to defend, I shall offer a proper rebuttal only to Marshall's remarks on the B minor Mass; for the rest, I must let his arguments go unanswered. Thanks, however, to a generous suggestion of the editor's, those interested in the whole story can write to this magazine for the text of a fuller response that I submitted along with this brief note. I might also draw readers' attention to an expanded version of the exchange between Marshall and myself that has already begun to appear in the English journal The Musical Times and-further down

the pike—to the future publication of a monograph, *Bach's Chorus*, by Harvard University Press.

Marshall begins his discussion of the Mass with the following observation: "It is exceedingly doubtful that the entire Mass was ever performed during Bach's lifetime . Nor is there any evidence that the Kyrie and Gloria were ever performed by the Dresden chapel before Bach's death. Therefore it is presumptuous to claim to know anything about the 'original' perfor-er said anything about any "original" performance of the Mass, I don't quite understand what Marshall has in mind here. I do think, though, that we can fairly claim to know something of what Bach would have expected, even intended, a performance of the Mass to sound like.

To begin with, Bach did submit a set of parts for the Kyrie and Gloria to the Elector of Saxony; and since these parts contain all the information typically found in his materials—including, for instance, continuo figures painstakingly entered in his own hand—we must surely assume that he meant them for use. As I already noted in my first article, the set has only one part for



arrival at Leipzig. The sentence starting at the bottom of the first page contains the words "the schoolboys who assist at the divine service are divided into four choirs, each of whose eight [members] are chosen by the cantor with approval of the rector. each of the five voices, and nothing in these parts even comes close to implying the addition of ripienists to the vocal lines. On the contrary, several features make such an addition look improbable in the extreme.

The transition from the "Domine Deus" to the "Oui tollis" offers a case in point. The former movement calls for Soprano I and Tenor, the latter for four voices: Soprano II. Alto, Tenor, and Bass. Modern performances underscore the shift from two parts to four with a shift from solo to choral forces; yet the parts show no trace of such a change. The tenor bears the heading Duetto at the start of the "Domine Deus," which confirms that Bach meant this number for two soloists. But at the "Qui tollis" --- which follows without so much as a bar line-no further marking appears. A ripienist reading from the part could scarcely have known to sing at this point, nor could a conductor other than Bach very well have known to cue him, since Bach had not left a copy of the score in Dresden. By the same token, a copyist could not have prepared a separate ripieno part either. We must also remember the apparent paucity of tenors in the electoral chapel. Marshall argues, "the fact that the Dresden chapel listed only one tenor among its members may mean only that there was just one musician at the court whose primary function was to sing as tenor. . . . Other choral tenors could well have been listed according to their principal function in the chapel-as players of this or that instrument, for example. Musicians of the time were expected to be versatile." Not only do the parts give us no real warrant to look for other tenors in the first place; however, but we have word from Bach himself on the level of versatility expected from members of the Dresden chapel: "Each person," he wrote in the *Draft*, "has to master only a single instrument." Marshall, incidentally, knows this statement: he quoted it in an article published six years ago.

Since the second half of the Mass survives only in score-and since Bach evidently did not conceive the music in terms of a specific institution-we do not have so complete a basis for determining its forces as with the Kyrie and Gloria. Nevertheless, I see no reason to assume that Bach envisioned ripienists as part of the vocal complement. After all, he could more readily have included them in a work like this than in one tied to the limitations of particular circumstances. Yet nothing in the autograph even hints at their use; and given the precision with which Bach indicates vocal scoring in the manuscript-I provide some details in the notes to the recording-we cannot take the omission lightly. I might observe, too, that at least one knowledgeable eighteenth-century musician appears to have read the autograph as calling for single voices. When C.P.E. Bach performed the Credo at Hamburg in 1786, he

had only five voice parts copied, and none of them gives any indication that more than one singer would have read from it.

A final detail concerns the Sanctus. Bach originally wrote and performed this movement as an independent work. In its earlier form, the music called for three sopranos, one alto, one tenor, and one bass, for each of which Bach provided a single part. An attempt to fit these forces to the choir Marshall tells us Bach "normally" had will come up either with a grotesque imbalance between upper and lower voices—or with an ensemble including only one singer for each line.

In the light of all this, Marshall's contention that "there is ... no objective historical or documentary basis for a performance of the Mass in B minor by a quintet of voices" rings hollow. Indeed, what basis does Marshall have for a performance by anything more? As I have already intimated, words such as tutti and chorus appear nowhere in the autograph score or in the vocal parts to the Kyrie and Gloria. Even in the unlikely event, moreover, that Bach did perform his Leipzig sacred cantatas as Marshall claims, this hardly says anything about the Mass, none of which has any demonstrable connection with the Leipzig churches. To put the shoe on the proper foot, therefore, the burden of proof as regards the B minor Mass, at least, rests with those who would add a chorus to it.

I must leave it to readers to judge whether a performance of the Mass without the chorus for which Bach never asked does, as Marshall asserts, "compromise the very design of this monumental masterpiece," or whether Bach's written-in contrasts between movements for five voices with a full body of instruments and those for one or two voices with only strings and at most one woodwind obbligato do not in themselves make that design perfectly clearand whether, indeed, adherence to the letter of Bach's scoring does not produce a more richly gradated range of "colors, textures, and densities" than the all-or-nothing approach of what has become the traditional scoring can achieve. The recording, I might note, has made every effort to preserve the balance of a live performance-the producers did not twist one knob to "enhance" the singers' contribution.

No one, of course, has to stop listening to the music performed in the way to which we have all grown accustomed, any more than we need stop playing Bach on the piano or even forswear Stokowski's transcription of the D minor Toccata and Fugue next to which, come to think of it, a rendition on a baroque organ might also sound "anemic," even "an eccentric travesty," on first acquaintance. But we also have no need to justify such pleasures, or preferences for them, with dubious appeals to the historic record.

Allinei/ audio with a state of the state of
CASSETTE TAPES SONY UCS-X 90 NEW HIGH BIAS TAPE-** 26.00/10 SONY SHT-90 STANDARD BIAS TAPE-** 26.00/10 SONY SHT-90 HIGH BIAS TAPE 27.00/10 SONY FER-90 HIGH BIAS TAPE 28.00/10 SONY FER-90 HIGH BIAS TAPE 28.00/10 TDK NMA-C90 METAL CASSETTE TAPE 38.00/10 TDK SMX-C-90 NEW PREMIUM TAPE 38.00/10 TDK SMX-C-90 OPTINUM STD. BIAS 27.00/10 TDK SMX-C-90 OPTINUM STD. BIAS 27.00/10 TDK SMX-C-90 NUPER AVALIN TAPE 24.50/10 TDK C-900 SUPER AVALIN TAPE 20.00/10 BASF PERFORMANCE C-90 QUALITY TAPE \$16.00/10 BASF PERFORMANCE C-90 QUALITY TAPE \$16.00/12 BASF PERFORMANCE C-90 LUTE DYNAMIC 22.00/12 MAXELL C-90 LN LOW NDISE TAPE **** \$23.50/12 MAXELL C-90 LN LOW NDISE TAPE ************************************
REEL TO REEL TAPE TDK LX-35-90 NEW 7IN. \$60.00/10 TDK LX-35-90 NEW 7IN. 170.00/10 MAK ELL UD-35-900 ULTRA DYNAMIC 7" 57.50/10 MAK ELL UD-35-900 SAME ON 10 1/2" 153.00/10 MAK ELL UD-XL-35-90B BACKDATED XL 69.50/10 MAK ELL UD-XL-80B SAME ON 10 1/2 198.50/10 SCOTCH 207R-90 POLY-POSITRAK 55.00/10 SCOTCH 207 R-180 10 1/2 IN 192.00/12
VIDEO TAPE TDK L-500 BETA TAPE \$100.00/10 MAXELL L-750 BETA TAPE 130.00/10 BASF T-120 VHS 2-4-6 TAPE 120.00/10
AUDIO TECHNICA CARTS. SHURE CARTRIDGES MODEL 155-LC \$105.00 V-15 TYPE 4 WRITE MODEL 140-LC 66.00 V-15 3 HE \$70.00 MODEL 125-LC 49.00 W-97 HE 49.00
AUTOMOTIVE STERED PIONEER KE-2100 ELECTRONIK READUT SWRITEI PIONEER KE-2100 DIGITAL DECK ************************************
HEADPHONES S33.00 SONY MDR-50T NEW SUPERLIGHTWEIGHTS \$33.00 KDSS MODEL HV-K STEREDFHONES ***** 41.50 KDSS MODEL HV-K STEREDFHONES ***** 49.50 SENNTEISER HD-40 NEW LIGHTWEIGHTS 20.00 SENNTEISER HD-224 SUPERB LISTENING 80.00
send for free catalog Name Address City State Zip illinoi, Qudio 12 East Delaware Place Chicago 60611
Phone Now (312) 664-0020 TOLL FREE (800) 621-8042

A Good Year for the British

Sir Michael Tippett and John Ward are among the big IRCA winners in Spain—and the judges don't fare badly themselves. by James R. Oestreich

AFTER LAST YEAR'S harrowing adventure with the international mails, this year HIGH FIDELITY was able-with generous help from various Spanish public and private agencies-to reinstate the meeting of judges for the International Record Critics Award. Sessions took place in late August. in the Spanish North-Coast resort city of Santander, in conjunction with the concluding week of its thirty-first annual international festival of music and related arts. During our stay we heard festival performances by Frans Brüggen, sounding strangely frail and aloof, on baroque flute and recorder; the Dresden Philharmonic. not (by any means) to be confused with that city's Staatskapelle Orchestra, under Czech conductor Jiří Bělohlávek; and on a somewhat higher level, the London Philharmonic in two concerts under Spanish conductor Jesús López-Cobos-Mozart's Prague and Mahler's Titan Symphonies, and the Brahms German Requiem.

Thanks especially to the ministrations of Spanish judge José Luis Pérez de Arteaga-who, alas, fell ill midway through the proceedings-the week's events generally ran smoothly, though from beginning to end there were moments of high drama. Our first night was spent at the Palace Hotel in Madrid; as we prepared the next afternoon to depart for Santander, French judge Alain Fantapié gallantly came to the aid of this bedraggled American, sorely burdened under a heap of luggage that included the two sets of Bartók recordings destined for a special award, two liters of duty-free bourbon, to fuel late-night discussions (of records, of course), and an apparently mysterious-looking flat parcel in plain brown wrapping. Even before I yielded that parcel, it had captured the attention of an unsavory character loitering about the hotel lobby. Now Fantapié's kindness was cruelly rewarded: Said vagrant physically attacked him and stole the package, though the dapper Frenchman quickly recovered his breath and composure, overtook the culprit, and reclaimed the booty. We left the crazed assailant in custody of the national police, who tendered profuse apologies. So far as we could determine from his paranoid ravings, he was a Scotsman whose mother, a wealthy prostitute living in the hotel, had refused him an audience. As only I knew, the object of all the scuffling, now with its wrapping torn to shreds, was HF's certifi-



At the award ceremony (foreground from left): Sir Michael Tippett, jury president José Luis Pérez de Arteaga (with Swiss judge Pierre Michot directly behind), and Oestreich

cate for last year's special award to the Spanish Ministry of Education and Science, framed and ready for presentation at this year's final ceremony.

And as for that ceremony, attended by the Spanish minister of culture and, as it happened, award-winner Sir Michael Tippett, it had been scheduled to take place in the Santander casino on Saturday, August 28. But on Friday night the casino employees went on strike; we feared yet again for Pérez de Arteaga's health. The affair was, however, smoothly shifted to an equally appropriate setting in the luxurious Hotel Real.

The regal treatment and lavish repasts accorded by our Spanish hosts-most notably, the national ministry of culture, the Cantabrian regional council, the Santander city council and festival, and the Spanish confederation of savings banks-led some of us to suspect that the ubiquitous photographers were preparing "before" and "after" shots, to show the damage of a week in Spain on the susceptible waistline. One "lunch"-following tons of "appetizers" (which we had regrettably taken to be the whole meal) served during an excursion on the Bay of Biscay-was confined to a manageable three-and-a-quarter hours, or so, only because we decided to forgo the meat course (or courses; we didn't ask). Ever polite, we maintained our good humor

Judges

Alain Fantapié, France Edward Greenfield, Great Britain Harry Halbreich, Belgium Ingo Harden, Germany Alfred Hoffman, Romania Pierre Michot, Switzerland James R. Oestreich, United States José Luis Pérez de Arteaga, Spain

through all these travails—if not always in our closed sessions.

The basic problem in arriving at the appointed three—or even four—awards this year, it was widely agreed, was that the list of nominees was exceptionally strong. Still, to a point, the sifting and winnowing went swiftly. On one hand, there never seemed any doubt that Tippett's King Priam would win either the IRCA or the Koussevitzky Award, whichever vote came first. On the other, a few items were eliminated forthwith: the Bartók Concerto for Orchestra and Dance Suite, which no one considered an improvement over Solti's 1965 recording; Marriner's Haydn Seasons, a performance Fantapié termed "very pleasantly boring"; Hogwood's Mozart Symphonies, Vol. 5, continuing the series that won the award last year; the Rochberg Con-

The Fifteenth Annual High Fidelity/ International Record Critics Awards



TIPPETT: King Priam. Robert Tear. Thomas Allen. Norman Bailey; London Sinfonietta, David Atherton. LONDON LDR 73006 (3).



WARD, J.: Madrigals, 1613. Consort of Musicke. Anthony Rooley. OISEAU-LYRE D 238D2 (2) tdistributed by PSI/ Polygram Classics. Inc.).



gur I want a sp

FAURÉ: Pénélope. Jessye Norman. Alain Vanzo: Monte Carlo Philharmonic, Charles Dutoit. ERATO STU 71386 (3).



MOZART: Piano Concertos Nos. 5, 25. Murray Perahia: English Chamber Orchestra. CBS MASTERWORKS IM 37267.



cord Quartets-seemingly devised on the theory that one can't have too much of a good thing, namely, late-Beethoven quartets-whose reactionary compositional style elicited such widespread distaste that any praise for the performances and recording became academic. In some cases, it came down to a choice between paired entries. That Swiss conductor Charles Dutoit has made great strides in recent years was generally acknowledged, and in fact, one of his two nominated recordings (Pénélope) did finally win, virtually excluding the other (Daphnis). Similarly, the two Dohnányi/Silja recordings representing composers of the Viennese School went hand in hand throughout, but to no ultimate result.

Thereafter, things became stickiermost painfully, for me, in the field of early music. To the two Archiv recordings that had received overwhelming support from the nominators-Purcell's sacred choral works and "German Chamber Music Before Bach"-two jurors added their "special" choices: Fantapié the Gilles Requiem, and British judge Edward Greenfield the Ward 1613 Madrigals. Neither particularly expected a final award, yet both wanted to call attention to important if modest releases and give the other judges some pleasurable listening along the way. Hard put to choose from among four excellent nominations, I settled upon the chamber music. Because it had already garnered so many awards, however, and because there were doubts (none from me) as to the real worth of its repertoire, it received little backing. Only half-grudgingly, therefore, I shifted my support to the Gilles, but by this time Fantapié had already abandoned his choice. Thus, to ensure an award for at least one of these fine recordings, I finally joined the Ward contingent, fully appreciating the

Serge and Olga Koussevitzky International Record Award



 ŢĂRANU: Ghirlande. Cluj Ars Nova

 Group. Cornel Țăranu. ELECTRECORD

 ECE 01806.

magnificent work, past and present, of Anthony Rooley's Consort of Musicke and reveling in the "discovery" of this advanced composer ("the Tippett of his time, or one of them," according to Greenfield)—yet regretting the concomitant slight to the two ground-breaking efforts by the Cologne Musica Antiqua.

Another makeshift "category" arose in the course of discussions. In view of the tendency of such juries to reward esoterica-repertory the critic wants to hear or the collector needs to fill out his library-a collective determination arose to give at least one award to the kind of recording an average buyer might encounter, one of the factors in the decision to grant a fourth award. An early contender was the Granados Spanish Dances, Pérez de Arteaga's special choice. De Larrocha has traveled this road before, of course, and well, yet several judges shared my experience: In the final pressured days before the sessions, having to cram in whatever we didn't know from the IRCA and Koussevitzky lists, we kept sneaking an extra hearing of the Granados; it's that kind of record. Other possibilities were the Perlman/Giulini Beethoven violin concerto, the Ravel Daphnis, and of course, the Perahia Mozart piano concertos that ultimately won.

And so, the voting: The Tippett opera recording, whose support had never lagged through the nominating stages or the sessions, was selected-virtually by acclamation-in the first round. Fauré's Pénélope (Greenfield: "an ideal work for the gramophone"; see Patrick J. Smith's review elsewhere in this issue) and Ward's madrigals (copious thanks from all to Greenfield for exposure to this music) mustered a majority in the fourth round, and the Mozart concertos finally broke through in the sixth. Other recordings that received votes (roughly in the order of their support): Martinu's Greek Passion (backed to the end by Belgian juror Harry Halbreich); Ravel; "German Chamber Music''; Granados (Pérez de Arteaga: "De Larrocha is arriving at a moment of glory after the development of the last five or six years"); Karajan's Mahler Ninth (universally admired, if not necessarily considered superior to the benchmark Giulini DG recording that won a 1977 award); the Beethoven concerto (Greenfield: "a leap forward for Perlman, the violinist of our generation"): Gilles (Romanian judge Alfred Hoffman: "my kind of music"); and the Schoenberg vocal works (Fantapić: "turns Erwartung into a revelation").

At the risk of appearing to carry a torch for the label, I named a Hungaroton release as my special choice for the second straight year. Last year I added the Hungarian recording of Goldmark's *Queen of Sheba* to the list of nominees, thinking that it at least belonged in that company, even if it didn't merit a final award. This year my (Continued on page 96)

Other Recordings Nominated

BARTÓK: Concerto for Orchestra; Dance Suite. Chicago Symphony, Georg Solti. LONDON LDR 71036.

BARTÓK: Piano Works. Zoltán Kocsis. Philnes 9500 876.

BEETHOVEN: String Quartets (6), Op. 18. Alban Berg Quartet. EMI ELECTROLA IC 157-43090/2 (3).

BEETHOVEN: Violin Concerto. Itzhak Perlman; Philharmonia, Carlo Maria Giulini. ANGEL DS 37471.

BERG: Wozzeck. Anja Silja, Eberhard Wächter; Vienna Philharmonic, Christoph von Dohnánvi. LONDON LDR 72007 (2).

DEBUSSY: Estampes; Images. Claudio Arrau. PHILIPS 9500 965.

GILLES: Requiem. Ghent Collegium Vocale, Cologne Musica Antiqua, Philippe Herreweghe. ARCHIV 2533 461.

GRANADOS: Danzas españolas (12). Alicia de Larrocha. London CS 7209.

HAYDN: Die Jahreszeiten. Edith Mathis, Siegfried Jerusalem; St. Martin's Academy, Neville Marriner. PHILIPS 6769 068 (3).

HAYDN: Songs (complete). Elly Ameling, Jörg Demus. PHILIPS 6769 064 (3).

LISZT: Songs (44). Dietrich Fischer-Dieskau, Daniel Barenboim. DEUTSCHE GRAMMOPHON 2740 254 (4).

MAHLER: Symphony No. 9. Berlin Philharmonic, Herbert von Karajan. DEUTSCHE GRAM-MOPHON 2707 125 (2).

MARTINU: The Greek Passion. John Mitchinson, John Tomlinson; Brno State Philharmonic,

Nominating Committee

AUSTRALIA Ian C.K. Woodward, Spins 'n' Needles

BELGIUM

Harry Halbreich, Harmonie, La Croix, Belgian Radio

Roger Hofmans, De Standaard

BULGARIA

Dimiter Zenginov, Bulgarska Muzika

CANADA Jurgen Gothe, International Music Guide, CBC

FRANCE Alain Fantapié, Diapason

GERMANY

Ingo Harden, Preis der deutschen Schallplattenkritik

Wolfgang Seifert, Musikmarkt, Neue Zeitschrift für Musik, West German Radio

Gerhard Wienke, Preis der deutschen Schallplattenkritik

GREAT BRITAIN

John Crabbe, Hi-Fi News and Record Review Edward Greenfield, The Guardian, Gramophone Nicholas Kenyon, London Times

Robert Layton. Gramophone, BBC

ITALY Mario de Luigi, *Musica e Dischi* Umberto Masini, *Musica* Charles Mackerras. SUPRAPHON 1116 3611/2 (2). MASSENET: Werther. Frederica von Stade, José Carreras; Royal Opera, Colin Davis. Phillips 6769 051 (3).

MOZART: Symphonies Nos. 34, 35. Concertgebouw, Nikolaus Harnoncourt. TELEFUNKEN 6.42703.

MOZART: Symphonies, Vol. 5. Academy of Ancient Music, Jaap Schröder, Christopher Hogwood. OISEAU-LYRE D 171D4 (4).

MOZART: Die Zauberflöte. Lucia Popp. Edita Gruberová; Bavarian Radio Symphony, Bernard Haitink. ANGEL DSCX 3918 (3).

PURCELL: Choral Works. Christ Church Cathedral Choir, English Concert, Simon Preston. ArcHIV 2723 076 (3).

RAVEL: Daphnis et Chloé. Montreal Symphony, Charles Dutoit. LONDON LDR 71028.

ROCHBERG: String Quartets Nos. 4-6. Concord Quartet. RCA RED SEAL ARL 2-4198 (2).

SCHOENBERG: Erwartung; Songs (6), Op. 8. Anja Silja; Vienna Philharmonic, Christoph von Dohnányi. LONDON LDR 71015.

TIPPETT: Symphony No. 4; Prince Charles Suite. Chicago Symphony, Georg Solti. LONDON LDR 71046.

WAGNER: Der Ring des Nibelungen. Peter Hofmann, Donald McIntyre; Bayreuth Festival, Pierre Boulez. PHILIPS 6769 074 (16).

WEILL: Songs (14). Teresa Stratas, Richard Woitach. NONESUCH D 79019.

GERMAN CHAMBER MUSIC BEFORE BACH. Cologne Musica Antiqua, Reinhard Goebel. ARCHIV 2723 078 (3).

JAPAN Toshio Oka, *Stereo Sound, Stereo Geijutsu* Kenji Tsumori, *Asahi Shimbun*

THE NETHERLANDS Jan de Kruijff, Elseviers, HiFi Video Test

ROMANIA

Alfred Hoffman, Muzika, România Literară

SPAIN

José Luis Pérez de Arteaga, Reseña, El País, Spanish Radio

SWEDEN Bengt Pleijel, Musikrevy

SWITZERLAND Pierre Michot, Journal de Genève, Gazette de Lausanne

UNITED STATES John Ardoin, Dallas Morning News Jay Carr. Detroit News Peter G. Davis, New York Thor Eckert, Jr., Christian Science Monitor Kenneth Furie, Kevnote David Hamilton, The Nation Harry Haskell, Kansas City Star R. Derrick Henry, Commonweal Paul Hertelendy, San Jose Mercury News HIGH FIDELITY staff and contributors Lawrence B. Johnson, Milwaukee Sentinel Tim Page, New York Times, WNYC Teri Noel Towe, American Record Guide, WKCR, WBAI Michael Walsh, Time James Wierzbicki, St. Louis Globe-Democrat

Sixty-Eight Years of the Berlin Philharmonic

Lavish recorded salutes to the orchestra's centenary summarize a history of symphonic performance practice in our century. Reviewed by Joseph Horowitz



Wilhelm Furtwängler conducting the Berlin Philharmonic in a recording session

IN 1882, FIFTY-FOUR MUSICIANS broke away from the Bilsesche Kapelle, an orchestra drawn from a pool of up to 150 overworked, underpaid players, with the intention of providing Berlin with a permanent, self-governing ensemble worthy of comparison with Hans von Bülow's famous Meiningen orchestra, which in those days put Berlin's symphonic standards to shame. A century later, Meiningen's orchestra is unknown to the world at large, and it is the Berlin Philharmonic—as the new orchestra came to be called—that sets standards for Germany.

This past fall, as part of its centenary celebrations, the Berlin Philharmonic gave concerts in New York and Pasadena. The centenary has also been lavishly saluted by the two record companies with which the orchestra has been most associated. EMI has produced a five-disc box, and DG has come out with *six* boxes containing thirtythree records. These seven sets more than pay tribute to a 100-year tradition of fine music-making; given the centrality of the orchestra, and of its pantheon of conductors, they summarize a history of performance practice culled from the heartland of the mainstream symphonic repertory.

It is a point of no little significance that the orchestra has had only four principal conductors, each of whom could plausibly be considered the leading Central European *Chefdirigent* of his time: Following Bülow (1887–93), there was Arthur Nikisch (1895–1922), then Wilhelm Furtwängler (1922–54), then Herbert von Karajan. And the lineage of this lineage binds it to the repertory itself. Bülow was a protégé of Liszt and Wagner, a colleague of Brahms, a mentor to Richard Strauss. Nikisch, as an orchestral violinist, played under Liszt, Wagner, Brahms, Verdi, and Bruckner. In fact, one need only add the name of Wagner, who as much as anyone originated the notion of the orchestra leader as controlling interpretive mastermind, to encapsulate the full progression from "Romantic" to "modern" baton practice.

It is precisely this progression that is so generously documented by the Berlin centenary sets. With regard to Wagner and Bülow, we must rely on written descriptions to infer what their interpretations sounded like. But Nikisch left recordings that illustrate and reinforce much of what the written accounts show. In particular, there is Wagner's espousal of tempo fluctuation as a means of extracting the songlike melos underlying musical discourse. As Nikisch's discs reflect, Wagner's method prescribes much more than slowing down for subsidiary lyric material or accelerating toward a presto coda; one corollary of pervasive tempo instability is a pervasive undermining of the bar line as a standard stress point. For Furtwängler, such pulse manipulations, while never as freewheeling as in the present Nikisch recordings of Beethoven. Berlioz, and Liszt, remained indispensable interpretive equipment.

In this regard Karajan, who worshiped Toscanini in his youth, is the great simplifier. If, in the recordings under review, Nikisch's improvisatory gear-changes throughout Liszt's First *Hungarian Rhapsody* (1920) define one extreme, the other is represented by Karajan's 1977 versions of Mozart's Fortieth Symphony and Beethoven's Fifth, in both of which the most entrenched tempo modifications—final cadential ritards in the Mozart, rhetorical distensions at the beginning and end of the Beethoven—are pointedly minimized or abamdoned.

A second generalization safely surmisable from sixty-eight years of Berlin Philharmonic recordings is that executant standards are more consistently pristine today than in the past. Karl Böhm traverses the *Merry Wives of Windsor* Overture (1936) with all the crispness and textural transparency he achieves in the *Jupiter* Symphony and *Don Juan* twenty-six and twenty-seven years later. But the swallowed notes, rhythmic imprecisions, and sloppy ensemble of Erich Kleiber's Mozart and Mendelssohn (both 1928) contrast sharply with his tidy LPs. Under Oskar Fried, the spirited Berliners are never overmatched by the *Fire-bird* Suite (1928), but a dozen or more American orchestras currently render the *Firebird* with more polish.

Unfortunately, there is another side to this shiny coin: The spic-and-span sameness of the Philharmonic's stereo-era performances narrows its gamut of styles and sounds. It will surprise no one that a regular feature of the earliest recordings is a use of portamento that enhances the spontaneity, lilt, and expressive range of the strings. The decline of the orchestral portamento, now much lamented, partly reflects a misguided perfectionism: Compared to directing massed stepwise motion, the razor-sharp coordination of thirty-five violin slides is a daunting task. To survey the recordings at hand is to confront additional costs exacted by latter-day premiums on accuracy and precision. More than in the heyday of Toscanini (or Reiner or Szell), we appreciate that orchestral perfection is a mixed blessing. But is it rather a mixed curse?

A basic reference point for both the EMI and DG sets, as for any phonographic history of the conductor's art, is Nikisch's Beethoven Fifth (1913)-the first complete recording of a symphony. Given the cramped studio conditions and thin, murky sonics, this offers no proof of Nikisch's much-attested hypnotic presence, nor could it. What the recording does show, and well, is the plasticity of Nikisch's Beethoven. As with Wagner, in his essays, or with Furtwängler, greater excitement generally mandates greater volume and speed, but this correlation is never gross or vulgar. Instead, there is the impression of spontaneous emotion being freely, rather than restrictively, channeled. The channels are broadest in the scherzo: Nikisch begins well under tempo, then gradually accelerates. More surprising is the trio, which accelerates as its theme ascends from the lower to the upper strings. Taken as a whole, the performance is exciting, robust, and sensible. Another Nikisch recording, of the Roman Carnival Overture (1920), more than hints at the charged brilliance he could activate at full throttle.

Purists may object that Nikisch's machinations violate the letter of the score, but the evidence is ambiguous: Judging from descriptions by Schindler and others, Wagner's theories of tempo flux may have roughly coincided with Beethoven's practice. A surer, if unhelpful, generalization is that the Wagnerian formula can be put to uses that are good, bad, or indifferent-and that the same holds for the Toscanini formula. Of the post-Nikisch performances here, the most tempo instability is found in those conducted by Hans Pfitzner, Leo Blech, and Bruno Walter. I cannot altogether say why, but in the Beethoven Eighth (1933). Pfitzner's manipulations seem merely wayward or unsure. Blech's Siegfried Idyll (1922), however, is lovable.



Arthur Nikisch: free, spontaneous emotion

More than any other I have encountered, this is the version that evokes Wagner's other Siegfried-his only son, born six months before the Idvll was first presented to Cosima as a Christmas-morning birthday surprise. The violins' portamentos, variously connoting coy fun and dreamy lassitude, contribute to a portrait of innocence in which are narrated the mother's lullaby and the infant's drowsiness and slumber. Blech's seeming abhorrence of imperious control over pulse or any other performance variable underscores an aura of vulnerability. Without being put off, 1 find myself somewhat less seduced by Walter's performances of the Coriolan and Hebrides Overtures (1924), in both of which the play of tempo and rubato is looser than in anything he committed to LP. Like Blech's, Walter's interpretive profile is potently humble, songful, and sweet. In the Hebrides coda, he interpolates a terrific accelerando that, given the extemporaneous élan of the reading as a whole, carries no hint of calculated brilliance.

The early recordings of Hans Knappertsbusch and Böhm do not greatly alter postwar impressions. I like the imperturbable dignity of the Knappertsbusch Les Préludes (1942); others will be bothered by the ensemble imperfections and slow tempos. Knappertsbusch's Wagner excerpts (1928) are variable. The Meistersinger Act I Prelude is loose-jointed and wan: the Act III excerpts, of which the Prelude unfolds in arching, serenely distended phrases (his 1950 performance on Richmond 65002, also memorable, beats time more regularly), suffuse a consecrating warmth. Böhm's version of the same Act III Prelude (1936), while cleanly shaped and gorgeously played, does not issue from the same calm depths.

