

DIGITAL AUDIO:
HOW SOON?

Stereo Review

JULY 1977 • ONE DOLLAR

Recorded Sound: the First
Hundred Years - and the Next

Akiyoshi/Tabackin Big Band

Best Recordings of the Centenary

Equipment Test Reports:

- Dual C919 Cassette Deck
- Miida 3140 AM/FM Stereo Receiver
- Ortofon MC20 Stereo Phono Cartridge and MCA-76 Pre-amplifier
- Rotel RT-1024 AM/FM Stereo Tuner
- TSI Models 110 and 120 Speaker Systems



LAST YEAR'S REVIEWS
PRESENTED US
WITH A TOUGH ACT
TO FOLLOW.

"IT CANNOT BE FAULTED."

SA9500 — Stereo Review

"AS NEAR TO PERFECT
AS WE'VE ENCOUNTERED."

TX9500 — Popular Electronics

"CERTAINLY ONE OF THE BEST...
AT ANY PRICE."

TX9500 — Modern Hi Fi



262912 SIT 30260E90 741J NOV77
E GLENN SMITH
RT 3
BOX 268-C
PHENIX CO
AL 36867

PIONEER PRESENTS ACT II. WE STARTED WITH THE BEST AND MADE THEM BETTER.

Last year, the experts paid Pioneer's integrated amps and tuners some of the highest compliments ever.

The challenge was obvious: to build even better amps and tuners. Amps and tuners that would not only surpass anything we'd ever built before, but anything anyone ever built before.

Here's how we did it.

THE NEW PIONEER TX9500II TUNER: EVEN CLOSER TO PERFECT.

When Popular Electronics said our TX9500 tuner was as "near to perfect" as they'd encountered, they obviously hadn't encountered our TX9500II. It features technology so advanced, some of it wasn't even perfected until this year.

Our front end, for example, features three newly developed MOS FETs that work with our 5-gang variable capacitor to give the TX9500II an incredible FM sensitivity of 8.8dBf. In mono. In English, this means you can pull in beautiful FM reception no matter how far you live from the transmitter.

Where most tuners give you one band width for all FM stations, the TX9500II gives you two. A wide band with a surface acoustic wave filter to take advantage of strong stations, and a narrow band

with five ceramic filters to remove all the interference and noise from weaker ones. (Distortion measured in stereo at one kilohertz is an incredibly low 0.07% in the wide band; and 0.25% in the narrow band. Both well below the threshold of human hearing.)

Where conventional multiplex circuits cut out some of the frequencies that add depth and presence to music, the multiplex circuit in the TX9500II doesn't. It features an exclusive integrated circuit that's far more accurate than anything else around. Plus a multipath switch that lets you align your antenna perfectly without an oscilloscope.

And where you simply have to guess about the proper recording levels off most tuners, the TX9500II provides you with a tone generator that lets you preset the recording levels on your tape deck before the broadcast starts.

So your tapes can sound just as clear and beautiful as your tuner.

THE NEW SA9500II AMPLIFIER: HOW TO GET THE MOST OUT OF THE BEST

After building one of the world's best tuners, we had no choice but to create an amplifier that could match it.

The result is the new SA9500II. An 80* watt integrated amp that was designed

to let you get everything out of your tuner. Perfectly.

Our output stage, for example, features a new parallel push-pull circuit that reduces total harmonic distortion to less than 0.1%. Again, well below anything you can possibly hear.

To all but eliminate cross-talk, the SA9500II comes with a separate power transformer for each channel, instead of the usual single transformer for both.

And where some amps give you two, or three tone controls, the SA9500II gives you four. Two for regular treble and bass, and two for extended treble and bass. They're calibrated in 2 decibel click stops, which means you have a virtually endless variety of ways to get the most out of your music.

But that's only the beginning. To get the most out of your cartridge, the 9500II has a switch that lets you "tune" the amplifier to the cartridge manufacturer's optimum capacitance. And to get the most out of your records, our three-stage phono equalizer features an incredibly high phono overload level of 300 millivolts. With no more than 0.2 dB variation from the RIAA curve. So even the most complicated passage on one of today's highly engineered records will sound exactly the way it was recorded in the studio.

Obviously, both the SA9500II and the TX9500II are very sophisticated pieces of equipment. But all of the engineering skill that went into making them has also gone into every other tuner and amplifier in our new series II. No matter what the price, no matter what the specifications.

And that's something you don't have to be an expert to appreciate.

	SA9500II TX9500II	SA8500II TX8500II	SA7500II	SA6500II TX6500II	SA5500II TX5500II
POWER MIN. RMS, 20 TO 20,000 HZ	80	60	45	30	15
TOTAL HARMONIC DISTORTION	0.1%	0.1%	0.1%	0.1%	0.5%
PHONO OVERLOAD LEVEL	300mV	250mV	200mV	200mV	130mV
INPUT: PHONO/AUX/ TAPE	2/1/2	2/1/2	1/1/2	1/1/2	1/1/1
SIGNAL TO NOISE RATIO	95dB	95dB	95dB	95dB	87dB
FM SENSITIVITY (11F-58)	1.5uV	1.8uV	not applicable	1.9uV	1.9uV
SELECTIVITY	(wide) 35dB (narrow) 85dB	(wide) 35dB (narrow) 80dB	not applicable	60dB	60dB
CAPTURE RATIO	(wide) 0.8dB (narrow) 2.0dB	(wide) 0.8dB (narrow) 2.0dB	not applicable	1.0dB	1.0dB

U.S. Pioneer Electronics Corp., 75 Oxford Drive, Moonachie, New Jersey 07074.

*Minimum RMS continuous power output at 8 ohms, from 20 to 20,000Hz, with no more than 0.1% total harmonic distortion.



TX8500II
SA8500II

TX9500II
SA9500II

TX6500II
SA7500II

THE NEW PIONEER TYPE II AMPS AND TUNERS.

High Fidelity Components
PIONEER
WE BRING IT BACK ALIVE.

CIRCLE NO. 60 ON READER SERVICE CARD





It's the real thing ± 1 dB.

"Phono-cartridge performance has come a long way in recent years, as can be judged from the 2000Z's measured frequency response. Including the effect of arm resonance in a typical tone arm, and combining the measurements from a couple of records, the response could honestly be described as ± 1 dB from 15 to 20,000 Hz. This is comparable to the flatness of most amplifiers, especially if the tone controls cannot be bypassed."

Stereo Review

"Finally the light dawned: This is a neutral cartridge — it's supposed to sound that way. The highs are not subdued; they are just smooth, rather than peaky and shrill. Instrumental timbres are reproduced in fine detail, but without being artificially pointed up. Thus one is able to hear soft inner voices and pastel shadings that are all but obscured by the bravura of some of the competition."

"The Empire 2000Z is truly impressive. It is well worth auditioning, even though that can't be done in a hurry if you are to hear — and savor — its quality."

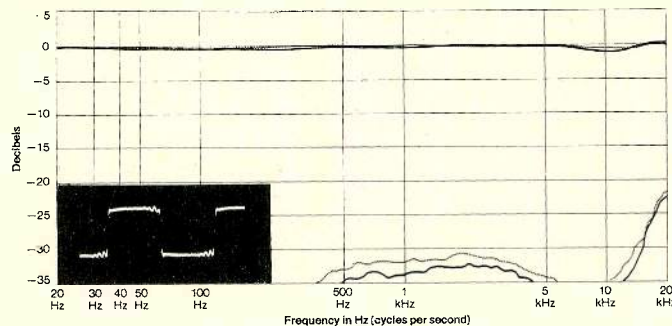
HIGH FIDELITY

"The Empire 2000Z offers extremely smooth response in the audible range and, even at the light tracking force (1.0 grams) at which our listening tests were conducted, never failed to track the grooves of even our most dynamically recorded musical test passages. Highs were silky smooth, never 'edgy' or raspy and there was not even a hint of 'peakiness' in the important 12,000 to 16,000 Hz range where so many other pickups often add distinct and easily identifiable coloration."

Radio-Electronics

"Frequency response was among the smoothest we have ever recorded for a stereo cartridge and actually did not deviate more than the plus or minus 1 dB specified over the entire audio spectrum. Resonance has been pushed way out beyond the audio range and we suspect that some of the stylus engineering developed for Empire's CD-4 (4000 series) cartridges has been brought to bear in this design to accomplish that feat."

audio trade news



In the graph frequency response was measured using the CBS 100 Test Record, which sweeps from 20-20,000 Hz. The vertical tracking force was set at one gram. Nominal system capacitance was calibrated to be 300 picofarads and the standard 47K ohm resistance was maintained throughout testing. The upper curves represent the frequency response of the right (black) and left (grey) channels. The distance between the upper and lower curves represents separation between the channels in decibels. The inset oscilloscope photo exhibits the cartridge's response to a recorded 1000 Hz square wave indicating its resonant and transient response.

For more information on the Empire 2000Z, and our free brochure "How to Get the Most Out of Your Records," write: Empire Scientific Corp., Department ± 1 dB, 1055 Stewart Avenue, Garden City, N.Y. 11530.

EMPIRE

FORMERLY HI FI/STEREO REVIEW

Stereo Review®

JULY 1977 • VOLUME 39 • NUMBER 1

The Equipment

NEW PRODUCTS	
<i>Roundup of latest audio equipment and accessories</i>	16
AUDIO QUESTIONS AND ANSWERS	
<i>Advice on readers' technical problems</i>	LARRY KLEIN 22
AUDIO BASICS	
<i>The Phonograph: Still on Top</i>	RALPH HODGES 24
EQUIPMENT TEST REPORTS	
<i>Hirsch-Houck Laboratory test results on the Rotel RT-1024 AM/FM stereo tuner, Dual C919 cassette deck, TSI Models 110 and 120 speaker systems, Ortofon MC20 stereo phono cartridge and MCA-76 pre-preamplifier, and the Miida 3140 AM/FM stereo receiver</i>	JULIAN D. HIRSCH 27
TAPE TALK	
<i>Theoretical and practical tape problems solved</i>	CRAIG STARK 52
ONE HUNDRED YEARS OF RECORDING	
<i>"If Edison hadn't invented the phonograph, someone else would have"</i>	IVAN BERGER 62
TWO HUNDRED YEARS OF RECORDING	
<i>A slightly unsettling look at what it all could eventually lead to</i>	LARRY KLEIN III 72
AUDIO'S DIGITAL FUTURE	
<i>Signal processing by computer will mean the end of noise and distortion</i>	ROBERT BERKOVITZ 81

The Music

THE TOSHIKO AKIYOSHI/LEW TABACKIN BIG BAND	
<i>"...everything you ever wanted to hear from a big band"</i>	CHRIS ALBERTSON 68
BEST RECORDINGS OF THE CENTENARY	
<i>A highly personal selection from among an embarrassment of recorded riches</i>	DAVID HALL 76
BEST RECORDINGS OF THE MONTH	
Jazz: Miles Davis' "Water Babies" Vocal: "An Evening with Diana Ross"	Orchestral: Josef Krips'
Mozart Symphonies Opera: Rimsky-Korsakov's May Night 87
POPULAR DISCS AND TAPES 92
<i>The Akiyoshi/Tabackin Big Band: A Musical Dynamo</i>	CHRIS ALBERTSON 71
<i>Nils Lofgren Gets Lucky</i>	STEVE SIMELS 93
<i>Southside Johnny and the Asbury Jukes</i>	STEVE SIMELS 94
<i>Helen Schneider: New Girl in Town</i>	PETER REILLY 98
<i>Loretta Remembers Patsy</i>	NOEL COPPAGE 106
<i>Dexter Gordon's "Homecoming": Worth the Hype</i>	CHRIS ALBERTSON 110
CLASSICAL DISCS AND TAPES 112
<i>A Master Clarinetist</i>	RICHARD FREED 113
<i>Emerson, Lake & Palmer Go Legit</i>	ERIC SALZMAN 116
<i>All Out for Uplift</i>	PAUL KRESH 124
<i>"Terrific" Modern Music for Wind Band</i>	ERIC SALZMAN 132

The Regulars

EDITORIALLY SPEAKING	WILLIAM ANDERSON 4
LETTERS TO THE EDITOR 6
BOOKS RECEIVED 14
TECHNICAL TALK	JULIAN D. HIRSCH 26
THE POP BEAT	PAULETTE WEISS 54
GOING ON RECORD	JAMES GOODFRIEND 56
ADVERTISERS' INDEX 132

COVER: Design by Borys Patchowsky; photo by Bruce Pendleton; Edison Centenary medallion design courtesy Recording Industry Association of America; see page 48 for further details.

COPYRIGHT © 1977 BY ZIFF-DAVIS PUBLISHING COMPANY. All rights reserved. Stereo Review, July 1977, Volume 39, Number 1. Published monthly by Ziff-Davis Publishing Company; Editorial and Executive Offices at One Park Avenue, New York, N.Y. 10016; Telephone: 212 725-3500. Hershel B. Sarbin, President; Furman Hebb, Executive Vice President; John R. Emery, Senior Financial Vice President and Treasurer; Charles B. Seton, Secretary. Also the publishers of Boating, Car and Driver, Cycle, Flying, Modern Bride, Popular Electronics, Popular Photography, and Skiing. One-year subscription rate for U.S. and possessions, \$7.98; Canada, \$8.98. All other countries, one-year subscription rate \$12.98, cash orders only, payable in U.S. currency. Second-class postage paid at New York, N.Y. and at additional mailing offices. Authorized as second-class mail by the Post Office Department, Ottawa, Canada, and for payment of postage in cash. SUBSCRIPTION SERVICE: Forms 3579 and all subscription correspondence should be addressed to Stereo Review, Circulation Department, P.O. Box 2771, Boulder, Colorado 80323. Please allow at least eight weeks for change of address. Include your old address, as well as new—enclosing if possible an address label from a recent issue. Material in this publication may not be reproduced in any form without permission. Requests for permission should be directed to Jerry Schneider, Rights and Permissions, Ziff-Davis Publishing Company, One Park Avenue, New York, New York 10016.

Editorially Speaking

By William Anderson

With Henry Brief, executive director of the RIAA, the Editor inspects a blow-up of the "Centennial of Sound Recording" commemorative stamp issued March 23 (first day) by the U.S. Post Office. See page 16 for details.



TIN FOIL

THE sense of history must be one of those human faculties (like wisdom) that are rather late in developing (if they develop at all), perhaps because we must have accumulated some little history of our own before we can properly assess others that are not only longer but more important. I don't know, for example, anyone under the age of forty whom I would call *suitably* impressed with the fact that this year marks the hundredth anniversary of Thomas Alva Edison's invention of the tin-foil phonograph, probably because they can't remember a time when sound-reproduction apparatus wasn't as common as shoes.

We older hands have longer memories, however. Mine goes back not only to my parents' succession of "Victrolas" and the variously acoustic and electric 78's played on them, but to my grandparents' cylinder machine and the cabinet of recordings beneath it.

The cylinder boxes were lined with cotton fleecy, and they lay on their sides, each in its own cubbyhole, like so many little (2½ x 4½ inches) wine bottles. I keep one on my desk to remind myself of those simpler days. Its cover bears a legend to the effect that "The Graphophone and Columbia Records were awarded the Grand Prize at the Paris Exposition of 1900," and on the side there's a rather threatening notice concerning who may sell Columbia records and for how much: "The price of this record is twenty-five (25) cents. No sale below that price is authorized." Simpler days indeed; imagine trying to get by with that kind of high-handed price-fixing today!

I remember the recordings too, of course, everything from Caruso (*Ave Maria, Una Furtiva Lagrima*) and McCormack (*Roses of Picardy, The Rosary, Mother o' Mine*) to Ukulele Ike (Cliff Edwards, that is, singing and playing *That's My Weakness Now*), Hom-

er Rodeheaver (*Brighten the Corner*), Julius Tannen (*Cohen at the Telephone*), and—you're not going to believe this—Alma Gluck and the Orpheus Quartet on *Aloha Oe*. You're right—they don't make 'em like that any more.