The buoyancy, freshness, and unsentimentality of the three recordings by Richard Strauss affirm his trademarks as a conductor. Even if someone else had composed the Dance of the Seven Veils, Strauss's caustic rendition (1928) would seem definitive. By comparison, Walter's (1929) is mild, and most present-day performances are bloated or irrelevantly flamboyant.

At the summit of the Berlin Philharmonic discography are its recordings in concert and in the studio under Furtwängler. Here, both DG and EMI have chosen well. The Schubert Ninth (1951) and Schumann Fourth (1953) are among the most celebrated symphonic performances on disc. The Beethoven Fifth (1947) is from Furtwängler's emotionally charged first postwar concert with his orchestra. The Pathétique Symphony, a Furtwängler specialty, is represented by his 1938 studio performanceless devastating but more balanced than the 1951 concert version on DG Privilege 2535 165. Till Eulenspiegel illustrates his graphic portraiture in Strauss and-though the coarse reproduction leaves much unrevealed-the unpretentious virtuosity and wealth of nuance he already elicited from the Berlin Philharmonic in 1930. His plastic, ecstatic Bruckner is well documented by a concert version of the Seventh Symphony (1951). Both Wagner overtures-Die Meistersinger (1949), warm and festive, and Tannhäuser (1951), showing that the Venusberg saturnalia, truthfully rendered, can equally account for Tannhäuser's lust and Wolfram's manly fear-are the finest I have heard (and should not be confused with Furtwängler's Vienna Philharmonic studio performances on Seraphim 1B 6024). Of the two versions of the Good Friday Spell, DG's 1951 concert performance attains an awesome climax where Gurnemanz would sing "Entnimm nun seinem Haupt!"; the 1938 studio performance, with woodwinds more recessed, is the more heartrending.

While all these interpretations demonstrate Furtwängler's penchant for tempo manipulation, to label him a "Romantic" and group him with Blech or with Walter in his prewar phase would be misleading. Rather, in the Nikisch-to-Karajan progression, Furtwängler is a pivotal figure who strikes a balance between old and new. The reason is simple yet eludes simple explanation: He combines extreme tempo and temperamental flux with a steady projection of encompassing structure.

A sample vignette close at hand, because Karajan's EMI recording (1957) sets it off, comes at measure 172 of the finale of Schumann's Fourth Symphony, where both conductors interpolate an accelerando. Karajan's makes sense as a local event: With a rocketing coda coming up, he is flashing a "fasten your seat belts" sign. But Furtwängler's gear-change seems dictated less by what comes after than by what has gone before: For some time we have been awaiting it with our seat belts fastened tight. The entire symphony, for that matter, unfolds in a single unified gesture under Furtwängler's baton. Schumann's redundant rhythmic patterns never sound perfunctory, as in Karajan's performance and this not merely because of the players' tireless intensity, but because, like the firstmovement exposition repeat and the silences between movements, they are made necessary parts of a master plan.

How did Furtwängler do it? We know he worked extensively with theorist Heinrich Schenker, whose specialty was reducing entire symphony and sonata movements to core linear and harmonic progressions. And Furtwängler's recordings do demonstrate an unsurpassed command of longrange harmonic tension. (In Schumann's Fourth, he holds the fermata at the end of the first movement fully twice as long as Karajan; and yet it is in Karajan's performance that the second movement could begin at any time, whereas Furtwängler's pause is so packed with dissipating tension that the second movement begins as soon as it can.) But I am sure Furtwängler's structural gift also owed much to something oldfashioned and intuitive: fearless absorption in a binding idea.

A superb case in point, because Furtwängler extracts a binding idea where others seem to blame the composer for not having one, is the first movement of Tchaikovsky's Pathétique Symphony. There are two principal themes, the first restless, the second the famous melody for muted strings marked "teneramente, molto cantabile, con espansione." Conductors who can't resist swooning over the latter make it the very trademark of Tchaikovsky's sentimentality. Others, embarrassed by it, try imposing better behavior with a straitjacket. Furtwängler imbues the first theme with desperation, the second with Weltschmerz. As these emotional states act upon one another, the intense sadness they share is unbearably magnified. The movement's central ffff explosion, a passage Donald Francis Tovey calls "undoubtedly the climax of Tchaikovsky's artistic career," sets off an avalanche of lamentation. The subsequent reprise of the second theme is shrunken, dazed. In the coda, Furtwängler's ability to subvert the bar line-the entire twenty-measure span is made to comprise a single, pregnant phrase-engenders a suspenseful calm: not a denouement, but a holding action intimating the work of the finale, in which the first movement's complementary emotional motifs are resumed and consummated. In making the Pathétique Symphony a wrenching psychological statement, Furtwängler vindicates Tchaikovsky, who thought it his most honest work and who died, a possible suicide, six days following the premiere.

Furtwängler's achievement is again thrown into sharper focus by a Karajan recording of the same work (1976). Here, the first movement's two themes are grim and benign. The sudden mood shifts arising



Furtwängler: absorbed in a binding idea

from this more or less conventional antinomy promote a theatrical reading. The fortissimo chord that begins the development, for. instance, comes as a shattering surprise. Under Karajan, the *Pathétique* yields a thrilling performance. Furtwängler convinces us that we have heard a great piece of music.

To complement its selection of non-Furtwängler performances from the Furtwängler years, DG has selected a list of "eminent guest conductors" from the Karajan era: Claudio Abbado, Böhm, Ferenc Fricsay, Eugen Jochum, Rafael Kubelik, Lorin Maazel, and Mstislav Rostropovich. As with the Furtwängler recordings, good choices have been made: Every conductor makes a strong showing. The most important recordings here are Kubelik's Schumann First Symphony (1963) and Jochum's Bruckner Fourth (1965), about which more in a moment. Then there is a more variable DG box featuring "celebrated soloists," in which the outstanding recordings are the Gilels/Jochum Brahms Second Piano Concerto (1972) and the Kempff/Leitner Emperor Concerto (1961).

The symphonies Kubelik and Jochum conduct have much in common. Schumann's, sketched four months following his wedding, celebrates spring. Bruckner's, his first in a major key, was likewise said by its composer to contain elements of a Romantic pastorale. Both are commonly subjected to massive readings. Under Kubelik and Jochum, both are found to thrive on sunlight and fresh air. In the Schumann, the misleadingly thick scoring, sometimes made a pretext for grandiose effect, is minimized. In the Bruckner, structural problems are subdued by means of flexible tempos and imaginatively adjusted dynamics and balances. Compare Jochum's smiling integration of the first movement's second subject, whose chirping treble Bruckner once likened to the forest tomtit, to Karajan's attempt, in his EMI version (1970),

to burden it with weighty exaltation.

The Kempff/Leitner Emperor is another buoyant reading, taken from a seminal Beethoven-concerto set insufficiently known in this country. Not the least of the recording's attractions is its truthful engineering: A plausible balance is struck between piano and orchestra. And the musical collaboration, brimming with color and textural diversity, is itself unusually productive. The Brahms B flat is remarkable for Emil Gilels' protean generosity of tone, sentiment, and gesture. At the same time, surveying these four splendid modern performances against a historical backdrop, I find that the earlier recordings cast a long shadow. In terms of string tone, Furtwängler secures a range of nuance, timbre, and weight that makes the string playing under Kubelik, Jochum, and Ferdinand Leitner sound bland. In terms of sheer commitment, the later performances are distinctly less galvanic.

Of the Berlin Philharmonic's presentday conductors, it is of course Karajan who attains a tonal depth and consuming purposefulness commensurate with the orchestra's finest prestereo recordings. But what mainly impresses about Karajan's work, set beside his predecessors', is his narrow interpretive range. He does not smile and he does not weep. If he were an actor, he would specialize in suave, imperative types-as Svengali, he would be titanic. His wand and black cape are so daunting that one does not ask whether Karajan suits the music at hand, but whether it suits Karajan. Personally, I find Offenbach too cheerful, Johann Strauss too gemütlich, Haydn, Mozart, Mendelssohn, and Bruckner too innocent. (Those who think Karajan a redoubtable Brucknerian are referred to Tovey's admonition: "Listen to it . . . with the humility you would feel if you overheard a simple old soul talking to a child about sacred things.")

Karajan is more receptive, it seems to me, to the stark metaphysical landscapes of Also sprach Zarathustra (1973), which he renders with mesmerizing intensity. Another orchestral showpiece, the Mussorgsky-Ravel Pictures at an Exhibition (1966), receives a supremely menacing performance in which the unhatched chicks dance at the bidding of a poker-faced puppeteer, and "The Catacombs," "Baba-Yaga," and "The Great Gate of Kiev" incarnate the Russia of Rasputin. Also to Karajan's liking is the stern, striding energy of the Bruch G minor Violin Concerto (1980). which he invests with Brahmsian majesty and thrust (and in which his protégee Anne-Sophie Mutter indisputably proves she is one of our major violinists). Finally, Karajan thrives on Beethoven's curled-lip pride and defiance as embodied in the Fifth Symphony (1977), the Triple Concerto (a 1979 performance softened by Yo-Yo Ma's extrasensory cello playing), and by proxy, Brahms's First Symphony (1978).

The Fifth Symphony is particularly well served. As if determined not to deflect the taut rhythms or douse the hellbent fury he infuses, Karajan uses his wizard's command of color, balance, and nuance to mold an interpretation founded on rock-steady tempos. The dark, burnished sonorities, anchored by the Berlin Philharmonic's long-admired cellos and basses, evoke Furtwängler. Unique to Karajan, however, are the smooth, lustrous surfaces within which these sonorities are encased. Some will prefer less sheen and more grit. But what I chiefly find missing in Karajan's formulation of Beethoven's struggle-to-victory scenario is, again, a full gamut of feeling-embracing, in this instance, a degree of jubilation or ecstacy, leading to a freer. more liberating catharsis at the close.

To sum up my findings: In some ninety

BERLIN PHILHARMONIC: 100 YEARS.

Berlin Philharmonic Orchestra, various conductors. EMI ELECTROLA 1C 137-54095/9, \$39.90 (mono, *stereo; five discs, manual sequence) [from various originals, 1913–70] (distributed by German News Co., International Book and Record Distributors).

BEETHOVEN: Symphony No. 5, in C minor, Op. 67 (Arthur Nikisch; 1913). R. STRAUSS: Salome, Op. 54: Dance of the Seven Veils. Der Rosenkavalier, Op. 59: Waltzes. (Bruno Walter; 1929.) SCHUBERT (arr. Webern): Six German Dances, D. 820 (Leo Blech; 1932). NICOLAI: Die lustigen Weiber von Windsor: Overture (Karl Böhm; 1936). WAG-NER: Die Meistersinger von Nürnberg: Act III Prelude (Böhm; 1936). Parsifal: Good Friday Music (Wilhelm Furtwängler; 1938). Der fliegende Holländer: Overture (Hermann Abendroth; 1938). TCHAIKOVSKY: Symphony No. 6, in B minor, Op. 74 (Pathétique) (Furtwängler; 1938). MOZART: Serenade No. 13, in G, K. 525 (Eine kleine Nachtmusik) (Fritz Lehmann; 1941). LISZT: Les Préludes (Hans Knappertsbusch; 1942). PROKOFIEV: Symphony No. 1, in D, Op. 25 (Classical) (Sergiu Celibidache; 1948). SCHUMANN: Symphony No. 4, in D minor, Op. 120 (Herbert von Karajan; 1957). MO-ZART: Symphony No. 29, in A, K. 201 (Karajan; 1960).* BRUCKNER: Symphony No. 4, in E flat (Romantic) (Karajan; 1970).*

BERLIN PHILHARMONIC: 100 YEARS, VOLS. 1-6.

Berlin Philharmonic Orchestra, various conductors. DEUTSCHE GRAMMOPHON 2740 259 (1), 2740 260 (2), 2740 261 (3), 2740 262 (4), 2740 263 (5), 2741 008 (6) (manual sequence) [from various originals, 1913–80].

Vol. 1—Early Recordings (mono; five discs; \$39.90): BEETHOVEN: Symphony No. 5, Op. 67 (Nikisch; 1913). LISZT (arr. Doppler): Hungarian Rhapsody No. 1, in F minor (Nikisch; 1920). BERLIOZ: Roman Carnival Overture, Op. 9 (Nikisch; 1920). WAGNER: Siegfried Idyll (Blech; 1922). BEETHOVEN: Coriolan Overture, Op. 62 (Walter; 1924). MENDELS-SOHN: Hebrides Overture, Op. 26 (Walter; 1924). WAGNER: Die Meistersinger von Nürmberg: Act 1, Act III Preludes; Dance of the Berlin Philharmonic recordings covering sixty-eight years, the most compelling performances, conducted by Blech, Strauss, Furtwängler, and Knappertsbusch, are from the pre-Karajan era. The least compelling performances, conducted by Kleiber, Fried, Pfitzner, Hermann Abendroth, and Knappertsbusch again, are also from the pre-Karajan era. Such evidence suggests that, over the past three decades, higher peaks have given way to higher norms-a plausible inference, because it plausibly characterizes the performance history of other major European and American orchestras, as well as the postwar tendency of concert and opera performances generally.

This is not the place to attempt an enumeration of the reasons for this trade-off (a provocative recent dialogue between David Hamilton and Conrad L. Osborne on the

Apprentices. Die Walküre: Ride of the Valkyries. Parsifal: Transformation Music. Tannhäuser: Venusberg Music. (Knappertsbusch; 1928.) MOZART: Idomeneo, K. 366: Overture. German Dances (6): in G, K. 571, No. 4; in C, K. 509, No. 6; in E flat, K. 600, No. 4; in G, K. 605, No. 2; in B flat, K. 600, No. 3; in D, K. 571, No. 6. (Erich Kleiber; 1927-28.) MEN-DELSSOHN: A Midsummer Night's Dream, Op. 21: Scherzo; Wedding March (Kleiber; 1928), SAINT-SAËNS: Danse macabre, Op. 40 (Oskar Fried; 1928). STRAVINSKY: The Firebird: Suite (Fried; 1928). BEETHOVEN: Symphony No. 8, in F, Op. 93 (Hans Pfitzner; 1933). GLUCK: Iphigénie en Aulide: Overture (Richard Strauss; 1928). WEBER: Euryanthe: Overture (Strauss; 1928). R. STRAUSS: Salome, Op. 54: Dance of the Seven Veils (Strauss; 1928).

Vol. 2—Wilhelm Furtwängler (mono; six discs; \$47.88): R. STRAUSS: Till Eulenspiegels lustige Streiche, Op. 28 (plus rehearsal excerpts; 1930). MOZART: Symphony No. 39, in E flat, K. 543 (1942–43). BEETHOVEN: Symphony No. 5, Op. 67: Egmont Overture, Op. 84 (live, 1947). WAGNER: Die Meistersinger von Nürnberg: Act 1 Prelude (live, 1949). Tannhäuser: Overture (live, 1951). Parsifal: Good Friday Music (live, 1951). HAYDN: Symphony No. 88, in G (1951). SCHUBERT: Symphony No. 9, in C, D. 944 (1951). BRUCKNER: Symphony No. 7, in E (live, 1951). SCHUMANN: Symphony No. 4, in D minor, Op. 120 (1953). Furtwängler Talks About Music (1950–54).

Vol. 3-Herbert von Karajan (stereo; seven discs; \$69.86): BEETHOVEN: Symphony No. 9, in D minor, Op. 125: Finale (with Gundula Janowitz, Hilde Rössel-Majdan, Waldemar Kmentt, Walter Berry, Vienna Singverein; plus rehearsal excerpts of other movements; 1962). MUSSORGSKY (orch. Ravel): Pictures at an Exhibition (1966). RAVEL: Bolero (1966). MENDELSSOHN: Symphony No. 5, in D, Op. 107 (Reformation) (1972). R. STRAUSS: Also sprach Zarathustra, Op. 30 (1973). TCHAI-KOVSKY: Symphony No. 6, Op. 74 (1976). BEETHOVEN: Symphony No. 5, Op. 67 (1977). MOZART: Symphony No. 40, in G minor, K. 550 (1977). BRAHMS: Symphony 1, in C minor, Op. 68 (1978). No.

Vol. 4—Celebrated Soloists (stereo; five discs; \$39.90): BEETHOVEN: Concerto for Pia-

decline in operatic standards may be found in the September 1981 and April and June 1982 issues of *Keynote*), but several pertinent observations lie irresistibly close at hand.

Furtwängler, in his excited spoken remarks (1950-51) in DG's Furtwängler box, says of Mozart's "musical images" in The Magic Flute: "It is difficult for us to grasp the exalted naiveté that they possess, because we of today have for the most part lost our naiveté and are searching for it." Of Freischütz, he says: "It is true that there are people who consider what Der Freischütz has to say too simple, too homely. They believe that in the age of technology, of the atom bomb, such naiveté no longer has anything to say to us. They are the same people who do not know how, why, and for what purpose a folksong ever originated (Continued on page 96)

no and Orchestra, No. 5, in E flat, Op. 73 (Emperor) (Wilhelm Kempff, Ferdinand Leitner; 1961). SCHUMANN: Concerto for Piano and Orchestra, in A minor, Op. 54 (Géza Anda, Rafael Kubelik; 1963). TCHAIKOVSKY: Concerto for Violin and Orchestra, in D, Op. 35 (Christian Ferras, Karajan; 1965). Variations on a Rococo Theme, Op. 33 (Mstislav Rostropovich, Karajan; 1968). DVOŘÁK: Concerto for Cello and Orchestra, in B minor, Op. 104 (Rostropovich, Karajan; 1968). BRAHMS: Concerto for Piano and Orchestra, No. 2, in B flat, Op. 83 (Emil Gilels, Eugen Jochum; 1972). BEETHO-VEN: Concerto for Violin, Cello, Piano, and Orchestra, in C, Op. 56 (Anne-Sophie Mutter, Yo-Yo Ma, Mark Zelster, Karajan; 1979).

Vol. 5-Eminent Guest Conductors (stereo; six discs; \$47.88): BEETHOVEN: Symphony No. 5, Op. 67 (Lorin Maazel; 1958). DVO-ŘÁK: Symphony No. 9, in E minor, Op. 95 (From the New World) (Ferenc Fricsay; 1959). SMETANA: Má vlast: The Moldau (Fricsay; 1960). MENDELSSOHN: Symphony No. 4, in A, Op. 90 (Italian) (Maazel; 1960). MOZART: Symphony No. 41, in C, K. 551 (Jupiter) (Böhm; 1962). R. STRAUSS: Don Juan, Op. 20; Der Rosenkavalier, Op. 59: Waltzes (Böhm; 1963). SCHUMANN: Symphony No. 1, in B flat, Op. 38 (Spring) (Kubelik; 1963). BRUCK-NER: Symphony No. 4 (Jochum; 1965). BRAHMS: Symphony No. 2, in D, Op. 73 (Claudio Abbado; 1970). TCHAlKOVSKY: The Nutcracker: Suite, Op. 71a (Rostropovich; 1978)

Vol. 6-Herbert von Karajan (digital recordings; 1980; four discs; \$47.92): BRUCH: Concerto for Violin and Orchestra, No. 1, in G minor, Op. 26 (with Mutter). HAYDN: Symphonies: No. 82, in C (The Bear); No. 83, in G minor (The Hen). MENDELSSOHN: Concerto for Violin and Orchestra, in E minor, Op. 64 (with Mutter). OFFENBACH: Overtures: Orphée aux enfers; Barbe-bleue; La Grande-Duchesse de Gérolstein; La belle Hélène; Vert-vert. Les Contes d'Hoffmann: Barcarolle. J. STRAUSS II: Waltzes: Accelerationen, Op. 234; An der schönen, blauen Donau, Op. 314; Künstlerleben, Op. 316. Polkas: Leichtes Blut, Op. 319; Unter Donner und Blitz, Op. 324; Eljen a Magyar!, Op. 332. Persischer Marsch, Op. 289. Die Fledermaus: Overture.

Mozart's Struggles: The Mass

The great, unfinished C minor Mass documents a disconcerting encounter with the music of Bach. Reviewed by Paul Henry Lang

MOZART'S C MINOR MASS, K. 427, and his Requiem, both magnificent torsos, represent the greatest settings of the Mass between Bach's B minor and Beethoven's D major. The C minor's Kyrie, Gloria, Sanctus, and "Benedictus" are complete, but we have only the beginning of the Credo and a full sketch, albeit incompletely orchestrated, of the "Et incarnatus est"; the Agnus Dei is entirely missing. The absent portions were never composed, and for the Salzburg performance of October 25, 1783, Mozart simply fleshed out the work with movements taken from earlier Masses. This practice, familiar to eighteenth-century musicians from the pasticcio operas, was common until recent times, but today we realize that attempts, especially by other hands, to complete truncated masterpieces are never satisfactory. This recording uses the Eulenburg score, skillfully edited by H.C. Robbins Landon.

The C minor Mass is marked by a monumentality that Mozart never before showed in his church music (except perhaps for the great isolated D minor Kyrie, K. 341), and he breaks all traditional boundaries of the postbaroque orchestral Mass. The "Qui tollis," Sanctus, and "Osanna" are set for eight-part double chorus, and other movements for five parts obviously hark back to the opulence of the high baroque. On the other hand, there are sections in which Mozart deliberately avoids even the slightest hint of archaism; these are homophonic and beguiling with their sunny southern Catholicism, so different from the movements that stem from North German Protestant introspective polyphony. The "Et incarnatus est," for example, with its undulating siciliana rhythm, draws on the "pastoral" Masses, very popular in Italy and the southern German lands.

But before discussing this work further, let us turn to Deutsche Grammophon's

Last month R.D. Darrell discussed Mozart's hard-won assimilation of the influence of Haydn in the string quartet.—Ed. notes, which provide a clue to the lack of good performances of Mozart's two great yet enigmatic works. Surprisingly, while the French version of the notes is an exact translation of Karl Schumann's original German, the English "version" is an entirely new essay by Stanley Sadie, the able editor of the *New Grove*. Both treatments are miniatures (and in excessively small type), and they differ considerably from each other, Schumann's being straight factual musicology, Sadie's venturing historical, biographical, and aesthetic opinions.

Sadie remarks that "the fact is that many works connected with Constanze remained incomplete"-an unfounded implication. The only connection with Constanze here was Mozart's vow to compose a Mass in thanksgiving-provided he had won her as his wife-when he returned with her to Salzburg. The uncompleted works of the period of his engagement and marriage hide the double shock suffered when he became acquainted with the music of Bach and Handel. Sadie, though cognizant of these powerful new impressions, does not follow them up; perhaps it was the lack of space that prevented a more judicious evaluation, but his conclusion is a little too severe. He correctly notes the Mass's mixture of styles and engagingly adds that this will bother only those "who bring to the work an excessive stylistic selfconsciousness." Well said, but why should this mixture be faulted in Mozart, even by distinguished critics, when in Bach's untouchable B minor Mass no two movements share the same style? Sadie ends his otherwise excellent little piece with this statement: "Mozart aimed at a truly classical ecclesiastical idiom. He did not fully reach it in this incomplete work, but the C minor Mass and the Requiem-also unfinishedstand as noble monuments of what might have been."

It is important to realize the pervasive sociocultural and artistic pressures that con-



Mozart: laboring under Bach's influence

flicted with Mozart's musical education and creative impulses. Here he was, a young musician in the midst of the Enlightenment, to which he did not relate-a movement that based everything on rational thought, even in music, its abundant philosophical literature advocating an anthropocentric utilitarianism opposed to the theocentric concept of the liturgy. Archbishop Colloredo of Salzburg, that somewhat inscrutable, imperious, and forbidding adherent of the Enlightenment (a full-length portrait of Voltaire hung in his study), enforced these ideas: in his cathedral the musical setting of the Mass was required to be simple and not more than forty-five minutes long. Mozart at first complied with these restrictions, but soon his creative imagination drove him beyond them. However, as he was searching for a solution, he collided with opposite facets of the Enlightenment.

Both the populist reformer-autocrat Emperor Joseph II and the ultraconservative Pope Benedict XIV wanted to abolish orchestral Masses, but while the austere pope objected to their "mundane" quality, the emperor, like the archbishop, wanted to simplify the service to make it more accessible to the people and save money; therefore, he directed the diocesan authorities to eliminate the orchestras. These reforms were disliked by Mozart, by most of the Austrian clergy, and especially by the public for whose benefit they were instituted. To this day the Austrians love their orchestral Masses and the ancient, solemn pomp of the Catholic liturgy; neither Pius X nor Vatican II could take them away. Indeed, perhaps most surprisingly, the simple people were adamantly opposed to the emperor's desire to substitute the vernacular for Latin!

An added complication, Mozart was just getting used to his freedom of action after leaving the archbishop's employ and settling in Vienna as an independent artist, an existence little known on the Continent in those days; the C minor Mass was the first great work composed without an order or commission. Yet with his incredibly rapid artistic development, he sorted things out. Just about this time he became engaged to Constanze, but this important event in his personal life was companioned by an important artistic event: his first encounter, at Baron van Swieten's Sunday-noon musicales, with Bach and Handel-an experience that changed his entire future creative activity.

He had no trouble with Handel, because he immediately recognized the splendor and euphony of the German-born Italianate Englishman's vocal writing, as well as his flexible counterpoint. But Bach was at first perplexing, if not disconcerting; his dense vet marvelously alive polyphony was something entirely new to Mozart. He lost no time in exploring it, studying The Well-Tempered Clavier, the partitas, and The Art of Fugue. At first he merely transcribed a number of Bach's fugues, but soon he tried his hand at fugal writing in Bach's spirit. No, Constanze was not responsible for his hesitation and for the many abandoned essays in strict counterpoint; the reason for the uncertainty was his as yet unresolved relationship to Bach.

It should also be noted that Mozart was introduced to Bach through the latter's keyboard music, that is, through purely instrumental-and often abstract-music; this new polyphony profoundly impressed him, though his absorption of it was of course not instantaneous, and many of his "exercise" fugues were abandoned for not measuring up to his always critical scrutiny. Bach's undiluted instrumental counterpoint was difficult for him to apply to vocal music, and he leaned to Handel's always gloriously vocal style. There are direct quotations in both the C minor Mass and the Requiem from Handel, and the Credo and Sanctus of this Mass are distinctly in Handel's spirit. Furthermore, Mozart was fascinated by the bold innovations of Emanuel Bach-harmonic, syntactic, and formal. Yet in the face of all of this he was unwilling to abandon his native Austro-Italian melodiousness. To reconcile so many currents in a personal style forced him to depart from the relatively solid stylistic unity achieved in the Masses, K. 317 (Coronation, 1779) and K. 337 (1780). With those two works he virtually created the symphonic Mass, but the "truly ecclesiastical idiom" had yet to be created-a Herculean and seemingly impossible task

Sadie is right when he says that this

was never fully realized in Mozart's work; he might have added, however, that, without the C minor Mass and the Requiem, that goal-reached by Haydn in his last great Masses-would never have been attained. Haydn was also uncertain about the stylistic synthesis, but-an uncomplicated soulhe merely abstained from composing Masses between 1782 and 1796. Only after the emperor's bothersome edicts were abrogated did the aged composer return to the genre. Here, too, Handel was the catalyst. Haydn heard several of the oratorios while visiting in London and, like Mozart, realized that the Handelian choral writing could be reconciled with the classical symphonic idiom; this resulted in the six great Masses and the two famous oratorios-works of an old, most experienced, and infinitely wise master, who could bypass the soul-searching struggle for a distilled style because his admired young friend had done the searching for him.

Thus far we have dealt with the archaic/polyphonic qualities of the C minor Mass, the miracle of the reconciliation of strict choral counterpoint with modern orchestral techniques and symphonic construction. But Mozart could not forswear the elegance, order, confidence, and formal good manners of his age. It was this quality, together with the "operatic," never precisely determined or described in Mozart's sacred music, that posterity considered inadmissibly "secular" and opposed to the spirit of church music. The inability to see that these "secular" elements are no dégagé galant elegance, to sense that in this style the sacred and the secular not only coexist but fruitfully interact, and to feel that the strands are well braided leaves one incapable of perceiving and assimilating the delights of the imaginative, undogmatic, and untheoretical world. The elegiac "Christe eleison" in the C minor Mass, flanked by the two intensely polyphonic "Kyries," provides a good example of the woven strands. (Incidentally, this is equally true of Bach's B minor Mass, where, between the immense "Kyries." the "Christe" stands like an Italianate love duet in Steffani's manner.) To be sure, the presence of the ineffable "Et incarnatus est," the apotheosis of the sheer beauty of melody, was-and in many quarters still is-disconcerting to those who measure the "sacred" in music by Palestrinian or by North German baroque standards. Such critics may just as well denounce "I know that my Redeemer liveth," for it is a pure Neapolitan opera-seria aria; the operatic was the reigning style, whether in opera, oratorio, Mass, symphony, or sonata.

It is for these reasons that this Mass has not yet received a recording that does it justice. Both Karajan and, in an earlier DG recording, Ferenc Fricsay show little understanding of its spirit and style, and they seem unfamiliar with the historical, technical, and aesthetic circumstances that surround it.

Let's take the technical aspects first; they are historically well documented. Mozart contemplated a performance in St. Peter's monastic church. (Being alienated from the archbishop, of course, he could not use the cathedral.) However, because this score was obviously beyond the capabilities of St. Peter's musical establishment, he had to resort to the old-fashioned colla parte trombones in order to reinforce the small choral forces. Musicians of the caliber of Karajan and Fricsay should not have the slightest difficulty in separating the obbligato spots from the colla parte passages and omitting the trombones where not needed. The organ, with no independent music to play, is another piece of excess baggage, which serves only to represent "churchliness." In fact, it messes up the aural picture by contributing to the opaqueness of the choral sound; it is altogether dispensible, because the continuo departed with the baroque. Knowing that the orchestras in Salzburg had no clarinets, the composer left them out; but that he very much wanted the full symphony orchestra can be seen from his adaptation of portions of the Mass for the oratorio Davidde penitente, K. 469 (1785), composed for Vienna, where the clarinets were reinstated. It would have been entirely in order for the conductors to transfer them to the Mass, had they done their homework.

The older recording has much better sound qualities than Karajan's, partly because Fricsay, an old radio-orchestra hand, was more familiar with the pitfalls of recording elaborate choral/orchestral works, partly because of better cooperation from his DG technicians. And another very important feature weighs heavily in favor of the older recording: Whereas Karajan's orchestra accompanies, Fricsay's makes the instrumental element an integral and vital part of the composition, as Mozart intended. Were it not for Fricsay's excessive ritards and other Romantic faux pas, this would have been much superior to the newer recording.

Karajan begins the Kyrie very slowly (Fricsay is a bit fast) and immediately strives for the massive baroque sonorities that the Romantics thought to be characteristic of this type of music; unfortunately, the results are more noisy than ringing. The little introductory passage is badly phrased, with turgid elisions, though after the voices take it up, Karajan changes to a better articulation. The lyric/homophonic numbers and passages are dutifully accompanied but lack sufficient warmth; the latent connections between the polyphonic and the homophonic are not realized. The orchestra is good (though Fricsay's is better and better handled), and so is the chorus, but the antiphonal effects of the double choirs do not materialize. The "Cum sancto" fugue (Continued on page 96)

CLASSICAL Reviews



Rudolf Serkin's Beethoven Fourth: the result of a long lifetime of pondering the work

BEETHOVEN: Concerto for Piano and Orchestra, No. 4, in G, Op. 58.

Rudolf Serkin, piano; Boston Symphony Orchestra, Seiji Ozawa, cond. [Robert Woods, prod.] TELARC DG 10064, \$14.95 (digital recording).

As must be well-known, Rudolf Serkin is recording his third Beethoven concerto cycle. It was preceded by a 1950s monaural version with Ormandy and the Philadelphia Orchestra (Columbia, deleted) and a 1960s stereo set with orchestral duties divided between Ormandy and the Philadelphians and Bernstein and the New York Philharmonic (CBS D4S 740—each concerto also available separately). If memory serves, only Arthur Rubinstein and Emil Gilels have previously accomplished this triple feat.

If that were not enough, Serkin, like Rubinstein, has now recorded four versions of the Fourth Concerto. Listening to the four consecutively has been an instructive experience.

First is the November 26, 1944, broadcast performance with Arturo Toscanini and the NBC Symphony (RCA, deleted but available in foreign pressings, coupled with the Dorfmann/Toscanini Beethoven First Concerto). A listener knowing the Fourth only from this version would certainly not subscribe to the popular view that it is an introverted and reflective work; this is the most extroverted performance I know, with great dynamism, intensity, and excitement. No doubt Toscanini was largely responsible for this approach, though Serkin, of course, has always been one of the most dynamic of pianists, and was especially so at that time. (Remember, too, that it was with Toscanini and the New York Philharmonic that he made his American orchestral debut in 1936, in the same work; Toscanini, in an unusual gesture, allowed him to play a second concerto on the same program, the Mozart K. 595.) Save for the slow movement, the tempos would be con-

Gould Tribute

Pianist Glenn Gould, who was closely associated with HIGH FIDELITY over the years, passed away last October. In the next two issues, along with a review of his recent *Goldberg* Variations, we will offer appraisals of his work by David Hamilton and Harris Goldsmith, and excerpts from his own writings in HF.—Ed. Reviewed by: John Canarina Scott Cantrell Kenneth Cooper R. D. Darrell Peter G. Davis Kenneth Furie Harris Goldsmith Matthew Gurewitsch David Hamilton Dale S. Harris R. Derrick Henry Joseph Horowitz

Nicholas Kenyon Allan Kozinn Paul Henry Lang Irving Lowens Karen Monson Robert P. Morgan James R. Oestreich Conrad L. Osborne Andrew Porter Patrick J. Smith Paul A. Snook Susan T. Sommer

sidered brisk today, though they were not then. The performance runs thirty-one minutes.

The 1954 version with Ormandy lasts thirty-two minutes, and it's amazing the difference one minute can make. The dynamism remains, but is not so relentless as before; the phrases have more breathing space. The opening solo, for one, now shows a bit of that reflectiveness mentioned earlier, with time spent on the upward scale. There is some expansion, then, yet the performance moves along smartly. Ormandy proves a worthy partner in what is, unfortunately, a rather tubby recording (accommodated on one side, generously coupled with the Second Concerto).

Of course, the Fourth is the most inward and reflective of the Beethoven concertos (at least in the first two movements). and it is in Serkin's late-'60s version, again with Ormandy (CBS MS 6745), that these qualities really emerge-at thirty-four minutes plus. Supreme artist that he is, Serkin avoids the trap fallen into by so many younger pianists who carry reflectiveness and understatement to the point of somnolence. As always, Serkin's playing shows great character, even in the (many) less stormy moments. Unfortunately, the slower the basic tempo, the more difficult it is for the orchestra to sustain, and the Philadelphians do, in fact, lag into moments of inertia in the first movement-especially in the dotted theme with triplet accompaniment, which doesn't bounce around as it should

And so, we've arrived at the new version—and thirty-six minutes. While the word "autumnal" may seem a cliché in this connection, it comes to mind nevertheless—autumnal and, yes, reflective (and slow!). The opening solo is absolutely dreamy—almost impressionistic. But whereas the earlier versions had a certain bite even in introspective passages, here there is a reserve not previously noted, a muted quality that is actually quite touching. Even the first-movement cadenza, which Serkin used to tear into like a house

CLASSICAL Reviews

afire, is tempered with restraint. He had treated the last two movements fairly consistently each time around; here he takes the finale more deliberately yet provides a touch of playfulness not heard before. This interpretation is, obviously, the result of a long and distinguished lifetime of playing the work and pondering it. Suffice it to say that the performance is beautiful and distinguished, albeit without the excitement found earlier. If I had my druthers, and were it possible. I would take the 1954 performance in Telarc's beautifully natural 1982 digital sound.

I speak of the pianistic performance, for Seiji Ozawa and the Boston Symphony, admirable collaborators, adopt Serkin's conception wholeheartedly. Ozawa, more flexible in an even slower first movement than was Ormandy in the '60s, avoids some potentially static moments. Since the balance between piano and orchestra is quite natural, it's surprising, given Serkin's understated approach, that many of the accompanying details are not heard clearly. Perhaps more character in the playing would have brought them to the fore. The surfaces of my review copy are admirably silent on Side 1, less so on Side 2.

I can't close without a word of praise for Harris Goldsmith's extremely illuminating and insightful liner notes. As with Serkin's performance, his personal approach and response to the work succeed in casting new light on it. J.C.

BERG: Wozzeck.

CAST:	
Marie	Anja Silja (s)
Margret	Gertrude Jahn (a)
Drum Major	Hermann Winkler (t)
Andres	Horst Laubenthal (t)
Captain	Heinz Zednik (t)
Idiot	Walter Wendig (t)
Soldier	Michael Pabst (t)
Wozzeck	Eberhard Wächter (b)
Second Apprentice	Franz Wächter (b)
Doctor	Alexander Malta (bs)
First Apprentice	Alfred Sramek (bs)
Vienna State Opera	Chorus Vienna Phil-

Vienna State Opera Chorus, Vienna Phil harmonic Orchestra, Christoph von Dohnányi, cond. [Christopher Raeburn and Michael Haas, prod.] LONDON LDR 72007, \$25.96 (digital recording; two discs, automatic sequence). COMPARISONS:

Contra rectacy ta:	
Farrell, Harrell, Mitropoulos	Odys. Y2 33126
Lear, FDieskau, Böhm	DG 2707 023
Strauss, Berry, Boulez	CBS M2 30852

As sequel to his valuable recording of the unfinished form of Alban Berg's Lulu (London OSA 13120), Christoph von Dohnányi brings us, not the missing final act of that opera, but the composer's earlier Wozzeck, a less needed but still desirable addition to the catalog. This fourth Wozzeck is a useful complement to its predecessors, all of which are currently available and all of which boast tangible virtues.

The 1951 Mitropoulos set, edited from several New York Philharmonic concert performances, provides some brilliant, some uneven singing (often both from the same singer) and a compelling grasp of the score and the drama; despite sonic and musical limitations, it still vividly conveys the opera's thrust and ambience.

The best singing cast, on balance, is found in Böhm's 1964 version. To the solid virtues of Evelyn Lear's Marie, Helmut Melchert's Drum Major, and Dietrich Fischer-Dieskau's too-knowing but firmly sung Wozzeck (when the Captain says, "You think too much," it's truer than he means it to be!) are added such fillips as Fritz Wunderlich's irresistible Andres and Gerhard Stolze's manic Captain (the role for which this singer's hyped-up style was predestined). There's no question about Böhm's knowledge of the score, and the orchestra plays reasonably well.

In his 1966 recording, however, Pierre Boulez extracted from (of all people!) the Paris Opera Orchestra a performance of striking accuracy, shape, and character. Alas, by the workings of the malign fate that usually governs operatic recordings. that achievement isn't matched on the vocal side. It's all the more frustrating in that Boulez' singing cast ought to have been able to give as good a performance, by and large, as Böhm's. Walter Berry (Wozzeck) and Karl Dönch (Doctor), in particular, have the appropriate resources for their roles, but repeatedly depart from the written score, to decidedly lessened dramatic and musical effect.

Amid this constellation, Dohnányi's recording fits as a kind of middle-of-theroad version. The Vienna Philharmonic plays admirably and is recorded with extreme clarity, though its particular tonal virtues count for less in this score than in the more consistently Mahlerian textures of Lulu. Dohnányi doesn't always unravel and shape Berg's textures as lucidly as Boulez. (A single, instructive example, from Wozzeck's first-scene aria, "Wir arme Leut!": In the buildup to the "thunder" passage, at "wenn wir in den Himmel kämen," by making use of Berg's optional pizzicato instead of the standard col legno for the violas and cellos, Boulez makes all the rhythmic parts sound with equal force.) At regular intervals through the score, one can pick out details and larger shapes that are tangibly firmer, more specific, more expressive in the Boulez set, yet the new version constitutes an estimable accomplishment in this respect.

Dohnányi's cast is consistently laudable for its observance of Berg's notes and of his careful distinctions between speaking and singing. Anja Silja, though cursed with an apparently uncontrollable quaver on long and/or high notes, remains a considerable singing actress, more convincing in the Sprechstimme of the Bible-reading scene than any other recorded Marie. Eberhard Wächter's baritone is thewier, looser in vibrato than Berry's or Fischer-Dieskau's; his stolidity is less eloquent than that of Mack Harrell, in the Mitropoulos set. Some

of the others have limitations of range and power: Alexander Malta is short on the Doctor's lowest notes. Horst Laubenthal on Andres' highest ones, and Hermann Winkler is an undernourished Drum Major; Heinz Zednik is a good Captain. On balance, a cast superior to Boulez', if not a match for the strengths of Böhm's.

If you're after a recording of Wozzeck for study purposes-that is, a recording that renders the opera's text more faithfully than any other-I'd say this is it. On the other hand, each of the other three recordings manages to emerge as more of a performance; despite their distinctive tangible defects along the way, they all deliver some significant part of the opera's intensity with greater impact. In truth, all these Wozzeck recordings are mutually complementary.

As suggested, London's digital recording is very clear, in the almost resonanceless, recorded-in-a-vacuum style of many such recordings; I'd have preferred more warmth, and a less conservative voice-orchestra balance-the voices are always in a plane distinctly closer than the orchestra.

London's libretto includes a new, literal translation (preferable to the less accurate singing version supplied with the other three recordings) and the usual formal outline of the opera. Some of the illustrations on the back page are not properly identified; the Aravantinos design for the 1925 premiere labeled "Act II, Scene 1" is in fact for Act I, Scene 2. while the photos credited to "Reale Roma" must stem from the 1942 production that took place, remarkably, right under the Fascists' noses, with Gobbi as Wozzeck and Serafin conducting. D.H.

BERLIN PHILHARMONIC: 100 YEARS—See page 63.

BRUCH: Concerto for Violin and Orchestra, No. 1, Op. 26-See Mendelssohn.

FAURÉ: Pénélope.

CAST:	
Pénélope	Jessye Norman (s)
Alkandre	Colette Alliot-Lugaz (s)
Phylo	Christine Barbaux (s)
Mélantho	Michèle Command (s)
Lydie	Danièle Borst (s)
Euryclée	Jocelyne Taillon (ms)
Cléone	Norma Lerer (ms)
Ulysse	Alain Vanzo (t)
Antinoüs	Jean Dupouy (t)
Léodès	Gérard Friedmann (t)
Eurymache	Philippe Huttenlocher (b)
Ctésippe	Paul Guigue (b)
Pisandre	François Leroux (b)
Eumée	José van Dam (bs)
Jean Laforge	Vocal Ensemble, Monte Car-
La Dhilhamania	Orabactra Charles Dutait

lo Philharmonic Orchestra, Charles Dutoit, cond. ERATO STU 71386, \$32.94 (three discs, manual sequence) (distributed by RCA). CAST

C	
Pénélope	Régine Crespin (s)
Alkandre	Geneviève Macaux (s)
Phylo	Nicole Robin (s)

Mélantho Françoise Ogéas (s) Eurvclée Christiane Gayraud (ms) Cléone Madeleine Gagnard (ms) Ulvsse Raoul Johin (t) Antinoüs Joseph Peyron (t) Michel Hamel (t) Léodès Eurymache Robert Massard (b) Ctésippe Bernard Demigny (b) Pisandre Pierre Germain (b) André Vessières (bs) Eumée French Radio Chorus. Orchestre National,

D.E. Inghelbrecht, cond. Discoreate Vational, 10012/4, \$41.94 (three discs, manual sequence) (distributed by Fonodisc International, 535 E. 86th St., New York, N.Y. 10028).

Some consider Fauré's *Pénélope* (1913) his masterpiece, a French opera of unique beauty and unity. Yet it will never achieve more than limited acceptance, and this for two main reasons.

First, it flies in the face of what is considered "operatic": It is not, finally, a musicodramatic theater work. The libretto, by the young French dramatist René Fauchois, is studiously antidramatic. Not until midway through the final recorded side does the one big stage moment arrive-the bending of Ulysse's bow and the slaughter of the pretenders to Pénélope's hand. Much of the rest focuses on her sorrow, her longing for her absent husband, and her iron will not to resign herself to his death and wed another. Ulysse himself appears, disguised as an old man, in Act I, but his necessary (for fidelity to the Odyssey) concealment of his identity from his wife leads to an Act II "love duet" with Penélope singing to a memory while an old man responds-too big a stretch of dramatic irony.

Second, the work lies uneasily in operatic history. Fauré was not a composer of spectacular effects, and he was not an operacomposer. He wrote for the orchestra, and he wrote songs; the two aspects here come into a conjunction that has unity but bulks smaller next to the vividly dramatic writing of Richard Strauss, on one hand (compare the musical solution to the recognition of Oreste in Elektra with that of Ulysse by Pénélope), and the understated yet equally dramatic writing of Debussy in Pelléas, on the other. In addition, Fauré's music simply does not possess the kind of volcanic outpouring of melody that can make one forget the story. Nor does he want us to, for Pénélope carries forward the French esthetic of the paramountcy of word and voice, underscored but never dominated by the orchestra. In those terms, a much shorter score such as Satie's Socrate realizes its goals better than does Pénélope. Jean-Michel Nectoux, who in his extensive notes to the Erato set puts its case strongly, is correct when, in his New Grove entry on the composer, he writes: "Pénélope is a powerful masterpiece, but a masterpiece of pure music.

The seamlessness of Fauré's writing, manifested in endless recitative, arioso, and song, does propel the work forward, but his lack of interest in orchestral color (unlike



Jessye Norman: an almost ideal Pénélope

Debussy) keeps the focus on the voice. The melodic line is supremely well handled (with declamation everywhere subordinate), yet it too is responsive, not to the drama of the moment, but to its own movement. As with Hugo Wolf when he moved from song to opera. Fauré cannot enlarge his vision. His attempted solution-reliance on Wagnerian leading motives and a Wagnerian sound-tells against the work, because Fauré (again unlike Debussy) is never able to assimilate the technique into a personal statement. Nectoux's arguments notwithstanding, the various themes are never woven into the fabric in a natural way, always discrete and obvious. (Here's the Ulysse theme again; here's one of Pénélope's.) The suffocating mantle of Tristanesque yearning-immediately evident in Pénélope's prelude—is resolved only at the end, in the C major apotheosis, with chorus and principals. Yet this close, while fully in keeping with French operatic practice. sounds pat in its shining cadences. It is outward show, and one wants, in this opera especially, an inward resolution (as Monteverdi's setting provided): namely, a duet for the reunited lovers.

If the the opera is flawed-and is far from "opera"-it nonetheless has many moments of quiet beauty, and in its seriousness of tone and maturity of style deserves to be heard. The Erato recording enshrines it particularly well. Its two major assets are the conducting of Charles Dutoit and the Pénélope of Jessye Norman. Dutoit understands the opera's strengths, and unfolds them spaciously and with an unaffected forcefulness that is always responsive to the vocal line and never stodgy. Recent recordings have brought Dutoit forward as a conductor of note: This is one of his best. Norman is almost ideal, both vocally and in her commanding handling of the French text. The warmth and amplitude of her voice are doubly welcome, in that they provide the

variations of color and shading vital for a role that is quite narrowly conceived emotionally. José van Dam, as the faithful Eumée, is-if rather overvouthful in voice-also excellent; he. too, knows how to sing Fauré's musical lines. The supporting cast (particularly Jocelyne Taillon's Euryclée and Philippe Huttenlocher's Eurymache) is commendable. Alain Vanzo performs the role of Ulysse as if singing Cavaradossi. Ulysse should sound much older (as the disguised elder) and should display far more art than the consistent forte Vanzo employs; still, he does enunciate clearly, emphasizes the vigor of Ulysse, and remains in good voice.

The Discoreale performance provides a worthy alternative for Fauré lovers and opera buffs. It derives from a concert performance in 1956 and contains faults endemic to such recordings: a boxy, closedin sound, an oratorio style of performance, too much applause, and the inevitable slips. On the other hand, it builds well through its length and boasts a fine cast and conductor. D.E. Inghelbrecht was a noted exponent of Fauré and Debussy, and his sure, propulsive conducting is an immense asset. The young Régine Crespin makes a marvelous Pénélope, and if her voice, in full bloom, does not suggest maturity, her conception does strive for it. Raoul Jobin is decent enough as Ulysse though still too onedimensional. Discoreale supplies no synopsis or libretto, only a pamphlet on the opera in French. P.1.S.

GRIEG: Concerto for Piano and Orchestra, Op. 16-See Schumann.

MENDELSSOHN: Concerto for Violin and Orchestra, in E minor, Op. 64. BRUCH: Concerto for Violin and Orchestra, No. 1, in G minor, Op. 26.

Anne-Sophie Mutter, violin: Berlin Philharmonic Orchestra, Herbert von Karajan, cond. [Günther Breest, prod.] DEUTSCHE GRAMMO-PHON 2532 016, \$12.98 (digital recording). Tape: 3302 016. \$12.98 (cassette).

Shlomo Mintz, violin: Chicago Symphony Orchestra, Claudio Abbado. cond. |Rainer Brock, prod.| DEUTSCHE GRAMMOPHON 2531 304, \$10.98. Tape: 3301 304, \$10.98 (cassette).

This concerto coupling has become something of a phonographic tradition. (These two entries bring to nine the number of such pairings currently available.) Comparisons are very much in order when the same record company proffers identical material, with two young soloists backed by establishment orchestras and conductors: The parallels are striking, but the divergencies are even more so.

Anne-Sophie Mutter plays impeccably. Her control of bow and line (not to mention intonation) are faultless, and her phrasing has both exquisite restraint and perfect proportion. Her intellectual certitude, in fact, is so astounding, considering her tender age (presumably eighteen at the

CLASSICAL Reviews

Critics' Choice

The most noteworthy releases reviewed recently

ALKAN: Piano Works. Smith. ARABESQUE 8127-3 (3), July.

BACH: Well-Tempered Clavier, Book I. Horszowski. VANGUARD CARDINAL VCS 10138/ 40 (3), Oct.

BARTÓK: Orchestral Works. Budapest Philharmonic, Budapest Symphony, Joó. SEFEL SEFD 5005/9 (5), Sept.

BEETHOVEN: Fidelio. Altmeyer, Jerusalem, Nimsgern, Masur. EURODISC 300 712 (3), Aug.

BERLIOZ: Béatrice et Bénédict. Minton, Domingo, Barenboim. DG 2707 130 (2), Nov. **BRAHMS: Cello Sonatas (2).** Perényi, Kocsis. HUNGAROTON SLPX 12123, Nov.

BRAHMS: Symphony No. 1. National Philharmonic, Paita. LODIA LOD 779, Sept.

CHERUBINI: Requiem in C minor. Ambro-

sian Singers, Philharmonia, Muti. ANGEL DS 37789, Nov.

DEBUSSY, RAVEL: String Quartets. Galimir Quartet. VANGUARD VA 25009, Sept. DOWLAND: Songbooks (4). Consort of Mu-

sicke, Rooley. OISEAU-LYRE DSLO 508/9 (2), 528/9 (2), 531/2 (2), 585/6 (2), Aug.

GILLES: Requiem. Ghent Collegium Vocale, Cologne Musica Antiqua, Herreweghe. ARCHIV 2533 461, Sept.

GRIFFES: Piano Works. Oldham. NEW WORLD NW 310/1 (2), Sept.

HAYDN: Paris Symphonies (6). Berlin Philharmonic, Karajan. DG 2741 005 (3), Oct.

HAYDN: Piano Sonatas (6). Gould. CBS 12M 36947 (2), Nov.

HAYDN: Symphonies, Vols. 1, 2. L'Estro Armonico, Solomons. SAGA HAYDN 1 (3), 2 (3), Oct.

JANÁČEK: Cunning Little Vixen. Popp, Jedlička, Mackerras. LONDON LDR 72010 (2), Nov.

JANÁČEK: Idyll; Mládi. Los Angeles Chamber, Schwarz. NONESUCH D 79033, Sept.

time of these sessions), that one tends to assume that musical direction came from Karajan, who perhaps coached his youthful soloist in each and every detail. This may do Mutter an injustice, however; actually, that diminutive, lyric style might well be her own contribution. Whatever its source, such a viewpoint is very appropriate for these works.

In a few places, I detect signs of an almost robotlike obedience (though to be sure, fewer here than in some of Mutter's previous recordings), yet the maturity is phenomenal. All the tempos are mobile, never driven, and the same patience extends to the treatment of detail. Though Mutter can be impassioned, her occasional touches of vehemence are always in the proper context of proportioned lyricism.

Karajan's contribution, as in virtually all his concerto collaborations these days, is tastefully dominant-the tonal framework elegantly grandiose, richly detailed, and timed with uncanny sophistication. Some might prefer more sprint and abandon in the Mendelssohn finale, but the timing and control approach "perfection." These are unusually satisfying performances. DG's digital engineering is unparalleled for suaveness and clarity, and I like the way the heft of the Berliners' lower strings is tempered by the frosty coolness of the woodwinds and the hint of burr in the brass. "Bejeweled" is an adjective that springs to mind

Shlomo Mintz, in contrast to Mutter, takes a more recognizably adolescent approach, and although Abbado accompanies adroitly (and the Chicago Symphony plays glossily), leniency wins out here over stern discipline. While it may be unfair to burden young Mintz exclusively for indiscretions that are unfortunately all too commonplace among today's rising generation, it cannot be denied that tempos tend toward ponderous brawniness, that "phrasing" consists mainly of single notes joined together like sausages by means of throbbing portamento. Although Mintz is a fine, vibrant fiddler, he lacks Mutter's exquisite lapidarian control and her ability to play with spot-on intonation. (He adopts a wide vibrato not as an aesthetic adornment, but as a way of life-to "adjust" for wideof-the-mark shots.) The Bruch fares better than the Mendelssohn, but even the former is disfigured by rhythmic dislocations and rather aimless. "Romantic style," in this instance, means shapelessness and selfindulgence. DG's analog sound, though rich and impactful, lacks the incisive clarity and sparkle of the digital counterpart. H.G.

MOZART: Apollo et Hyacinthus, K. 38.

CAST:	
Melia	Arleen Augér (s)
Hyacinthus	Edith Mathis (s)
Apollo	Cornelia Wulkopf (a)
Zephyrus	Hanna Schwarz (a)
Oebalus	Anthony Rolfe Johnson (t)
0.1.1	

Salzburg Chamber Chorus, Salzburg Mozarteum Orchestra, Leopold Hager, cond. [Gottfried Kraus and Renate Kupfer, prod.] DEUTSCHE GRAMMOPHON 2707 129, \$21.96 (two discs, manual sequence).

This fine recording of Mozart's Apollo et Hyacinthus, K. 38, is a "documentary" a performance of the eleven-year-old composer's "first dramatic work," and as such, valuable for the study of the incredibly precocious child prodigy's first artistic steps. Unfortunately, whenever such a work is discussed, there is a temptation to go overboard and detect the proverbial lion's claws behind every note. Of course, the very fact that such a young child could put together a well-written and elegantly orchestrated work, even if father Leopold undoubtedly helped a little, absolutely baffles us. And MACDOWELL: First Modern Suite; Piano Sonata No. 4. Fierro. NONESUCH H 71399, Nov.

MOZART: String Quartets Nos. 17, 21. Panocha Quartet. DENON OX 7004-ND, Nov.

MOZART: Two-, Three-Piano Concertos, K. 365, 242. Eschenbach, Frantz. ANGEL DS 37903, Oct.

NIELSEN: Symphony No. 4. Berlin Philharmonic, Karajan. DG 2532 029, Oct.

SHOSTAKOVICH: Symphony No. 10. Berlin Philharmonic, Karajan. DG 2532 030, Nov.

CENTENARY EDITION OF BARTÓK'S RECORDINGS, VOL. 1. HUNGAROTON LPX 12326/33 (8), June.

FLUTE MUSIC OF LES SIX. Boyd, Schmidt. STOLAT SZM 0119, Oct.

VLADIMIR HOROWITZ AT THE MET. RCA ATC 1-4260, Sept.

HEINRICH STROBEL: Verehrter Meister, lieber Freund. Southwest German Radio. SCHWANN/DG 0629 027/31 (5), Oct.

THE TANGO PROJECT. Schimmel, Sahl, Kurtis. NONESUCH D 79030, Aug.

indeed there *are* a few numbers where the lion's claws are in evidence. On the whole, however, this sort of thing is for our amazement and edification, not for our aesthetic enjoyment.

Apollo et Hyacinthus is a hybrid, not a Singspiel nor an opera nor a serenata. It is called an intermezzo, yet even that designation does not quite fit; this is not the kind of intermezzo we know from the opera buffa-a complete little dramatic work performed between acts, without any reference to the opera itself. Mozart's task was to supply musical numbers for use at certain points in a sprawling five-act Latin "tragedy" written by a University of Salzburg professor for the annual celebration of the end of the academic year. The seeming unity that the recording presents never existed, because there was no real continuity, and as the listener soon realizes, the work consists of pieces that could be separated at any point.

The professorial poem is atrocious, the Latin labored and unsuitable for musical setting. The old legend had to be altered, because the man-boy relationship, wholly acceptable in antiquity, could not be presented in a Christian school; so Apollo was provided with a female lover, the fictitious Melia, leaving Zephyrus high and dry and totally unmotivated. There are few arias, da capo and very long though well put together, and many secco recitatives, written without much conviction or involvement. The little maestro only vaguely understood the Latin text-but then, what should we expect at that age, an Oxford "First" in Latin? The sweet melodic turns and chromatic sighs of Christian Bach dominate, and only in the ensembles do we get a glimpse of the Mozart we know. No. 8, a duet, is a really fine piece, with charming melody and most refined orchestration (first violins muted, second violins pizzicato,
violas divided—how is *that* for an elevenyear-old!). The quasi-through-composed finale, ending in a trio, is also remarkable and patently beyond Leopold's powers, but the rest is quite boring.

Deutsche Grammophon has assembled a prize cast for this ephemeral trifle. Edith Mathis and Arleen Augér are two of the best sopranos in the business, and the two altos, Cornelia Wulkopf and Hanna Schwarz, are also good, though Schwarz's dusky voice is a little fruity. Tenor Anthony Rolfe Johnson is an elegant bel cantist with a true and flexible voice; here, however, it is a little too plangent (as happens when too many appoggiaturas are forced into the vocal line). Leopold Hager leads a very good performance; the orchestra, crisp and precise, never fades into the background and always supports the singers (a far cry from the sleepy Mozarteum Orchestra under old Paumgartner). The sound engineering is first-class. P.H.L.

MOZART: Mass in C minor, K. 427— See page 67.

PANIAGUA: La Folia.

Madrid Atrium Musicae, Gregorio Paniagua, dir. HARMONIA MUNDI FRANCE HM 1050, \$11.98 (distributed by Harmonia Mundi U.S.A., 2351 Westwood Blvd., Los Angeles, Calif. 90064).

Folia de España is the generic name of a chord pattern that took root as a wild Portuguese dance of the late-fifteenth century and evolved, by the end of the seventeenth. into a slow, stately dance. Dozens of composers used the simple bass pattern and characteristic melody as the basis for sets of variations and slow movements in suites; in fact, the folia had become so pervasive that when the French court guitarist Robert de Visée published his first collection of suites in 1682, he noted in his preface that he did not include his own folia setting because "there are so many of them in fashion from which all concerts resound that I could only repeat the follies of others."

Although its use diminished with the advent of the classical era, several nineteenth- and twentieth-century composers have seen the wisdom of setting *folia*, and the latest of them, Spain's Gregorio Paniagua, has done—purposefully and with a sense of humor—precisely what De Visée wanted to avoid. Having unearthed a huge selection of *folia* settings, Paniagua has added a few variations of his own and strung together thirty-six views of the tune. A chart inside the LP's gatefold lists sources and instrumentation for the variations used, while a second list catalogs some of the *folia* settings not included.

This is a strange disc indeed, with one foot in the present and another in the distant past. Some variations are played "straight"—in sober renditions using period instruments and observing Renaissance and baroque stylistic conventions. Others are reorchestrated and brightened up with percussion (including an exploding bottle of cognac) that gives the readings jazzy, comical, and anachronistic textures. Mixed in are bits of Indian ragas, *Pink Panther* theme music, studio chatter, "Turkey in the Straw"-style country dances, jazz improvisations, and automobile sounds.

A gimmicky performance, to be sure (with even a bit of harpsichord music trailing into the run-out groove on Side 1, à la foreign pressings of "Sgt. Pepper"), it is nonetheless both engaging and amusing. One has to admire the versatility of the six Atrium Musicae players, who negotiate the many styles here convincingly, using an extraordinary arsenal of instruments, including families of violins, recorders, krunmhorns, percussion instruments, and

This is a strange disc, with one foot in the present, the other far in the past.

guitars, as well as sitar, tabla, synthesizer, harpsichord, church bells, dulcimer, clarinet, Jew's harp, banjo, alto tuba—just about everything but the standard piano.