If all that is almost totally lacking in historic resonance for those under forty, perhaps a few recent statistics gathered by the Recording Industry Association of America will ring more impressively. For example, dollar volume for the American record industry rose from a 1935 low point (about forty years ago in the depths of the Depression) of just a few million to almost \$2.4 billion (both records and tapes) by the end of 1975. *Billboard* reported international sales for the same year as \$6,574,543,000. The domestic share of that market is about 36 per cent, and putting my mini-calculator together with the almanac's population figure (213 million) gives a 1975 per capita expenditure on discs and tapes in these United States of a little over \$11. If you'd like that broken down even further, roughly \$6.80 of the total went to buy "contemporary" (which is to say popular) music, \$1.30 for country, \$1.25 for MOR, \$.60 for classical, \$.50 for jazz and on down. And all that from a dead start only one hundred years ago.

ON the theory that even a little history is good for everybody, we are including in this issue just enough of it (see "One Hundred Years of Recording," page 62) to whet your appetite for more. That you will find in abundance in either of two standard reference works newly revised and reissued (see page 14) for the centennial: they are Roland Gelatt's *The Fabulous Phonograph* and Oliver Read and Walter Welch's *From Tin Foil to Stereo*. The story they tell is a fascinating one, perhaps because so much of it takes place in the nation's courtrooms rather than in the less dramatic confines of the laboratory. With the benefit of today's 20/20 hindsight that becomes quite understandable: there were literally billions at stake, and a few folks with a sense of history were foxy enough to know it.

Stereo Review

PUBLISHER

EDGAR W. HOPPER

EDITOR

WILLIAM ANDERSON

MANAGING EDITOR

WILLIAM LIVINGSTONE

EDITORIAL COORDINATOR

LOUISE GOOCH BOUNDAS

ART DIRECTOR

BORYS PATCHOWSKY

MUSIC EDITOR

JAMES GOODFRIEND

POPULAR MUSIC EDITOR

PAULETTE WEISS

ASSISTANT MUSIC EDITOR

VIVIENNE WINTERRY GOODMAN

TECHNICAL DIRECTOR

LARRY KLEIN

TECHNICAL EDITOR

RALPH HODGES

ASSISTANT TECHNICAL EDITOR

GEORGE TLAMSA

PRODUCTION EDITOR

JOHN HARRISON

ASSISTANT EDITOR, RESEARCH

RICHARD SARBIN

COPY EDITOR

DAVID STEIN

EDITORIAL ASSISTANTS

BARBARA AIKEN, DIANE NAKAMURA

CONTRIBUTING EDITORS

CHRIS ALBERTSON

NOEL COPPAGE

RICHARD FREED

DAVID HALL

ROY HEMMING

JULIAN D. HIRSCH

GEORGE JELLINEK

IGOR KIPNIS

IRVING KOLODIN

PAUL KRESH

STODDARD LINCOLN

J MARKS-HIGHWATER

RICK MITZ

LINCOLN PERRY

PETER REILLY

CHARLES RODRIGUES

ERIC SALZMAN

STEVE SIMELS

CRAIG STARK

JOEL VANCE

LONDON EDITOR

HENRY PLEASANTS

ADVERTISING DIRECTOR

JAMES J. SULLIVAN

ADVERTISING SERVICE MANAGER

LINDA BLUM

EXECUTIVE ASSISTANT

PEGI McENEANEY

ASSOCIATE PUBLISHER

STANLEY NEUFELD

Editorial and Executive Offices

Ziff-Davis Publishing Company
One Park Avenue, New York, New York 10016
212 725-3500

Eastern Advertising Manager: Richard J. Halpern
Eastern Advertising Representative: Charles L. P. Watson

Midwestern Office: The Pattis Group
4761 West Touhy Ave., Lincolnwood, Illinois 60464
312 679-1100
Arnold S. Hoffman

Western Office
9025 Wilshire Boulevard
Beverly Hills, California 90211
213 273-8050; 272-1161
Western Advertising Manager: Linda Bartlett

Japan: James Yagi
Oji Palace Aoyama, 6-25, Minami Aoyama
6-Chome, Minato-ku, Tokyo, Japan
Telephone: 407-1930/6821, 582-2851

Circulation Office
P.O. Box 2771, Boulder, Colorado 80323

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

Member Audit Bureau of Circulations



ZIFF-DAVIS PUBLISHING COMPANY

Hershel B. Sarbin, President
Furman Hebb, Executive Vice President
John B. Emery, Senior Vice President-Finance/Treasurer
Phillip T. Heffernan, Senior Vice President
Edward D. Muhlfeld, Senior Vice President, Sports Div.
Philip Sine, Senior Vice President
Frank Pomerantz, Vice President, Creative Services
Arthur W. Butzow, Vice President, Production
Lawrence Sporn, Vice President, Circulation
George Morrissey, Vice President
Sydney H. Rogers, Vice President
Sidney Holtz, Vice President
Albert S. Traina, Vice President
Philip Korsant, Vice President
Paul H. Chook, Vice President
Edgar W. Hopper, Vice President
Charles B. Seton, Secretary
William Ziff, Chairman
W. Bradford Briggs, Vice Chairman



**Now
you can help
your music
for a song.**

As an imaginative tool for overdub sessions, for demos and for experimentation, the TEAC A-3340S is the most popular multi-track tape recorder in the world.

Since it was designed to expand your imagination, imagine this: participating TEAC dealers are having a special sale on the A-3340S.

So for everyone who's ever dreamed of owning an A-3340S, it's now priced lower than you ever dreamed possible. But you have to hurry. You have to get into your TEAC dealer before he's out of the A-3340S.

And while you're there, check his prices on the Model 2 Mixer and other multitrack studio accessories.

TEAC®

The leader. Always has been.

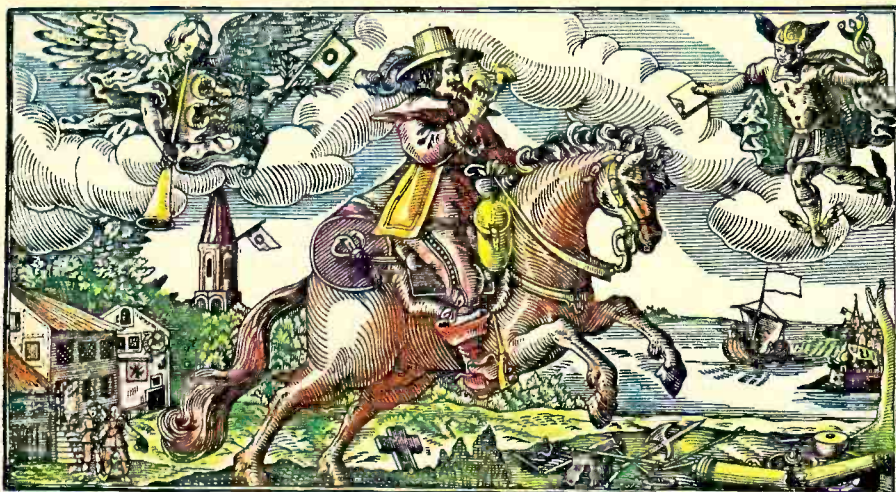
TEAC Corporation of America
7733 Telegraph Road
Montebello, California 90640

In Canada TEAC is distributed by White
Electronic Development Corporation (1976) Ltd.
©TEAC 1977

MB-20



Model 2



LETTERS TO THE EDITOR

RFI

● The RFI article in the May issue is great— unquestionably the best that has been done on the subject. How many people have told you by now that illustrations B and C on page 62 are reversed? Murphy's Law lives on!

ROY F. ALLISON
President, Allison Acoustics, Inc.
Natick, Mass.

● May I congratulate STEREO REVIEW and author John McVeigh for the most useful RFI article I have ever seen. Since I am an amateur radio operator, I have read quite a few articles on radio-frequency and television interference, but none can compare to the one in your May issue. It's most unusual for an article that tells it like it is about suppression in audio equipment to appear in an audio magazine. Now some audiophiles will know a little about the complexities of the problem and how to deal with them. That trouble-shooting chart on pages 58 and 59 is invaluable.

DON OSMUND
Libertyville, Ill.

● I am a relatively new reader of STEREO REVIEW. John McVeigh's article on RFI has cured my 7 p.m. "Breaker, 10-4" headaches. (I never really thought Al Stewart appreciated being called "good buddy.") By replacing home-made connection cables with some \$2.95 ones I freed myself from the low-grade CB chatter of my neighbors.

TOM EMPSON
Nashville, Tenn.

The Jazz Attitude

● I was disconcerted to read Stanley Dance's comments on Bill Evans in his review of the Verve jazz reissue series in the May STEREO REVIEW. It is true that none of the Evans recordings contained therein represents him at his best. The trio session with Gary Peacock is an especially disappointing album and was an unfortunate choice for reissue. But Dance's remarks show he doesn't even begin to perceive, let alone appreciate, the stunning emotional intensity that this extraordinary musician manages to create beneath the deceptively lyrical, unprepossess-

ing, "perfect" exterior of his music. Mr. Dance completely missed the point of the Evans remark he quoted (and by doing so was able to use it to support his own negative view). In saying that "jazz is a mental attitude rather than a style," Evans meant that jazz is always recognizably jazz, that cutting across all the incredibly different styles and periods there is always something, some intangible unanimity of approach, that gives it identity. He did not mean that jazz is an intellectual activity. "Jazz has got to be experienced," Evans once said, "because it's not words, it's feeling." This is what Evans' playing is about. In its gentle way, his music is always reaching toward something direct, true, and overwhelming.

ALAN ROSENTHAL
New York, N.Y.

Mr. Dance replies: Quot homines, tot sententiae. (As many minds as men.)

New vs. Old Riders

● I was disappointed with Noel Coppage's May review of the New Riders of the Purple Sage's album "Who Are Those Guys?" They are middle-class, but not synthetic. Does sounding like the Eagles make them more professional? In my opinion their new sound is more of a new shot for mass popularity at the expense of the people who liked their old one. Mr. Coppage should be reviewing classical music if professionalism is what he wants.

DON T. JONES
Riverdale, Ga.

Texas Cadillac

● As I was reading the April issue of STEREO REVIEW for the fifth time, I noted a slight error in Ivan Berger's article on car stereo. The author says that "... car radios have either signal-seeking or pushbuttons—not both." My parents own a 1976 Cadillac with a Delco signal-seeking, five-button/ten-station, AM/FM stereo radio.

STEVE SMITH
Humble, Texas

Be it ever so Humble.

A Worthy Successor

● In the three years I've been reading STEREO REVIEW, I have become an avid fan of Steve Simels. It was with some distress, then, that I discovered he had relinquished his column in order to pursue a career elsewhere. My worries were very soon put to rest. Paulette Weiss is not only better to look at (sorry, Steve!) but just as down-to-earth in her views on the present music scene. Her first column was very good, and I am still looking forward to opening each new edition of STEREO REVIEW straight to "The Pop Beat" to get some really good, lively, and honest views on the state of music today.

SEAN KILPATRICK
Kelligrews, Newfoundland

Quartet Convert

● As an oboist, I have been hard to convince, but the state-of-the-art configuration of my current music system (under development these twenty-seven years) has revealed to me the ineffable opulence and tonal supremacy of the string quartet. Accordingly, I have focused my acquisitions on those performances and recordings in the quartet and related literature that have divulged the richness potential in the genre. Irving Kolodin's "Beginner's Guide to Chamber Music" (May) has at one stroke appraised me of more than a dozen seminal works I would have been a long time finding on my own. Four of Mr. Kolodin's recommendations I already own; half a dozen more I possess in other recordings. But sixteen others are now on my list for early acquisition—an enrichment I am most grateful for!

B. P. TATUM
Healdsburg, Calif.

... and Wind Booster

● Much as I like Irving Kolodin's chamber-music guide in the May issue, I have a small carp. Might not an equally good place to start be chamber music for brass or woodwinds? The existence of a repertoire for these instruments by themselves is never even mentioned; perhaps some people would be intrigued more by a brass quintet playing Bach's *Art of the Fugue* or a woodwind quintet by Nielsen than by a string duo by Kodály. I don't see how brass or woodwind groups could be considered more arcane or less "basic" than string groups, especially for beginners who are more likely to have played a wind than a string instrument in school.

DAN AUGUSTINE
Austin, Tex.

Lily Pons

● I enjoyed George Jellinek's mostly favorable review of the Lily Pons album in the May issue, but I vehemently disagree with one of his statements: "Vocally, by the Caballé-Sutherland standards of today, she was far from perfect." Does this mean that those two artists are devoid of vocal flaws? The Pons voice was indeed unique and capable of soaring into the upper stratosphere with ease. It was not a large voice like Sutherland's or Caballé's, but its beautiful limpid quality was still there long after Pons stopped singing pub-

(Continued on page 8)



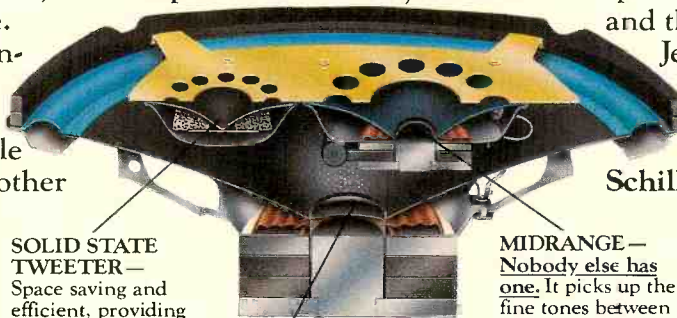
Jensen's Triaxial[®] 3-Way Speaker... Quite simply, the most advanced car stereo speaker ever.

For the best sound ever in your car. The first car stereo speaker with a woofer, a tweeter and a midrange.

Identical in principle to the best home stereo speakers. Jensen's midrange picks up a whole range of tones lost to any other car speaker.

The result: warm, rich, full sounds you never expected to find in your car.

Only with Jensen's Triaxial[®], the only 3-way car stereo speaker. For more information and the name of your nearest Jensen dealer, write
Jensen Sound Laboratories, Dept. SR-77
4310 Trans World Road,
Schiller Park, Illinois 60176.



SOLID STATE TWEETER—
Space saving and efficient, providing distortion-free high frequency response.

WOOFER—
Designed to reproduce lower frequency tones just as you would hear them in person.

MIDRANGE—
Nobody else has one. It picks up the fine tones between the high and low frequencies that other speakers miss.

*"Triax" and "Triaxial" are registered trademarks identifying the 3-way car stereo speaker of Jensen Sound Laboratories, Division of Pemcor, Inc.

JENSEN
SOUND LABORATORIES

Division of Pemcor, Inc.

CIRCLE NO. 17 ON READER SERVICE CARD

licly. When she came out of retirement in 1972 for a recital with the New York Philharmonic, the critics were unanimous in their praise of her performance. I do not believe there is a single contemporary soprano capable of maintaining the high degree of vocal excellence sustained by Lily Pons for so many years.

GERALDINE SEGAL
Randallstown, Md.

Larry Who?

● I like the constantly changing pictures of your regular columnists, and in the May issue I was pleased to see that they don't spend all their time behind their desks. I recognized Renata Scotto talking with William Livingstone at the heading of "The Opera File," but who is the hunk loving it up with Paulette Weiss at the heading of "The Pop Beat"?

MARY BETH CHRISTY
San Francisco, Calif.

That would be c-&-w singing star Larry Gatlin, who recently played a gig at New York's Lone Star Café.

Kiss Me Again

● Isn't it about time for a new recording of the best-ever musical comedy? And the new version ought to be on two discs since all of *Kiss Me*, *Kate* won't fit on one. Cole Porter wrote about eight more songs than were finally used. Since *Kate* was the peak of his ca-

reer, I suspect those extras might include some outstanding numbers that should be part of the new album too.

CHARLES L. ANDERSON
Sacramento, Calif.

Get Well Card

● Regarding the May record reviews: we fail to see how the supposedly sophisticated critics of such a sophisticated publication could possibly write reviews such as the ones for the latest Abba and Leon Redbone albums. Has the day come when an album by a true artist (Redbone) is panned, while at the same time an album by a group sometimes referred to as the essence of bubblegum is glorified? Noel! Joel! Where have your critical talents flown to? We wish you two a speedy recovery from whatever's been ailing you.

PETER B. D'AMARIO
T. COURTNEY JENKINS
Portsmouth, R.I.

Disc Quality

● For some time now I've been watching the fury mount over so-called "bad" records. As a record manufacturer, I think it's time someone brought some very important facts to the public's attention.

First of all, it is doubtful that good manufacturers are not really trying to bring the public the best records possible for the price they are being paid. But that price is much less than it may seem, since the industry has

unfortunately allowed itself to be put in a position where discounting is the rule rather than the exception. It is true that list prices have gone up a lot recently, but it is also true that very, very few purchasers pay that price. The "suggested list price" has been increased so that the distributors will have a better bargaining position vis-à-vis the retailers. There really is no such thing as a \$6.98 record in terms of actual cost to the consumer.

The following may point up the problems faced by the record presser: *in the past three to four years*, material costs (vinyl) have multiplied three times, electricity (to run the presses, etc.) more than three times, oil and gas (to generate the steam the presses use) more than three times, paper for labels more than three times, and paper for inner sleeves more than four times, while labor costs have doubled. Total costs for record jackets, which require expensive color printing, etc., are often higher than for the records to go inside them. Despite all this, the prices charged by the manufacturers are only about 30 per cent greater than they were four years ago.

The way the industry has met this cost squeeze has been, in virtually every case, to go to complete automation. Capital expenses have been great, of course, but the result has been, not incidentally, to eliminate the effects of chance and human error from record production. And if anyone thinks that *that* is why records are "worse" today than they used to be, I challenge him to play one of the old "hand-made gems" on the most modern equipment. The sound of these old pressings is bound to be quite disappointing.

(Continued on page 10)

No components have ever been so extravagantly engineered. And so extravagantly praised.

What they said.

Stereo Review:

"We see the Accuphase line as occupying a place in audio analogous to that of Rolls Royce among automobiles."

Hi Fi News and Record Review:

"There is no doubt that the P-300 is one of the most advanced power amplifiers on the world hi-fi market today."

Why they said it.

Accuphase components are handcrafted with unprecedented devotion to excellence. Only aerospace quality component parts are used, with *each* hand-selected.

The P-300 amp has modular construction, push-pull complimentary symmetry in *all* input and output circuits; 3 meter ranges

and power-limiting switches to protect your speakers. And more.

With its design overkill, the Accuphase amp can loaf through the most demanding and complex musical passages, maintaining delicacy and precision without sacrificing power.

The C-200 Preamplifier has 10 back and front inputs, 7 outputs, 28 controls — versatility beyond belief — yet is extremely simple in operation.

The reason for such lavish craftsmanship in every Accuphase component is very simple: a deep devotion to music.

If you share that devotion, please see an Accuphase Showcase dealer.

You'll enrich your life.

Accuphase

When you're really serious about your music.

Distributed by TEAC Corporation of America, 7733 Telegraph Road, Montebello, California 90640 © TEAC 1977

CIRCLE NO. 1 ON READER SERVICE CARD

“PERFECT BALANCE”[™] sound - clear, clean and brilliant



Model 8971



20 oz. magnet

You can drive 30 watts RMS through our 6" x 9" speakers all day, and they'll just keep cookin'.

Superb sound reproduction is standard in all **KLASSIC**[™] speakers—coaxial or dual cone design. We build them for rugged, long lasting “**Perfect Balance**”[™] speaker performance.

Frequency response (broadest in the industry), power handling (you can peak them at 60 watts) and efficiency are balance-blended to compliment the big power boosters so popular today. But because of their efficiency, they'll work with the smallest power units as well.

The art of speaker making is compromise. When you add to the bass, for example, you must compensate for loss in the high end. We have. Every component in every **KLASSIC**[™] speaker has been exhaustively tested to work in harmony, each with the other.

Our sound engineers have worked to eliminate the mistakes of the past. The totally modern **KRIKET**[®] **KLASSIC**[™] speaker represents the culmination of years of fruitful, effective research.

Now you can have the best of the past and the present. The “**Perfect Balance**”[™] car stereo speaker.



afS[®]/**Kriket**[®] Acoustic Fiber Sound Systems, Inc.
Indianapolis, Indiana

All **afS**[®]/**KRIKET**[®] products are manufactured in the U.S.A.
Copyright 1977, Acoustic Fiber Sound Systems, Inc.

CIRCLE NO. 2 ON READER SERVICE CARD

Introducing New Quantum by Memorex. Four Reasons It Sounds So Good.

1. Quantum offers low distortion. You get a true recording of any type of music at high output, with virtually no distortion.

2. Quantum has very high sensitivity. This maximizes output and allows you to effectively capture all signals at a greater level.

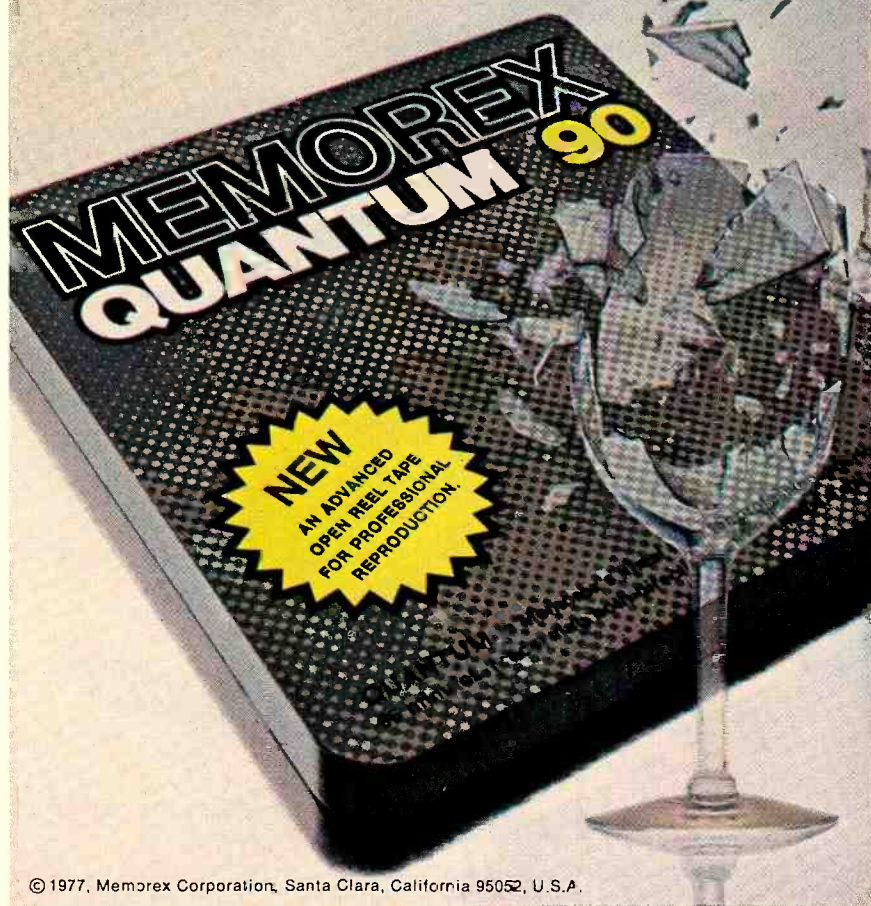
3. Quantum provides an excellent signal-to-noise ratio because its high sensitivity is obtained with no increase in noise level. This means a pure, brilliant sound.

4. Quantum gives you high saturation, resulting in a wide dynamic range and broad recording flexibility.

Quantum achieves improved recording performance while maintaining a high degree of mechanical excellence. With long life, durability, precision edge quality and excellent oxide adhesion.

The best way to hear the Quantum difference is to try it out for yourself. Available in 7" x 1800', 7" x 2400' and 10½" x 3600' reels.

MEMOREX Recording Tape.
Is it live or is it Memorex?



© 1977, Memorex Corporation, Santa Clara, California 95052, U.S.A.

CIRCLE NO. 27 ON READER SERVICE CARD

We get a few of our records returned as "noisy," and it's amazing how many scratches we find on them that weren't there when the record was shipped (there are only a few ways a record can be scratched in the plant, and these are not of that type). Complaints about so-called "warped" records are also usually unjustified. True, the record may have a slight dish or twist, but not so as to affect its playing quality one iota. (It's easy to make absolutely flat records every time, but the "non-fill" will drive you crazy.) We have also had records returned because of "scuff marks." These are made when the record is drawn across paper; they may show but they don't affect the sound at all. Any collector will have scores of records with such marks.

The problem of poor workmanship is much less serious with records than with many other consumer products today—cars especially—yet it seems to be records that people get most agitated about, to the point of demanding boycotts because the industry doesn't meet their standards. When one considers the enormous number of records shipped daily, the volume of complaints (as monitored, for instance, by the Better Business Bureau) is actually amazingly low. We could ship better records in this country (*ship*, not *make*) by tightening down on inspection and increasing the labor force involved in quality control. But it would mean the \$2.98 and \$3.98 "specials" would disappear, and I don't think the public is yet ready for that. Considering that the cost of a record includes amortization of the original recording, royalties to the artist(s) involved, design and printing costs for the jacket, money lost in bad debts (another growing problem), pressing, and so on, I think the purchaser is really getting a bargain, perhaps one of the very few left.

CLARK F. GALEHOUSE
President, Golden Crest Records, Inc.
Huntington Station, N.Y.

☉ I read a good many of the "Letters to the Editor" and am both amused and saddened by the many complaints about record quality. I know that my age places me in a sort of outside-looking-in position—or maybe "outside the pale." The first phonograph in my boyhood home was an Edison cylinder, and from then until now I have been in love with the phonograph and the collecting of records, some of which I have managed to keep from as far back as around 1910. Our present equipment is stereophonic, and while much of it is not exactly "state-of-the-art," it gives us joy to hear classical music that takes us into a delightful world of almost unlimited extent. The riches of recorded music we can now enjoy were undreamed of not so many years ago. We do have a few warped records and now and then a pop or two, but on the whole they are more than satisfactory. In all the abundance of musical riches available we find little to complain about.

DON SHELDON
St. Helena, Ore.

● Editor William Anderson's reply to Michael S. Flynn's letter concerning disc quality (May) reflects a thorough grasp of the problems faced by all record manufacturers. As a strictly classical label, lacking volume sales and subsidies from a pop record division (or is it the other way around?), Orion was forced by constantly rising costs to go to \$7.98 list as of March 1, 1977. This by no means gives us
(Continued on page 13)

The Precision Decision. We made it. Now it's your turn.



QL-7

We believe that precision is the most important factor in turntable design and performance. Which is why we've built such a high degree of precision into our advanced new line of turntables. So you'll need a whole new set of reasons to choose the one that's right for you. And when it comes to value, all seven will play second to none.

Take our new QL-7 Quartz-Locked and JL-F50 Fully Automatic direct drive, shown above. They're both unusually close when it comes to some important specs, but what will surprise you most is that they're also both in the same price range.

For instance, the JL-F50 checks in with 0.03% wow and flutter (WRMS); 70dB signal-to-noise ratio (DIN B). And it offers a host of convenience features as well, with most controls up front so you can operate them without lifting the dust cover. Its fully automatic operation gentles your favorite records, and lets you repeat them from one to six times, or infinitely. A built-in strobe makes speed adjustments easy and accurate. And the JL-F50's looks are in keeping with its precision design.

The QL-7's looks are equally great. And in its electronic heart, it's a tiger. All business, with the incredible accuracy only a Quartz-Locked machine can boast. Truly for a perfectionist, the QL-7's wow and flutter measures only 0.025% (WRMS); S/N is more than 74dB (DIN B). Figures that no other QL turntable we've seen in its category can touch. It's totally manual, with strobe speed indicator, and priced less than any other QL machine on the market.

The way we see it, you're left with a superb decision: our JL-F50 at less than \$250*, with all the convenience and performance most people could ever want, or our QL-7, the finest under \$300* turntable available today for the discriminating audiophile.

Either JVC you choose, you'll

CIRCLE NO. 18 ON READER SERVICE CARD



JL-F50

have made the right decision.

JVC America Company,
Division of US JVC Corp., 58-75
Queens Midtown Expressway,
Maspeth, N.Y. 11378 (212)
476-8300. Canada: JVC Electronics
of Canada, Ltd., Scarborough, Ont.

For your nearest JVC dealer, call
toll-free (outside N.Y.) 800-221-7502

Approximate retail value.

JVC

We build in what the others
leave out.

"I've always wanted Bose 901's, but won't I need a 100-watt amplifier?"

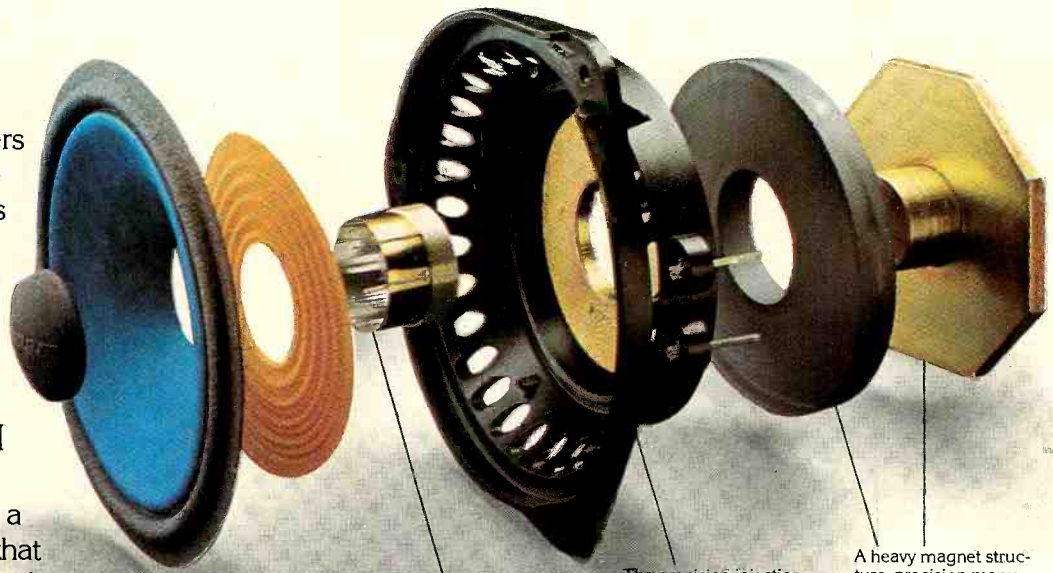
The original Direct/Reflecting® Bose 901® was one of the most acclaimed loudspeakers ever. But many people who admired the 901's didn't buy them because they thought they demanded a big, expensive amplifier.

The New Bose 901 Series III

Now comes the new Bose 901 Series III. It is a revolutionary speaker that combines proven Bose design concepts with startling new technology to achieve performance that is superior to the original 901 in every dimension—including even the spatial realism and spectral accuracy for which the 901 was justly famous.

Yet the 901 Series III requires less than one-third the amplifier power of the original 901. That means it can produce the same sound volume with a 15-watts-per-channel receiver as the original 901 with 50 watts. In fact, we suggest that anything over 70 watts is simply unnecessary.

No advertisement can describe fully the 901 Series III and the technology behind it. So we've put together a comprehensive literature package that includes a detailed 16-page color brochure, a 20-page owner's manual, and a copy of Dr. Amar Bose's paper on "Sound Recording and Reproduction," reprinted from *Technology Review*. To receive this literature, send \$1.00 to Bose, Dept. SR7, The Mountain, Framingham, Mass. 01701.



The helically-wound, all aluminum voice coil.

The precision injection-molded plastic frame eliminates energy-wasting clearances.

A heavy magnet structure, precision manufactured and assembled, minimizes loss of magnetic energy.

The New Driver

The key to the remarkable efficiency of the 901 Series III is a totally new, high performance



The voice coil consists of flat aluminum conductor wire wound on-edge on an aluminum core, eliminating the inefficient air gaps between the round copper windings of a conventional voice coil.

driver—a driver so advanced we had to build our own state-of-the-art driver manufacturing facility to produce it. It combines a light-weight, ultra-high-efficiency, helically-wound voice coil with a precision injection-molded plastic frame that practically eliminates loss of magnetic energy. Just as important, this strong plastic frame allows computer controlled assembly to tolerances far tighter than those imposed on conventional drivers.

The Payoff

This efficiency lets you enjoy the spectacular performance of the 901 Series III without a large investment in something you can't hear: pure power. And that might make the difference between getting just good speakers, and the speakers you've really wanted all along.

"A speaker unlike any other."



BOSE®

Better sound through research

Cabinets are walnut veneer. Patents issued and pending.

another \$1 profit per record; it is closer to 30 cents. We merely hope it will cover the cost of the 50 per cent more vinyl we are putting into our records now (less non-fill and warp-age), and if a plastic-lined sleeve costs us nearly a dime, so be it.

GIVEON CORNFIELD
President, Orion Master Recordings
Malibu, Calif.