This tapestry of timbres is captured vividly, with excellent stereo separation, good, clear highs, and resonant basses, all enshrouded in the smooth and somewhat echoic ambience that is a Harmonia Mundi trademark. This is a fine analog disc, yet strangely, the label has adopted the questionable and deceptive policy of affixing labels reading "Analogue to DIGITAL" on recent releases - a meaningless phrase that, at worst, may lead a buyer to assume this is a digital disc, when the label is actually only claiming that it is equivalent (whatever that means) to one. This misguided tactic is unworthy of Harmonia Mundi's otherwise high standards. A.K.

REGER: Concerto for Piano and Orchestra, in F minor, Op. 114.

Steven Mayer, piano; Hague Philharmonic Orchestra, Ernest Bour, cond. LEONARDA LPI 113, \$8.98 [recorded in concert, November 1, 1980].

The last paragraph of the Reger entry in the 1955 *Grove's Dictionary* does little to hide editor Eric Blom's acerbic dislike for the composer's music: "Reger unquestionably wrote too much music, and almost every work ..., is stuffed far too full of notes and especially of accidentals. His work on the whole is oppressively deficient in light and air. But he was in a sense a great as well as a too abundantly creative musician. What has

earned him lasting respect—if not much affection outside his own country—was not his pretended newness nor any fundamental originality, but his tenacious upholding of the great traditions in composition, based mainly on a study of Bach's art in all its bearings.'

Here, for example, Reger gives us the heart of the Romantic piano concerto, neatly laid out on a slab. All the elements can be heard-the drumroll of Grieg's A minor, a few ruminations reminiscent of Liszt's A major, some of the arabesques of Schumann's concerted works (the rolling sounds of the solo instrument against a backdrop of winds and strings, with everything happening in the same register), and-in the principal theme of the third movement-the dancing Zigeuner rhythms quintessentially associated with the finale of the Brahms Second. All of these thrice familiar sounds percolate in a labyrinthine welter of ornate chromaticism that was the very essence of Reger's style. This formidably skillful concerto, then, rivals Dohnányi's Variations on a Nursery Song for comprehensive eclecticism-but for one missing ingredient: humor.

Lord knows, Reger tries to aerate his music with levity, and admittedly, it has a pervasive—and, initially, persuasive element of charm (what the natives call "Gemütlichkeit"). For all that, my ears and intellect grow giddy from the intoxicating profusion of harmonic activity and dense filigree. The incongruity is all the more apparent when, for instance, Reger tries to make the finale dance with a deformed, clubfooted theme that awkwardly refuses to leave the ground.

The present edition, derived from a radio tape of a 1980 broadcast performance, restores the concerto to currency after a long absence from the domestic catalog. There used to be a spectacular recording by Rudolf Serkin, the most illustrious Reger exponent of our—and perhaps any—time, with Ormandy and the Philadelphians in magnificent support, on Columbia (as well as a more staid account by Erik Then-Berg and Hans Rosbaud on Electrola).

The young American pianist Steven Mayer demonstrates considerable insight into the work, and Bour's orchestral collaboration is sympathetic. In the slow movement, the Hague Philharmonic's characteristically reedy, linear woodwinds evoke the tart sounds of a baroque organ (thus honoring the Bach connection mentioned by Blom). The smallness of scale, however, takes a toll in the outer movements, where (partly as a result of the recording-adequate, though not outstanding) power and tonal definition are lost in a muddle. With its fine pressing and sensitive interpretation, the Leonarda disc is welcome, but if you are lucky enough to own a copy of the old Serkin, hold on to it. H.G.

SCHUMANN: Concerto for Piano and

CLASSICAL Reviews

Orchestra, in A minor, Op. 54. GRIEG: Concerto for Piano and Orchestra, in A minor, Op. 16.

Krystian Zimerman, piano: Berlin Philharmonic Orchestra, Herbert von Karajan, cond. [Günther Breest, prod.] DEUTSCHE GRAMMO-PHON 2532 043, \$12.98 (digital recording). Tape: 3302 043, \$12.98 (cassette).

Claudio Arrau, piano; Boston Symphony Orchestra, Colin Davis, cond. PHILIPS 9500 891, \$10.98. Tape: 7300 891, \$10.98 (cassette).

Herbert von Karajan's name has been associated with these concertos for many years: He recorded the Schumann with Dinu Lipatti in 1948 and both works with Walter Gieseking in the 1950s. Now, after a long absence, he returns to them with another young soloist.

If it seems odd to mention the conductor first, I hasten to explain that these are podium-dominated performances—in the best sense. Karajan's authority and experience impart a symphonic grandeur to both scores—very apt in the Schumann, somewhat questionable in the Grieg. This is patently the same maestro who collaborated with Lipatti and Gieseking, but the intervening years have brought a mellow maturity, an unobtrusive—yet perceptible broadening.

The rhythmic pulse of the new Schumann is just as vital and driving as in Karajan's earlier recordings, but its weighted grandeur and poise make the Lipatti performance (Odyssey 32 16 0141; I wasn't able to rehear the Gieseking) sound callow and rushed-decidedly not the immortal rendering I had remembered. (I now agree wholeheartedly with a friend who has consistently preferred the greater repose and humanity of Lipatti's later performance with Ernest Ansermet, London Treasury STS 15176.) DG's digital recording, with warmth and brilliance combined and a tremendously wide dynamic range (how the tuttis leap out!), conveys the magnificence of the Berlin Philharmonic's playing, and Zimerman's lean, slightly cool tone provides just the right touch of astringency. For all of Karajan's domination, Zimerman in no way sounds inhibited. He contributes lithe, unaffected, detailed pianism, and the reading generates a sense of kinetic momentum that I find irresistible. I like my Schumann dynamic rather than precious.

In the Grieg, I have always felt that Karajan—as a witty friend recently said of another decidedly Germanic maestro— "tries to be dominant, but he's *Teutonic*." His weighty, perfumed, pulled-about conception had a deleterious effect on Gieseking, who contributed sodden, sentimentalized playing in place of the pristine straightforwardness of his two earlier recorded performances. With Zimerman, the orchestral part is beautifully managed, but I'm still bothered by the heavy opulence, by the rhetorical broadening at the least excuse (and sometimes with no excuse at all). Still, personal prejudice aside, these are marvelous performances—undoubtedly the finest such coupling to have come my way in years.

The Philips release presents Claudio Arrau's third pairing of these works (to which can be added still earlier recordings of the Schumann with Karl Kruger and the Detroit Symphony, on RCA Victor 78s, and with Victor de Sabata and the New York Philharmonic. a c. 1950 account recently issued by Discocorp, 1GI 297). And Colin Davis, too, recorded them once before (with Stephen Bishop-Kovacevich, Philips 6500 166). But here it is the eminent soloist who runs the show.

Arrau takes a proprietary view of both works, shaping the phrases lovingly and even editorializing rhythmic values that 1 would have thought (and still do) were best left to their own momentum. For example, an eighth-note/sixteenth-rest/sixteenth-note passage in the first movement of the Schumann comes dangerously near to sounding like triplets; and both times it appears, one episode in the finale gets slower and slower as pianist and conductor expound the bass line with rhetorical deliberation.

For all that, Arrau sounds fresher in these performances than he did some dozen years ago, when he recorded both concertos with Christoph von Dohnánvi and the Concertgebouw (Philips Festivo 6570 170). And if the 1957 readings with Alceo Galliera and the Philharmonia (Angel, deleted) remain his high-water marks in this music, one can only admire the state of his virtuosity as he enters his eighties. (Candor does compel me to mention a few smudges and snatched-at passages at the end of the Grieg, but nothing serious.) Philips this time has wisely put the microphones back a bit, and the pianist's emphatic sonority is consequently far better served than it has been on many of his recent records. Indeed, much of his playing here sounds guite delicate and poetic. H.G.

STRAUSS, J. I, J. II, Josef: Orchestral Works.

Berlin Philharmonic Orchestra, Herbert von Karajan, cond. [Günther Breest and Michel Glotz. prod.] DEUTSCHE GRAMMOPHON 2741 003, \$38.94 (digital recording; three discs). Tape: 3382 003, \$38.94 (three cassettes).

J. STRAUSS I: Radetzky-Marsch, Op. 228. J. STRAUSS II: Waltzes: Accelerationen, Op. 234: An der schönen, blauen Donau, Op. 314; Künstlerleben, Op. 316; Geschichten aus dem Wienerwald, Op. 325; Wein, Weib, und Gesang, Op. 333; Wiener Blut, Op. 354; Rosen aus dem Süden, Op. 388; Kaiser, Op. 437. Polkas: Annen, Op. 117; Tritsch-Tratsch, Op. 214; Leichtes Blut, Op. 319; Unter Donner und Blitz, Op. 324; Eljen a Magyar!, Op. 332; Auf der Jagd, Op. 373. Marches: Napoleon, Op. 156; Persischer Marsch, Op. 289. Perpetuum mobile, Op. 257. Die Fledermaus: Overture; Quadrille, Op. 363. Der Zigeunerbaron: Overture. Josef STRAUSS: Waltzes: Delirien, Op. 212; Sphärenklänge, Op. 235.

Vienna Philharmonic Orchestra, Lorin Maazel, cond. [Günther Breest and Wolfgang Stengel, prod.] DEUTSCHE GRAMMOPHON 2532 018, \$12.98 (digital recording). Tape: 3302 018, \$12.98 (cassette). [Recorded in performance, January 1, 1981.]

J. STRAUSS I: Seufzer-Galopp, Op. 9. J. STRAUSS II: Waltzes: Accelerationen, Op. 234; Rosen aus dem Süden, Op. 388; Frühlingsstimmen. Op. 410. Polkas: Explosions, Op. 43; Tritsch-Tratsch, Op. 214; Leichtes Blut, Op. 319; Stürmisch in Lieb' und Tanz, Op. 393. Ägyptischer Marsch, Op. 335. Der Zigeunerbaron: Einzugsmarsch. Josef STRAUSS: Frauenherz, Op. 166; Transaktionen, Op. 184; Ohne Sorgen, Op. 271. STRAUSS, J. II and Josef: Pizzicato Polka.

Johann Strauss Orchestra of Vienna, Willi Boskovsky, cond. [Christfried Bickenbach, prod.] ANGEL DS 37814, \$10.98 (digital recording). Tape: 4XS 37814, \$9.98 (cassette).

J. STRAUSS II: Waltzes: Accelerationen, Op. 234; Morgenblätter, Op. 279; Lagunen, Op. 411; Schatz. Op. 418. Polkas: Explosions, Op. 43; Leichtes Blut. Op. 319; Unter Donner und Blitz, Op. 324; Im Sturmschritt, Op. 348. Banditen-Galopp, Op. 378. Josef STRAUSS: Feuerfest!, Op. 269.

The Strauss-family industry caters to an apparently inexhaustible market, if these latest entries in three long-standing series are any indication. Lorin Maazel's is a Vienna Philharmonic New Year's Concert-a rubric familiar since the early Decca/London LPs, although only recently have the recordings been made at the actual concerts. Willi Boskovsky, leader of those concerts (and many related Decca/London records) for twenty-five years, has recently concentrated on a series for EMI/Angel, with the "Johann Strauss Orchestra of Vienna." But Herbert von Karajan, who first recorded Johann Strauss (Kaiser and Künstlerleben with the Berlin Philharmonic) for DG back in 1940, has been laboring in the Strauss-yards longer than anyone else-and more repeatedly, too. (Would you believe eight versions of the Fledermaus Overture?)

This new three-disc set represents Karajan's most comprehensive statement on this literature ever, including all but four of the Strauss-family works he has heretofore recorded (missing are the Agyptischer Marsch, Morgenblätter, and Pizzicato, all of them on DG 2530 027, and Josef's Transaktionen, which he has neglected since a 1949 Vienna 78), and adding several "Karajan firsts" (including Accelerationen and Rosen aus dem Süden). The scale and pertinacity of the man's attention to this music, added to his almost mythical stature, might encourage us to think he has some special authority in it. Why, then, do his performances turn out to be so monotonous?

Most of this music was originally written to be played for dancers, rather than performed for listeners—and note that the distinction between verbs there is as germane as that between objects: Not only does concert performance loosen restrictions upon choice (and fixity) of tempo, it invites an attention to expressive artifice,



Astrid Varnay as the Met Elektra, 1952

subsidiary textural detail, orchestral nicety, that would be supererogatory in the ballroom. To be sure, the bigger Strauss waltzes, with their atmospheric, dreamy, or ceremonial (and often nonwaltzing) introductions and codas, already imply this kind of performance. They are in fact already on the way to being symphonic poems *about* the dance, rather than dances themselves, and substantially all modern performances by symphony orchestras implicitly complete this transformation.

The problem with Karajan's performances is thus not that they are "symphonic." for as I have suggested, that is inevitable. What matters is that, over the years, all sense of the dance as subject matter has been refined out of them. This isn't basically a matter of the much-discussed "Viennese style" per se, though that style did entail a kind of phrasing and rhythmic flexibility that have a good deal to do with the music's dance origins (and its gradual waning must have something to do with the disappearance of the waltz as an actually danced dance). In truth, one of the trying features of the Berlin Philharmonic's playing is the self-conscious attention to the traditional Viennese string portamento, which often becomes a steely, oppressive glissando instead of the gracious-to-erotic glide of years gone by. This sort of stylistic feature is, I fear, very difficult to apply from the outside; if it isn't done spontaneously, by second nature, it will probably sound wrong

The Berlin performances of Strauss are sculpted rather than experienced. Much as one can admire the discipline of the execution, the textural and tonal artifice, there's little contact here with what I take to have been the music's original impulse. Not surprisingly, the most enjoyable passages are the 'symphonic' ones, especially those in the Josef Strauss waltzes, where the harmonic lushness is further enhanced by the Berliners' tonal splendor: The opening of *Sphärenklänge* rises to a sumptuous orgasm indeed, following which the stiffly articulated waltzes are charmless and anticlimactic.

The shorter pieces are turned into little more than orchestral showpieces, their individuality consequently suppressed. Leichtes Blut, a fast polka common to all three new releases, is typical: Boskovsky gives it a big, boomy, energetic ride, Maazel makes it faster and lighter, Karajan takes it more stiffly-but all three offer minor variants of essentially the same uninflected gallop down the homestretch, a star turn, an athletic feat. For comparison, I dug out a 1929 recording by Clemens Krauss and the Vienna Philharmonic, to discover quite a different piece. There's more here than a whip-cracking top line and pounding percussion: for example, the principal episode has an upbeat-to-downbeat figure in the bass that can interplay and intersect engagingly with the tune and its stress patterns. Even the briefest suggestion of tempo relaxation can give point to a structural juncture and fresh impetus to the revived tempo. A variety of orchestral attack and accent can be heard that seems undreamt-of by the modern conductors. Krauss takes us on a roller-coaster ride rather than a flat race, making precise the individuality of this particular piece and at the same time evoking the unpredictability that should be a valid part of any spontaneous dance experience

Regrettably, none of Krauss's Johann Strauss recordings, not even his postwar Decca/London series from Vienna, seem to be available right now, and his particular craft seems to have been lost in the decades since his death. Boskovsky's performances have none of the specificity or refinement of Krauss's; his latest record is rather relentless and stodgy, and the novelties of repertory are not especially interesting. Maazel benefits from the Vienna Philharmonic's apparently still direct and spontaneous feeling for the style (compare their Rosen aus dem Süden with the Berlin's woozy sliding), but his own militaristic tendencies sometimes overcome the orchestra's innate discretion (e.g., the brassy, nasty climactic tune of the same waltz's coda). Like traditional New Year's Concert recordings, this one offers two waltzes per side and an assortment of shorter works, some familiar and some novelties (Josef's Frauenherz, a gracious polka-mazurka, is the prize among these). The applause, along with some incidental banging-around between pieces, is not too distracting.

All three of these are digital recordings. I find the Karajan, with its explosive timpani detonations, the least attractive; the Boskovsky is clamorous but tolerable, the Maazel almost natural. Does the correspondence between the performances and the sound qualities argue in favor of the accuracy of digital sound?

STRAUSS, R.: Salome, Op. 54.*

D. H.

CAST:	
Salome	Ljuba Welitsch (s)
A Slave	Paula Lenchner (s)
Herodias	Elisabeth Höngen (ms)
Page of Herodias	Herta Glaz (ms)
Herod	Set Svanholm (t)
Narraboth	Brian Sullivan (t)
Jews Gabor Carell	i (t). Thomas Hayward (t),
Alessio de	Paolis (t), Paul Franke (t),
	Gerhard Pechner (bs)
Jokanaan	Hans Hotter (b)
Nazarenes	Alois Pernerstorfer (b).
	Emery Darcy (t)
A Cappadocian	Osie Hawkins (bs)
Soldiers	Norman Scott (bs),
	Lubomir Vichegonov (bs)

STRAUSS, R.: Elektra, Op. 58.†

CAST:	
Elektra	Astrid Varnay (s)
Chrysothemis	Walburga Wegner (s)
The Trainbearer	Paula Lenchner (s)
Klytämnestra	Elisabeth Höngen (ms)
The Confidante	Jean Madeira (ms)
The Overseer	Thelma Votipka (ms)
Serving Maids	Martha Lipton (ms), Herta
Glaz (ms), !	Mildred Miller (ms), Lucine
Amar	a (s). Genevieve Warner (s)
Aegisth	Set Svanholm (t)
A Young Servant	Paul Franke (t)
Orest	Paul Schoeffler (b)
Guardian of Orest	Alois Pernerstorfer (b)
An Old Servant	Lubomir Vichegonov (bs)

Metropolitan Opera Chorus[†] and Orchestra, Fritz Reiner, cond. MET 9 (mono; four discs, automatic sequence) [recorded in performance, January 19* and February 23[†], 1952]. Available with a donation of \$125 or more to the Metropolitan Opera Fund, P.O. Box 930, New York, N.Y. 10023.

STRAUSS, R.: Elektra, Op. 58 (excerpts).

Elektra	Inge Borkh (s)
Chrysothemis	Francis Yeend (s)
Orest	Paul Schoeffler (b)
Chicago Lyric	Theater Chorus. Chicago
Symphony Orchestra	, Fritz Reiner, cond. RCA
GOLD SEAL AGL 1-3	879, \$5.98. Tape: AGK 1-
3879, \$5.98 (cassett	e). [From RCA LM 6047,
mono, 1956.)	

Both Met performances start promisingly. In Salome, we hear Narraboth's obsession with the princess given bright, ringing voice by Brian Sullivan and interrupted by the strikingly firm Page of Herta Glaz. In Elektra, hearing the scene of the Serving Maids actually sung suggests how accustomed we've become to hearing it yawped. The lower-voiced Maids are especially impressive; the Met would appear to have been abundantly supplied in those years with comprimario mezzos-and tenors, as witness the Jews in Salome, not to mention Paul Franke's robust turn as the Young Servant in Elektra. Not to slight the lower male voices, the opening scene of Salome is graced by the nappy First Soldier of Norman Scott, solidly seconded by Lubomir Vichegonov (also a solid Old Servant in Elektra).

Unfortunately both performances

CLASSICAL Reviews

quickly run into trouble. In Salome, it's a one-two punch of Hans Hotter's shuddery Jokanaan quickly followed by Ljuba Welitsch's first entrance, when we are warned that this performance will be only a pale reflection of what must have been a blazing Salome a couple of seasons earlier. I've never heard the 1949 broadcast, from her spectacular debut season, but we do have the studio recording made that year with Reiner (Odyssey 32 16 0078) to remind us of the voice's earlier vibrance and penetration. Here the sweep and thrust are gone. and the girlish timbre that lingers in the midrange and below sounds almost like a parody of Welitsch's earlier self.

In *Elektra* too, the heroine's entrance is bad news. The monologue is the weakest part of Astrid Varnay's performance, and only partly because the voice isn't warmed up yet. It's true that her 1951 radio recording (Acanta 22 22645-3) has more cutting power and at least some tonal warmth, but even that performance communicates little sense of the human being surviving under all the psychological wreckage. Compare the tonal warmth of Inge Borkh's performance in RCA's 1956 studio recording with Reiner, now given its first stereo release.

Varnay does get better. Elektra's bitterness and sarcasm begin coming out in the scenes with Chrysothemis and Klytämnestra, and by the time of the second scene with Chrysothemis, following the false report of Orest's death, she is ready to really cut loose. Since stamina seems not a problem for Varnay once she gets that lumbering voice in gear, it's rather a shame that the standard performance cuts are made in all three of these scenes; she might have made something of that music. Don't assume from the above that she can't sing lyrically: When she sets herself for the gentle music following the recognition of Orest, she sings quite attractively, but it's as if from another voice altogether, lacking any secure access to the top-even to those Fs.

Paul Schoeffler is heard to better advantage in the RCA studio recording of the Recognition Scene—vocally firmer, especially lower down, and less fatigueprone—but he remains a solid Orest, and it's good to hear a voice of appropriate Heldenbariton caliber in the music. Elsewhere in the casts, Set Svanholm's beefy Herod and Aegisth are vocally above average for the roles, but I don't hear much distinctive in them, while Elisabeth Höngen is a vocally adequate Herodias and tolerable Klytämnestra.

Walburga Wegner gets off to a fairly good start in Chrysothemis' first scene, showing a voice of some size and attractive timbre. The voice doesn't hold up well to the music's increasingly fierce demands, however. Pretty much the same is true of Francis Yeend, heard in RCA's final *Elektra* excerpt, the final scene (from Chrysothemis' entrance following the murder of Aegisth). This is another basically good voice that just doesn't surive the assault. Among the smaller roles, the one major disappointment is Alois Pernerstorfer's nondescript First Nazarene in *Salome*.

This leaves us with Reiner's conducting, which I find disappointing. Although the orchestra isn't prominently recorded in either performance, the playing doesn't sound terribly interesting, and the more excitable stretches of *Elektra* sound pretty scrappy. (Where Salome had been in the repertory for three of the last four seasons. Elektra five days before the broadcast had received its first Met performance since before the war.) Both performances are of the let's-get-on-with-it sort. In both operas, the idea seems to be to build toward a rousing climax, at the expense of the range of colors and emotional values of the earlier scenes. Compare the weight and brooding

The Met set offers some aesthetic return—but not what you might expect.

quality of the orchestral introduction to Elektra's monologue in the Chicago performance with the scrappy and perfunctory Met version.

As with many issues in the Met series, you'll get some aesthetic return for your contribution. But for what you might expect to be the principal attractions, Welitsch's Salome and Reiner's conducting, you're likely to get more return from the bargainpriced Odyssey and Gold Seal discs. The latter, incidentally, comes without texts. The Met set once again comes with the standard house librettos and a booklet containing essays (I found the artist bios discreetly uninformative) and pictures. K.F.

TCHAIKOVSKY: Concerto for Piano and Orchestra, No. 1, in B flat minor, Op. 23.

Martha Argerich, piano; Bavarian Radio Symphony Orchestra, Kiril Kondrashin, cond. PHILIPS 6514 118, \$10.98. Tape: 7337 118, \$10.98 (cassette). [Recorded in concert, October 1980.]

Van Cliburn, piano; orchestra, Kiril Kondrashin, cond. [John Pfeiffer, prod. and reissue prod.] RCA RED SEAL ATL 1-4099, \$15.98 (half-speed remastering). Tape: ATK 1-4099, \$15.98 (cassette). [From LSC 2252, 1958.]

Since some have already compared the Argerich/Kondrashin version, recorded at a concert in Munich's Herkulessaal in October 1980, to another live-performance recording—the famous 1943 Horowitz/ Toscanini War Bond Concert—I hasten to point out the absurdity of such a claim. It's

almost embarrassing to mention this latest "sensation"—tonally anemic, structurally shapeless, musically undisciplined—in the same breath with the authentically sensational RCA document (LM 2319). Yet juxtaposition provides a fascinating demonstration of the difference between hysteria and galvanic poise; between thoughtlessly rushing to the next note or phrase and taking a slight hairbreadth delay—so important psychologically; between using rubato and tempo fluctuation with mindless impulsiveness and applying them in a disciplined way to produce imperious larger structures.

Argerich is, to be sure, a gifted and natural pianist, but her lyrical, small-scale tone and smooth legato do not project anything like enough power or dramatic resourcefulness: Her fast playing is just that—fast and rushed; Horowitz, on the other hand, makes the hair stand on end. Philips' distant, reverberant sound, moreover, puts both pianist and orchestra at a severe disadvantage. Dated sound and all, one can actually hear more of what is going on in the nearly-forty-year-old RCA transcription.

What annoys me most about Argerich's playing here is its evident egotism: When she doubles the speed at her entry into the first-movement development, she draws attention to herself, to her ability to play octaves faster than anyone else, and away from the fact that these octaves are merely an intelligent continuation of what the orchestra had been doing. (The same indiscretion can also be found, albeit in smaller measure, in her studio version, DG Privilege 2535 295.)

Philips bills its disc "Hommage à Kirill Kondrashin," but the late conductor's memory is much better honored by his 1958 collaboration with Van Cliburn. Just how fine that version is is demonstrated by RCA's new half-speed remastering. It must have been a pleasure for the original producer, John Pfeiffer, to be able to restore this classic all these years later-and with such brilliant success. Surprisingly, this account, which I once considered the antithesis of the Horowitz/Toscanini approach, now seems to have points of similarity, especially in its spacious projection of rhetoric, its tonal weight, and its sheer authority. But of course, my initial basis of comparison was the 1941 Horowitz/Toscanini studio recording, since superseded by the much broader-and more effective-1943 account.

Cliburn, fresh from his win at the Moscow Tchaikovsky Competition, has a huge sound and negotiates all the hurdles with unforced grandeur and a lyrical emphasis that never detracts from the piece's blood and thunder. Kondrashin obtains more incisive work from the American pickup ensemble (probably a mix of New York Philharmonic and Symphony of the Air players) than from the Bavarian aggregation. H.G.

CLASSICAL The Tape Deck

Critiques of new cassette and open-reel releases by R.D. Darrell

Splurging

Year-end holiday seasons traditionally encourage damning the expense to go full speed ahead in buying what normally might be considered extravagant presents for one's friends and oneself. Even in hard times, there is no lack of temptations: premium-price recordings—especially, nowadays, quasi-handerafted limited editions and other state-of-the-art technological "specials."

Witness the elitist appeal of Tudor Guild's debut musicassettes (P.O. Box 398, Harvard Square, Cambridge, Mass. 02138): real-time duplications in Dolby B and Agfa 611 gamma/ferric tape at \$12.95 each (\$15.95 for extended-play programs), plus \$1.10 shipping; or for the really wellheeled, in Dolby B or C, or DBX 11, on Nakamichi ZX Metalloy at \$25 and \$30, respectively!

First Tudor releases all feature harpsichordist Joseph Payne-well-known to Elizabethan and Bach specialists for his earlier Vox, RCA, and Musical Heritage recordings-in characteristic virtuosic, zestfully impetuous form. Topping the three gamma/ferric exemplars I've heard is what must be the first complete taped Parthenia-"Maydenhead of the First Musicke that ever was printed for the Virginalls"-twenty-one delectable pieces by Byrd, Bull, and Gibbons (TG 101). Payne's single-manual Zuckermann Flemish-VI harpsichord, superbly recorded indeed, is somewhat bigger-toned than true tabletop virginals, but the music may be all the better for that. So, too, Domenico Scarlatti's thirty Essercizi (TG 103); half are played on the same instrument, half on a still larger and more brilliant Way period replica. Payne plays these works more distinctively than did Scott Ross in a 1980 Telefunken set (24.35487), and his less generous observance of repeats does have the advantage of requiring only one rather than two cassettes. Bach's six French Suites also enjoy the convenience of a single, albeit extended-play, tape (TGE 102). Here the competition is of course much more severe, but while I prefer Gustav Leonhardt's more magisterial four-sided Pro Arte version (2PAC 2015), Payne's benefits from a sense of lively personal relish as well as from the dramatic presence of his powerful Zuckermann Flemish-II instrument.

Even scarier realism (typical of all the real-time duplications of the Direct-to-Tape Recording Co., 14N Station Ave., Haddon

Heights, N.J. 08035) practically materializes flutist Linda Wetherill in Bach's S. 1031 Sonata, with harpsichordist Judith Norell, and S. 1013 Partita (DTR 8112, \$13, plus \$2.00 shipping). I've heard the DBX II open-reel edition; as usual, there is also a wide choice of chrome-cassette encodings of these vivacious, deft performances, which, however, make no pretension to stylistic authenticity.

Two of the majors' latest Prestige boxes (digital/superchrome) have been eagerly anticipated: Charles Mackerras' Cunning Little Vixen (London LDR5 72010, \$25.96) surpasses his earlier Janáček opera triumphs-and even Vaclav Neumann's fine 1981 Supraphon version (Pro Arte 2PAC 2012). Enchanting sonically as well as musically, Mackerras' recording features a Czech cast, starring Lucia Popp, and the Vienna Philharmonic Orchestra. As for "Horowitz at the Met" (RCA Red Seal ATK 1-4260, \$15.98), what new can be said about the pianist's undiminished virtuosity? Only that he quite outdoes himself in this November 1981 recital, especially in the six Scarlatti sonatas and the Rachmaninoff Alla marcia Prelude, captured in the most gleaming Soundstream digitalism.

Then, at the slightly less exorbitant price of \$11.98 each, two new Nonesuch ferric tapes combine uncommonly imaginative programming with first-rate JVC digital recording: the charming Cherubini Symphony in C coupled with two rarely heard Rossini overtures, all played with infectious verve by Gerard Schwarz and the Los Angeles Chamber Orchestra (D1 79023); and also from Los Angeles, the Vocal Arts Ensemble's extensive samplings of Rossini's fascinating miniatures, *Sins of My Old Age* (D1 79027), which Kenneth Furie reviewed in detail in last August's HF.

... and budgeteering. For those of us who can't afford to splurge (on records or anything else), luckily there's always an enticing variety of relatively inexpensive choices, even including a couple of new series of nonpremium hi-tech tapings. The Moss Music Group's digital/ferric specials feature the late Boyd Neel's Toronto Chamber Orchestra in a "Baroque Favorites" miscellanv (D-CMG 112X, \$7.98), a vivid memento that the baroque pioneer's old admirers can't resist despite its now undeniably anachronistic style. Tioch's "audiophile-quality" digital/chrome series (\$8.98 each) began with four warhorse programs by José Serebrier and Australian orchestras, which I haven't yet heard. But two later ones run a real gamut from the ear- and toe-tickling (pianist Clive Lythgoe's "Fascinating Rhythm" and other Gershwin Songbook arrangements, in DC 1006) to the uninhibitedly vulgar (Victorian and baroquen-down horrors roared out by Calvin Hampton on a rebuilt 1886 church organ that rivals the worst of the Mighty Wurlitzers, in DC 1005).