● I am an audiophile employed in retail record merchandising. Although I am faced with ever-increasing buyer complaints about defective recordings, in my experience discs today are on the average of far higher overall quality than used to be the case. We stock many older recordings whose pressings pre-date the current controversy over disc quality—and they come back for exchange because of noisy surfaces, warping, or off-center holes at least as often as recent releases. Technological improvements in record vinyl and the metal used for master stampers have made possible an enormous increase in the number of pressings from a given stamper without lowering the average quality, which is a major reason why (as the March "Editorially Speaking" points out) record prices have risen at less than the general inflation rate.

A most important, but rarely noted, factor in the increasing frequency of complaints about disc quality is the ability of average home music systems today to offer clarity and definition far in excess of that available from systems popular even five years ago, let alone ten or twenty. Superior reproduction of what is in the grooves inevitably involves greater susceptibility to noise from all kinds of sources, from dust and static to actual "glitches" introduced in pressing. The problem, really, is that systems for playing records have improved faster than methods of producing and distributing them—which does not mean that the latter have *not* improved. The differential is what makes it seem that records are getting worse when they are actually, at least from the major labels, cleaner and more consistent than ever before.

If buyers were really willing to finance efforts to improve disc quality further by paying higher prices, the industry would surely respond. But in the meantime there are a few steps the buyer can take on his own to improve his listening without significantly greater expense. First of all: clean your records! Even brand new records fresh from the wrapper are bound to carry some surface dust and chemicals that may add noise, and records you've used a while will pick up more. There are various devices on the market that will remove most surface dirt, and by reducing the static charge on the disc they will help keep it off. It is also a good idea to clean your turntable mat periodically.

At least as essential is regularly inspecting and, when necessary, replacing the stylus in your phono cartridge. A dirty or worn stylus will not only make records sound bad, it will permanently damage them. Many of our customers bring in a stylus only when it is so worn and encrusted with dirt it is a wonder it can track at all. For the background-music system in our store we use a medium-price changer equipped with a low-cost magnetic cartridge, but we make sure it is clean and properly adjusted, with the tone arm oiled and the stylus in good condition. The only things we play on it are discs returned as "defective." Almost without exception, they play very well, without skipping, pops, or audible

distortion. The phonograph record may in some ways be the weakest link in the reproduced music chain, but it is hardly the only one, and customers have as much responsibility as manufacturers or retailers to insure that it is playable.

GEORGE ANDROVETTE
BOSTON, MASS.

● Perhaps better pressings will result in higher record prices, but there is at least one other company practice sending costs up: needless giveaways. In the past four months my college newspaper has received, from *one* record company, at least seventeen free popular record albums plus a weekly newsletter, a couple of posters, and a copy of *Rolling Stone*. The postage alone for all this has run

more than \$7. None of it was requested, and attempts to stop the flow have resulted in our receiving form letters. I wonder how many other records the companies throw away in this fashion?

WES ROBBINS
Cambridge, Mass.

Correction

● In the New Products column for April it was erroneously reported that the stands for the Ultralinear Models 2001 and 3001 speaker systems are included in the basic prices of the loudspeakers. The manufacturer advises us that they are optional at additional cost. We regret the error.



try the Crown EQ-2 Equalization System.

If you've followed the trials and tribulations of Avery Fisher Hall in New York you can understand how important room shape and decoration can be for good sound — for both live performance and reproduction.

If your own listening room sounds like "early Avery Fisher," the Crown EQ-2 Equalization System may make it possible to correct the problems without calling a building contractor.

The EQ-2 System includes the

new Crown 11-band octave center stereo equalizer, the Crown Equalization test record, frequency response chart paper and a manual that tells you exactly how to equalize your sound system for "live-performance" fidelity.

The complete story of the system is told in a new brochure now available from your Crown dealer or by writing directly to Crown. Get your free copy soon.



CROWN

Box 1000, Elkhart IN 46514

CIRCLE NO. 8 ON READER SERVICE CARD

FREE

details... A DIFFERENT KIND OF RECORD CLUB

You can now own every record or tape that you may ever want... at tremendous savings and with no continuing purchase obligations. You can get valuable free dividend certificates, you can get quick service and all the 100% iron-clad guarantees you want.

Now you can stop price increases that leave you with less music for your record and tape budget. You can guarantee yourself more music for less money through membership in Discount Music Club.

Look at these benefits:

TREMENDOUS SAVINGS

on every record and tape in print—no "agree-to-purchase" obligations of any kind.

DISCOUNTS OF 43% TO 73% off mfg. suggested list... special catalog features hundreds of titles and artists.

ALL LABELS AVAILABLE

including most imports through special custom ordering service. If we don't stock it we'll get it for you.

SCHWANN CATALOG

lists thousands of titles; classical, pop, jazz, ballet, opera, musical shows, folk, rock, vocal, instrumental, country, etc.

DISCOUNT DIVIDEND CERTIFICATES

Dividend Gifts—Every shipment carries a dividend gift or dividend certificate. Certificates redeemable immediately for extra discounts.

NEWSLETTERS

happenings in the world of music; concerts, critiques, new releases... special super-sale listings at discounts of up to 73%.

DISCOUNT ACCESSORY GUIDE

Diamond needles, cloths, tape cleaners, etc. Discount Music Club is your complete one stop music and accessory buying service.

QUICK SERVICE

same day shipping on many orders... rarely later than the next several days. Partial shipments always made in the event of unforeseen delay... all at no extra cost to you.

100% IRON-CLAD GUARANTEES

on all products and services. Everything is guaranteed factory fresh and free of defects or damages of any sort. Your total satisfaction is unconditionally guaranteed.

Discount Music Club is a no-obligation membership club that guarantees tremendous discounts on all stereo records and tapes and lets you buy what you want... when you want... or not at all if you choose.

These are just a few of the money-saving reasons to write for free details. You can't lose so why not fill out and mail the coupon below for immediate information.

dmc DISCOUNT MUSIC CLUB, INC. DEPT. 9-0777
650 Main Street, New Rochelle, N.Y. 10801

NAME

ADDRESS

CITY

STATE

ZIP

CIRCLE NO. 9 ON READER SERVICE CARD

Books Received

● *Playback*, by Dave Dexter, Jr. Billboard, New York (1976), 239 pages plus index, \$9.95. Singers are still "canaries," record companies "waxworks" to Dave Dexter, whose Forties vocabulary seems particularly appropriate to this gossipy, opinionated, and very entertaining memoir from a man who has been in the business of recording popular music for forty years. Frank Sinatra, Peggy Lee, Doris Day, Benny Goodman, Sammy Davis, Jr., the Beatles—he knew them *when*, as the saying goes. Recommended. L.G.B.

● *From Tin Foil to Stereo*, Second Edition, by Oliver Read and Walter L. Welch. Howard W. Sams & Co., Inc., Indianapolis (1976), 608 pages, \$9.95 softbound, \$19.95 hardbound. The subtitle of this substantial volume, long out of print and sorely missed, is "Evolution of the Phonograph." More than half of it is devoted to the acoustic phonographs of Edison and others, and it treats the technologies and origins (including disputes concerning the origins) of these machines in loving, exhaustive detail. Later chapters provide an overview of modern recording techniques, enlivened by frequently controversial excursions into recording "philosophy." The book is illustrated with photographs, design drawings, and memorabilia. R.H.

● *The Fabulous Phonograph, 1877-1977*, Second Revised Edition, by Roland Gelatt. Macmillan, New York (1977), 349 pages, \$10.95. This is another revision of a classic, first published in 1955 and updated for the phonographic centenary this year. Gelatt, who currently edits the books and arts sections of *Saturday Review*, takes a more general, less detailed historical approach than Read and Welch do. Illustrated. L.G.B.

● *Unfinished Journey*, by Yehudi Menuhin. Alfred A. Knopf, New York (1977), 393 pages, \$12.50. It seems just a little unfair that someone who can play the violin as well as Menuhin should be able to write like an angel too. This autobiographical narrative is rich with anecdote, warm with family feeling, intelligent, reasonable, witty, civilized, and true. One is reluctant to put it down even when finished, but this is an "unfinished journey," so there is a sequel to look forward to. Just about everybody is in it, from Gerald Ford to Jawaharlal Nehru, making the index handy. W.A.

● *The Literature of American Music in Books and Folk Music Collections: A Fully Annotated Bibliography*, by David Horn. Scarecrow Press, Metuchen, N.J. (1977), 556 pages, \$20. In a word, bravo! This bibliography is impressively comprehensive in its 1,388 listings (roughly, from the anthems of Billings, William, to the antic rock of Zappa, Frank), candid and informative in its generous annotations. There are 302 more items of interest in the appendix. No serious student of American music, no American music library should be without it. W.A.

● *The Recording Studio Handbook*, by John M. Woram. Sagamore Publishing Co., Inc.,

Plainview, N.Y. (1976), 496 pages, \$35. John Woram, who we thought was kept adequately busy writing articles for *STEREO REVIEW* and others, has somehow found time to write a book. It is a good and accessible book, too. Indeed, Woram's *Handbook* must rank among the best of the all-around guides to recording-studio equipment and practice. Instead of focusing on theory and technicalities (although the basics of what the would-be studio engineer *must* know are there), Woram approaches recording as a working professional in a consideration of the practicalities of his equipment tempered by an educator's skills in selecting, organizing, and communicating his materials. Abundantly illustrated, with useful appendices and an extensive glossary. R.H.

● *The New York Philharmonic Guide to the Symphony*, by Edward Downes. Walker and Company, New York (1976), 1058 pages, \$25. A collection of program notes for over 450 works in the orchestral repertoire. Musicologist Downes has augmented his notes—from fourteen seasons as annotator for the New York Philharmonic Orchestra—with many musical examples, biographical material, illustrations, and an index to produce an extremely useful and interesting reference book. L.G.B.

● *Making Changes: A Practical Guide to Vernacular Harmony*, by Eric Salzman and Michael Sahl. McGraw Hill, New York (1977), 222 pages, \$8.95 softbound, \$12.95 hardbound. For the student of music eager to explore the workings of a Bessie Smith song or a Lennon/McCartney tune, this is a good place to start. Messrs. Sahl and Salzman (the latter is a Contributing Editor of *STEREO REVIEW*) illustrate and discuss, in a step-by-step, non-academic way, the interaction of such fundamentals as melody, bass, rhythm, phrasing, chord patterns, and voice-leading and how they function in the American popular song—blues, gospel, country, folk, jazz, and rock. Also included are arrangements and compositions by the co-authors and suggested listening examples by current pop artists that make use of harmonic progressions characterizing the different styles. R.S.

● *International Music Guide 1977*, edited by Derek Elley; Sedgwick Clark, U.S. editor. Tantivy Press, London, and A. S. Barnes & Co., New York (1977), 288 pages, \$5.95 softbound. First in a new annual series, this volume covers a lot of territory (including such out-of-the-way spots as Afghanistan and Lebanon), though mostly retrospectively. You'll find out a lot about what went on musically last year in places you might be thinking of visiting, but for future use the greater value is in the copious listings of names and addresses of musical institutions, festival sponsors, record stores, and so on. A most engaging feature is a group of biographies and interviews with "Musicians of the Year," including Antal Dorati, Hans Werner Henze, Frederica von Stade, Josef Suk, and Paul Tortelier. There is also a survey of recorded music released around the world last year. D.S.

It's time for everybody else to start playing catch-up. Again.

From the very beginning, experts have acclaimed the performance and feature innovations of Yamaha receivers as nothing less than spectacular.

But now, we've outdone ourselves.

Yamaha is introducing a new line of receivers with such unprecedented performance, it's already changing the course of audio history.

Real Life Rated.™ While traditional laboratory measurements provide a good relative indication of receiver performance, they simply don't tell you how a receiver will sound in your living room in actual operation. So Yamaha developed a new standard for evaluating overall receiver performance under real life conditions. It's called **Noise-Distortion Clearance Range (NDCR)**. No other manufacturer specifies anything like it, because no other manufacturer can measure up to it.

We connect our test equipment to the phono input and speaker output terminals, so we can measure the performance of the entire receiver, not just individual component sections like others do. We set the volume control at -20dB, a level you're more likely to listen to than full volume. We measure noise and distortion together, the way you hear them.

On each of our new receivers, Yamaha's Noise-Distortion Clearance Range assures no more than a mere 0.1% combined noise and distortion from 20Hz to 20kHz at any power output from 1/10th watt to full-rated power.

Four receivers, one standard. On each of our four new receivers, Yamaha reduces both THD and IM distortion to new lows—a mere 0.05% from 20Hz to 20kHz into 8 ohms. This is the kind of performance that's hard to come by in even the finest separate components. But it's a single standard of quality that you'll find in each and every new Yamaha receiver. From our CR-620 and CR-820 up to our CR-1020 and CR-2020.

What's more, we challenge you to compare the performance and features of our least expensive model, the CR-620, with anybody else's most

expensive receiver. You'll discover that nobody but Yamaha gives you our incredibly low 0.05% distortion and -92dB phono S/N ratio (from moving magnet phono input to speaker output).

You'll also discover that nobody else starts out with such a variety of unique features. Independent Input and Output Selectors that let you record one source while listening to another. A Signal Quality Meter that indicates both signal strength and multipath. The extra convenience of Twin Headphone Jacks. Or the accurate tonal balance provided at all listening levels by Yamaha's special Variable Loudness Control.

More flexibility. It's consistent with Yamaha's design philosophy that you'll find the same low distortion throughout our new receiver line. Of course, as you look at Yamaha's more expensive models, it's only logical that you'll find the additional flexibility of more power, more functions, and more exclusive Yamaha features.

For example, there's a sophisticated tuner, with unique negative feedback and pilot signal cancellation circuits (patents pending), that makes FM reception up to 18kHz possible for the first time on a receiver. Plus other refinements like a Built-In Moving Coil Head Amp, Fast-Rise/Slow-Decay Power Meters, and Yamaha's own Optimum Tuning System.

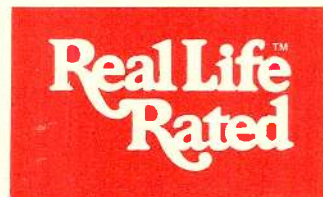
Now's the time to give us a listen. Our new receiver line is another example of the technical innovation and product integrity that is uniquely Yamaha. And your Yamaha Audio Specialty Dealer is an example of uncommon dedication to faithful music reproduction and genuine customer service. It's time you heard them both.

If your Yamaha Audio Specialty Dealer is not listed in the local Yellow Pages, just drop us a line.



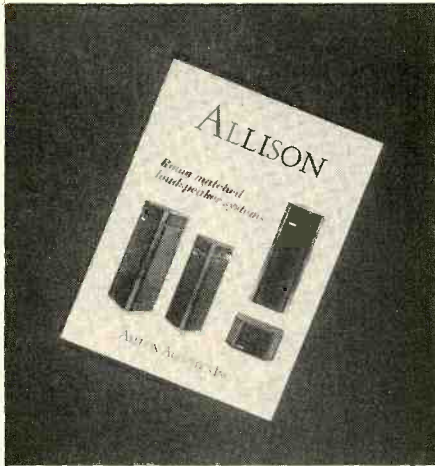
YAMAHA

Audio Division, P.O. Box 6600, Buena Park, CA 90622
©1977 YAMAHA INTERNATIONAL CORP.



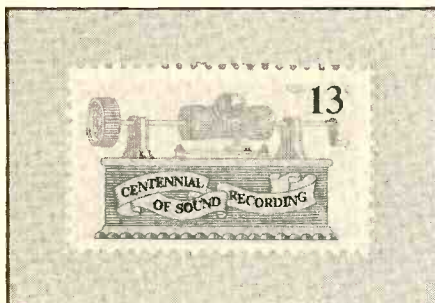
CR-620		MC HEAD AMP
NFB/PLL		CR-820
OTS		0.05%
CR-1020		CR-2020
Signal Q		
	NDCR	

New Products latest audio equipment and accessories



Speaker/Room Interaction Covered In Allison Catalog

□ A ten-page catalog from Allison Acoustics devotes several pages to a description of room-boundary influences on the in-room performance of conventional loudspeakers. Allison's approach to the problems created by these effects is also discussed, together with the rationale behind the design of the Allison mid-range and high-frequency drivers. The remainder of the booklet covers the company's four loudspeaker models in some detail, finishing with performance data on the individual drivers used in the system and some notes on low-frequency distortion. The catalog is available free from: Allison Acoustics Inc., Dept. SR, 7 Tech Circle, Natick, Mass. 01760.



Offer Miniature Engraving of Early Talking Machine

□ To commemorate the hundredth anniversary of sound recording, the U.S. Government has commissioned an illustration of an early Edison phonograph, reproductions of which are being offered to the public for a nominal sum. Depicted in three colors on

sturdy government-approved stock, the antique cylinder instrument has the crank-handle/flywheel/mouthpiece construction that typifies recorders of the cylinder era (the familiar horn assembly often used for playback is not shown).

The picture's small size (roughly 1½ x 1 inches) makes it eminently portable and convenient to carry in wallet or purse. For permanent installation, adhesive on the back of the picture permits affixing it to any smooth surface, including the envelopes of first-class postal correspondence, on which it confers the useful ability to pass through the U.S. mails unimpeded. The phonograph illustration is available singly or in various combinations, including sheets of one hundred. Perforations decorate all four sides. Price: 13¢ each.



"Linear Phase" Speaker Systems From Technics

□ The three systems comprising Technics' current line of "Linear Phase" loudspeakers give special attention to driver spacing, crossover characteristics, and driver phase/amplitude response. The individual drivers are spaced vertically to be as close together as possible, while their distances from the listener are staggered to equalize their acoustic path lengths. Crossover networks, matched to the drivers used, combine low-pass, high-pass, and band-pass elements to provide a smooth phase transition at the crossover frequencies. The wide-range drivers employed are limited to bandwidths that are effectively free of phase anomalies.

The Model SB-7000A (shown) is a three-way system (13¾-inch woofer, 4¾-inch cone mid-range, and 1¼-inch dome tweeter), in a ported enclosure, with a nominal impedance of 6 ohms. Crossover frequencies are 700 and 6,000 Hz. At a distance of 1 meter, the system produces a sound-pressure level of 90.5 dB with a 1-watt input; it is rated for peak inputs of 150 watts. Level controls adjust mid-range and tweeter outputs by varying the "Q" of as-

sociated resonant circuits, which is said to avoid many of the effects of conventional controls on phase integrity. The cabinet is clad in black vinyl material, surmounted by a black "sub-enclosure" for the mid-range and tweeter. Overall dimensions: 33¼ x 19 x 16¼ inches. Price: approximately \$400. Two other Technics models, the SB-6000A and SB-5000A, are two-way systems based on the same design philosophy, with approximate prices of \$300 and \$160.

Circle 115 on reader service card



Mitsubishi's "Docking" Preamp and Power Amplifiers

□ The Mitsubishi DA-P10 preamplifier and the DA-A15 (150 watts per channel) or DA-A10 (100 watts per channel) are designed to interconnect or "dock" via special mating connectors on their respective rear and front panels. When so connected they form a unit less than 17 inches deep, 16¾ inches wide, and 6¾ inches high. The Mitsubishi products are described as "dual-monaural" components, meaning that virtually all circuits and controls (bass, treble, level, and subsonic filter in the P10 preamplifier) are completely separate for the two channels. At their rated power outputs (for 8 ohms, 20 to 20,000 Hz) the two power amplifiers have 0.1 per cent harmonic and intermodulation distortion and signal-to-noise ratios of approximately 100 dB. For the preamplifier, harmonic and intermodulation distortion are 0.02 per cent at the rated output of 1 volt into 50,000 ohms. Signal-to-noise ratios are 73 (phono) and 90 (high-level) dB.

The power amplifiers contain circuits to protect against abnormally low load impedances and to prevent d.c. voltages from appearing at their outputs. Both have completely separate power supplies (including separate power transformers) for their two channels. The preamplifier also has separate power supplies, deriving line voltage from isolated windings on a single power transformer. Prices: DA-P10, \$290; DA-A10, \$390; DA-A15, \$590.

Circle 116 on reader service card

(Continued on page 18)



GRAND OLE OPRY
THE FAMILY REUNION



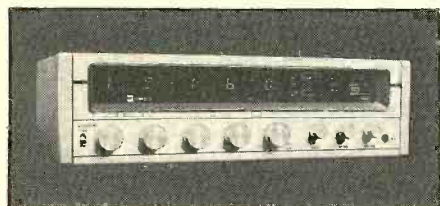
**The most exciting
new recording combo
in Music City**

Willi Studer's Revox family of tape recorders and components for the audiophile has joined Willi Studer's family of professional audio equipment to form Studer Revox America, Inc., in Nashville, Tennessee USA.

This provides all Revox audiophile and institutional users the obvious benefits of factory direct sales and service enjoyed by professional studios and broadcasters.

STUDER REVOX

New Products latest audio equipment and accessories

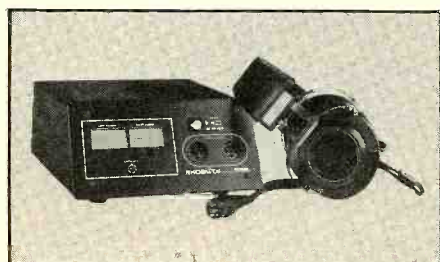


McKay Dymek All-wave Communications Receiver

□ The McKay Dymek DR-22 is a frequency-synthesizing AM unit that will receive all broadcasts between 50 kHz and 29.7 MHz, including AM stations, short wave, amateur radio, and Citizens Band, along with upper and lower side-band, continuous-wave, and tele-type reception. The phase-locked-loop tuning system works together with combinations of crystal and ceramic filters to provide a maximum of selectivity and high resistance to cross modulation.

A prominent feature of the DR-22 is a five-figure LED digital frequency indicator. A front-panel switch permits the user to choose an audio bandwidth of 8,000 or 4,000 Hz, the latter providing an increase in selectivity. Tuning is by means of four rotary selector switches and a fine-tuning control with a range of ± 5 kHz. The tuner has a small built-in power amplifier and speaker, connections for an external speaker, and an output for connection to an external audio system. There is also a front-panel headphone jack. The tuner comes with teak side panels; rack-mounting accessories are available. Dimensions are approximately $17\frac{1}{2} \times 5 \times 16$ inches. Price: \$995.

Circle 117 on reader service card



Deluxe Electrostatic Headset Begins Koss "Auditor" Series

□ The ESP/10 electrostatic stereo headphones, successor to the illustrious ESP/9, is the start of a new Koss headphone line to be entitled the "Auditor" series. The ESP/10 consists of two parts: the headset itself, with circumaural foam-filled ear cushions and an adjustable padded headband attached through

pivoting yokes, and an energizing unit in the form of a small console accepting up to two headsets. The energizer, which plugs into a standard a.c. outlet, is in turn connected to the speaker outputs of a stereo amplifier (a minimum of 35 watts per channel is recommended to realize the full dynamic-range potential of the headphones). It has "semi" peak-reading meters for each channel, plus a relay that cuts off the signal to the headset in the event of excessive drive level. The relay resets itself automatically after a few seconds' pause; a red LED on the energizer lights when the relay has tripped.

The ESP/10 headset has electrostatic diaphragms with radiating areas of 3.8 square inches per side. Usable frequency response is 10 to 22,000 Hz within ± 2 dB of Koss' "ideal" response for headphones. A sound-pressure level of 100 dB is achieved for an input to the energizer of about 2 volts rms. Harmonic distortion for that level at 1,000 Hz is less than 0.5 per cent. Excluding cable, the headset weighs just under 1 pound. Price of the ESP/10 (energizer plus a single headset): \$300.

Circle 118 on reader service card

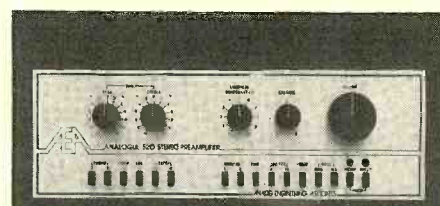


Hitachi's Best Turntable

□ The PS-58 is a two-speed ($33\frac{1}{3}$ and 45 rpm) "Uni-torque" direct-drive machine with fully automatic operation. The S-shaped tubular tone arm has its own motor to insure complete isolation from the platter-drive system. The 12-inch aluminum platter, weighing $3\frac{1}{2}$ pounds, carries a stroboscopic pattern on its edge, illuminated by a lamp to indicate any speed error. Separate adjustment controls for the speeds operate over a 5 per cent range.

A single lever control selects manual or automatic operation and initiates the automatic cycle. Two other controls—one for tone-arm cueing (fully damped) and the other for selecting record size (diameters of 12, 10, or 7 inches)—are also provided. Tracking force is applied by a calibrated counterweight on the tone arm; the antiskating adjustment is separate. Wow and flutter (weighted) are 0.025 per cent; rumble (DIN B weighted) is -74 dB. A hinged dust cover is also supplied, resulting in dimensions of $18\frac{3}{4} \times 6\frac{1}{2} \times 14\frac{1}{2}$ inches. Suggested price: \$300.

Circle 119 on reader service card



Analog's Modular Preamplifier

□ The Analogue 520 from Analog Engineering Associates has all its signal-handling circuitry contained in six epoxy-encapsulated modules. These in turn plug into connectors on a large printed-circuit board that fills almost the entire chassis; all controls (environmentally sealed) are also affixed to the board. The 520 has inputs for two phono cartridges, tuner, auxiliary source, and inputs and tape-monitoring circuits for two tape machines.

Harmonic and intermodulation distortion are less than 0.004 per cent for both the phono and the high-level sections, referred to an output level of 2.5 volts at the main outputs. Signal-to-noise ratios (unweighted) for the two sections are 80 and 90 dB, respectively. Frequency response throughout the preamplifier is flat within $+0, -0.5$ dB over the full audio range. The 520 has a maximum output of 7.5 volts, and a load of at least 30,000 ohms is recommended. Dimensions: approximately $15 \times 4\frac{3}{4} \times 11$ inches. Price: \$590. Oak or oiled-walnut cabinets are available as options.

Circle 120 on reader service card



Entre-1 Phono Cartridge

□ American Audiopoint has become exclusive distributor for the Entre-1, said to be the lightest (at 5.8 grams) moving-coil stereo phono cartridge available. For a standard recorded level the cartridge has an output of 0.2 millivolt; it presents a source impedance of 3 ohms. Recommended tracking force is 1.8 grams. The Entre-1's stylus is described as a modified elliptical configuration with a vertical tracking angle of 20 degrees. Frequency response is 10 to 50,000 Hz. Retail price: about \$200.

Circle 121 on reader service card

(Continued on page 20)

Two Bold Statements:

1. Synergistics has engineered the very best loudspeakers for your stereo system

...regardless of the price!

2.



Each Synergistic loudspeaker, from our smallest two-way model S-12 to our six-element, four-way model S-72 has been engineered to more perfectly compliment the other components in a stereo system. This "synergistic coupling" results in greatly improved total system sound quality. The chart below shows you the Synergistics model we recommend in various total system price ranges. All seven Synergistics models are true "audiophile" loudspeakers capable of reproducing wide dynamic range and musical clarity previously associated only

with "monitor-type" speaker systems; yet, all Synergistics models will realize optimum performance when operated with low-to-medium powered receivers and amplifiers. What does all this mean to you? Simply stated, it means that whether you're spending under \$450 or as much as \$1,500 for your system,

there's a Synergistics loudspeaker specifically designed to enhance the overall sound quality. **SYNERGISTICS:** cooperative inter-action in a system where the total effect is greater than the sum of its component parts.

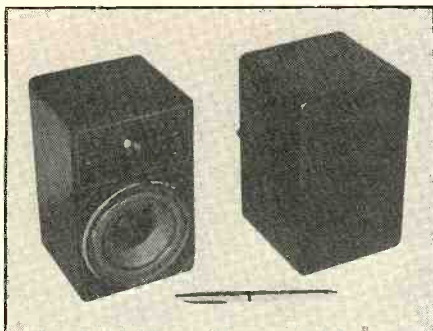
Total System Price	Recommended Synergistics Loudspeaker
Under \$450	Model S-12
Under \$500	Model S-22
Under \$600	Model S-32
Under \$700	Model S-42
Under \$850	Model S-52 (Tower)
Under \$1,100	Model S-62 (Tower)
Under \$1,500	Model S-72 (Array)



For More Information Write To: Synergistics, P.O. Box 1245, Canoga Park, California 91304.

CIRCLE NO. 49 ON READER SERVICE CARD

New Products latest audio equipment and accessories



Micro-mini Speaker System by Royal Sound

□ Especially suited for mobile applications, the Royal Sound RS-6040 has a cast aluminum enclosure measuring a compact 6 $\frac{3}{8}$ x 4 $\frac{1}{4}$ x 4 $\frac{1}{2}$ inches. The driver complement consists of a 4-inch air-suspension woofer and a 2 $\frac{3}{4}$ -inch dome tweeter, resulting in a system with an impedance range of 4 to 8 ohms and a power-handling capacity of 20 watts. The crossover frequency is 2,800 Hz; frequency response is rated at 50 to 22,000 Hz. The speaker weighs 4 $\frac{1}{4}$ pounds and comes with a 9-foot connecting cable terminated by a DIN speaker plug. Available finishes are black or natural. Price: \$200 per pair.

Circle 122 on reader service card



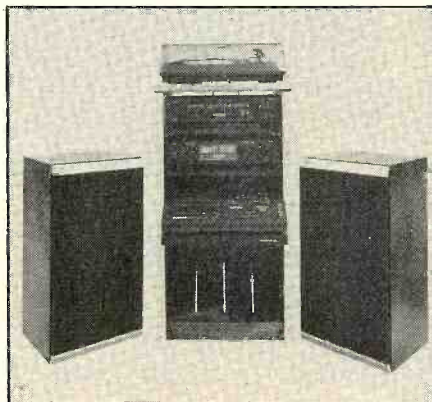
Dual Adds Three Automatic Turntables

□ All three of Dual's latest automatic turntables are belt-driven, and all three feature the four-point gimbal tone-arm suspensions that have distinguished the top-of-the-line Dual machines. Two speeds (33 $\frac{1}{3}$ and 45 rpm) are provided, and speeds can be fine-tuned over a range of 6 per cent by means of a pulley that can be varied in its effective diameter. The Model 1245 (shown) has a stroboscopic indicator in the form of indentations cast into the edge of its 12-inch platter, illuminated by a strobe lamp. It is provided with base and dust cover at a price of less than \$230. The Dual 1241, also with a 12-inch platter, is priced at under \$200, base and dust cover included. The dimensions of the units installed on their

bases are 16 $\frac{3}{4}$ inches wide, 14 $\frac{1}{2}$ inches deep, and 7 $\frac{3}{4}$ inches high with dust cover. The Model 1237 has a somewhat smaller platter and chassis than the other two units and is priced at under \$135, with base and dust cover costing less than \$30 additional.

All three machines have damped cueing mechanisms and antiskating adjustments calibrated for conical, elliptical, and CD-4 styli. The tone arms are of a straight tubular design, with stylus force applied by a calibrated spring mechanism after the arm has been balanced by means of a rotating counterweight. The record-changing spindles for all three machines accommodate up to six records; manual spindles that rotate with the platter are also provided.

Circle 50 on reader service card



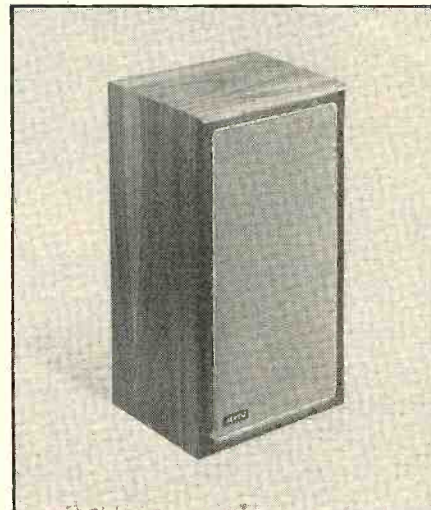
Complete Audio System Includes Equipment Cabinet

□ MGA has announced a complete component audio system, including several options, that is supplied with a free-standing rosewood cabinet to house the electronic components as well as a selection of record albums. The ensemble, called the "Series E System Components," begins with the belt-drive DP-200 single-play turntable, a unit with speeds of 33 $\frac{1}{3}$ and 45 rpm that comes with a magnetic cartridge installed. The amplifier, the DA-U200, is an integrated design rated at 25 watts per channel with a maximum of 0.5 per cent harmonic or intermodulation distortion. The DA-F200 AM/FM stereo tuner has a usable sensitivity of 2.5 microvolts and a signal-to-noise ratio of 75 dB in mono, 70 dB in stereo. The SS-200 speaker systems are two-way air-suspension designs (8-inch woofer, 2-inch cone tweeter) with rosewood-finish cabinets. The cost of this complete ensemble, including equipment cabinet, is \$670.