The best all-round bargains may well be those from a brave little independent producer (\$4.95 each, plus \$1.50 shipping; Spectrum, Harriman, N.Y. 10926)—as exemplified by an utterly bewitching program of Wolf-Ferrari: pops-favorite overtures and dances, plus a mellifluous early string serenade, all played with immense relish by Heinz Rögner and Berlin orchestras (SC 252; also just out in a Barclay-Crocker open-reel edition, E 152, \$8.95).

But comparably low-priced (\$4.98 each) and more generally available is Moss Music Group's Allegro series of recycled Vox monos. Some are unique treasures, like Guiomar Novaes' incomparable Beethoven Fourth Concerto, with Hans Swarowsky, and *Moonlight* Sonata (ACS 8050). Others valuably document such fine artists as cellist Gaspar Cassadó, with Jonel Perlea, in the Dvofák B minor Concerto (ACS 8062), and Jascha Horenstein, with violinist Ivry Gitlis, in the Bruch First and Sibelius Concertos (ACS 8080). And except in the last, badly aged, the sonic qualities have worn remarkably well.

Among the \$5.98 cassettes, Everest amazes me with its truly extraordinary "Young Prometheus," fugal exercises from Beethoven's 1794-95 studies with Albrechtsberger, sumptuously transcribed and conducted by Alexander Brott with the CBC Festival Orchestra (3419). Among the more routine reissues, there's potent specialist appeal to two collections: "Young Casals," from ancient Columbia acousticals (3323), and "Callas Is Medea," excerpts from the 1957 Mercury opera set (3351). And from Nonesuch comes what may be the "best buy" of the season: Stravinsky's magical ballets Apollo and Orpheus in luminously lovely recorded performances by John Lubbock with a British chamber orchestra (H4 71401).

Finally, the new London Jubilee midprice (\$6.98) series leads off with memorable "firsts": Barry Tuckwell's first recording of the Mozart horn concertos, with Peter Maag (JL5 41015), and Vladimir Ashkenazy's first go at the Rachmaninoff Second Piano Concerto, with Kiril Kondrashin (JL5 41001).

BACKBEAT

The Audiophile Collector

Fifteen "specialty" discs from the Beatles to Steely Dan by Sam Sutherland IT WOULD CLEARLY OVERSTATE the case to argue that today's audiophile recording market is too much of a good thing. But the proliferation of high-tech LPs and cassettes employing a wide array of raw materials and manufacturing techniques has muddied the waters somewhat for consumers intent on getting the best-sounding software available (see "Sound Views," this issue). While there have long been fanatically produced recordings aimed at an audiophile minority, the emergence of high-tech reissues offering familiar popular repertoire changed the game during the late '70s.

Since those earliest half-speed remasterings of rock, pop, jazz, and classical hits, the field has filled rapidly with new options: Digitally mastered albums have been joined in turn by such hybrid products as "digitized" half-speeds, DBX-encoded discs, and cassettes duplicated in real time. Imported LPs that long held a lofty reputation for classical and jazz, and acquired a mystique for rock fans in the late '60s, are again being touted for their better quality. This time around, however, it's Japanese pressings, as opposed to English or German, that carry the highest prestige. And as before, foreign origin appears to legitimize the higher price in many consumers' eyes.

Most audiophile products can be expected to afford at least minimum gains in playback performance. The rub is the cost for those enhancements and how apparent they are: A collector or fan might justify a virtual doubling of retail price if the album boasts sturdier or more elaborate packaging; an audiophile may find the same release's audible improvement grossly underwhelming and therefore not worth the investment.

What follows is a roundup of recent albums reflecting the diversity of premium recordings. Included are half-speed titles, which continue to drive the market, Japanese imports usually marketed in the same price range if not the same "audiophile"



La Pièce de Résistance

THE MOST AMBITIOUS half-speed venture to date has to be Mobile Fidelity's "The Beatles — The Collection," which fetches a whopping \$325 for its elaborately packaged, budget-breaking reissues of the Fab Four's original U.K. recordings on Parlophone and later Apple, plus Capitol's "Magical Mystery Tour." Mobile Fidelity's previous reissues of "Abbey Road" ('69), "The Beatles White Album" ('68), and "Magical Mystery Tour" ('67) proved satisfying in that order, implying that the more recent the master, the more fertile the ground for improvement. In fact, this is not the case: Based on test pressings of the quartet's U.K. debut, "Please Please Me" ('63), the pivotal "Revolver" ('66), and previews of tracks from "Beatles for Sale" ('65) and "Sgt. Pepper's Lonely Hearts Club Band" ('67) the earlier material proves more revelatory.

One obvious reason is that the Capitol recordings to which these new versions will be compared were bowdlerized in mastering and sequencing, up through "Revolver." (After that LP, the Beatles secured final say from Capitol on their U.S. releases.) Thus, it's exhilarating to hear

bin, and examples of recordings unique to the genre. This last represents the origins of audiophile software; it may also suggest an element of the future, since the number of suitable masters for reissue is itself finite.

Half-Speed Remastered Albums

One recent standout among half-speed discs is Frank Sinatra's "Nice 'n' Easy" (Mobile Fidelity MFSL 1-086). An early '60s recording of The Voice in its second their early collaborations with producer George Martin absolved of the overmodulation and haphazard choice in mixes that plagued the Capitol-distributed albums. Paul McCartney's bass now looms with depth and visceral presence, Ringo Starr's bass drum and cymbal work gets new punch, and vocals and guitars overall likewise reap new clarity.

Even when compared to British pressings in the original Parlophone packages, Mobile Fidelity's work extracts added nuance while maintaining higher signal levels. Granted collectors can still find a British EMI boxed set of imports for roughly a third of the new set's price, but audioconscious fans will still want to hear these half-speed versions. The package includes a Geo-Disc, for optimal cartridge alignment, and a booklet with four-color reproductions of the LPs' original artwork. Individual album covers carry photos of their respective master tapes' studio logsheets. The fourteen-disc collection reportedly is being limited to 5,000 copies. Mobile Fidelity has said that it will issue the albums individually once the boxed sets have sold out. S.S.

wind, it was originally produced for Capitol by Dave Cavanaugh with arrangements from Nelson Riddle. The remastering process not only restores the orchestral detail inevitably lost in later pressings, but also points up the technical advantages to Sinatra's ''old fashioned'' insistence on cutting live with his accompaniment. Without extensive overdubbing, the stereo image that emerges is real, not electronically assembled, adding depth and richness to the sound.

Those gains contrast the modest improvements on a multichannel extravaganza deemed a studio masterpiece in its heyday, "Crosby, Stills & Nash" (Nautilus NR 48). The better vinyl and half-speed etching do eke improved dynamic range and channel separation when compared to the original Atlantic version, but when cranked up to a respectable rock volume. one can still hear the consequence of those hundreds of overdubs — i.e., residual tape noise. Granted that technique allowed Stephen Stills to tackle the lion's share of guitar, keyboard, and bass work, as well as helping to create the trio's layered vocal signature. But in this spruced-up reincarnation, CS&N emerge with a rather flattened stereo image and slightly pinched instrumental timbres.

Steely Dan's "Gaucho" was one of the cleanest, most detailed recordings ever released by MCA. But the news that it would be among that label's first releases in its new audiophile line invited some skepticism, primarily because MCA's standard for its regular pressings has been less than inspiring. As it turns out, the half-speed "Gaucho" (MCA-16009) is a triumph, rivaling Mobile Fidelity's dazzling "Aja," which is recognized as one of the very best pop audiophile reissues to date. Compared to the impressive original, the blue chip "Gaucho" boasts a more solid stereo image, improved separation, low noise, and pristine surfaces.

If Steely Dan and producer Gary Katz have fared well in audiophile configurations, Quincy Jones has represented something of a paradox. His conventionally pressed productions have consistently defined the state of the art - so much so, it seems, that added enhancements have afforded negligible gains in playback. This is reflected in CBS Mastersound's reworking of the Jones-produced "Off the Wall" by Michael Jackson and in the more recent half-speed of the Brothers Johnson's "Turn Up the Night," released by Sweet Thunder, a small West Coast audiophile label. Although the Nautilus version of Jones's own Grammy-gobbling "The Dude" (NR 52) is easily the most successful audiophile rendering of his work, the improvements are subtle. (A&M's original version of the LP was of top quality.) Imaging and separation are better defined, but tonal balance seems unaffected. There may be a bit less noise, but that is apparent only at top volumes. Here again, the likely durability of the pressing compound and the immaculate surfaces are the biggest gains.

The audible improvements in Mobile Fidelity's half-speed version of Jethro Tull's "The Broadsword and the Beast" (MFSL 1-092) are mostly in bass response and separation. The original album was arguably the band's best in several years, thanks in large part to producer Paul Samwell-Smith and Tull's most technically accomplished lineup ever. But given the hefty price increase, the deluxe version seems almost redundant.

Two recent Nautilus half-speeds add weight to the supposition that synthesizers and electronic keyboards in particular benefit from audiophile treatment. The Cars' "Candy-O" (NR 49) is more successful than the label's earlier high-end reissue of "The Cars," despite no changes in instrumentation or choice of producer, Roy Thomas Baker. The chief beneficiary is keyboard and synthesizer stylist Greg Hawkes, whose work has greater texture here, although Ric Ocasek's vocals and David Robinson's drums are also enriched. "Winelight" by Grover Washington, Jr. (NR 39) is as mellow as "Candy-O" is nervous, but it too is improved by the halfspeed etching. Washington's reeds gain presence and detail, yet once again it is the keyboards (by Paul Griffin, Richard Tee, and Raymond Chew) and synthesizers (Bill Eaton and Ed Walsh) that are enhanced dramatically.

Japanese Imports

Jazz collectors are already familiar with the advantages of imported Japanese LPs, since that nation's buffs have long demanded not only technical quality but, in the case of older titles, faithfully restored originals rather than repackaged anthologies. Now, attention to detail among pop and rock fans has created a market for highpriced Japanese imports of that genre. As a result, at least two audiophile firms here, Nautilus and Audio Source (already well established for European audiophile imports), have stepped up their roles as domestic distributors.

While consumers can expect quieter, cleaner pressings and sturdier packaging, they may find their experiences with Japanese discs a little baffling: Although both conventional (but nonetheless superb) and audiophile pressings are available, the physical distinction between them can be noted only in the ideograms on the paper belly-band slipped around the album.

Gains range from modest to substantial. Fleetwood Mac's "Mirage" (Warner Bros./Warner-Pioneer P 11121) offers improvements even over the custom promotional domestic pressings manufactured on Vytec's premium Quiex II compound. There's a tad more bass, vocals are marginally cleaner, and the surfaces are immaculate.

More typical is Talking Heads' "Remain in Light" (Sire/Nippon-Phonogram SRK 6095), whose more audible difference has been achieved largely through a quieter pressing compound and the absence of surface debris. Distortion, frequency response, and channel separation aren't dramatically changed. The package includes one curious addition — a lyric sheet and

An Audiophile Sampler

The number of audiophile recordings by familiar pop, rock, soul, and country artists continues to grow. What follows is a representative list of titles that have reached U.S. record bins during

Air Supply: Lost in Love. Nautilus (half-speed remastered).

- Aliman Bros, Band: Live at the Fillmore. Nau-
- tilus (half-speed remastered). Herb Alpert: Rise. Mobile Fidelity (half-speed remastered).
- Asia. Geffen/CBS-Sony 25AP 2299 (Japanese import).
- The Band: Music from Big Pink. Mobile Fidelity (half-speed remastered).
- David Bowie: The Lodger. RCA RPL 2107 (Japanese import).
- David Bowie: Ziggy Stardust. Mobile Fidelity (half-speed remastered).
- Kim Carnes: Mistaken Identity. Mobile Fidelity (half-speed remastered).
- Cars: Candy-O. Nautilus (half-speed remastered).
- Cars: Shake It Up. Elektra/Warner-Pioneer P 11087E (Japanese import).
- The Clash: Combat Rock. CBS-Sony 25-3 P 353 (Japanese import).
- Elvis Costello: Almost Blue. F-Beat/Warner-Pioneer P 1107X (Japanese import).
- Dire Straits: Communique. Vertigo RJ 7588 (Japanese import).
- Go-Go's: Beauty and the Beat. 1.R.S./CBS-

the past year, most available only in disc but some also in cassette. We have included the catalog numbers for Japanese imports for easy identification.

Sony 25AP 2140 (Japanese import).

- Hall & Oates: Abandoned Luncheonette, Mobile Fidelity (half-speed remastered).
- John Lennon/Yoko Ono: Double Fantasy. Nautilus (half-speed remastered).
- Oregon: Distant Hills. Mobile Fidelity (halfspeed remastered).
- Alan Parsons: I Rohot. Mobile Fidelity (halfspeed remastered).
- Queen: A Night at the Opera. Mobile Fidelity (half-speed remastered).
- Rolling Stones: Some Girls. Rolling Stones/ Toshiba-EMI ESS 81050 (Japanese import).
- Roxy Music: Greatest Hits. Polydor MPF 1126 (Japanese import).
- Bruce Springsteen: The River. CBS-Sony 40AP 1960-1 (Japanese import).
- Bruce Springsteen: The Wild, the Innocent & the E Street Shuffle. CBS-Sony 25AP 1273 (Japanese import).
- Supertramp: Breakfast in America. Mobile Fidelity (half-speed remastered).
- The Who: Quadrophenia. CBS-Sony 40AP 1259-60 (Japanese import).
- Steve Winwood: Talking Back to the Night. Island/Polystar 25S 129 (Japanese import).

liner that augments the original information with an essay on the record's stylistic bent and production history.

Even more impressive is a CBS/Sony audiophile version of Toto's "Toto IV" (30AP 2312), digitally mastered and released under the Master Sound series in Japan. Apart from dramatic improvements in dynamic range, surface noise, and detail, the set also comes in an elaborate slipcase. Its price is in line with the less expensive domestic CBS Master Sound LPs. Until that label releases its own "Toto IV" remaster, its Japanese affiliate may keep a nice franchise.

Unique Audiophile Albums

Although reissues now account for most of the volume in audiophile sales, there are signs that custom recordings are once again on the rise. In the realm of new repertoire are Nautilus' recent digital sessions with Lalo Schifrin and Steppenwolf. A lesser-known Omaha label, American Gramophone, has released a series of LPs by Mannheim Steamroller, a studio instrumental ensemble built around drummer, synthesizer player, and composer Chip Davis and a shifting cast of partners. As digitally recorded on the most recent release, "Fresh Aire 4" (AG 370), Davis" fusion of jazz and classical elements sounds as if it was arranged with sonics in mind. Pipe organ, harpsichord, lute, oboe, and strings mesh with electric bass, panoramic rock drumming, chimes, and synthesizers to ear-filling effect. If Davis' melodic ideas are ultimately thinner than the rich arrangements surrounding them, the album, like its predecessor, establishes its own seductive identity

Another new wrinkle is the arrival of reissues of titles otherwise deleted from U.S. catalogs. A first-rate example is Mobile Fidelity's two-disc, half-speed release of an early '70s Buddah set, "The Blues — A Real Summit Meeting" (MFSL 2-518), originally recorded live during a 1973 Newport in New York concert. B. B. King, Muddy Waters, Big Mama Thornton, Eddie "Cleanhead" Vinson, Clarence "Gatemouth" Brown, Jay McShann, Lloyd Glenn, and Arthur "Big Boy" Crudup are featured, and the remote sound, produced by Mark Abramson, is superb.

Finally, it's worth checking out "Chooglin'," a Creedence Clearwater Revival anthology recently released by Fantasy (F 9621). Half-speed remastered and pressed on CBS's premium "Masterworks" vinyl, the collection favors that quartet's longer album tracks, notably *Born* on the Bayou and I Heard It Through the Grapevine. If the latter track isn't quite as impressive an improvement on the original as Mobile Fidelity's version (on that company's half-speed "Cosmo's Factory"), the LP as a whole is pretty nifty at a list price of \$8.98.



BUSINESS REPLY CARD

FIRST CLASS PERMIT NO. 550 PITTSFIELD, MASS.

Postage will be paid by addressee



Reader Service 82 P.O. Box 1143 Pittsfield, Mass. 01202

High Fidelity. FREE PRODUCT DA

Please o	circle the a		Please circle the appropriate number/s:	 		1		
-	0	°	4	S	9	7	œ	
6	10	Ŧ	12	13	14	15	16	
17	18	19	20	21	22	23	24	
25	26	27	28	29	30	31	32	
33	34	35	36	37	38	39	40	
41	42	43	44	45	46	47	48	
49	50	51	52	53	54	55	56	
57	58	59	60	61	62	63	64	
65	99	67	68	69	70	71	72	
73	74	75	76	11	78	79	80	
81	82	83	84	85	86	87	88	
89	06	91	92	6 3	94	95	96	
97	98	66	100	101	102	103	104	
Dear I	Editor:							
In gen	eral, I w	ould like	In general, I would like more coverage	overage	of		İ	
andly	vould lik	te less c	and I would like less coverage	of				
In this	In this issue I	l liked				the most and	st and	
				ţ	the least.			
I would	would also like to	ke to sug	suggest that	at				
		6						
ADDRESS	55				A	ADT		
CITY				STATE	ZIP			
Card voi	id if maileo	Card void if mailed after 3/1/83						
(Piea:	te rememb	er it takes 4	-6 weeks fo	or processir	(Please remember it takes 4–6 weeks for processing and delivery of literature.) THANK VOILE FOR VOILD INTEDECT IN ULCURE ITV	ery of literat	ure.)	
							N/Z/ZI	

HIGH FIDELITY's Reader Service Program puts you in contact with manufacturers anxious to send you free information about their merchandise and services. Simply circle the key numbers that match editorially featured or advertised products in which you have more interest.

Please be sure to complete the name and address section of our postagepaid reply card, including your zip code, to insure accurate delivery of brochures. Allow four to six weeks for processing.

You may also use the reply card to contact our editors: we are interested in you and in your opinions, so feel free to complete that section of the card in confidentiality.

Thank you.

READER SERVICE **NOW INVITES** YOUR **EDITORIAL** COMMENTS!

ŝ	Card	CITY	ADD	NAME	WOL		In thi	and	Dear In ge	97	89	81	73	65	57	49	41	<mark>3</mark> 3	25	17	9	-
THAT	Card void if mailed after 3/1/83		ADDRESS		uld also I		In this issue I liked	would li	Dear Editor: In general, I v	86	90	82	74	66	58	50	42	34	26	18	10	N
IK YOU FO	led after 3/				ike to su		liked	ke less	vould lik	99	91	83	75	67	59	51	43	35	27	19	1	ω
	1/83 = 4_6 weeks				would also like to suggest that			and I would like less coverage of	e more o	100	92	84	76	89	60	52	44	36	28	20	12	4
THANK YOU FOR YOUR INTEREST IN HIGH FIDELITY	rd vold if mailed after 3/1/83 (Disease researched it takes 4-5 weeks for processing and delivery of literature.)	_ STATE _			lat	=		e of	Dear Editor: In general, I would like more coverage of	101	93	85	77	69	61	53	45	37	29	21	13	сл
IN HIGH F	sing and de	ZIP				the least.			of	102	94	86	78	70	62	54	46	38	30	22	14	6
IDELITY	ivery of lite		APT.				_the most and			103	95	87	79	71	63	55	47	39	31	23	15	7
12/2/N	rature.)						ist and			104	96	88	80	72	64	56	48	40	32	24	16	œ

High Fidelity FREE PRODUCT DATA

BUSINESS REPLY CARD FIRST CLASS PERMIT NO. 550 PITTSFIELD, MASS.

Postage will be paid by addressee

High Fidelity

Reader Service 82 P.O. Box 1143 Pittsfield, Mass. 01202

NO POSTAGE	
NECESSARY	
IF MAILED	
IN THE	
UNITED STATES	

READER SERVICE NOW INVITES YOUR EDITORIAL COMMENTS!

Please circle the appropriate number/s

HIGH FIDELITY's Reader Service Program puts you in contact with manufacturers anxious to send you free information about their merchandise and services. Simply circle the key numbers that match editorially featured or advertised products in which you have more interest.

Please be sure to complete the name and address section of our postagepaid reply card, including your *zip* code, to insure accurate delivery of brochures. Allow four to six weeks for processing.

You may also use the reply card to contact our editors: we are interested in you and in your opinions, so feel free to complete that section of the card in confidentiality.

Thank you.

BACKBEAT **Reviews**



Townshend: knowing when it's time to come up with a good album

The Who: It's Hard Glyn Johns, producer Warner Bros. 23731-1

Pete Townshend has been grappling with growing old in a young man's sport for ten years now. What has kept us caring is that the Who created its own style. Would anyone have the nerve to ask, say, B. E. King not to play another blues in C? Indeed, the Who is like a blues band, except that its appeal is more rhythm than blues: A big fat bass, drums all over the place, and that guitar right in the solar plexus. Words hardly ever matter, which is one reason why Townshend's recent "Chinese Eyes" sounds like noodle soup next to his band's farewell-tour release. Like the Stones, the Who knows when it's time to come up with a good album. Though clearly modeled on the classic "Who's Next," "It's Hard" is the band's best since "'Quadrophenia."

The disc touches all the Who's stylistic bases, from the mixing of acoustic and elec-

tric rhythms on Athena to the thundering strut of *I've Known No War*. What's surprising, though, is that the numbers where the big beat meets the big rhythm are written by bassist John Entwistle. Where Townshend's recent songs most often utilize his solo style of sing-speak, Entwistle's tunes are the stuff of the Who's greatest hits. His *It's Your Turn* and *Dangerous* find Roger Daltrey wailing away to reconfirm his status as the archetypat hard-rock singer.

Townshend, meanwhile, is so fraught with worry that he asks the Lord to deal him another hand as "this one's very hard." Having lived through two decades of rockstar fame built on rock-fan empathy, it seems predictable that he sometimes tries too hard. And the title song's foibles of fame don't carry as much everyman resonance as say, the bonib, which is one reason why *I've Known No War* lives up to its ambitious theme of war as inconceivable in the atomic age. Equally compelling is the stately ballad, *A Man Is a Man*, with lyrics that tear at macho clichés to describe a man who "doesn't act to a plan."

The Who's style has grown to include Townshend's jazzed-up single-string soloing (Eminence Front) and synthesized textures, but the elements that create the album's high point are as old as the group and as emotional as they are musical. On Cry If You Want, a rapid-fire chronicle of a "promised life," we're moved not by the scenario but by the tension wound into the music, and the anticipation of the rhythmic crescendo that has always signified the Who's maximum r&b. When Townshend finally lets loose with those seismic chords. he embodies the Who's ability to succeed by making old tricks sound new. JOHN MILWARD

Dire Straits: Love Over Gold Mark Knopfler, producer Warner Bros. 23728-1

No one has ever accused Dire Straits of keeping its songs short and succinct, but on "Love Over Gold" guitar wiz/frontman Mark Knopfler has stretched his Springsteen-meets-Dylan-in-London sagas to lengths unrivaled since the Grateful Dead's halcyon days. It isn't clear whether the songwriter is suffering from burnout, or whether he actually believes these five tunes warrant their six-, seven-, and fourteen-minute durations.

Like its predecessors, Dire Straits' fourth LP is marked by Knopfler's cozy, scratchy vocals, and his smart, snakey, and often simply staggering guitar work. But unlike last year's exceptional "Making Movies" Knopfler's songs just don't make it. *Telegraph Road*, a quarter-of-an-hour opus with ten minutes of fade out, can only be the result of listening to Springsteen's *The River* one too many times. Apart from its theme—the birth and death of a roadside factory town—Knopfler has stolen the basic melodic hook as well as the acoustic guitar and piano arrangement.

And so it goes. *Private Investigations* is hokey Philip Marlowe to a smoky ballad beat, with Knopfler mumbling lines about "confidential information" and "treachery



WHO NEEDS AN EQUALIZER?

Would you invest **\$10.00** to find out IF and HOW Equalization can improve YOUR Stereo System? Our reg. **\$19.95** Eq-Evaluation Kit TELLS you, and SHOWS you, what is happening to each octave frequency as it travels FROM our Test Recording, THRU your system AND ROOM, TO your ears.

EQ-EVALUATION KIT INCLUDES:

- 1—12" FREQUENCY SPECTRUM ANALYZER" TEST RECORD
- 1—"WHY'S and HOW'S of EQUALIZATION"
- 2—SETS of COMPUTONE CHARTS
- 1-A-B COMPARISON

CONNECTOR 1—INSTRUCTION FOLDER



Easy-to-follow Step-by-Step instructions, narrated on the Test Record, make it easy for you to analyze your total acoustic environment. This complete Kit is now available at a special Factory Direct price. Just fill out the shipping label below and mail to us with your personal check for \$10.00.

Send your check for	\$10.00 EQ Kit to: Soundcraftsmen, Inc. 2200 So. Ritchey Santa Ana, CA 92705
ADDRESS	
CITY	STATEZIP

BACKBEAT Reviews

and treason" as he snaps a steel-string guitar into the exotic reverberations of Mike Mainieri's marimbas. The less said about Industrial Disease the better, except that this sorry excuse for a protest song sports a great rave-up organ riff. The title track is one of the prettiest melodies Knopfler has ever scribed, but it's marred by some floridly poetic lyrics. And It Never Rains harks back to Knopfler's first source of inspiration-Dylan. Lines like "the seven deadly sins and the terrible twins" and "it's a sad reminder when your organ grinder has to come to you for rent'' are whined out with a venomous Zimmerman zeal, c. "Highway 61 Revisited."

Still, the record has undeniable textural depth and strength, thanks primarily to session keyboardist Alan Clark. And Knopfler continues to unleash deft guitar flurries with alarming ease. As disappointing as "Love Over Gold" is, coming on the heels of "Making Movies," the Dire Straits sound is eminently preferable to most of today's music. STEVEN X. REA

Donald Fagen: The Nightfly Gary Katz, producer Warner Bros. 23696-1

Steely Dan fans, rejoice: You can remove your mourning bands, undrape the black crepe from your speakers, and bask in the savvy pop splendors of Donald Fagen's first solo album, for it measures up both musically and thematically to the Dan's own exquisite recordings.

As one-half of Steely Dan, Fagen could be expected to bring much of the duo's perverse elegance to his own work, if only because of the sneering croon he refined as their lead vocalist. In fact, on first listen, the music of "The Nightfly" sounds like a direct extension of the sleek, pop/jazz orchestrations of the last two Steely Dan projects, suggesting a virtual "Son of Gaucho" in the trim, modified reggae of the first cut, I.G.Y.

That song also represents the album's altered vantage point. Both "Aja" and "Gaucho" offered unsentimental views of contemporary American culture as it turned the eorner from the "Me Decade" into the '80s. *I.G.Y.*, by contrast, uproots and propels us into the giddy, materialistic myopia of the days B. B. (Before Beatles): the '50s and early '60s, when prosperity was taken for granted, and the future, grandly envisioned during the International Geophysical Year (thus "I.G.Y.") of 1959, was one of technology's benign conquest of nature.

"What a beautiful world this will be, what a glorious time to be free," coos a typically Dan-like cadre of backing singers, breathlessly punctuating Fagen's ironic promise that "by '76 we'll be A-OK." Only the wink of minor harmonies in the clipped guitars and keyboards and a mournful synthesizer warn otherwise. Fagen keeps returning to that simpler, sadly short-sighted era in both the music and message, though "The Nightfly" is no more a concept album than any of the Steely Dan discs. *New Frontier* depicts the sophomoric bravado of a pre-Viet Nam swain who sets out for the city, and along the way woos a girl "with a touch of Tuesday Weld," a would-be soulmate given her shared admiration for Dave Brubeck ("He's an artist, a pioneer, we've got to have some music on the new frontier").

The shifting winds of world politics come into play on *The Goodbye Look*, which takes its title from Ross Macdonald's 1969 detective novel. This funny, scary samba describes a stranded Yankee in a Caribbean fix, who finds himself staring down a revolutionary colonel "with his stupid face, his glasses and the gun."

Music, arrangements, and production (by Gary Katz, Steely Dan's vital but silent partner) are up to the duo's highest standards, utilizing a deceptively large cast of crack players and singers. There's even a rare, satisfying foray into cover versions: Fagen transforms Dion's *Ruby Baby* into a suave, swinging vocal group gem sparked by smooth harmonies and a Dan device, shifting major/minor key contrasts.

Like Steely Dan's own work, the songs on "The Nightfly" bring hope to pop fans who found that band's sophistication a rare prize in the rock era's otherwise bombastic domain. SAM SUTHERLAND

Peter Gabriel: Security

David Lord & Peter Gabriel, producers Geffen GHS 2011

Filmmaker Peter Weir's *The Last Wave* was an offbeat mystery about the presence of aboriginal sorcerers in a modern Australian city. Despite increasingly violent, phantasmagorical warnings, Weir's contemporary city dwellers refused to accept the existence or power of the primitive forces at work, paying for their complacency in a final, annihilating apocalypse.

Peter Gabriel's fourth solo album likewise conjures the primordial heart that still beats within modern society. His songs suggest that ancient powers—the drive for sex, the territorial imperative, the dominance of nature—are rendered all the more potent by the alienation and narcissism of modern, post-technological life. Both music and lyrics paint fevered contrasts between tribal cultures and the modern Western world.

In the guise of different protagonists, Gabriel becomes the bridge between an ancient world of animism (*The Rhythm of the Heat*) and the suffocation of contemporary life, in which elemental contact is obscured by customs and technology itself (*I Have the Touch, San Jacinto*). The modern Everyman longs to reach beyond the distancing baggage of modern life: *Lay Your Hands on Me* fuses spiritual and sex-



Gabriel: cultural double vision

ual surrender; the album's most infectious, rhythmically insistent song. Shock the Monkey, transforms romantic game-playing into pure stimulus/response. "Something knocked me out' the trees." he croons, "now I'm on my knees . . . Don't you know you're going to shock the monkey

What makes all of this so effective is that Gabriel and coproducer David Lord have carried the sense of conflict into the instrumentation, arrangement, and production of the album. Cut and mixed digitally. the songs employ a wide array of synthesizers (played by Gabriel, Lord, and Larry Fast), electric keyboards and guitars, and various studio effects. Yet the result is far removed from the bright, self-consciously electronic clockworks of modern synthesizer rock: By lacing the mix with such unexpected "instruments" as "scraped exhaust pipe" and "glass," and building the songs around ominous, skeletal drumming, Gabriel's music takes on the brooding primitivism he evokes lyrically. Drummer Jerry Marotta's thundering tattoos are supplemented by marimbas, an African drum company, traditional Ethiopian pipes, and other elements that enhance the author's cultural double vision.

Gabriel's infusions of Third World musics began on his last album, released here on Mercury. "Security" seems more persuasive and less calculated, despite the evident care that went into its meticulous aural collages. That makes the new disc anything but comforting-instead, it's a provocative, even unsettling high point in SAM SUTHERLAND its creator's work.