For an additional \$220 a two-head cassette machine incorporating Dolby B-type noise reduction can be added to the above. Other options include a 50-watt-per-channel integrated amplifier, the DA-U300, and the SS-300 speaker systems, similar in configuration to

the SS-200's but adding an 8-inch passive radiator and providing a 20-watt increase in power-handling ability. The complete system with these two options (excluding the cassette deck) is priced at approximately \$750.

Circle 123 on reader service card



Advent Loudspeaker Is Updated

□ The "new" Advent loudspeaker is the successor to the company's original speaker system. It remains a two-way, 8-ohm air-suspension design with a woofer of nominal 12-inch diameter and a 1 $\frac{3}{8}$ -inch tweeter. However, both drivers are said to have been redesigned for more efficient manufacture, and the output capability of the tweeter has been increased, leading to an augmentation of the system's extreme high-frequency response. Minimum power required is 15 watts. According to Advent, this change has been made to "take advantage of such recent improvements in source material as the wide use of noise-reduction systems; the higher levels of high-frequency information on records due to improved disc cutters; and a new generation of phono cartridges capable of tracking those higher levels with low distortion."

In other respects, the new speaker's performance remains similar to that of the original. The enclosure, available in walnut finish or a vinyl-clad "Utility" version, measures 26 x 14 $\frac{1}{8}$ x 11 $\frac{1}{2}$ inches. Prices: \$149 in walnut; \$129, utility.

NOTICE: All product descriptions and specifications quoted in these columns are based on materials supplied by the manufacturer.

Recent fluctuations in the value of the dollar will have an effect on the price of merchandise imported into this country. Please be aware that the prices quoted in this issue may be subject to change.

Our new AD cassette takes the normal bias position to extremes.

We made a name for ourselves by creating the world's first non-chrome, "high" (CrO₂) bias/EQ cassette tape, TDK Super Avilyn (SA). The state-of-the-art tape that has quickly become the standard of reference for cassette tape performance.

Our latest innovation is called AD (ay-dee), and we predict it will soon become the standard of performance and economy in the "normal" bias/EQ position.


We produced the first high fidelity ferric oxide cassette tape some ten years ago, and we've been perfecting the formulation ever since. Our new AD delivers superior performance, especially at the critical high-frequency range (7kHz to 20kHz), where many mid-priced cassette decks and even premium-priced cassettes tend to fall off too quickly.

AD is our ultimate ferric oxide tape designed for the "normal" bias/EQ position. Overall, it provides the lowest noise, highest frequency response and widest dynamic range of any pure ferric oxide cassette tape. In 45, 60, 90 and 120 minute lengths, AD has the same super-precision cassette mechanism found in TDK SA, in a new blue-gray shell.

And AD brings its audible benefits to all cassette decks, with and without switchable bias/EQ, including those found in cars, portables and home stereo systems. So the music you love can travel with you, with all of the clear, crisp, brilliant sounds that make music so enjoyable.

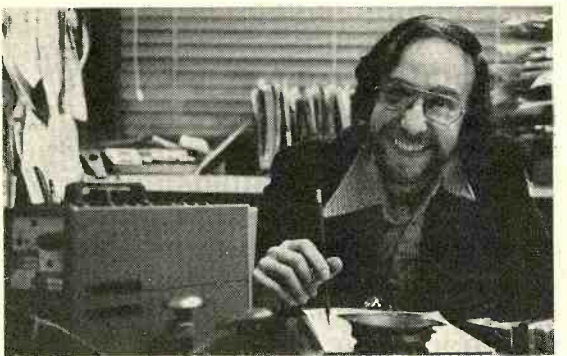
AD is the finest pure ferric oxide cassette tape you can buy at any price. And it has TDK's full life time warranty. Give our new high-fidelity, moderately-priced AD a try--it's anything but normal.

TDK Electronics Corp., 755 Eastgate Boulevard, Garden City, New York 11530. In Canada: Superior Electronics Industries, Ltd.

 **TDK**
The machine for your machine.



By Larry Klein



Live Speaker Demo

Q. I was told about a live speaker-comparison test done in a local hi-fi store. Someone talks into a microphone in another room and the salesman switches between speakers to demonstrate which speakers are more true to the original voice. This seems like a good test to me. How do you feel about it?

V. FICARA
New York, N.Y.

A. The British Broadcasting Corporation for many years used a somewhat similar test for evaluating speakers. They would set up one of their announcers and the speaker system under test out in the middle of a field and compare his live voice against the speaker's reproduction of it. An open field was used to avoid the acoustic effects of an enclosed environment—which brings us to the matter in question.

First of all, for the test to work it is obvious that you must get a "perfect" recording of the "test" voice. But what is "perfect"? Voices are heard slightly differently in different acoustic environments because the actual frequency/energy content of a sound in an indoor environment varies with the positions of both the source and the listener. Because of such room effects, the test you describe has limited validity below 400 Hz or so in discriminating among reasonably good speakers.

In addition, a voice, no matter how basso profundo, is not going to be able to disclose anything about a speaker's very low-bass response—or lack of it. Nor will a coloratura soprano hitting her highest note reveal much about a speaker's ability to deliver the "shimmer" of a wire-brushed cymbal. In short, the live-voice test will probably enable you to separate the good from the absolutely rotten among loudspeakers, but I don't think it is definitive enough to enable you to make any finer distinctions.

Orphan Turntable?

Q. The manufacturers of my turntable ceased all advertising shortly after I bought it. The unit in question is a PE 4060, tested in the October 1973 issue of your magazine, which I used as a reference in buying it in late 1975. So what has happened to PE/

Impro? Did they go out of business or some such disaster? The unit is working fine now, but what will happen when it needs parts or servicing? I really don't want to be told I have an "orphan." I went through enough trouble with my previous "orphan"—a Studebaker.

GARY STEPHENSON
Bellingham, Wash.

A. Fear not. The PE factories were bought (adopted?) by Dual and their production facilities are now turning out new Dual machines. The Dual warranty stations are fully equipped with parts and know-how to handle any problems with PE equipment.

"Defective Discs" Defined

Q. I would appreciate a technical or professional definition as to what constitutes a defective record. As a record purchaser I have been getting many discs that I consider defective.

STEVEN AMATO
Portland, Ore.

A. Mr. Amato, your question has invited me into an area where even courageous angels tread very lightly, but here goes. As a starting point, the Recording Industry Association of America (RIAA) has dimensional standards (detailed in Bulletin No. E4) that establish the physical parameters of about a dozen factors ranging from the diameter of the disc to the "contour" of the recorded groove. There is a range of tolerances given for all the parameters, and one might imagine that if a particular disc exceeds this range it can be considered defective. However, the RIAA states that the standards are "to facilitate equipment design and assure interchangeability. They are not intended to indicate or imply quality or performance levels."

Since it seems we can't get a professional ruling, let's approach the question pragmatically. Would it be valid to say that any disc that won't perform mechanically on your record player is defective? (By "perform mechanically" I mean the stylus is able to stay in the groove, the disc's run-out groove trips the changer mechanism at the right time, the disc drops properly, and so forth.) There's no easy answer here either. Depending on the nature of the problem, a very cheap brute-force play-

er might play a given record successfully, while an expensive light-touch player might not. This sort of thing can occur, for example, when the resonance produced by the tone-arm mass interacting with the cartridge compliance is at a frequency close to the record's warp frequency.

So it seems that discs can be "defective" on some players but not on others. This is why attempts to return "defective" discs frequently meet with a less than fully cooperative attitude from the seller. The record retailer really has no way of telling whether the complaint—whatever it is—has its source in the record. The problem may be in the record player, or it may arise from an unfortunate interaction of the two. For the dealer, the fact that the record will play successfully on his store machine is usually sufficient evidence to categorize the complaining customer as some kind of a crazy.

Up to now we've been talking about gross defects—groove jumping, sticking, and the like. How about the occasional tick or pop caused by surface dirt or bubbles in the vinyl? Some listeners are apparently willing to endure a disc's sounding like hail on a cold tin roof; others become enraged if a tick or a pop is heard at, say, 15-minute intervals. To the latter group, I can only suggest that they convert to a tape system, for they will otherwise find no happiness in this world.

Unfortunately, I don't have much else to offer. A record cannot be labeled defective as far as the record companies are concerned except when judged in the context of the rest of the products in the record bins. If it is substantially noisier, more warped, more difficult to track, and so forth, than others of its ilk, I would say the disc is defective. However, I would hate to have to argue the case before a jury consisting solely of record manufacturers and dealers.

Impedance Matching

Q. I wish to precisely match all the impedances (output to input, etc.) in my system to reduce the total output distortion. My system is made up of a variety of makes and models and I believe I am having difficulties. Are there any products available which can be used for impedance matching?

RHEAL DUMOULIN
Montreal, Ontario, Can.

A. Impedance matching is one of the least understood areas in hi-fi, and people with some training in electrical engineering are frequently more confused about the question than innocent audiophiles. In general, the impedance of two connected devices (output to input) should be matched when the object is to insure maximum transfer of energy. An example of such a need and match would be an FM or TV antenna with a "balun" matching device that converts the antenna's 300-ohm impedance into the 75 ohms required by the coaxial down-lead. At the receiver, another impedance-matching balun reconverts the 75 ohms back into the 300 ohms required by the tuner's antenna-input circuits. Some tuners have internal 75-ohm matching arrangements.

With most audio components, precise output-input-output matches are seldom required, nor are they even desirable. The general rule is that the impedance of the signal source should be low and the impedance of equipment being driven or fed by the source

should be at least ten times that of the source impedance. The object of this apparently gross mismatch is to prevent the equipment being fed from loading down (overloading) the equipment serving as the source. Practical example: the output impedance of a preamplifier should be very low. This will insure that for complicated electronic reasons the shielded cables plugged into its output jacks will resist hum pickup and won't cause a loss of the higher frequencies. (Both these problems can occur when a high-impedance device—such as a microphone or another component—is feeding a long shielded cable.)

Sometimes there are difficulties when the source impedance is not quite low enough at all frequencies (impedance measurements are sometimes made only at a mid frequency) and the relatively low impedance of a load affects performance at the frequencies where the impedance of the source rises. As an example, consider a tube preamplifier (or even some solid-state units) whose output impedance isn't quite low enough to feed a power amplifier with a 10,000-ohm impedance. The result could be an audible rolloff of the frequencies below 50 Hz or so. The same problem could occur when an FM tuner is feeding a preamplifier whose tuner-input jacks have too low an input impedance.

Phono cartridges have very special impedance-matching requirements. For complicated electrical reasons, the "match" of most magnetic cartridges to their preamplifier's input impedance is critical and directly influences audible performance in the middle- and high-frequency areas. Although manufacturers have agreed on 50,000 ohms as the proper load to be seen by each cartridge channel for a flat frequency response (regardless of the cartridge's internal impedance), things don't always work out as well as hoped. Not only do the capacitances of the phono leads and preamplifier inputs enter into the circuit, but phono preamp circuits also frequently interact with the coil inductance of the cartridge to produce unpredictable high-frequency response aberrations. In this connection, I suspect that many of the disagreements among audiophiles as to the inherent "openness," transient response, clarity, etc. of various cartridges and preamplifiers, either individually or in combination, result from random factors traceable to the *interrelationships* between the two units, rather than being a function of either one singly.

Black Discs

Q. I understand that the color of vinyl is not necessarily black. So why are records always black?

JAMES FRAISER
New York, N. Y.

A. They aren't *always*. However, as far as I can determine, records are usually black for two reasons: (1) cosmetics, (2) tradition. The carbon black is actually only one of the several additives that are mixed with the vinyl; others are used to aid the disc-pressing or disc-playing process. The fine carbon powder has no lubrication or antistatic properties but is simply there to obscure the bubbles or other visual (but not audible) "defects" below the grooved surface. And don't bother to ask what other materials are added to the raw vinyl—manufacturers are usually quite secretive about such details.

Pruning as a means to more nearly perfect wines.



To us, pruning—the cutting off of living parts of the grapevine—is the single most important practice in the entire culture of grapes.

It is a complex and highly judgmental operation that not only controls the amount of crop our vines will bear, but also controls the quality of the ultimate contribution that crop will make to our wines.

That is why, in the Gallo vineyards, we do not consider a man thoroughly experienced until he has been pruning for at least 3 years.

Why We Prune

The whole purpose of pruning is to direct our vines to grow fewer but better grapes—grapes of optimum maturity and with the full potential of their variety.

Such grapes will have acid and sugar contents in perfect balance, and their wine will be full-bodied, deep and brilliant in color, and with a bouquet that is true to the grape.

If we allow a vine to produce too many grapes—a condition called overcropping—we risk producing a thin, watery wine.

Our Unique Next Step

Sometimes, despite judicious pruning, a vine will overproduce anyway—perhaps because of exceptional vigor, or a particularly fertile soil.

In such a case, we resort to thinning. Thinning involves the actual removal of whole grape clusters from the vine—the sacrificing of a part of our crop in order to ensure the quality of the remainder.

Sometimes this can mean removing as much as one-half the crop from an overproducing vine. Or all of it, if we wish to give the vine a rest to regain its vigor.

Gallo, we might point out, is one of the very few wineries to practice this costly technique of thinning in order to produce only the best possible wine.

How We Prune

Pruning is basically an art. And over the years we have developed techniques that we believe provide the best possible results of that art.

We began researching and establishing our pruning practices back in the 1940's.

At that time, every single variety of grape was given its own program to

determine the best method of pruning for that particular vine.

As a result of our tests, we have established some general rules.

One, is that on each spur—that part of the new wood which remains after pruning—we never leave more than two buds for future growth. This ensures optimum grape quality.

We do, however, vary the number of spurs on each vine. This depends on the variety.

For example, the Chenin Blanc and Ruby Cabernet vines are allowed up to 12 spurs, our French Colombard 14, and our Barbera 10.

In general, the vines bearing larger grapes and grape clusters are left with fewer spurs so as not to tax them beyond their capacities, and the vines bearing smaller grapes and grape clusters are left with more.

Who Prunes

Because so much depends on the judgment of our pruners—in addition to how much to cut, at what angle, and which wood—we treat their training very seriously.

At first, a beginner is only allowed to watch. Then he is permitted to work only when an experienced man is watching him. And finally, before working independently, he must work under a foreman.

That is why, as mentioned earlier, it is usually 3 years before we consider him a thoroughly experienced pruner.

Our Goal

Obviously, the reason we are so particular about pruning is the direct relationship it has on the quality of our wines.

Our personal philosophy is that excellent wines can only be made from excellent grapes, and that perfect wines require perfect grapes.

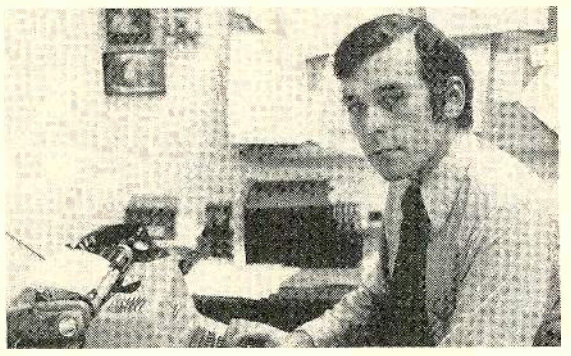
Therefore, because our only goal is to make the finest wines possible—to give you pleasure by bringing you only the fullest perfection of flavor, taste and bouquet—we are totally committed to growing and using only the best quality grapes.

That insistence on perfection, really, is the basic principle to which we have dedicated our wine-making lives.