Merle Haggard & George Jones:

A Taste of Yesterday's Wine Billy Sherrill, producer Epic FE 38203

Merle Haggard sings as though he has seen

all there is to see, and George Jones sings as though he has lost everything he ever had. If Haggard and Jones seem like an unlikely pair, it's because when you picture either one of them at a bar, he would probably be soaking in solitary contemplation, not palling around with the guys. The pattern of most male country duets has been to celebrate a kind of boozy, bragging buddy-buddyism that isn't in keeping with what these two men project. Nevertheless, "A Taste of Yesterday's Wine," brought about by Haggard and Jones being signed to the same label for the first time, has its own brand of casual dignity and musical integrity.

The album does bow to the conventions of its species: There's some forced gaiety, as one chuckles at the other's joke; there are some songs about hangovers and about how it isn't all that terrific to be a country star. Most of the LP clip-clops along at an undemanding pace that doesn't strain the under-rehearsed stars. But even a piece of material as potentially soppy as The Brothers (one brother has stayed home in Colorado, the other is trying without success to make it as a songwriter in Nashville) is given much more depth than it ever deserves when the siblings are Haggard and lones

Wisely, producer Billy Sherrill keeps their quirks from colliding by splitting the vocal work. Harmonizing is kept to a minimum and is usually buttressed by additional voices. The typical method is to have the singers pass verses back and forth like Eyewitness News correspondents or, on Silver Eagle and Mobile Bay (Magnolia Blossoms), to give the lead vocal to one and have the other take a supporting role. When they do get together on the romping C.C.Waterback, a Haggard song that reflects his love of Dixieland jazz, and the concluding No Show Jones, a comic turn about Jones's habit of missing his own concerts, the backand-forth byplay is refreshing rather than tiresome.

Part of whatever charm these country collaborations have comes from their offhand spontaneity, though that also contributes to their limitations. The artists save their best material for their solo albums (there's no new top-notch Haggard original here) and there isn't an overabundance of concern for how the personalities will intersect. There's too much of the rugged individualist in Haggard and too much of the sorrowful recluse in Jones for this to be their ideal format. They are, however, two singers who can make the most trite Nashville homilies sound honest, and they do make a most congenial team.

MITCHELL COHEN

Billy Joel: The Nylon Curtain Phil Ramone, producer Columbia TC 38200

"The Nylon Curtain" is Billy Joel's "Mag-ical Mystery Tour." That is not just to say



FREE recording of ELLY AMELING'S "A GERMAN CHRISTMAS" (Renaissance Hymns, Carols and Notets) with your order of \$10 or more * from this select list of PRO-ARTE Records & Cassettes:

TCHAIKOWSKY: NUTCRACKER & SWAN LAKE SUITES, PAD/PCD 121

Digital Recording! Minnesota Orchestra, Leonard Slatkin, Cond. LIST PRICE: \$12.98 SPECIAL HIGH FIDELITY PRICE: \$8.98

A CHEISTMAS PASTORALE: BARDQUE CHRISTMAS CONCERTI. PAL/PAC 1056

Works of Corelli and Tartini performed on original instruments by the Collectium Aureum. LIST PRICE: \$9.98 SPECIAL HIGH FIDELITY PRICE: 6 00

PRICE: \$6.98 DEBUSSY: "L'ENFANT PRODIGUE" & "LA DAMOISELLE ÉLUE" PAD/PCD 128 New, digital recording with Jessye Norman, Jose Carreras, Fischer-Dieskau and Ileana Cotrubas,

Carreras, Fischer-Oie Stuttgart Radio Orch. LIST PRICE: \$12.98 PRICE: \$8.98 SPECIAL HIGH FIDELITY

BACH: BRANDENBURG CONCERTI (Complete). 2PAX 2PCX 2001

2-record set includes 86-page facsimile of score. Gustav Leonhardt, Cond. LIST PRICE: \$22.98 SPECIAL HIGH FIDELITY

PRICE: \$15.98

BEETBOVEN: SYMPHONY No. 3. PAL/PAC 1029 PRICE: \$9.98 SPECIAL HIGH FIDELITY PRICE: \$6.98

BEETBOVEN: SYMPHONY No. 7, PAD/PCD 123

Digital Recording! This and above performed on original instruments by the Collectium Aureum. LIST PRICE: \$12.98 SPECIAL HIGH FIDELITY PRICE: \$8.98

BACH: CHRISTMAS ORATORIO (Complete). 3PAL

3003 (no cassette) 3-record set. Collegium Aureum. Tolzer Bovs Choir. LIST PRICE: \$29.98 SPECIAL HIGH FIDELITY SPECIAL HIGH FIDELITY PRICE: \$20.98

*With any order over \$30 we will gift wrap the records of your choice.

Guaranteed Christmas delivery if we receive your order before December 10th.

I understand that if I order more than \$30 worth of records, my choices will be gift-wrapped and delivered before December 25th. I will also receive the new 1982-83 complete catalogues of PRO-ARTE and CUINTESSENCE free of charge.

TO ORDER YOUR FREE RECORD OR CASSETTE: Call 1800-328-6245. In Minnesota call 612-559-4166 of send your check along with \$1.50 for postage and handling to PRO-ARTE RECORDS, Dep't. (HF-2) 14025 23rd Avenue North, Minneapolis, MN. 55441, Residents add 5% sales tax. VISA/MASTER-CARD. Offer ends December 10th.





BACKBEAT Reviews

that its multilayered production evokes such psychedelia as I Am the Walrus (and John Lennon in particular), but also to note Joel's movement toward more ambitious pop terrain. Sure, he can still be the simpering swashbuckler, but in more than a couple of instances, "The Nylon Curtain" opens to reveal much more than a very popular piano man.

Allentown is the album at its high point, with Joel's chunky piano rhythm complemented by assembly-line sound effects that conjure a cartoon factory where a whistle sticks fingers in its own mouth to call the troops to work. The scene, however, isn't comic, for this is a plant that is wilting, and a town that's dying while its young people ask, "What happened?" There's empathy in this tune-Joel might not have lost a factory gig, but he knows about chances washed away in America. The same can't be said for Goodnight Saigon. Though delicately beautiful, and boasting a vocal that recalls no less than Tim Buckley, it's an ambitious but misguided attempt to capture an alien experience. Collecting images from Apocalypse Now does not an authentic testimonial make.

Pressure puts these outward struggles in the realm of the personal, and the tough syncopation snaps all the right synapses. Joel's love songs are a mixed bag, as he spits out tired venom on Laura (another Lennon ringer) and welcomes her home with a familiar but rocking beat on She's Right on Time. The wooing winner, though. is the jaunty A Room of Our Own, which lists the reconcilable differences ("you've got yoga, honey, I've got beer") of a couple of hapless homemakers.

Though the album closes with the schlocky Where's the Orchestra?, replete with a melodic snatch from Allentown, the festivities really end with Scandinavian Skies, a psychedelic European travelog that substitutes a plane for a magic bus. Swaddled in echoes. Joel's voice drifts alongside the lyric, and it's precisely this meeting of studio craft and sturdy songs that gives "The Nylon Curtain" its winning pop texture JOHN MILWARD

Bruce Springsteen: Nebraska

Mike Batlin & Chuck Plotkin, engineers Columbia TC 38358

The starkness of "Nebraska" pulls you into its world. The stories are fleshed-out tabloid headlines: "Interstate Chase Tracks Down Killer of Ten"; "Unemployed Auto Worker Faces 99 Yr. Sentence, Asks To Be Executed"; "H'way Cop Lets Fugitive Bro. Flee to Canada.'' Bruce Springsteen, on his impressive new album, has gone beneath the impetuous acts of violence and uncovered the divisions of class, the bitter disappointments, the feelings of restlessness and helplessness that tear up his characters' lives. The memories are painful, the future looks bleak. On his previous songs,

the protagonist would just reach for a girl and speed into the night. On "Nebraska," he's just as likely to reach for a gun.

Springsteen has also, by accident or design, found a musical style that gives these predominantly grim narratives an eerie power. This album's intensity comes from setting his voice and his words against the most sparse of backdrops: Acoustic guitar and harmonica are constants, while the Chuck Berry-influenced Open All Night features electric guitar, and other tunes have faint, almost implied keyboard coloration. He was correct when he decided that these songs wouldn't bear the weight of band arrangements; something as melodically delicate as Mansion on the Hill. or as filled with plot as Highway Patrolman, could easily be tipped off balance. The roughness of the LP, which is essentially a homemade demo recorded on a four-track Teac Portastudio cassette deck (see "Input Output," November), has its advantages and disadvantages: Some of the songs sound unfinished, and with the lyrics so central, all instances of repetition and syntactical awkwardness stand out. On the other hand, Highway Patrolman, Atlantic City, and Johnny 99 are so vividly drawn that the clarity of presentation adds to the drama

While the LP detours musically from Springsteen's best-known work, emotionally it's a natural progression from the darker sides of "The River" and "Darkness on the Edge of Town." The themes include father-son conflict (My Father's House is one of his drearier explorations of the subject), automotive imagery, and couples on the run. (The title song is an adaptation of the same true-life murder spree that inspired the film Badlands.) It's familiar ground, but without the E Street Band to pump up the momentum, and without the defiant wail of rock & roll for Springsteen to shout above, it takes on some new twists.

Early Bob Dylan is an obvious reference point, but you can also hear Hank Williams' fatalistic moan on this album, and Woody Guthrie's dust bowl ballads, and the tentative, intimate sound that Buddy Holly got on the acoustic tapes he made in his apartment in January 1959.

In these songs about moderate men driven to extreme measures, and adults remembering the injustices of childhood, there is some of Springsteen's most expressive use of language since "The Wild, the Innocent & the E Street Shuffle." He brings it all into focus: the shuttered Ford plant in Mahwah, N.J.; the impending 'rumble out on the promenade'' in Atlantic City; brown-eyed Wanda, who worked at Bob's Big Boy on Route 60; the glittering mansion as seen by two kids out in the cornfield. "Nebraska" is his sharply and compassionately observed tour of a country that has become a parched stretch of bad road, reneging on the promises it made.

MITCHELL COHEN



The Time: a cocky strut to a funky beat

Andy Summers & Robert Fripp: I Advance Masked Andy Summers & Robert Fripp, producers. A&M SP 4913

Noodle, noodle, noodle. Robert Fripp has been in search of a partner off of whom to bounce his sinuous, synthesized guitar ditherings ever since Brian Eno went on to greener, and more oblique and ambient, pastures. He has found his foil in guitarist Andy Summers, who is no doubt happy for the chance to pursue a more esoteric course than that afforded by his role in the supertrio Police. The pair noodles away on a series of highly machinistic musical reveries, some of which border on the sublime, others on the merely smug.

Like the Fripp/Eno collaborations "No Pussyfooting" and "Evening Star," "I Advance Masked" is a collection of cyclical sonic programs. Phased guitars, synthesizers, and what-nots crank out machine music, much of which—with its tiny dings and repetitive dongs—suggests some haywire brand of oriental Muzak. Such titles as *China-Yellow Leader*, *In the Cloud Forest*, and *Lake Land* evoke the airiness of Japanese watercolors, the rigid structure of haikus.

The problem with this kind of abstract art-rock is that the churning wheel of rhythms faid down by some of Fripp and Summers' synthesizer programs becomes monotonous in a thoroughly annoying way. This is particularly true of the title track and Hardy Country, which sounds like the former played backwards with a fat bass line and some percussion thrown in. This stuff is meant to be hypnotic, enticing ambient music, but as often as not it's simply headache-inducing. To be fair, there are some other pieces-the spooky, humming Under Bridges of Silence, the ethereal Girl on a Swing-that are truly mesmerizing in a quiet kind of way.

"I Advance Masked" is both pointillistic and pedantic, aquatic and aggravating. But what it lacks mostly is a sense of humor. Fripp, from his early days in King Crimson to his work with Eno and back to King Crimson again, has consistently exuded an overserious, overbrainy attitude. That makes even his good moments harder to take. STEVEN X. REA

The Time: What Time Is It? Morris Day & the Starr Company, producers. Warner Bros. 23701-1 Vanity 6 The Starr Company & Vanity 6.

producers. Warner Bros. 23716-1

It's not fair to call the Time and Vanity 6 clones of Prince, even though both groups mate lean rock to hot funk. True, all three share common management and, while there's a vain attempt to hide the fact, Prince was pivotal to the production of both records. But the Time and Vanity 6 each represent a single side of their all-embracing mentor: Simply and respectively, they are horny guys and gals.

The Time is a self-contained Minneapolis group that Prince discovered. Combining black and white styles, it lays heavy emphasis on electric guitars, a funky beat, and plenty of cocky preening. "What Time Is lt?" builds upon the silly strut of the lover-man pose, so perfectly encapsulated in the band's first-album hit, *Cool*. Though the shtick can get chowder thick, a good half of the grooves here are grabbers.

777-9311, seasoned by wonderfully snappy cymbal work, is the album's coolest come-on, although only its guitar jamming and pure pop phone-number hook enable the band to get away with following "Baby, what's your phone number" with "How can I get into you when I'm feeling right." Onedayl'mgonnabesomebody breaks stride by boasting about work instead of sex ("the only way I'd work in a carwash is if I owned the whole damn place"). Other highlights are the get-down serious ballad, Gigolos Get Lonely Too, and the simmering rocker, I Don't Wanna Leave You, in which singing mainman Morris Day doesn't brag but begs.

The Time is the kind of stupid group that you like in spite of yourself. It supplies the musical sparks behind Vanity 6, which is essentially a funky role reversal. Where on the Time's *Wild and Loose*, the backstage pickings aren't deemed cool enough for the band members, on Vanity's *Nasty Girl* our heroine gives up on her own pleasure and tells her suitor to go on and finish without her. The peppy rocker, *He's So Dull*, says it in its title. But songs like *lf a Girl Answers (Don't Hang Up)*, which is nothing but a cat fight, point up a troubling fact: Despite its context of sexual liberation, Vanity 6 is a skin magazine *Wet*

KEITH JARRETT The Art of the Solo Concert



-documents his solo piano performances from Bregenz, Austria and München, West Germany. Available as a single record (the Bregenz concert) and as a three-record set (which contains both concerts and includes a 12-page booklet). Digital recordings.

Keith Jarrett. Concerts. Now available: ECM 1-1228 (single disc) ECM 3-1227 (a three-record set)

On ECM Records & Tapes Manufactured and distributed by Warner Bros. Records, Inc.

BACKBEAT Reviews

Dream (yes, that's a song too), and the man always comes out on top. Call me Alan Alda, but the manipulation implicit in Vanity 6 fudges up the fun. JOHN MILWARD

The Best of Vanilla Fudge

Shadow Morton & Vanilla Fudge, producers. Atco 90006-1

Vanilla Fudge didn't so much interpret the songs of the mid-'60s as assault them in slow motion. The band's six-to-nine minute extensions into absurdity knew no discrimination based on inherent song quality: Even Motown and the Beatles took their lumps, resulting in notorious versions of *You Keep Me Hanging On* and *Eleanor Rigby*. The group was most fun when it exaggerated the foolishness in such songs as Sonny Bono's *Bang Bang* and *The Beat Goes On*, or Lee Hazlewood's trippy-mystical *Some Velvet Morning* (a hit for Hazlewood and Nancy Sinatra, incidentally).

The Fudge's vogue was a very brief one; it made its statement on its debut album, and there was really nowhere to go from there. In 1967-68, however, its Phantom-of-the-Soap-Opera organ, pseudosoulful vocals, and psychedelic pomposity were a hoot, and this "Best of" album is a worthy tribute. It primarily draws, as it should, on the first LP, containing the sillyputty stretching of Ticket To Ride, Take Me for a Little While (the closest the group came to a conventional pop performance), and the still fresh, if no less crazed, You Keep Me Hanging On. Each side concludes with one of the later, even stranger, excursions: Some Velvet Morning and a Season of the Witch, which goes further into mad hallucinatory visions than Donovan intended.

With the initial help of producer Shadow Morton, an expert on East Coast anguish and atmospherics (Shangri-Las, Janis Ian, New York Dolls), Vanilla Fudge took the Long Island style of white, r&bbased cover bands into the area of ornate, flamboyant virtuosity. Organist Mark Stein and guitarist Vince Martell were shameless showboats, and the rhythm section of bassist Tim Bogert and drummer Carmine Appice showed enough snap to attract Jeff Beck, who later put together a power trio with them.

Almost everything on "The Best of Vanilla Fudge" is drawn out to sound portentious and grave, including Jr. Walker's *Shotgun*, and the style of the quartet trashes the lyrical content of the songs. But in an odd way, a lot of this holds up—even if you're tempted to flip the switch to 45 rpm just to get the tempo to stop lagging, or cut off the LP before the *Season of the Witch* recitation. In fact if you have a sense of humor and historical perspective, you may very well find Vanilla Fudge's outrageous approach more entertaining than contemporary art-rockers in the manner of Asia. MITCHELL COHEN



Joe Albany: Portrait of an Artist Mike Berniker, producer Musician 60161-1

Between his association with Charlie Parker and his small-group appearances with trombonist Jimmy Knepper, pianist Joe Albany has established a reputation for being a strongly bop-influenced performer. This has tended to obscure his abilities as a ballad performer, an aspect that producer Mike Berniker has wisely chosen to emphasize on "Portrait of an Artist." Thelonius Monk's Ruby, My Dear, Autumn in New York, and They Sav It's Wonderful bubble with enlivening figures and sensitive colorations. Albany brings the rhythmic spirit of Erroll Garner's lagging beat to Too Late Now and Guess I'll Hang My Tears Out to Drv. flavoring them with an inviting piquancy

Without engaging in false dramatics or pomposity, he gives these tunes unusually full-bodied treatments that keep the melody well centered. Guitarist Al Gafa follows his lead, his occasional solos sharing Albany's warm, singing quality.

For balance are Parker's boppish *Confirmation* and a blues. But even here Albany and Gafa retain their light and rhythmic touch. And George Duvivier's bass is as bright and invitingly expressive on *Confirmation* as it is thoughtful and gentle on the other pieces. This charming album concludes with a brief interview that, despite Berniker's leading questions, is not very revealing. JOHN S. WILSON

Roy Eldridge: The Early Years Michael Brooks, producer Columbia C 2-38033 (two discs) Roy Eldridge: All the Cats Join in Steve Hoffman, producer MCA 1355

In recent years nostalgia, curiosity, and economy have led to a spate of reissues. Yet, until now, Roy Eldridge has been overlooked among the major jazz figures. These collections, though spotted with disappointments, pay homage to his consistently provocative singing and trumpet/ fluegelhorn playing.

Michael Brooks's "The Early Years" is easily the most rewarding of the two sets since it covers several key Eldridge periods—his mid-'30s band and his years with Gene Krupa's orchestra. There are also pieces with Teddy Hill's band, and with Billie Holiday and Mildred Bailey.

Eldridge is always the husky-voiced, exuberant singer and the fiery soloist. With a mute in his horn or a felt hat over it, he can also be a mellow mood-setter. But even his intense personal projection can't break through some of the dull nonsense going on



Freeman: on the verge of happening

around him. This is particularly true of several of the Krupa pieces.

It is difficult to understand why, for example, the boring, dated Harlem on Parade is even included. Its dreadful lyrics defeat Anita O'Day, and Eldridge appears on it only briefly. The same is true of Massachusetts (he gets eight solo bars), and most of The Marines' Hymn consists of an unconvincing, feeble vocal by Johnny Desmond. Fortunately, there are some classic Eldridge-Krupa pieces in Let Me Off Uptown, After You've Gone, and Rockin' Chair. And the selections by Roy's band include a sizzling Heckler's Hop and his first recording of After You've Gone with Gladys Palmer's Sophie Tucker-like vocal (a vast improvement over her listless treatment of a slow ballad called When the Lazy River Goes By).

The MCA set has a more limited focus—four mid-'40s sessions for Decca with, in most instances, a big band playing Buster Harding arrangements. Aside from another After You've Gone and Rockin' Chair and the Eldridge classic I Can't Get Started, the material is not very inspiring. Yet with a little help from Thomas Archia, a Lester Young-influenced tenor saxophonist, Eldridge somehow still manages to burst joyously into the dullest situations and take off with a crackling energy that lifts everything around him. JOHN S. WILSON

Chico Freeman:

Tradition in Transition Chico Freeman & John Koenig, producers. Musician 60163-1

Tenor saxophonist Chico Freeman is a talent on the verge of happening—but not quite yet. Most of the solid playing on this album, in fact, is provided by bassist Cecil McBee and drummers Billy Hart and Jack DeJohnette.

Freeman and trumpeter Wallace Ronev are at their best on pieces that have a high degree of interaction. Listen to the playful back-and-forth on Each One Teach One; too bad they didn't explore it further. The problems arise when they move into their solo passages. Both players stress rapidly tongued eighth notes in their articulation. and both (Roney in particular) have some difficulty maintaining their rhythmic thrust. Freeman also has problems with his flute playing, which betrays an underdeveloped embouchure. In-Spirit, for example, is a lovely Cecil McBee line that drifts into innocuousness, primarily because of Freeman's uncentered flute work.

What Freeman does do well is stay close to the musical values of some of his venerated predecessors, most notably The-Ionious Monk, Ornette Coleman, Eric Dolphy, and John Coltrane. But at this stage of his development, the identification still sounds studied--respectful rather than invigorated. This is particularly noticeable on his own compositions: Free Association and Mys-story resonate with Colemanisms: Talkin' Trash is pure Dolphy, replete with bass clarinet and lines filled with galloping intervals. It is when he moves from the composed sections into the improvisations that his vouthfulness betrays him. To be fair, he is not the first player to struggle with maintaining a style in pieces influenced by Monk, Coltrane, et al.

And the talent is indeed there. Freeman's playing sounded better to me on a recent recording made in partnership with his father ("Marsalis & Freeman: Fathers and Sons," Columbia FC 37972). Perhaps the need to excel just wasn't as strong this time. DON HECKMAN

Keith Jarrett: Concerts

Manfred Eicher, producer ECM 3-1227 (three discs)

Keith Jarrett has released, in the last decade, well over fifteen discs' worth of solo keyboard improvisations. That represents sufficient vinyl to cover Chopin's complete piano works and all of, say, The-lonious Monk's solo outings.

"Concerts," like most of the previous Jarrett concert chronicles, will presumably sell well. But after ploughing through three discs of highly articulate, but creatively shallow impromptus, I was somewhat disturbed. One would assume that, after years of concertizing in this fashion, Jarrett would be driven to expand his horizons, to probe more deeply into the creative unknown. Instead, he has elected to stick with the patterns he knows quite well, and re-examine them with an ever-greater array of technical fireworks. The result may sound spectacular but, like the proverbial Chinese dinner, it fades from memory far too quickly.

Two concerts are represented, the first from May 28, 1981, in Bregenz, Austria (which ECM plans to release as a single disc), and the second from June 2, 1981, in Munich, West Germany. The Bregenz program seems more dependent upon the repetitious ostinato passages Jarrett relies on so strongly. The sectionalizations—always important in his work, since he rarely uses harmonic movement to achieve variation are especially noticeable: romantic meandering, followed by raindrop music, followed by the clitter-clatter of the train, followed by a trace or two of quasi-Prokofiev, etc.

The Munich concert is marginally better, in part because Jarrett makes extensive use of his undeniably attractive pastoral style. Toward the close of the program he embarks on a Cage-ian trip through the piano's strings, and ends on an extraordinarily virtuosic technical display. The best pieces on both programs are the encores—*Heartland* (repeated), *Mon Coeur Est Rouge*, and an untitled piece. If anything, their success underlines the fact that Jarrett, like all improvisers, badly needs to work within some sort of intellectual or emotional structure.

Despite the album's sparkling moments, however, one is left with the ques-

ORIGINAL MASTER RECORDINGS.



A GALLERY OF SONIC MASTERPIECES GUARANTEED TO IMPROVE THE PERFORMANCE OF YOUR STEREO SYSTEM!

Our Original Master Recordings are exclusively transferred from the original recording studio master tapes of the world's finest artists. Every note and nuance is faithfully reproduced exactly as it was first recorded. Additionally, each of our Lp's and casset es are Limited Editions, guaranteeing you absolute quality control.

Choose from our newest Original Master Recordings, featuring such artists as The Beatles. Supertramp. Led Zeppelin, Hall & Oates, The London Philharmonic, Yes, Queen. Quincy Jones. Neil Diamond, Alan Parsons and more than 70 other selections. Available at fine audio salons, record stores and autosound showrooms. Only from Mobile Fidelity Sound Lab.



BACKBEAT Reviews

tion of how Jarrett draws such consistently loyal audiences—both live and in recordings. Surely most listeners would prefer to spend their time with the substance of Mozart, Chopin, or Beethoven rather than with a stylistic representation thereof. The answer, I suspect, is that Jarrett's work is far more accessible than most classical music, DON HECKMAN

Elvin Jones: Earth Jones Herb Wong, producer Palo Alto Jazz PA 8016

(755 Page Mill Rd., Palo Alto, Calif. 94304)

Had he laid down his sticks in the late '60s and never drummed again, Elvin Jones would still loom as one of the most influential drummers in jazz. During his five years as timekeeper for John Coltrane's seminal early '60s quartet. Jones perfected a vivid, mercurial style that has surfaced in the work of nearly every percussionist since. Freeing his kit from a traditional role of maintaining a steady pulse or providing simple accents, Jones fused African rhythms with deft jazz technique to virtually coin the notion of constant, fluid time changes. Beyond that, his shimmering cymbals and furious rolls were integral to Coltrane's most adventurous work.

This reunion with Dave Liebman (soprano sax and flute), who played in one of Jones's early '70s groups, thus comes as welcome compensation, fitting neatly into the drummer's tradition of dramatic, small ensemble contexts. Bassist George Mraz complements Jones's shape-shifting rhythms while Terumasa Hino's cornet flourishes mate well with Liebman's work. Kenny Kirkland, sticking mostly with electric piano, fleshes out the arrangements with reedy-sounding chords and skeletal single lines.

The material mixes Jones originals, including a brash, explosive new reading of *Three Card Molly*, with a Jay Livingston/ Ray Evans standard. *Never Let Me Go*, and three well-chosen Liebman works that reveal his deceptive looseness and versatility in tempos. The results clearly showcase Jones's rhythmic identity without lapsing into grandstanding: He does take a few solos, but only on *Three Card Molly* does he really stretch out, and there his sense of taste and invention reinforce rather than interrupt the tune.

Production is first-rate, with the sound close to the old Coltrane days—understandable, since these tracks were cut by the same engineer, Rudy van Gelder, in his New Jersey studio. Parenthetically, the project offers fresh proof that Dr. Herb Wong's vision for his young Palo Alto Jazz label is by no means geographically confined to the West Coast. Jones doesn't reach into the more recent Third World rhythmic equations of his heirs, and he chooses not to explore the multiple percus-



Sanders: the free spirit intact

sionist attack common in much recent jazz. That's hardly a complaint, for with his own two hands and a comparatively traditional kit, he can tap a dazzling, emotional array of voices. SAM SUTHERLAND

Doc Paulin's Marching Band

Alden Ashforth & David Wyckoff, producers. Folkways FJ 2856 (43 W. 61 St., New York, N.Y. 10023)

Though this disc was recorded in the cavernous old recreation hall of St. Francis DeSales Catholic Church in New Orleans, the street band sound is so ingrained in Doc Paulin's Marching Band that it might as well be outside, walking and blowing. Not only does every tune, including *Let Me Call You Sweetheart*, begin with a pace-setting drum roll (by Doc's twenty-one-year-old son Rickey) but there is often a sense of the uncertainty created by the street atmosphere.

The program is the customary mix of hymns (We Shall Walk Through the Streets of the City and, God help us. The Saints), pop tunes (Bye Bye Blackbird, Baby Face), and marches (Joe Avery's whooping The Second Line and Tulane Swing). Typical of its kind, the band roars into all the numbers with less concern for finesse than for blatant volume, (or in New Orleans terminology, "lots of tone"). Doe Paulin's strong, cutting trumpet, in the ripping, exclamatory style of Kid Thomas Valentine, sets the tone. His sixteen-year-old son Scott follows suit, playing trombone in a huge, enveloping manner.

Although this band carries on a very old-fashioned tradition that has all but died out, its members are very young. Doc's five sons range in age from fourteen-year-old Philip on second trumpet to twenty-threeyear-old Aaron on bass drum; two of the saxophonists are in their early twenties, as is the valve trombonist. Aside from seventy-four-year-old Doc, the only veteran is forty-eight-year-old alto saxophonist Julius Schexnayder, who pours out rolling, circular figures. "Doc Paulin's Marching Band" is less an artistic triumph than a documentation of a living museum with a typically rough, though not always ready, attack. JOHN S. WILSON

Pharoah Sanders: Live

Pharoah Sanders, producer Theresa Records TR 116 (P.O. Box 1267, El Cerrito, Calif. 94530)

Pharoah Sanders has finally found a home at Theresa Records. Two relatively recent double albums on that label, "Journey to the One" and "Rejoice," indicated that, far from stagnating in his six or so years away from the studio, the rest had done him good. The free spirit was still very much intact, delighting in Oriental moods and Indian modes.

Sanders continues to use simple motifs as his source of development; he continues to speak directly to his audience without artifice. Although he is extremely concerned with expanding the range and potential of his instrument, he doesn't attempt to beguile or bedazzle with technical display. As this live disc demonstrates, his work now exhibits more self-assurance, tighter structure, and greater continuity than the spacy, ethereal flower-child presence of his youth.

Having apparently been given carte blanche to produce his own material, Pharoah is in familiar company here. John Hicks played piano with his earliest group. Bassist Walter Booker is new, but drummer Idris Muhammad has been with him for some time. Sanders could always move a crowd with his mystical intensity, so he wasn't too often concerned about swing. But these players swing with a vengeance, enabling him to find a new groove, a kind of freedom-swing (listen to You've Got to Have Freedom) that sounds like what he has been looking for all along. He is no longer reluctant to play on changes (e.g., Easy to Remember), following the avantgarde's current movement away from obligatory atonality and toward eclecticism. This recording, remarkably free of distraction for a live date, is a high-energy distillation of many years of blues, ballads, and bebop, filtered through the critical perspective of modernism. The result is very down-home. **JOE BLUM**

Sphere: Four in One

Damu Productions, Ltd., producer Musician 60166-1

This past year has seen the launch of three groups that specialize in jazz masters of the past: The Vibration Society focuses on the (Continued on page 95)

High Fidelity Classified

MAIL TO: 825 7th Ave., 6th Floor, New York, N.Y. 10019. Phone: (212) 265-8360

GENERAL: all copy subject to publisher approval. First line caps. Users of P.O. Box MUST supply permanent address and telephone number before ad can run.

CLOSING DATE: 1st of second month preceding cover date.

 15 Word minimum No charge for Zip Code.

 CLASSIFIED RATES: regular type, per word: 1x

 \$2.50; 3x-\$2.45; 6x-\$2.25; 12x-\$2.15. Words in

 caps--10c extra each. IMPERIAL type, per word: 1x

 \$3.50; 3x-\$3.35; 6x-\$3.25; 12x-\$3.15. Words in

 caps--15¢ extra each. Minimum 15 words. Box numbers: \$2.50 additional per insertion to cover cost of handling and postage. Display, per inch: 1x-\$400; 3x-\$390; 6x-\$335; 12x-\$325.

PAYMENT WITH ORDER: Send check, M.O., MASTERCHARGE or VISA No. and expiration date to: Classified Dept., HIGH FIDELITY, 825 7th Ave., 6th Floor, New York, NY 10019.

For Sale

SAVE 50% BUILD YOUR OWN SPEAKER SYSTEM. Write McGee Radio Electronics. 1901 McGee Street, Kansas City, Missouri 61408.

WE WILL NOT BE BEAT!! Lowest Prices Anywhere! Super Selection—Full Warranty—Fast Delivery Hi-Fi—Hi-End— Car Product and Video. Visa—Mac Call Now—(203) 934-5291 AUDIO PEOPLE, 1000 Orange Avenue, West Haven, CT 06516.

ACCURATE, QUALITY AUDIO. Reasonable Prices! Car/Home. Send stamp: Denco Audio, P.O. Box 6104-H, El Monte, CA 91734 (213) 961-6158. Evenings, weekends. MONTHLY SPECIALS



CALL TOLL FREE 1-800-826-0520 FOR ACOUSTAT. DAHLQUIST, NAD. CARVER, TANDBERG, DENON, AMBER, HAFLER, dbx, 3D, B&W, THORENS, DCM, GRACE, DYNAVECTOR, MICRO-SEIKI, VANDERSTEEN, BEDINI, ARISTON, THE SOUND SELLER, 1706 MAIN ST., MARINETTE, WI 54143.

X-11

NTAK

SITES AND SOUNDS AUDIO DISCOUNTERS AND Distributors Specialize in: Audio, Audio Accessories, Records and Tapes, Disco, and Band Lighting, Video Equipment etc. 825 Main Street, Fords, N.J. 08863 (201) 738-9364.

IMPORTED AUDIOPHILE RECORDS. Large selection of superior quality pressings from Japan. Rock, Jazz, Classical. Regular new shipments. 24 hour service. Low prices. Dealers only write or call: DISC TRADING COMPANY, P.O. Box 606-HW, Carrboro, North Carolina 27510. (919) 942-3142.

CONTRACTOR OF THE OWNER	
	Tapes
Below Whole	sale Specials!
TDK SA C-90 2.15	
TDK SA C-60 1,89	MAXELL UDXL For ILC-60 2.37
1DK SAX C-90 3.29	MAXILL XLS F # H C-90 3.65
EDK MA C-90 4.45	MAXELI, UD C-90 2.35
TDK AD C-90 . 1.99	MAXELU UD 35.90 5.35
TDK ADX C-90 . 3.19	MAXELL XI, 135-900 6.69
1DK D C-90 . 1.32	MAXELL XL II 35-90 11,49
TDK D C 60 1.15	EUI EX Lor II C-90 2.49
TDK LX 35 90 5.25	
TDK LX 35-908 5.85	
TDK GX 35-908 7.35	
	10.50
TDK HD-DI DEMAG 14.25	
)EO
1DK. MAXELL. SCOTCH, FUJI	
1-120	
TDK. MAXILL HG T-120 13.50	7.95
DISCWASHER VIDEO HEAD	TOK, MAXELL, SONY HG-L-753
CLIANER . 13.25	13.50
	or MasterCard VISA Add 5% shipping
charge \$3.50 minimum charge. Outs	
minimum credit cards add 3% more fo 336:5429.	or handling. Phone orders call 212-
OUALITY TAI	ES. Dept. HFL
	Brooklyn, NY 11230

CABLE TV DESCRAMBLERS AND CONVERTERS. Microwave antennas and downconverters. Plans and parts. Build or buy. For information send \$2.00 C&D Electronics, P.O. Box 21, Jenison, MI 49428.

BEST SOUND PER DOLLAR: 3D. NAD MISSION, Theil, Dynavector, Amber, Astatic, Snell, Ohm, etc. Shlpping Paid. AudioFile, 1202 South Congress, Austin, Texas 78704 (512)443-9295.

SUBSCRIPTION TV DECODER KIT, \$39.00. Includes parts, manual and etched board. Informative catalog on other subscription TV products \$2.00. J&W Electronics P.O. Box 61-E, Cumberland, RI. 02864.

So What's New??

Consider the following-

DIRECT SOUND MARKETING can provide you with virtually any brand of audio or video components (including the esoterics) at extremely competitive pricing, on an in-stock basis. Moreover, we maintain a complete service facility to handle any service problems. So, if you're looking for price, selection, fast shipments, in-house service and competent advice we have it all, and more. Before you buy anything please call us at 404-233-9500 for more information. Or write to DIRECT SOUND MARKETING, 3095 Bolling Way, N.E., Atlanta, Ga 30305. For your convenience use your M/C, Visa or AMEX for fastest service. Sales tax charged to Georgia residents only.

POLYPROPYLENE DRIVERS, RIBBON TWEETERS, PLANS, CROSSOVERS, REPLACEMENTS, NEW 1982 Catalog \$1.00, SOUNDBOX, Dept HF, 411 South Carlisle Street, Philadelphia 19146.

(5)719 (7)1050

HAFLER, FRIED KITS, SONY PCM-FI DIGITAL, KLIPSCH, SAE, CARVER, more. In stock. Immediate, FREE shipping! READ BROTHERS STEREO, 593-C King Street, Charleston, South Carolina 29403. (803) 723-7276.



HARMAN/KARDON NAKAMICHI, CROWN, BANG & OLUFSEN, DENON, NAD, CARVER, HAFLER, DUAL, ROTEL, ELECTRO-VOICE, POLK, DCM, BOSE, ORTCFON, THORENS, DBX. BEST PRICES-IMMEDIATE SHIPMENT. EAST: (904) 262-4000; WEST (213) 467-5725.

1-313-471-3076 *1-313-553-0508* SUBSCRIBE to Britain's Finest Hi-Fi Magazines: 'Hi-Fi Answers', 'Popular Hi-Fi', 'What Hi-Fi', 'Practical Hi-Fi', 'Hi-Fi News & Record Review', \$3.00 Ea.\\$33.00 yr./Any two \$59.00 yr.—Phone or Mail Orders: Visa-MC-Cash-Checks—B&K Imports, 24160 Twin Valley Ct., Farmington, Mich. 48024 *Call Anytime!*



STEREO REPRESENTATIVES NEEDED!!! LOWEST POSSIBLE PRICES!!! OVER 100 BRANDS!!! KRASCO Rep. HF, 998 Orange Ave., West Haven, Conn. 06516.

STEREO SPEAKERS, KITS, COMPONENTS, Mylar Film capacitors, crossovers, colis, cabinets, POLYPROPYL-ENE woolers, mid-ranges, Dome and Ribbon tweeters. Discount prices. Catalog \$1.00. SPEAKER COMPO-NENTS, Box 297, Marlborough, CT 06447.

IN STOCK!!! Audio Research, Thorens, RGR, Hafler, Onkyo, Technics, B&W, Meridian, E.V., Vandersteen, Dynavector, Snell, Tascam and more ... For information: P. K. Audio, 4773 Convention Street, Baton Rouge, LA 70806 or (504) 924-1001.

LOUDSPEAKERS! Electro-Voice raw components ready to ship with competitive prices. FREE catalog. SONIX CO., Box 58-HF, Indian Head, MD 20640 (301) 753-€432.

FREE SPEAKERKIT CATALOG, 17 proven designs Also, 200 drivers' specifications, JBL + polypropylene Thiele data, \$3. GOLD SOUND, Box 141 HF, Englewood, CO 80151. (303) 789-5310.

In the December issue of The Absolute Sound®, the magazine's editor takes a serious look at the seven contenders for the world's best moving coil cartridge. The contenders? The (hand-built) and nearly legendary Kiseki Blue; the (hand-built) Koetsu Black in a totally Revised version; the long-awaited Klipsch cartridge which. like the Kiseki and the Koetsu, is the product of a Japanese cartridge wizard; the German Clearaudio (the same cartridge held in awe there); the new Audioquest 404, a cartridge that is going to surprise a number of people; the much discussed Dynavector Karat/Diamond; and, of course, the reference standard Accuphase AC-2, against which the contenders contend. There is, also (and finally), a comprehensive discussion of step-up devices for moving coil cartridges, and much, much more (as usual). The rates, for four issues, are \$20 (US), \$21 (Canada; US Fund), and \$35 (outside North America; US Funds). Send your check to The Absolute Sound, Box L. Drawer Z. Sea Cliff. New York, 11579. Or with VISA or Mastercard in hand call our business office (516-671-6342) weekdays, 10-5 (ET)

SANSUI COMPUTERIZED LINEAR TRACKING turntable with cartridge lets you play only the bands you want in any order you want, \$291,25, L'Audio, 1920 Medi-Park #1. Amarillo. TX 79106. (806) 359-3193.

BRITISH AUDIO COMPONENTS, PREPAID SHIPPING KEF. CJS ETC. Great prices! Write or call. AB Sonics. 28140 Kendallwood, Farmington Hills. Mich. 48018. 313-553-9248

100% BETTER FIDELITY FROM YOUR PRESENT STE-REO SYSTEM. Full Detailed chart with instructions; Include \$5.00 to Fidelity Systems, Inc., 2703 South Atlantic Ave. Melbourne Beach, Fla. 32951

CLOSEOUT BARGAINS! (list prices bracketed): [MARANTZ] "Best Buy" (\$450.00) SD4000 3-Head/2-Speed Cassette, \$197; (\$600.00) 2130 Oscilloscope Tuner, \$349; (\$830.00) SD9000 3-Head/2-Speed Computer Cassette, \$397; (\$700.00) SD8000 (2-head version SD9000), \$333; [DUAL] (\$380.00) 822 2-Head Cassette, \$199; New/sealed cartons. Factory warranties. VISA/MC/COD. Shipping extra. FREE catalog. SCC, Box 551, Dublin, OH 43017; (614) 889-2117.

ATTRACTIVE PRICES: DYNAVECTOR, **DENON CARTRIDGES, GRACE, FUL-**TON, STAX, KOETSU, LINN, QUAD 63. SOTA SAPPHIRE, CJ WALKER, BRB SYSTEMS, ACCUPHASE, FR., SASE QUOTES, COD SHIPPING. 713-728-4343. MAURY CORB 11122 ATWELL HOUS-**TON, TEXAS 77096**

DYNACO OWNERS: 60,000 LBS PARTS/ ACCESSORIES! Complete "Parts Pack" kits: PAT5 BI-FET Preamp, \$169; SE10 10-Band Equalizer, \$199; Black Box 410 (200/200W) Power Amp, \$289; ST150 (75/75W) Power Amp, \$179. FREE catalog. Parts listing: \$1.00. SCC, Box 551, Dublin, OH 43017; (614) 889-2117.

FREE CATALOG!! Complete Selection Of Consumer And Industrial Audio/Video Tape And Accessory Products. COM-PETITIVE PRICES! PROMPT DELIVERY! Corporate/Bid Solicitations Welcome. Wyco Sales, P.O. Box 887, Cary, N.C. 27511. 919-467-8113.

Save 60% to 75%, Build Your Own Speaker Systems. P/C crossovers, woofers, mids, tweeters, instructions. Complete selection, Hi-Fi, M.I., Pro, Disco and Auto Systems. Send \$2.00 for catalog refundable with purchase. DKI Audio, Box 284, Davis, IL. 61019.

Tapes & Records

	245 • 6000 WORLD
TOK MAR-90 6.70 TOK MAR-90 4.49 TOK SAX-90 3.40 TOK SAX-90 3.49 TOK SA-90 2.19 TOK SA-90 2.19 TOK SA-90 1.99 TOK TOK 1.00 TOK SA-90 1.99 TOK SA-90 1.99 TOK T-20-10 1.39 TOK T-20-17-50 10.99	MAXELL XL for IIS-80 Use MAXELL UDC 10 r IICS0 any MAXELL UDC-90 price Maxell, T-90, T-120HGX that Maxell, T-90, U-750HGX body FUUE FX I or II-050 3.49 FOW HAX TO II-050 3.49 TOK HD-01 (Head Dommag), 13.99 TOK

WE WILL HONOR ANY PRICE IN THIS BOOK 3.50 Shipping any size order in US. VISA. MC, COD no extra charge. Orders shipped within 4 days by UPS. Personal checks 1 week delay. PA add Sales tax 220 Spring St Butler, PA 16001 412-283-8621

OPEN REEL TAPES from studio masters. Philips, Argo, Telefunken, Vanguard, Unicorn. Catalogue \$1.00. Barclay Crocker, Room 1470-H, 11 Broadway, NYC 10004.

SEARCHING FOR OUT-OF-PRINTS? Try for Discontinued Records, 444 South Victory, Burbank. California 91502 (213) 849-4791

FREE ALBUMS

IN EXCHANGE FOR YOUR OPINION. We need Record Raters. Your opportunity to build a substantial album collection. Small membership fee. Write EARS, Box 10245, Milwaukee, WI 53210 Dept.

OPEN REEL TAPE - MOSTLY AMPEX 641, used once, unspliced, unboxed. 7" 1800' 50 reels; \$65.00 sample: \$2.00. Ten 3600' 101/2" reels; \$27.50. sample: \$2.50. New, premium cassettes and 8/ Track cartridges available. Sample: \$1.00 each. AUDIO TAPES, Box 9584-J. ALEXANDRIA, VA. 22304. (703) 892-8722 VISA MC.

LIVE OPERA TAPES. INCREDIBLE VA-**RIETY. FREE CATALOGUE. Live Opera.** Box 3141. Steinway Station, L.I.C.N.Y. 11103

ORGAN AND CHORAL RECORDS. For free catalog write Gothic Records, PO Box 743-A New York, N.Y. 10101

1930-1962 RADIO PROGRAMS. \$1.00 HOUR! Informative 250 page catalog \$1.25. AM Treasures, Box 192HF, Babylon, N.Y. 11702

SHOW ALBUMS-Rare, out-of-print lps, 64-page list \$1.00. Broadway-Hollywood Recordings, Georgetown, CT. 06829. STORE: 68 Sugar Hollow (Route 7) Danbury, Conn

FREE OPERA VIDEO CATALOG & \$5 certificate Magnificent performances from the capitals of Europe. HRE, P.O. Box 12, Kew Gardens, NY 11415

VIENNESE OPERETTA RECORDS, INC. Extensive range, superb vocal performances, on currently available LP's. Free list. P.O. Box 300-B, Yarmouth Port, Mass. 02675.

OVER 600 AUDIOPHILE RECORDINGS AVAILABLE! Detailed monthly Bulletin offers latest releases, Special sales and more. 20% off initial order! Send for FREE catalog issue. The Essentials Marketing, Dept. HF-12, P.O. Box 7724, Eugene, OR 97401.

TOSCANINI, great conductors, instrumentalists. Live concerts; reels, cassettes. Free lists, state artists, CRAA BOX 1112HF, El Cerrito, CA 94530

IMPORTED & DOMESTIC CLASSICAL recordings. Also Jazz/Gifts/Books, Giant 64 page catalog. \$1.00 (refundable) MUSICAL CONCEPTS, Box 53HFD, Cedarhurst, N.Y. 11516.

SOUNDTRACKS, SHOW, NOSTALGIA & JAZZ-FREE Catalog & Offering List-A-1 Record Finders, P.O. Box 75071-H. L.A. CAL. 90075.

DISCONTINUED RECORDS, POPULAR, JAZZ, CLASSI-CAL. all speeds, free lists. Steinmetz, One Seaview. Massapegua, NY 11758.

IMPORTED RECORDS. Audiophile quality pressings from Japan and Europe. Rock, New Music. Large selection. 24 hour service. Free catalogue. SCHEHERAZADE RECORDS, P.O. Box 607-I, Carrboro, North Carolina 27510

AUDIOPHILE ALBUMS, DISCOUNT PRICES! Promot shipping. FREE catalog. For The Record ... Box 21201B Columbus Ohio 43221

AUDIOPHILE CASSETTE INSERT CARDS. 20.cards \$3.50. (Ca. residents add 61/2% tax). Or send SASE for free sample. Recording Index Systems. Box 1624, Lafayette, Ca. 94549



Do you get tongue-tied around attractive Now On Cassette!



Box 515, Tenaffy, NJ 07670. Visa and MC accepted. Cardholders may also call toll free to order: 800-631-2560, Allow 1-3 weeks.

Business Opportunities

BECOME a part time electronic consultant and make money while you build a career! Sell audio equipment

video computers. The 3 newest and biggest markets in home entertainment and business aids for the 80's! If you have a working knowledge of any of these 3 products, we'll help you build exciting part time income and possibly an entire new sales career. We furnish you with leads, advertising material, price lists, and information on how to sell. CALL TODAY FOR INFORMATION TOLL FREE 800-638-8806 or 1-301-488-9600. ELECTRONICS INTERNATIONAL, Moravia Center Industrial Park Baltimore, Md. 21206.

Equipment For Sale

IDEAL ACOUSTICS. Luxman, Klipsch, NAD. Nakamichi, and comparable lines fully represented. Custom installations. Complete service center. Visit our outstanding showrooms 110 Willow Rd., Starkville, MS. 39759 (601) 324-1020

Inventions Wanted

IDEAS, INVENTIONS. NEW PRODUCTS WANTED! Call toll free 1-800-528-6050. In Arizona, 1-800-352-0458. Extension 831

INVENTORS! IDEAS HAVE VALUE! EVER THINK OF an idea, forget it and see it later on the market? Many people don't forget, act quickly and are rewarded by American Industry. Write down your idea! We offer free disclosure registration and initial consultation regarding your idea's potential value. Call or write without delay for your free information package. American Inventors Corporation, 59 Interstate Drive Dept. HF. West Springfield, MA 01089 (413) 737-5376. A Fee Based Marketing Company. Offices Coast to Coast

Miscellaneous

DIAMOND NEEDLES and Stereo Cartridges at Discount prices for Shure, Pickering, Stanton, Empire, Grado, Audio Technica, Ortofon, Sonus, Dynavector and ADC. Send S.A.S.E. free catalog. LYLE CARTRIDGES, Dept. H. Box 69, Brooklyn, New York 11218. For Fast C.O.D. Service, call TOLL FREE 800-221-0906. N.Y .: (212) 871-3303 9am - 8pm except Sunday

RECORD COLLECTORS SUPPLIES. S.S.B. CARD-BOARD JACKETS 50¢ PLASTIC LINED SLEEVES 15¢. OPERA BOXES, 78 SLEEVES, ETC. POSTAGE \$2.00. FREE CATALOG, VISA/MC PHONE ORDERS, 614-299 0476, 614-272-6715, DAY OR NIGHT. CABCO 301-5. BOX 8212, COLUMBUS, OHIO 43201.

COLLEGE STUDENTS!--- Improve your grades!-- Termpaper catalog-306 pages-10.278 topics-Rush \$1.00 -Research, Box 25916R, Los Angeles, 90025. (213) 477-8226

Instruction

BE A RECORDING ENGINEER! New Classes quarterly. INSTITUTE OF AUDIO/VIDEO ENGINEERING. (213) 666-3003, 1831 Hyperion Dept. C, Hollywood, CA 90027.

Electronics

ELECTRONIC BARGAINS, CLOSEOUTS, SURPLUS! Parts, equipment, stereo, industrial, educational, Amazing values! Fascinating items unavailable in stores or catalogs anywhere! Unusual 96 page catalog FREE! ETCO, Dept. 576, Plattsburgh, NY. 12901

Wanted To Buy

MCINTOSH, MARANTZ TUBE AMPS. THORENS TD-124. Garrard 301, 401, Western Electric tubes, amps. tweeters, speakers, horns, Tel:213/576-2642

SCHWANN RECORD AND TAPE GUIDE, now available by subscription. Includes 12 monthly issues of Schwann-1, 2 semi-annual issues of Schwann-2, Annual subscription \$25.00 U.S. and Possessions \$35.00 Canada and Mexico, all other foreign \$40.00. Order from: Schwann Record & Tape Guide, P.O. Box 2131, Radnor, PA 19089.

CALL ME FIRST before selling your high end esoteric tube equipment, Klipsch horns, E.V. Patricians, Hartsfields, and Western Electric. Contact Kurluff Ent., 4331 Maxson Rd. El Monte, Ca. 91732 (213) 444-7079.

WANTED: Pay top dollar for most any USED JENSEN SPEAKERS pre-1970, especially G-610. Steve Sienicki (312) 671-5680

Publications

HI-FI CHOICE Available at last in USA! Legendary British publication. No guestion the most comprehensive guide to hi-fi ever published. Authored by world's leading audio technicians. Hundreds of separate components and systems exhaustively tested, analyzed, compared and recommended. Eight regularly updated volumes available. A goldmine for audiophiles. Free Details 5RE 109 St. Marks PI. NYC. NY 10009.

Video Tape/Disc Guide (1st ed.) — 3 vol. set

Comprehensive reference guides providing over 7,000 video/disc listings for sports and recreation, movies and entertainment and children's programs. Gives program descriptions, where-to-buy/rent, formats, casts, directors and producers. Only \$17.95 plus \$1.50 shipping and handling. Supplies limited.

ABC Leisure Magazines-Dept. B, 754 4th Avenue. Brooklyn, NY 11232 Allow 6-8 weeks for delivery

How To Select & Install Your Own Speakers

Contains everything you need to know about speakers. Provides detailed information on types of speakers available, how they work. what they can do and how to select and install the speaker that best fits your needs. For both the novice and experienced high fidelity enthusiast. Only \$6.95 (hardcover) \$4.95 (softcover). Supplies limited

ABC Leisure Magazines-Dept. C, 754 4th Avenue, Brooklyn, NY 11232 Allow 6-8 weeks for delivery

Olde Records Price Guide

The definitive guide for collectors of popular and classical 78 rpm records. Lists hundreds of records by 570 reknown recording artists and orchestras from the 1900-1947 era. An index and record owner's reading list are also included. Only \$8.95 plus \$1.00 shipping handling. Supplies limited.

ABC Leisure Magazines-Dept. D. 754 4th Avenue. Brooklyn, NY 11232 Allow 6-8 weeks for delivery

1981 Records in Review 'The Bible for Record Collectors'

The invaluable reference guide to the who, what, when and where of the year's classical and semiclassical recorded music. Provides comprehensive critiques by High Fidelity's reviewers describing both the work and the performance. Only \$12.97 plus \$1.00 shipping and handling. Supplies limited.

ABC Leisure Magazines-Dept. A, 754 4th Avenue. Brooklyn, NY 11232 Allow 6-8 weeks for delivery

Index to **High Fidelity's Test Reports**

A complete index on all high fidelity manufacturer's equipment tested by High Fidelity from 1952 through 1979. Ideal for those who want to find out more about the components they own, plan to buy or dream about having. Only \$1.95. Supplies limited.

ABC Leisure Magazines-Dept. E, 754 4th Avenue, Brooklyn, NY 11232 Allow 6-8 weeks for delivery

Place Your Own Ad!

HIGH FIDELITY CLASSIFIED **ORDER FORM**

RATES PER WORD: 15 word minimum No charge for zip code

Regular Type: \$2.30 per word. Imperial Type: \$3.10 per word. Discounts for 3 times; 6 times; & 12 times.

1

L

1

1

1

1

1

1

ł

1

1

1 PI

SI

1

I

I

1

1

1

N

Ç 1

A

C

e: 🗌 Regular 3x 🗌 6x 🗌 12x 🗍 Check one: Imperial

Please print or type message below or on separate paper

Name	_
Company	_
Address	_
City/State/Zip	
Phone	
Signature	
Payment must accompany order.	
Send to: Yetta Peltzman HIGH FIDELITY 825 Seventh Avenue New York, N.Y. 10019 (212) 265-8360	

	Payment enclosed 5
I	MASTER CHARGE Card #
I	VISA Card #
ï.	VISA cald "

GENERAL INDEX TO ARTICLES 1982

Edited by Heather Wood

TEST REPORTS

Amplifiers (Power and Integrated)

Acoustat TNT-200 power. November. Hafler DH-500 power (kit). July. Heath AA-1800 power (kit). September Phase Linear DRS-250 integrated. May. Pioneer A-5 integrated. January. QED Model 330 power. December. Sony TA-AX5 integrated. March. Cartridges (Phono) Adcom XC/van den Hul. September. AKG P-25MD. March Astatic MF-100. January. Goldring G-900 IGC. December. Ortofon VMS-30 Mk. II. January. Shure M-97HE-AH. April. Shure V-15 Type V. July. Signet TK-7LCa. November Sony XL-44L. May. Stanton 980LZS. January. Headsets Koss Pro-4X. January. Preamplifiers McIntosh C-33. July. Receivers Cybernet SRC-80. September. Hitachi HTA-4000. January Kenwood KR-90. September. Mitsubishi DA-R25. March. Pioneer SX-7. May. Realistic STA-2290. November. Sherwood S-9600CP. January. Sony STR-VX33. December. Technics SA-626. April Speakers Acoustic Research AR-48s. May. Acoustic Research AR-9LS. December. Audio Pro B2-40/S2-7. March. Bose 601 Series II. September. Boston Acoustics A-40. June. Celestion SL-6. April. Cizek Sound Window System. June. Dahlquist DQM-5. October. DCM Macrophone. June. Genesis 210. January. KEF 203. June. Linn Sara. June. Mirage 2.5. November. Mordaunt-Short Pageant 3. October. Norman Laboratories Model 8B-V. October. Speakerlab SX. June. Technics SB-6. October 3D Acoustics Decade. October. **Tape Decks** Akai GX-77 open-reel, February, Akai GX-F44R cassette. August. Bang & Olufsen Beocord 9000 cassette. May. Denon DR-330 cassette. January. Denon DR-F7 cassette. August. Dual 844 cassette. August. Harman-Kardon CD-401 cassette. August. Hitachi D-2200M cassette. August. Kyocera D-601 cassette. December. Nakamichi LX-3 cassette. February.

To Order Test Report Reprints, send us a letter with the following information: the type of product, the name of the product, the model number, manufacturer, and the issue in which the test report appeared. Also enclose a self-addressed stamped envelope and send to Test Report Reprints, High Fidelity, -825 Seventh Ave., New York, N.Y. 10019. Requests for three or fewer reprints will be filled free of charge.

Onkyo TA-2070 cassette. February. Pioneer CT-9R cassette. March. Sansui D-570 cassette. August. Sanyo Plus D-57 cassette. November. Teac V-5RX cassette. February. Technics RS-M270X cassette. February. Technics RS-M255X cassette. September. Yamaha K-960 cassette. February. Tuners Crown FM Two, April. Scott Model 558-T. November. Turntables Denon DP-32F. April. Dual CS-607. January. JVC L-F71. May Micro Seiki MB-12. March. Oracle. July. Yamaha PX-3. December Miscellaneous Audio Control D-520 equalizer. October. MXR Model 153 equalizer. April. AUDIO AND VIDEO Auto Sound Auto Sound '82: Sophistication and Convenience.

- Gary Stock. May. Car Stereo Components for 1983. Gary Stock.
- October. Delco/Bose's Perfect Match. Gary Stock. (The
- Autophile) November. Mobile Music Faces Up to Murphy's Law. Gary Stock. (The Autophile) July.

Souping Up Your System. Gary Stock. (The Autophile) September.

Electronics

- Amplifiers: The Limits of Power. Michael Riggs (Basically Speaking) December.
- The Makings of a Receiver. Michael Riggs. (Basically Speaking) October.
- A New Generation of Receivers. Leonard Feldman. May.
- Setting Your Receiver Priorities. Christine Begole. (Audio/Video Environments) December.

Record-Playing Equipment

- And the Music Goes Round and Round. Michael Riggs. (Basically Speaking) July.
- Evaluating Phono-Pickup Performance. Michael Riggs. (Basically Speaking) May.
- How Phono Cartridges Work. Michael Riggs. (Basically Speaking) April.
 Let's Talk Tonearms. Michael Riggs. (Basically
- Let's Talk Tonearms. Michael Riggs. (Basically Speaking) September.
- Music in the Groove. Michael Riggs. (Basically Speaking) March.
- Phono System Hum—Finding the Cause and Fixing It. Alexander N. Retsoff. (Retsoff's Remedies) August.
- Pickup Tracking, Separation, and Distortion. Michael Riggs. (Basically Speaking) June.

Speakers

Loudspeaker Fundamentals. Michael Riggs. (Basically Speaking) November.

Selecting the "Best" Speaker—A Personal Experience. Christine Begole. October.

Tape

- Cassette Tapes: Evaluation of Thirty-Two Types. Robert Long. February.
- HF Adopts New Tape Recorder Standard. Edward J. Foster. (Sound Views) July.
- More Highlights of the New Tape Deck Standard. Edward J. Foster. (Sound Views) August.
- On Location with a Digital Deck. Richard Warren. August.
- Tape Recorder Maintenance: Cleaning and Demagnetizing. Alexander N. Retsoff. (Retsoff's

Remedies) December.

- Today's Ten Hottest Cassette Deck Features. Robert Long. August.
- The Trouble with Tape Rankings. Robert Long. (Sound Views) November.
- What the Real Issue Is in the "Right to Tape" Controversy. Robert Long. (Sound Views) October.

Video

- A Novice Videotapes a "Dream" Trip to Europe. Benjamin C. Patt, Jr. May.
- Buying a Video Camera? Dawn Gordon. February.
- Hitachi's VK-C1000 Color Video Camera. Edward J. Foster. (Hands-On Report) July.
- JVC HR-7650U Video Deck. (Hands-On Report) August.
- Kenwood's KVA-502 Audio-Video Amplifier. (Hands-On/Lab Test) May.
- Laser vs. CED Video Disc Players: Pioneer's LD-1100 and RCA's SGT-250. Edward J. Foster. (Hands-On Report) November.
- NEC VC-P1000E/TT-1000E Portable Video System. Edward J. Foster. (Hands-On Report) October.
- Planning Your First Video System—A Basic Introduction. Dawn Gordon. March.
- Quality Video Sound: Why Are We Still Waiting for It? Edward J. Foster. June.
- Sansui SV-R5000 Video Deck. Edward J. Foster. (Hands-On Report) September.
- Sanyo's Model 4300 Beta Recorder. Edward J. Foster. (Hands-On Report) April.
- Sony's Versatile Video Recorder—SL-5800. Edward J. Foster. (Hands-On Report) January.