E&J Gallo Winery, Modesto, California

Audio Basics

By Ralph Hodges



THE PHONOGRAPH: STILL ON TOP

WHAT, exactly, is there about that simple mechanism we call the phonograph that has enabled it to last, up to now, one hundred years with no end in sight? Many reasons come to mind as to why it enjoys the market advantage it does. First of all, a phonograph record is reliable in fidelity (there are those, I know, who would snort in derision at that statement, but on the whole it is true), not very expensive to manufacture, and lends itself well to mass production. In addition, records are reasonably convenient to handle and easy to store in quantity, and there is almost always something at hand to play them on, whether it be the finely engineered equipment that tempts us from the pages of this magazine or a still-functioning windup portable of the kind that used to enliven the nation's beach parties. And finally, there is technological inertia, reflected in the rather considerable fact that most of the extensive disc-making equipment and pressing plants around the world have long since been bought and paid for—never mind that some of them are flirting with obsolescence. Newer recording media—even including the now well-established cassette—must tie up investment capital, when it's available at all, for initial construction and tooling-up costs, and many such facilities are therefore still some little distance from turning a profit despite the generally higher prices of their product.

As for the record's less tangible advantages, it depends on whom you ask, and the responses often lean rather heavily on the psychology, the utility, or the aesthetics of the matter. Many like records because they are an open and accessible medium (perhaps too accessible where dirt and scratches are concerned): the program material is right on the surface, physically, visibly, and therefore reassuringly present in physical form, not coiled mysteriously and electromagnetically within a long ribbon of fragile tape that looks the same whether there's a program on it or not. The different musical selections, moreover, are visibly identifiable, and there's a well-defined beginning and end. You can, for example, usually estimate the playing time left in a symphonic movement just by looking at the record on the turntable; you can even, with practice, discern whether there's a loud and possibly exciting passage yet to come. Other people are happy with the disc because

an album affords ample room for striking cover art, pertinent photographs, valuable technical information, and even a kind of musicological literature.

But there is at least one more factor in the phonograph disc's favor. It is difficult to assess, but it is probably more important to its future than all the rest: most of us are weaned on records as our first source of recorded music, and I wouldn't be surprised to see this pattern continue for some time to come. My four-year-old daughter, for instance, who has both, has firmly rejected cassettes in favor of discs with no prompting and for reasons unclear to me (perhaps it's the visual appeal of the record jackets). I would hazard a guess that when she gets a little older it will be the 45-rpm single and not the equivalent (in all but handling efficiency) prerecorded cassette that she turns to, that by the time she reaches financial independence her buying habits will already have been set.

The one thing that might turn our presently disc-oriented youngsters in the direction of other recorded media in the future is a possible further decline in disc quality. Happily, this is beginning to seem unlikely. Within the past year the two U.S. majors, Columbia and RCA, have both announced either total rebuilding of key disc-pressing plants or major renovation of them (see "flirting with obsolescence" above). These efforts are already beginning to bear fruit, judging by reports from various clients of these giants who have been pleased with the quality of the pressings of their new releases.

Another technical factor in the disc's favor

is the impact of the CD-4 four-channel system. In order to make this difficult system work, extensive research and development took place in materials and in virtually every equipment area—disc cutting, processing, and pressing—involved. Some large record companies delayed adopting the latest CD-4 cutting hardware and techniques for a while, but most have acquired them by now. So, even if four-channel disappears tomorrow (very unlikely), we will still be able to hear the benefits of its technology on stereo records we buy next month.

What about *after* next month? Well, how would you feel about a truly warp-free disc? Of late there have been rumors about at least one pressing process that just might achieve an essentially flat record consistently by greatly reducing the internal stresses of the molded vinyl. Such a process also ought to be effective in controlling the incidence of surface blemishes (ticks and pops) and may be capable of approaching or surpassing (!) the signal-to-noise ratio of the original master acetate.

WHAT about record-playing equipment? In recent years, the performance of a quality record-playing system has been conspicuously limited by the quality of the records available to play on it. I believe this situation could change almost overnight, and that the superb performance (to say nothing of the great public interest) of many new direct-to-disc recordings points up the great room for growth that still remains in the disc medium. (Although direct cutting generally does not lend itself to mass production, parts of its technology indicate some directions for experiment.) In anticipation of better things to come from discs, equipment manufacturers are beginning to pay greater attention to the critical match between phono cartridge, tone arm, and the amplifying circuits that will receive the signal from the cartridge. All these efforts are as welcome as they are necessary if the phonograph medium is to remain technically competitive.

As you will read elsewhere in this issue, it has been one hundred years since Thomas A. Edison shouted that tiresome nursery rhyme into a primitive diaphragm to impress an up-and-down squiggle on a sheet of tinfoil with a metal stylus. He was astonished when the diaphragm shouted the same rhyme back at him intelligibly. But I wonder sometimes if he was any more astonished than I am when my modern diaphragms (speaker cones) shout back at me a near-(in)credible facsimile of a large orchestra at work. Is there any limit to the potential of the Edison "talking machine"? Undoubtedly, but it's certain that we haven't come close to reaching it yet.



Now we've mastered a Scotch® cassette for every switch position.



Introducing the Master™ Series. Three totally different tapes. Each developed to deliver the truest, clearest sound possible at each tape selector switch position.

Our Master I cassette is for normal bias recording. It features an excellent dynamic range, low distortion, uniform high frequency sensitivity and output that's 10 dB more than standard tapes.

Our new Master II replaces chrome cassettes and is designed for use on hi-fi stereo systems with chrome bias (70 microsecond equalization). It features some spectacular performance characteristics, including a special coating that gives it a 3 dB better signal-to-noise ratio at low and high frequencies than chrome cassettes, yet it's less abrasive.

Our new Master III is for the ferri-chrome setting. It's formulated with the most advanced technology available, giving a 3 dB output improvement at low frequencies and 2 dB at high frequencies. And the unique dual layer construction increases both low and high frequency sensitivity over chromium dioxide and ferric oxides.

All this, plus unique inner workings you can actually see. Our new Master line has a special bonus feature. A precision molded clear shell that allows you to monitor the inner workings of the cassette. You can actually see the recorder head penetration and the unique roller guides in action. Look closely at the transparent shells above and you'll see the water wheels which were specially designed to move the tape evenly across the head, reducing friction and noise. And two radially creased shims insure smoother wind, improved mechanical reliability and reduced wow and flutter.

Enough said. Now it's time for you to take the true test. Match up the right Master cassette with the bias you prefer. Then just listen.

You'll find that whichever switch position you use, a Scotch Master is the way to get the most out of it.



CIRCLE NO. 24 ON READER SERVICE CARD

Scotch Recording Tape.
The truth comes out.

Technical Talk

By Julian D. Hirsch



● **ARMS AND THE CARTRIDGE.** A recent letter from a reader takes me to task on the subject of phono-cartridge testing. He notes that I do not as a rule identify the make and model of the tone arm used in testing a cartridge except to call it a "typical" arm or a "tone arm of good quality." Since he hears tremendous differences between different tone arms using the same cartridge, he wonders how my evaluations of cartridges in randomly chosen tone arms can have any real significance.

Within the limits of his question, the reader is absolutely correct. If the tone arm can so alter the sound of a cartridge as to make a mediocre cartridge sound fantastic (or vice versa) then no review—by me or anyone else—can have any value unless particular combinations of cartridges and arms are specified.

An alternative approach would be to use the same arm for all cartridge tests, assuming that one arm could be found that would satisfy all parties concerned. For some time I did this, using an SME arm, but for practical reasons I find it desirable, whenever possible, to combine the testing of cartridges and record players. Nevertheless, there could be no excuse for my practice if, as my reader claims, the tone arm makes such a great difference in the measured or audible performance of a phono cartridge.

The key question, then, is this: *does* the arm have a major effect on the sound of a cartridge? Insofar as measurements are concerned, the characteristics of the arm can be expected to affect both the frequency and the amplitude of the low-frequency resonance. Arm friction is not a significant factor with any arm above a certain quality level. Nor do I find tracking-error variations to be significant among quality tone arms (I cannot recall the last time I measured a tracking error large enough to produce even a small fraction of the distortion inherent in either the record or the cartridge). Antiskating compensation *can* be a factor, but only if the cartridge is being operated close to the limits of its tracking ability, not under normal listening conditions.

What about tone-arm resonances, which can occur almost anywhere in the audible range? Some of these probably exist in any tone arm, but most of those I have measured have been very high-Q resonances affecting only a very narrow band of frequencies. There is a possibility that such a resonance

could affect the sound, but in my opinion that possibility is very slight.

Circuit capacitances come to mind as a possible source of audible differences, and it is evident that with some cartridges the change of load capacitance from, say, 100 to 350 picofarads will have a noticeable effect on the overall tonal balance. Tone arms differ somewhat with respect to their cable capacitances, and of course every cartridge manufacturer has his own recommendations. But I take pains to control the load capacitance when testing a cartridge to be sure it falls within the recommended range of values, and in tone-arm tests I measure the actual capacitance of the cables and tone-arm wiring from each channel to ground.

ANOTHER capacitance effect has recently come to my attention. The capacitance between the two "hot" leads of the stereo channels in the tone arm can introduce crosstalk at high frequencies (usually above 10,000 Hz), thus reducing channel separation. The variation among tone arms in interchannel capacitance is considerable, and there are equally great differences between cartridges in their susceptibility to crosstalk from this source. It is conceivable that this might account for *some* observed differences between tone arms. Personally, I doubt it, but it is at least a remote possibility.

I am therefore led—by theory, by tests, and by my own ears—to the conclusion that there is little or nothing in the interaction between a *good* tone arm and a cartridge that could have a *major* effect on the *sound* of the combination. (I'm sure that part of the problem is in

the definition of "major." For some audiophiles *any* difference that can be heard under *any* circumstances is automatically a "major" difference.)

What are the characteristics that make a tone arm sufficiently "good" not to affect the sound? Several may be specified:

- The friction of the arm pivots, as referred to the stylus, is not more than 10 per cent of the vertical tracking force.
- The low-frequency resonance of the arm/cartridge combination does not affect the response above approximately 15 Hz by more than 1 dB. (To insure this, the amplitude of the resonance should not exceed 6 or 7 dB.)
- The cartridge is terminated in the correct load, which implies that any tone arms used in comparison testing have, within reason, the same capacitance, both to ground and between channels.
- There should be no audible mistracking on either channel of any of the program material used, whether because of insufficient vertical tracking force, incorrect antiskating compensation, or both.

There are two kinds of audible difference relevant to this discussion. One is an immediately audible short-term effect. This is best detected in a true A-B test, with not more than a second or two between samplings. The test requires using identical cartridges in the tone arms being compared, which should be on identical turntables and playing the same sections of identical records. One should repeat this test, interchanging the cartridges, turntables, and records, since we are after tone-arm differences and there *are* no such things as two *absolutely* identical records, cartridges, or turntables.

If anyone hears a large difference (or even a small one) under such conditions, he is welcome to make his choice of arm accordingly. But such tests are tedious and time-consuming, to say the least, and when I have performed them I have never heard any of these differences.

The second type of difference is much more subtle and not really susceptible of proof. It is evidenced by a nagging dissatisfaction with the sound of one component and a feeling that another is somehow "better." (Why "different" must always be equated with "better" or "worse" is beyond my understanding, but many people seem unable to make a distinc-

Tested This Month

●
Rotel RT-1024 AM/FM Tuner
Dual C919 Cassette Deck
TSI 110 and 120 Speaker Systems
Ortofon MC20 Phono Cartridge
and MCA-76 Pre-preamplifier
Miida 3140 AM/FM Receiver

tion between the two qualities.) This effect is by no means limited to cartridges. It accounts, in my view, for many of the preferences people show for certain amplifiers or speakers as well—not to mention cameras, automobiles, and other such conveniences of modern life.

I do not deny or dismiss the subjective reality of such nonrational preferences. I experience the same sort of reactions myself, and I suspect that most other people do also. Like a psychosomatic pain with no organic basis,

these strong feelings are completely real to the person experiencing them, yet absolutely unexplainable and nontransferable to anyone else (an equipment reviewer, for example).

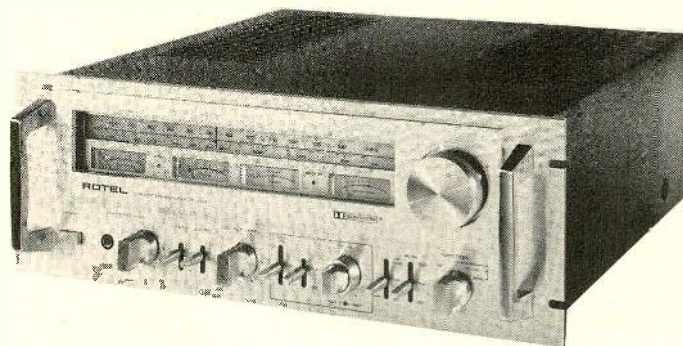
I GUESS it comes down to this: if you hear certain differences between two products and find one of them clearly preferable, why on earth should you be looking for confirmation—or denial—of your reactions from another person? Buy the one your own ears tell you is "best," be prepared to live with

your choice, and don't worry about what the other fellow says. On the other hand, if you do *not* hear such clearcut differences, and you want to know about those real, physically provable differences that exist between products, you may find our reviews and others helpful. In any case, you are not buying high-fidelity components to please anyone but yourself. If you feel your own ears and instincts are more valid guides to your own satisfaction than the opinions of the reviewers, then by all means follow them.

Equipment Test Reports

By Hirsch-Houck Laboratories

Rotel RT-1024 AM/FM Stereo Tuner



ROTEL's line of de luxe audio components (including the RA-1412 integrated amplifier reviewed in STEREO REVIEW in February 1976) has been joined by a matching AM/FM stereo tuner with built-in Dolby decoding circuits. Like its companions, the Rotel RT-1024 is large and distinctively styled. The front panel, in satin-finish aluminum, has sturdy carrying handles and is slotted for mounting in a standard 19-inch rack. The dial scale and meters are behind a cutout on a heavy subpanel, which also contains the unusually large tuning knob.

Unlike most tuners, which have one or two meters, the RT-1024 has a complement of four which together occupy as much space as the dial scale above them. Two are the conventional FM channel-center indicator and the relative-signal-strength indicator for AM and FM. Another meter is used to set Dolby levels for an external recorder, using the 400-Hz calibration oscillator built into the RT-1024. It can be switched to read levels in either channel. (The tuner's Dolby circuits can be switched to provide either encoding or decoding functions for an external tape deck, as well as being used in their normal role for reception of Dolbyized FM broadcasts.) The fourth meter is an FM-multipath indicator whose deflection is proportional to the amount of multipath distortion in the received signal.

The operating controls of the Rotel RT-1024 include a pushbutton power switch and a headphone jack driven by a separate amplifier with its own volume control. One

lever switch blends the high frequencies for noise reduction on weak stereo signals, and another switches the multipath meter on or off. There is a front-panel output-level knob controlling the rear outputs (in addition, there is another pair of audio outputs operating at a fixed level). The Dolby controls form a functionally separate group that includes the meter switch, a PLAY/REC function switch, and concentric knobs for calibration of the two channels. (Rotel will supply Dolby-level calibration cassettes with future RT-1024's.)

A switch turns the Dolby system on for either external or FM use, simultaneously changing the de-emphasis of the tuner to the 25 microseconds required by the Dolby system. A three-position switch selects muting thresholds of 10 or 30 microvolts or turns off the muting circuit entirely. The last switch selects AM, FM with automatic stereo/mono switching, stereo FM only, and mono FM. Red LED lights between the meters glow to show stereo reception and to indicate when the Dolby circuit is turned on.

In the rear of the Rotel RT-1024 are the fixed and variable audio-output jacks, input and output jacks for the Dolby system, a slide switch to turn on the 400-Hz Dolby calibration oscillator when matching the system to an external tape deck, and an FM 4-CH DETECTOR output jack for use with a possible future discrete four-channel FM decoder. There are insulated spring clips for the antenna connections and a hinged ferrite-rod AM antenna. The single a.c. outlet is controlled by the tuner's power switch.

The performance specifications of the Rotel RT-1024 are as impressive as its appearance and control features. The FM front-end has a five-gang tuning capacitor, giving it an image-rejection specification of 110 dB. Other specs include 9.3-dBf (1.6 microvolts) IHF sensitivity in mono, a 1-dB capture ratio, and 80-dB alternate-channel selectivity. The PLL multiplex circuit is rated to provide 47 dB of stereo separation at 1,000 Hz and at least 35 dB from 30 to 15,000 Hz. Distortion is claimed to be less than 0.2 per cent in mono and 0.3 per cent in stereo, with signal-to-noise ratio (S/N) figures of 75 and 70 dB, respectively. The Rotel RT-1024 is 19 inches wide, 7 inches high, and 16 inches deep; it weighs 24.2 pounds. Price: \$569.95.