Miscellaneous

- Blending the Practical with the Aesthetic. Christine Begole. (Audio/Video Environments) November.
- Compact Portable Multitrack Studios (Tascam, Fostex). J.B. Moore. (Input Output) November.
- Digital Sound: It's Here! (Sony digital audio disc player CDP-101) Michael Riggs (Hands-On Report) December.
- Does Audio's Past Have a Future? Robert Long. (Sound Views) September.
- The High Price of Progress. Robert Long. (Sound Views) February.
- How to Isolate Trouble Spots. Alexander N. Retsoff. (Retsoff's Remedies) June.
- Installation: an Ounce of Prevention. Edward J. Foster. March.
- Is Your Stereo System Obsolete? Peter W. Mitchell. November.
- McLeyvier Synthesizer. Fred Miller. (Input Output) February.
- Meeting the Digital Challenge. Robert Long. January.
- The New Generation of Personal Portables. Peter Dobbin. December.
- The New Year's No-Surprise Party. Robert Long. March.
- 1983 New Products Roundup.
 - Electronics, by Robert Long. Tape and Tape Equipment, by Robert Long. Speakers, by Michael Riggs. Record-Playing Equipment, by Michael Riggs. Signal Processors and Accessories, by Robert Long. Video, by William Tynan. September.
- Noise and Distortion. Michael Riggs. (Basically Speaking) January.
- Record and Tape Care Products That Really Do Work. Robert Long. November.
- Specs and Tests: A Case of Information Versus Meaning. Robert Long. (Sound Views) May.
- Sonic Ambience—The Missing Ingredient. Peter W. Mitchell. October.

- Spring New Equipment Special. Electronics, by Edward J. Foster. April. Record-Playing Equipment, by Michael Riggs. April. Tape, by Robert Long. April. Loudspeakers, by Michael Riggs. June. Signal. Processors, by Robert Long. July.
- Spring Stereo Component Preview. Dawn Gordon. March.
- Stereo: Theory and Practice. Michael Riggs. (Basically Speaking) February.
- Tracking Down Acoustic Feedback. Alexander N. Retsoff. (Retsoff's Remedies) October. The Whys and Hows of Digital Recording. Michael
- Riggs. August. You Can Take It With You! Portable Audio (and
- Video) Components. Peter Dobbin. July.

MUSIC AND MUSICIANS

- Bach's "Choruses"—Less Than They Seem? Joshua Rifkin. September.
- Bach's "Choruses" Reconstituted. Robert L. Marshall. October.
- Bach's "Choruses"—The Record Cleared. Joshua Rifkin, December.
- Böhm, Karl. The Strauss Opera Legacy. Bryan Gilliam. July.

Christian Music. Davin Seay. February.

- Crenshaw Sings Crenshaw. Crispin Cioe. September.
- Haydn's Orchestra: The New Authenticity ... and the (Good) Old Modernity. John W. Barker; John Canarina. October.
- Marlowe, Sylvia: Wit, Warmth, and Wisdom. Kenneth Cooper. June.
- Mozart's Struggles: The Mass. Paul Henry Lang. December.
- Mozart's Struggles: The String Quartet. R.D. Darrell. November.
- Music and Recording in 1981: Bottom Line Blues. Steven X. Rea. January.
- Orff, Carl: Bungled Fireworks... or Skillful Effects? Paul Henry Lang; R.D. Darrell. January.
- Raitt, Bonnie: Bonnie Raitt Lightens Up. Steven X. Rea. June.
- Schubert: Interpreting the Songs. David Hamilton. June.
- Simon and Garfunkel. Maybe. Stephen Holden. May.
- Sixty-Eight Years of the Berlin Philharmonic. Joseph Horowitz. December.

Stokowski at 100. Curtis Davis. April

- Vandross, Luther: The Jingle of Success. Crispin Cioe. March.
- What Makes an Opera "Good"? Kenneth Furie. February.

RECORDS AND RECORDING

- Anatomy of a Record Album, George Wallace, November,
- The Audiophile Collector. Sam Sutherland. December.
- Cassette Tape Turnaround. Sam Sutherland. (Pop-Pourri) September.
- Culshaw, John. Autobiography, Part 1. January, Part 2. February. Part 3. March.
- Fleetwood Mac: Making Mirage. Sam Sutherland. October.
- Good(e) Piano, on Tape and Disc. R.D. Darrell; Harris Goldsmith. May.
- The Indies are Coming! Sam Sutherland. August. International Record Critics Awards: The Fifteenth
- Annual. James R. Oestreich. December. Meeting the Digital Challenge. Robert Long. Janu-
- ary. Misremembering Bayreuth. David Hamilton. April. The Power Station States the Art. Crispin Cioe.
- July. Preview of the Forthcoming Year's Recordings. September.
- Ramone, Phil: The Golden Ears of. Crispin Cioe. April.
- Strobel, Heinrich: The Diaghilev of Contemporary Music. Peter G. Davis. October.
- Szymczyk, Bill: Tales from Famous Producers School. Crispin Cioe. January.

- Tenor Sax Greats from the Prestige Vaults. Crispin Cioe. May.
- Three Cheers for Stravinsky (One-and-a-Half for the Record Companies). Jeremy Noble. June. Vintage Vinyl from the Vaults. Mitchell Cohen.
- October. A Vocal Jubilee from London. Kenneth Furie. July.
- Young Guitarists Show Some Pluck. Allan Kozinn. May

ESSAY REVIEWS

- Alkan: Piano Works. Smith. Sonate de concert, Op. 47. Hanani, Auer. July.
- Bartók: Centenary Edition of Bartók's Recordings, Vol. 1: Bartók at the Piano, 1920-45. Bartók; various artists. Vol. 2: Bartók Plays and Talks, 1912-44. Bartók; various artists. June.
- Beethoven: Quartet for Strings, No. 1, in F, Op. 18, No. 1 (orig. version). Pro Arte Quartet. January.
- Berlioz: Béatrice et Bénédict. Cotrubas, Minton, Domingo, Fischer-Dieskau; Orchestre de Paris; Barenboim. November.
- Bloch: Suite for Viola and Piano. Schotten; Collier. April.
- Brahms: Duo Sonatas. Various artists. November.
- Cherubini: Requiem in C minor. Ambrosian Singers; Philharmonia Orchestra; Muti. November.
- Davies, Peter Maxwell: Ave maris stella; Tenebrae super Gesualdo. Thomas; Walker. Fires of London, Davies. Renaissance and Earoque Realizations. Fires of London, Davies. March.
- Dohnányi: Sonata for Cello and Piano, in B flat, Op. 8, Grossman; Walsh. February.
- Dowland: The Complete Dowland, More and Less. Consort of Musicke; various artists. August.
- Dvořák, Smetana, Suk: Chamber Works. Various artists. February.
- Haydn: Sonatas for Keyboard (5). Marlowe. June. Henze: Tristan. Francesch. Cologne Radio Sym-
- phony Orchestra, Henze. July. Hindemith: Sonata for Viola and Piano, Op. 25, No. 4. Schotten; Collier. April.
- John, Elton: Jump Up! July.
- MacDowell, Edward: First Modern Suite, Op. 10; Sonata for Piano, No. 4, Op. 59 (Keltic). Fierro. November.
- McCartney, Paul: Tug of War. July.
- The Police: Ghost in the Machine. January.
- Ponchielli: La Gioconda. Caballé; Pavarotti; Milnes; Ghiaurov. National Philharmonic Orchestra, Bartoletti. August.
- The Postwar Jazz Trumpet: Miles Davis, Freddie Hubbard, Woody Shaw, Clifford Brown & Max Roach, September.
- Rameau and Charpentier: Various works, various artists. June.
- Sophisticated Ladies. Original Broadway cast. January.
- Stravinsky: The Recorded Legacy. Stravinsky, piano and cond.; various soloists and ensembles. June.
- Tcherepnin: Trio for Violin, Cello, and Piano, in D, Op. 34. Odeon Trio. April.
- Taneyev: Quartet for Piano and Strings, in E, Op. 20. Cantilena Chamber Players. Suite de concert, Op. 28. Altenburger; Vienna Symphony Orchestra, Ahronovitch. Trio for Violin, Cello, and Piano, in D. Op. 22. Odeon Trio. March.
- Tchaikovsky: Orchestral Works. London Symphony Orchestra, Simon. June.
- Tippett, Michael: King Priam. Harper. Palmer, Minton, Tear, Bailey; London Sinfonietta; Atherton. Symphony No. 4; Suite for the Birthday of Prince Charles: Chicago Symphony Orchestra, Solti. March.
- Verdi: La Traviata. Various versions, various artists. September.
- Wagner: Tristan und Isolde. Gray; Mitchinson. Welsh National Opera Chorus and Orchestra, Goodall. July.
- Weill, Kurt: Songs (14). Stratas; Weitach. Sonata for Cello and Piano. Grossman; Walsh. February.

BACKBEAT REVIEWS

(Continued from page 90)

music of Rahsaan Roland Kirk, Dameronia on Tadd Dameron, and Sphere on Thelonious Monk.

Sphere is remarkable in that it captures the essence of Monk in all his idiomatic angularity, unexpected harmonies, and sprightly playfulness. The group's bassist, Buster Williams, has called Monk's music so distinctive that "it maintains its own personality no matter who plays it."

Yet the personalities in Sphere are equally distinctive. Tenor saxophonist Charlie Rouse, who played with Monk's quartet for many years, is loose, positive, and flowing, while the original Monk context found him rather deliberate and stately. Pianist Kenny Barron never tries to be Monk, yet his playing is more suggestive of his model than usual. The other two members of the rhythm section-Williams and drummer Ben Riley-provide solid support and colorful, yet subtle, solos. The tunes go beyond the customary Monk repertoire-Four in One, Light Blue, Monk's Dream, Evidence, Reflections, and Eronel-and are thoughtfully and knowledgeably ren-JOHN S. WILSON dered

Ralph Sutton: Off the Cuff

Ted Easton, producer Audiophile AP 163 (3008 Wadsworth Mill Pl., Atlanta, Ga. 30032)

Pianist Ralph Sutton rarely deviates from his characteristic stride style. Yet while "Off the Cuff" includes material by Fats Waller and others of the stride school, it also shows Sutton in a more imaginative mood than usual. His reading of Willie "the Lion" Smith's Echoes of Spring, for example, is more assertive than the Lion's treatment. A less familiar tune, Bob Zurke's Eye Opener, gets the strong, twohanded drive that is Sutton's dazzling specialty. Another unexpected entry is Love Lies, a ballad recorded in 1940 by Frank Sinatra with Tommy Dorsey's orchestra. Sutton resuscitates it with a gently torchy feeling perfectly suited to the melody's 1920s phrases. This and Eubie Blake's Memories of You showcase the flowing warnith of his slower tempos.

Though Muskrat Ramble and I Found a New Baby are standard '20s jazz tunes not associated with stride, Sutton gives them both the full treatment. Muskrat Ramble resists but I Found a New Baby takes on a jaunty swagger that complements the original feeling of the piece.

All but three tunes are unaccompanied, and Sutton is joined on the exceptions by an uncredited bassist and drummer, presumably from Ted Easton's Dutch Band. With this support to take some of the rhythmic weight off his shoulders, his playing becomes less sternly muscular and more relaxed. JOHN S. WILSON

GOOD YEAR/IRCA

(Continued from page 62) goals were far less modest. From the time I first saw and heard them. I was convinced that Hungaroton's centenary sets of Bartók's own recordings, combining a complete reissue of his commercial releases with new issues of archival material, comprised the year's most important recorded project, and I was determined to push for a special award.

In the event, 1 didn't have to pushand a good thing! At the first session, we had decided to leave the matter of special awards for the end. Thus, when it was decided on the morning of the second day to begin by taking up special awards. I was hardly prepared to make an eloquent presentation. I am, as all who know me will attest, not at my best early any morningleast of all, first thing after bourbon-fueled late-night discussions (of records, of course). It speaks highly for the Bartók project that no eloquence was needed. The sets have not vet achieved wide distribution in Europe, and several of the judges (like many of the nominators, evidently) had not yet had access to them. But to a man, they shared my enthusiasm at first contact. As Halbreich stated, "this is the sort of thing we need for every composer." After the briefest of discussions, the special award was granted, here literally by acclamation.

Easy as it was to select Tippett's *Priam* for IRCA, it made the Koussevitzky vote that much more difficult. Not only did it remove

the obvious standout from the field, but it also left Greenfield-almost embarrassed by recent British successes-disinclined to agitate for his own Koussevitzky selection, Oliver Knussen's Third Symphony (Unicorn-Kanchana RHD 400). In addition to this year's Tippett and Ward, there was last year's Koussevitzky Award for Birtwhistle's Punch and Judy, Greenfield's choice. The Knussen, whose imagination and close logic have impressed me more with each hearing, became my favorite as well, and I labored under no such compunctions. Nevertheless, it soon became apparent that workable compromise lay in another direction

Not that anyone adamantly opposed the Tăranu. Yet impressed as we all have been by what we know of the rich and varied compositional fare now emanating from Romania, we were all much fonder of Hoffman's entry last year-Stefan Niculescu's Ison II, which simply had the bad fortune of coming up against the stronger Birtwhistle. Be that as it may, Hoffman came prepared to fight, and he enlisted a formidable ally in Halbreich, who has also taken a special interest in contemporary Romanian music and finds the current compositional activity in that country as fertile and volatile as that in Poland just before the emergence of Lutoslawski and Penderecki. This lobby prevailed, without serious contention, so the \$2,000 cash award, contributed jointly by HF and the Musicians Club of New York (see accompanying box), goes to Cornel Tăranu (born 1934), for Ghirlande, a spare, colorful orchestral work in a clangorous

her for the challenge. If she was anything like Barbara Hendricks, Karajan's soprano, Constanze must have been very good indeed. This young singer has a beautiful, soaring voice, always under firm control, and she can color it nicely; her intonation is admirable—even in two-octave leaps! The other soloists. Janet Perry, Peter Schreier, and Benjamin Luxon, do well in the complicated ensembles, but the conductor should have watched for uniform execution of trills, which go every which way.

We shall have to wait for a conductor who really studies this great work—not only the score and the oratorio later derived from it, but also its history, contemporary reports, and Mozart's very informative letters. Above all, this informed interpreter will have to let Mozart's orchestral and choral writing shine in its pristine glory by removing all the additions that inhibit the purity of sound.

MOZART: Mass in C minor, K. 427.

Barbara Hendricks and Janet Perry, sopranos; Peter Schreier, tenor; Benjamin Luxon, bass; Vienna Singverein. Berlin Philharmonic Orchestra, Herbert von Karajan, cond. [Günther Breest and Werner Mayer, prod.] DEUTSCHE GRAMMOPHON 2532 028, \$12.98 (digital recording). Tape: 3302 028, \$12.98 (cassette).

Musicians Club of New York

The Musicians Club of New York, which administers the Koussevitzky Award of the American International Music Fund and provides the cash prize jointly with HF, was founded in 1911 "to bring about a better understanding and closer fellowship among musicians and lovers of fine music." Comprised of professional musicians and amateurs, its goals remain: to cultivate a more lively interest in music; to aid young musicians through sponsorship of concerts and competitions; and to focus attention on the American composer and performer. Its president is Bruce L. Kubert; past presidents have included Walter Danrosch, Norman Dello Joio, and—from 1961 to 1975—Olga Koussevitzky.

contemporary idiom that draws heavily upon Romanian folk traditions.

Unlike the IRCA selections, which honor a recording and all that goes into it (composition, performance, production, engineering), the Koussevitzky Award goes directly to the composer for a specific work in its first recording. Thus, all the admiration that greeted the performance and production of David del Tredici's Alice in Wonderland setting Final Alice (London LDR 71018; Barbara Hendricks, Chicago Symphony, Solti)-the only notable American entry-could not overcome the jurors' animosity toward the style. (Shades of Rochberg.) Swiss judge Pierre Michot brought the discussion-brief as it was-to a timely close: " "This is taking much too long,' said the Queen." HF

. If anything can . . . , such a work as

It is partly this elemental naiveté, fur-

Der Freischütz is able to restore to us, who

belong to an overage culture, the naiveté

and blissfulness [Glückseligkeit] of our

nishing a tabula rasa upon which can be

inscribed a full spectrum of emotional pos-

sibilities, that distinguishes the vast major-

ity of the present pre-Karajan performances

and is to varying degrees recaptured by

such artists as Wilhelm Kempff, Jochum,

Kubelik, and Ma. To challenge the theft of

innocence Furtwängler decries is to chal-

lenge the course of history. On a more pro-

said level, however, the present stereo-era

recordings point to certain nemeses that

may prove susceptible to counterattack.

Among these are the sterility of the record-

ing studio and of the current symphonic

influence on how music is made is a fact no

one can doubt, and not merely because the

phonograph discourages live music at

home. Furtwängler, whose taped concert

performances are ever more widely avail-

able on disc, is a case in point. His studio

That the studio exerts an important

BERLIN PHILHARMONIC

(Continued from page 66)

childhood."

repertory.



MOZART'S STRUGGLES

(Continued from page 68)

is tumultuous; with the third fugal entry the part-writing becomes hazy, and when all four parts are engaged, one can distinguish only the treble and the struggling trombones. The orchestra in the Credo should be airy and pointed, as a foil to the firm declarations of faith in the chorus, but it is a bit heavy, and the muffled timpani are often annoyingly late.

Since Mozart planned the principal solo part for Constanze, by all accounts a pretty fair singer, the soprano dominates in the solos; the mezzo has only one aria, and tenor and bass merely participate in the solo ensembles. The soprano part is very demanding, and to make sure that his young bride would do well, Mozart composed a set of special solfeggios (K. 393) to prepare performances, nearly always more polished, are potentially better controlled. His concert performances, nearly always more febrile, are potentially more spontaneous. His best work comes from both venues. Compared to the present studio-bound Schubert Ninth, a 1943 Furtwängler/Vienna Philharmonic performance recorded in concert (Discocorp RR 405) misfires because the extra adrenaline is rashly channeled. Compared to a 1952 Furtwängler/ Berlin Philharmonic Brahms First recorded in concert (DG 2530 744), Furtwängler's 1947 studio version with the Vienna Philharmonic (EMI Electrola 1C 149-53420/ 6M) lacks sufficient adrenaline to activate the interpretive ground plan.

Obviously, both the studio and the concert hall have something positive to offer, and the best performances balance the discipline imposed by the one with the risk-taking encouraged by the other. Unfortunately, as far as the studio is concerned, sophisticated sonic manipulation and wrong-note detection have for some time tipped the scales toward calculation and control, the too familiar outcome being a sort of homogenized concert substitute spliced to perfection and "enhanced" with artificial tonal additives. Recording the Siegfried Idvll for Blech, the Berlin players sound as though they're having a good time. Today's studio regime mandates standards of accuracy and precision that might have cowed Paganini or Liszt; recording under Böhm or Kubelik or Karajan, the orchestra may sound diligent or at ease or inspired, but the impression of pleasure is gone.

A new impression, as in Karaian's silky-smooth, ultrarefined rendition of Mozart's Symphony No. 29 (1960), is of an executant hubris divorced from musical values. Karajan no longer manicures like this; a more chronic offender, in my view, is Maazel, whose vigorous, superbly disciplined performances of Mendelssohn's Fourth (1960) and Beethoven's Fifth (1958) are nevertheless burdened with precise nuances that sound taught by rote. That Karajan, Maazel, and others are capable of directing public performances as pristine as their multitrack, multitake studio renderings documents the degree to which the onetime double standard of "studio" versus "live," as with Furtwängler, has given way to a single standard emanating from the LP hothouse. For that matter-has any conductor prior to Karajan shown such consuming dedication to the technological and archival possibilities of the phonograph?

The repertory problem to which I alluded is of course that today's symphonic warhorses are the same as the warhorses of fifty years ago and more. While this does not impugn the stature of Beethoven's symphonies, or Brahms's. or Bruckner's, they are undeniably old, and the older they become, the more remote become the classical and Romantic traditions that nurtured them in the first place. It is no accident that, of Furtwängler's performances, those that have aged most are of Bach, Handel, Haydn, and Mozart. His Schubert, if unsurpassed, is possessed of a massiveness signifying the conductor's era, not the composer's. The composers closest to his own time and place, and to the time and place that produced the massive orchestras we retain, are the composers with whom he merges most completely: Wagner, Bruckner, Richard Strauss.

One hundred years ago, when the Berlin Philharmonic was born, the symphony orchestra was not alienated from its original purposes: Leading contemporary composers were programmed as a matter of course, and no technology existed with which to fashion surrogate take-home performances. The reduced centrality of the orchestral medium in our time partly accounts for the failure to perpetuate a contemporary repertory. But our complacence is excessive: Composers such as Hans Werner Henze, Michael Tippett, and Peter Maxwell Davies continue to produce important symphonic works within the means of mainstream musicians and audiences. As for the recording studio: Even if it is here to stay, now is the time to cultivate equally an in-concert discography, and so reduce the penalties for risks and wrong notes.

The symphony orchestra will never regain the centrality it enjoyed when Bülow, Nikisch, and Furtwängler were chief conductors in Berlin. But it is too soon to relegate it to a central museum whose fancy reproductions of the old masters. on sale in the gift shop, supersede the more varied, less vicarious fare of the galleries themselves.

THE ALL NEW 1983 EDITION OF MUSICAL AMERICA INTERNATIONAL DIRECTORY OF THE PERFORMING ARTS

The most encompassing and informative Directory of the Performing Arts in America.

Listings of orchestras, opera companies, publishers and artists' managers. Competitions, foundations and awards; performances, performers and organizations.

More than 600 pages of complete national and international performing arts information with both a categorical and alphabetical advertisers index in the rear.

It is the one Directory of The Performing Arts that can and will be referred to all year long. It is *The Source*.



Musical America Directory 1983 ABC Fulfillment c/o Bonded Mailing Inc.

Please send me_____copies of The 1983 Musical America Directory at \$35.00 each (postage and handling included) 1983 Edition available after Dec. 31, 1983. Allow 4-6 weeks for shipping.

754 4th Ave., Brooklyn, N.Y. 11232

ADDRESS

CITY

Enclosed is my check/money order for S_

Payment must accompany order. For postage and handling outside the U.S.A., add \$10.00 (Air Printed Matter, add \$20.00)

STATE

APT #

ZIP

ADVERTISING INDEX

Reade	r	
Servic	e # Advent	Page No. 43
	ADS	30
	Akai America, Ltd.	7
4	Audio Dynamics Corp.	6
7	Audio Spot	3
		_
11	Cybernet/Kyocera	25
	Delco	37
51	Discount Music Club	23
53	Discwasher, Inc.	Cover IV
	Fuji Tape	27
3	Hafler	16
	Illinois Audio	59
20	International American	23
45	International Hi Fi	86
34	International Wholesalers o	
	Miami	55
27	J & R Music World	23
	JVC Company of America	12
11	Kyocera/Cybernet	25
12	Maxell Corp.	19
56	McIntosh Laboratories	16
	Memorex Corp.	2
61	Mitsubishi Electronic Sales	8,9
8	Mobile Fidelity	89
33	Norman Labs	14
25	Onkyo	22
1	Pioneer High Fidelity	Cover II
9	Pioneer Video	15
58	Polk Audio	39
6	Pro Arte	85
14	Sansui Electronics Corp.	Cover III
	Sennheiser Electronics Cor	p. 4
50	Shure Brothers, Inc.	13
	Sony Corp. of America	17
	Sony Corp. of America	21
	Sony Corp. of America	28
	Sony Corp. of America-Tape	Div. 33
26	Soundcraftsman	84
29	Stereo Corp. of America	86
10	TDK Electronics Com	4.4
5	TDK Electronics Corp. Technics	11
5 19	Toshiba America, Inc.	5
19	rosniba America, IIIC.	35
2	Warner Brothers Becords	PC 87

_		,	
3	Wisconsin Discount	•	
0		L Contraction of the second seco	

4

PERSONAL PORTABLES

(Continued from page 50)

omit amplifier/booster circuitry from its LS-6 accessory speakers in order to reduce their weight and increase their portability.

Housed in a solidly constructed diecast aluminum enclosure, the LS-6's 1½inch driver produces pleasant low-level playback when connected to the headphone output of a personal portable radio or cassette player. A supplied cable (stereo miniplug to left and right channel mono plugs) links your portable to the input jack on each speaker. There are even spring-loaded clips on the back of each LS-6 for hookup to a stereo amplifier. The sensitivity of the speaker is reduced when connection is made to the clips, but even so, Audio-Source warns that excessive input can damage the drivers. A pair of LS-6's costs \$80.

Micro Fidelity MFS-6300

A cursory physical examination of these Micro Fidelity speakers discloses remarkable similarities to the Audio Source LS-6s—both the enclosures and the drivers



appear to be the same. But the similarities end there, for inside each Micro Fidelity speaker is a small amplifier.

While the output of these powered speakers is not deafening, they do pack a wallop that's quite adequate in a moderatesize room. With the amplifier in each speaker switched off, the Micro Fidelity speakers can serve limited double duty as remote home-audio speakers; as with the Audio Source models, each speaker has a pair of spring-loaded speaker terminals on the rear. The MFS-6300 includes a 12-volt AC adapter to power the speakers, and a Y-connector to join them to a portable unit's headphone output. Each speaker weighs 1½ pounds; a pair costs \$109.

Numark XL-100

I haven't had a chance to listen to Numark's XL-100 speakers yet, but they seem an attractive option and well worth an audition. The system consists of two small



external speakers, a battery-powered amplifier (powered by six D cells), and a case designed to house all three components. Including a tone control on the amplifier seems a very good idea: The output of a personal portable player is tailored to the response of its headphones, and a bit of tweaking when using loudspeakers may be desirable. Price is \$100.

Sharp Model 4G100

All-in-one portable audio-video systems have been around for a while, but Sharp's version—a microcassette personal portable tucked kangaroo-style into a color video



receiver—is an altogether charming alternative to less flexible configurations. The 4G100 combines a 4-inch color TV set with electronic tuning, an AM/FM-stereo tuner, the detachable stereo microcassette recorder with its headphones, and a compact pair of speakers.

Though microcassette-based personal portables are still relatively rare (and prerecorded microcassettes are rarer still), the ability to record directly from the base station's FM tuner gives you a chance to build a library of tapes. Recordings that we made on the system were of decent quality, but not quite as good as those made on fullsized cassettes. You might be willing to make the tradeoff, however, for the savings in weight afforded by the diminutive 8ounce recorder.

The performance of the TV set is terrific, and the sound from the two built-in speakers is above average for a portable. TV operation requires an input of 18 volts—drawn from twelve D cells or line current.

We admit that we fibbed a bit by including this Sharp system in a report that purported to cover only *affordable* personal portables and accessories; at \$750, it won't be penciled in on too many holiday shopping lists. But if anyone happens to ask what I want this Christmas. . . . **HF**

	circle the appropriate num-
ber on the Reader-Ser	rvice Card.
91 Aiwa HS-J02	85 Sharp QT-19
90 Sony WM-D6	84 Audio Source LS-6
89 Sanyo MG-4	83 Micro Fidelity
88 Panasonic RQ-J20	X MFS-6300
87 Mura Executive	82 Numark XL-100
86 Besser MF-3G	81 Sharp Model 4G100

4



HOW CAN SANSUI CLAIM THE WORLD'S ONLY DISTORTION-FREE RECEIVER? SIMPLE.WITH SUPER FEEDFORWARD DC AMP.

Creating technological breakthroughs is nothing new to Sansui. One of our most recent innovations, the unique Super Feedforward DC power amplifier system routs all types of distortion—harmonic, intermodulation, transient intermodulation, switching—you name it.

switching—you name it. And it's the reason we can claim that Sansui's new top-ofthe-line, 120-watt* Z-9000 receiver is truly distortion-free.

Simply stated, the Sansui Super Feedforward circuit is the perfect marriage between negative feedback and feedforward. As a result, you're never bothered by any type of distortion. You hear precisely what's on the records, tapes and broadcasts. Nothing added, nothing lost—just pure music.

7-band graphic equalizer for greater tone control.

Unlike receivers with conventional two or three tone controls, the Z-9000 provides total flexibility with a state-of-



the-art 7-band graphic equalizer that helps balance the sound ir your listening room.



Digital Quartz-PLL tuning is more precise.

While Super Feedforward alone is enough to outperform most receivers, the Z-9000 adds the pinpoint accuracy cf drift-free digital Quartz-PLL tuning. To make sure it's as easy to use as it is precise, there's microprocessor-controlled pushbutton pre-selection of eight FM and eight AM stations. Plus automatic scanning to recall each preset station at the previously programmed volume level. Each time you touch the tuning button you can scan or go up and down the FM and AM bands, bringing in perfectly tuned stations even when they're a hairline away from each other.

Extres add more pleasure to your listening.

The Z-9000 is loaded with high technology refinements that let you experiment with sound the way no other receiver can.

The built-in reverb unit with its own d splay can make your finest tapes and recordings sound even more magnificent by adding natural depth, extra brilliance and sound realism. The exclusive quartz/timer clock with three independent memory functions can be programmed to wake you up, full you to seep, and tape a broadcast in your absence. There are also high and subsonic filters and a preamp that handles both moving magnet and moving coil cartridges.

If the new distortion-free Sansui Z-9000 sounds too good to be true, satisfy yourself with an audition at your audio specialist. Or write odday for additional details.



SANSUI ELECTRONICE CORPORATION Lyndhurst, NJ 07071; Berdena, CA 90248 Sansui Electric Co , Ltd., Tokyo, Japan

*120 watts per channel minimum RMS into 8 ohms, 20Hz to 20kHz, with no more than 0.005% total, harmonic distortion

Putting more pleasure in sound

Your Valuable RECORDINGS

Deserve Careful Handling and Safe Storage.

Discwasher® DiscHandlerre and Discwasher® V.R.P.re's are ideal products for those who realize the importance of proper record handling and storage.

DiscHandler not only removes and returns records to their sleeves, it also grasps and flips records on a turntable. All maneuvers are done without hand contact, eliminating fingerprints and hand contamination.

V.R.P.'s are super smooth record sleeves for scratch free protection. Their special anti-static properties prevent static buildup during record removal from sleeves and during record storage.

discwasher® DiscHandler. IN RECORD CARE TECHNOLOGY.

INNOVATIONS FROM THE WORLD LEADER





1407 NORTH PROVIDENCE ROAD, P.O. BOX 6021, DEPT. HF. COLUMBIA, MO 65205 USA A DIVISION OF JENSEN an ESMARK Company

Circle 53 on Reader-Service Card