● **Laboratory Measurements.** The FM tuner section of the RT-1024 actually surpassed its rated IHF sensitivity specification, measuring an impressive 8.1 dBf or 1.4 microvolts (μV) in mono and 22 dBf ($7 \mu\text{V}$) in stereo, the latter being the automatic stereo/mono switching threshold. The 50-dB quieting sensitivity in mono was 9.3 dBf (1.6 μV) with 1.4 per cent distortion; in stereo it was 34.5 dBf (29.2 μV) with 0.47 per cent distortion. The S/N measurements were 69 dB in mono and 65.5 dB in stereo, and the respective distortion levels were 0.125 and 0.2 per cent. The stereo distortion with L - R channel modulation was 0.63 per cent at 100 Hz, 0.2 per cent at 1,000 Hz, and 0.16 per cent at 6,000 Hz.

The capture ratio was 1.6 dB at a 45-dBf (100 μV) input and 1.4 dB at 65 dBf (1,000 μV). AM rejection at these levels was 72 and 66 dB. Image rejection was not measurable, exceeding the 110-dB range of our instruments. The alternate-channel selectivity was 67 dB and adjacent-channel selectivity was 4.1 dB. The FM muting threshold in the 10- and 30- μV switch positions was 12 and 40 μV . The tuner hum output was -65 dB, and the 19-kHz pilot carrier appearing at the audio outputs was 61 dB below the 100 per cent modulation level.

The fixed audio output was 0.8 volt at 100 per cent modulation, and the variable output could be adjusted up to 1.44 volts. The frequency response through the fixed outputs was ± 0.7 dB from 50 to 15,000 Hz, down 1.9

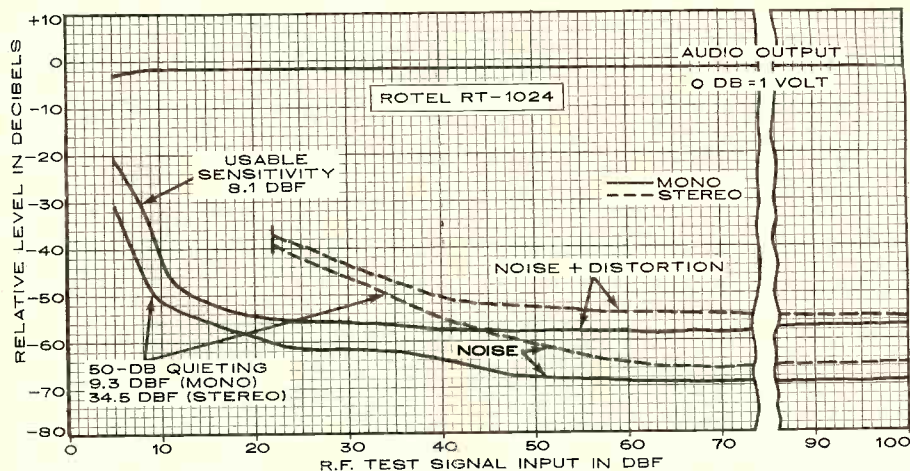
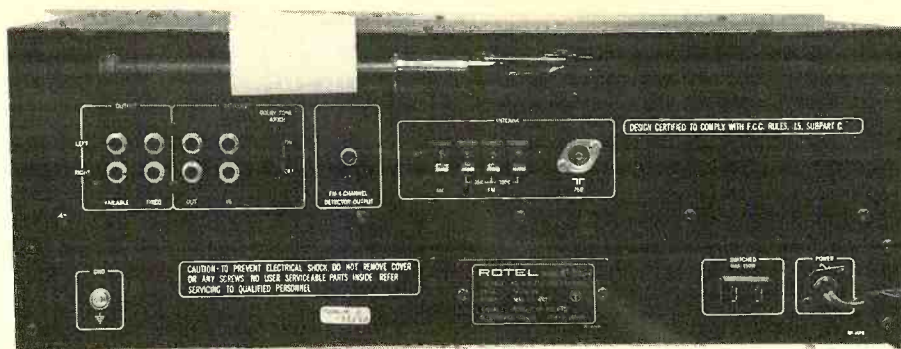
The RT-1024's rear panel has fixed- and variable-level outputs plus jacks that provide access to the Dolby circuits for an external program source.

dB at 30 Hz. Through the variable outputs the response was down 2.3 dB at 15,000 Hz and 3.2 dB at 30 Hz. Stereo channel separation was between 40 and 42.5 dB from 350 to 5,000 Hz, falling to 22 dB at 30 Hz and 34 dB at 15,000 Hz. The frequency response of the AM tuner section was unusually limited at the low-frequency end, being down 6 dB at 220 Hz and at 3,800 Hz.

⊗ **Comment.** Our test sample of the Rotel RT-1024 was an early production unit, so it is possible that later production models will differ from it in some minor respects. However, there is no doubt that the tuner we tested had the best image rejection and sensitivity of any FM tuner we have tested up to now. In fact, the sensitivity borders on the theoretical limits for an FM tuner.

Although the selectivity, capture ratio, and S/N did not quite match the Rotel specifications, they were all good, and we have no reservations about the merit of the RT-1024, surely one of the "hottest" tuners on the market. We were puzzled by the fact that Rotel provided a switch on the panel to turn off the multipath meter, since the meter is not a dual-function one. Rotel tells us that for some reason their European distributors wanted it.

To put the matter into perspective, consider that the Rotel RT-1024 is probably one of the most sensitive FM tuners you can buy, has just about every feature you would expect to find on a Dolbyized FM tuner, has a headphone output with sufficient volume to make a separate amplifier unnecessary for anyone



who listens alone, and in general is as smoothly operating, finely constructed a product as we have seen. Its size and appearance suggest that it will occupy a prominent place in the

homes of its owners, and that is as it should be. We cannot imagine hiding a tuner as handsome as this from view.

Circle 105 on reader service card

Dual C919 Cassette Deck



wooden base that makes the machine look somewhat larger than it really is. The cassette well has a clear window that exposes almost the entire cassette to view. An angled mirror reflects the tape hubs of the cassette so that they can be seen from almost directly in front of the deck as well as above it.

Near the three-digit index counter is a reset pushbutton and a button that engages the MEMORY, which stops the tape when the counter reaches 000 in rewind mode. A plastic lens above the digits hinges upward to magnify them slightly and make them more visible when viewed from the front of the machine.

The transport controls are conventional "piano-key" levers in a row across the front of the panel. They can be operated in any sequence without going through STOP. The RECORD and PLAY keys are coded with red and green stripes for easy identification; all the others are black and can be identified by the symbols and words on the panel above them.

(Continued on page 30)

DUAL's second cassette deck, the Model C919, is a top-loading, single-motor, two-head machine based on the drive components used in the slightly more expensive Dual Auto-Reverse deck. The a.c. "continuous-pole" synchronous motor that powers the

C919 is the same one that drives Dual's 1249 automatic turntable. The hard Permalloy record/playback head is said to have a life expectancy of at least 3,000 hours of operation.

The black and silver control panel of the Dual C919 contrasts with a walnut-finish

“...the Sansui tradition:
solid, well thought out...
right up there with the best...
a fine value...”

High Fidelity Magazine, Dec. 1976

"SANSUI Model 707C, a stereo FM/AM receiver ... under \$520."

"Here is yet another receiver in what we have come to think of as the Sansui tradition: solid, well thought-out, neither barebones nor feature-encumbered, delivering performance that is right up there with the best ...

"Some 'extras' are immediately apparent when you lay an inquiring finger on the controls. The tone knobs are stepped ... and include a MIDRANGE as well as the usual BASS and TREBLE ... two phono inputs ... mono mike input with its own mixing level control ... There also is output-power metering ...

"One special feature of the 707C is its provision for outboard decoding of Dolby FM broadcasts ...

"The tuner section is excellent — at least good in every respect and near-superlative in many ...

"The amplifier section is rated at 18dBW (60 watts) per channel and actually will pump out 1/2 dB (10 watts) more before exceeding the distortion rating at any audio frequency. More impressive, harmonic distortion is far below Sansui's 0.3% rating at all tested power levels, exceeding 0.5% in few

measurements ... Intermodulation too is low ...

"... if your expectations are high, there's very little about the 7070 that we think might disappoint you. Feel and finish of the parts is excellent, as we have come to expect of Sansui. The capable amplifier section has enough power for use with two pairs of speakers ... the tuner section is among the best; the ancillary functions ... are comprehensive and efficient. All in all, a fine value for the money."

In every power and price range, Sansui offers you a receiver in their tradition of excellence. Visit your nearest franchised Sansui dealer today and select the model that is right for you — from the new luxury Model 9090DB with full Dolby** capability, at less than \$750* to the no-frills Model 221, at less than \$130*.

*Approximate nationally averaged value. The actual retail price will be set by the individual dealer at his option.

**Trademark of Dolby Laboratories, Inc.

A whole new world of beautiful music.

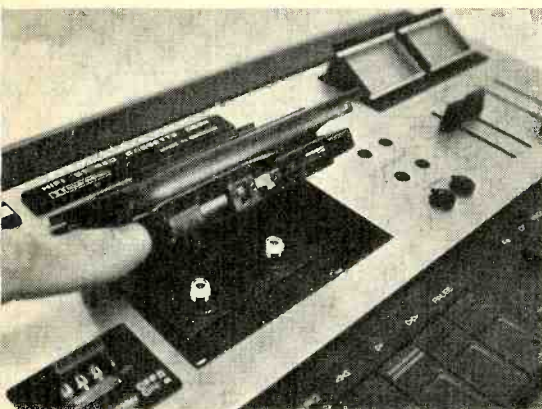


Simulated
woodgrain
cabinet.

SANSUI ELECTRONICS CORP.
Woods Dale, New York 11377 • Gardena, California 90247
SANSUI ELECTRIC CO., LTD., Tokyo, Japan
SANSUI AUDIO EUROPE S.A., Antwerp, Belgium • In Canada: Electronic Distributors

Sansui

CIRCLE NO. 40 ON READER SERVICE CARD



The underside of the C919's cassette-well cover has clips that receive a cassette to be loaded. The cover is then closed for operation.

Pressing the EJECT key causes the cassette-well door (carrying the cassette) to rise slowly under damped control. The cassette is retained in place even when the door is opened with the machine in a vertical position.

The right side of the panel contains two pairs of slider controls. These individually set the recording level of each channel for the LINE/DIN and microphone (MIC) inputs (LINE and MIC sources can be mixed when recording). To the rear of the sliders are the two meters, illuminated softly in green when the recorder is on. They can be tilted upward slightly for better visibility. In addition to showing recording levels, they indicate the playback level before it is adjusted by the output-level control.

In the center of the panel are two pairs of screwdriver-adjusted controls and two small knobs that control headphone volume. One pair of screwdriver controls sets the recording gain for FM-Dolby operation, using the 400-Hz tone transmitted periodically by Dolby-equipped stations for calibration purposes. The other pair are line-output controls, setting the playback level supplied to the associated amplifier. A red RECORD light and a green DOLBY light are also located near the meters.

At the bottom front of the panel are five small black pushbuttons. Three set the bias and equalization for standard (Fe), chromium-dioxide (Cr), and ferrichrome (FeCr) tapes. The other two are Dolby controls, one of them turning on the Dolby circuits for recording or playback and the other setting up the machine for processing Dolbyized FM signals. To record these, only the FM button is used. Since proper recording levels will presumably be the same for all such broadcasts, one simply presets them once with the screwdriver adjustment and thereafter forgets them. The C919 can also be used to decode FM Dolby broadcasts, without recording them, by engaging both the FM and NR DOLBY buttons as well as the RECORD key with no cassette in the machine. (Of course, the receiver's TAPE MONITOR switch must be set to include the C919 in the signal path.)

There are two quarter-inch jacks for medium-impedance dynamic microphones and a stereo headphone jack for phones rated from 4 to 2,000 ohms impedance. When microphones are plugged into both jacks, stereo recordings are made. When a single microphone is plugged into either jack, its output can be

recorded in mono on either or both channels at the same time.

The Dual C919 has no on-off switch as such. Pressing any of the tape-motion keys also turns on the power to the machine. At the end of a tape, the transport disengages mechanically and shuts off. Preliminary recording-level adjustment can be done with just the RECORD key engaged or with both RECORD and PLAY engaged (the normal condition for making a recording) and the PAUSE key depressed as well. The deck can be installed either horizontally or vertically (legs are supplied for vertical mounting); it can even be hung on a wall with the hardware supplied. The Dual C919 is 16½ inches wide, 4¾ inches high, and 10 inches deep. It weighs approximately 14¾ pounds. Price: \$450.

● **Laboratory Measurements.** The playback frequency response of the Dual C919 was measured with the Nortronics AT 200 test tape for the Fe equalization mode (120 microseconds). It was within ±1 dB over the 31.5- to 10,000-Hz range of the tape. The FeCr and Cr equalization (70 microseconds) was measured with a Teac 116SP tape. The response was ±1.5 dB from 80 to 10,000 Hz, down about 3.5 dB at 40 Hz. The stereo crosstalk from the left to the right channel was -46 dB at 1,000 Hz.

To reach a 0-dB indicated recording level, a LINE input of 43 millivolts (mV) or a MIC input of 0.2 mV was needed. The corresponding playback output, with Maxell UD-XL I tape, was 0.8 volt. The overload points for LINE and MIC were, respectively, 3.3 volts and 21 mV. The Dolby calibration marks are at +3 dB on the meters, and a standard Dolby-level tape indicated within 0.5 dB of that reading on both channels. The meters also had accurate VU ballistics, so that a 0.3-second tone burst of 1,000 Hz, repeated once per second, gave exactly the same meter indication as a steady-state signal of the same level—the standard test for VU characteristics.

The record-playback frequency response with Maxell UD-XL I tape (Fe) was within ±1 dB from 45 to 13,500 Hz at a -20-dB recording level, and within ±2 dB from 20 to 14,500 Hz. The chromium-dioxide tape response was measured with Sony CrO₂ tape, and it was ±1.5 dB from 20 to 16,500 Hz. Ferrichrome tape (Sony) gave a rather similar result, within ±2 dB from 20 to 15,500 Hz. Other high-quality tape formulations (including TDK SA and Audua, Maxell UD-XL II, and BASF LH Super) were also tested and found to give generally similar results.

The playback distortion for a 1,000-Hz, 0-dB recording level was 0.75 per cent with Fe, 1.4 per cent with Cr, and 1.6 per cent with FeCr tape. The reference 3 per cent distortion level was reached at recording inputs of +6.5 dB, +4 dB, and +3 dB for the three tapes. At a 0-dB recording level, the high-frequency saturation was somewhat less with Cr than with Fe tape, and much less with FeCr than with either of the others.

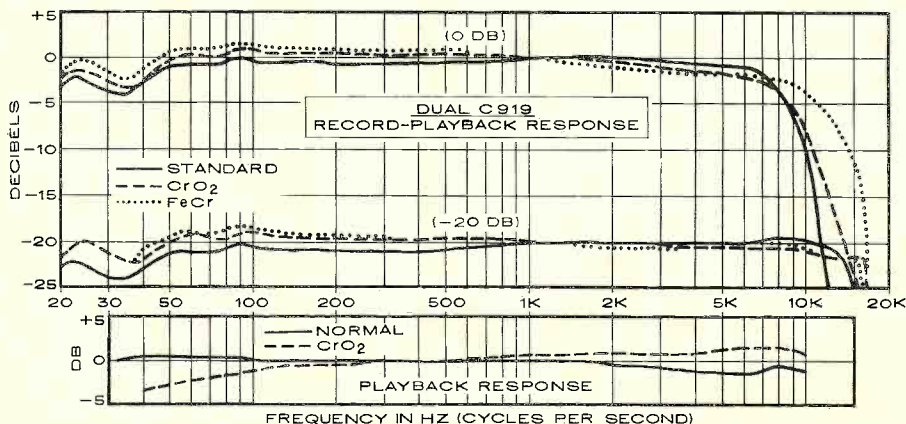
The signal-to-noise ratio (S/N) was referred to the signal level corresponding to 3 per cent playback distortion. The unweighted S/N for Fe, Cr, and FeCr tape was 56.5 dB, 55.5 dB, and 52 dB, respectively. With IEC "A" weighting, these figures improved to 60.7, 60, and 57.2 dB. With CCIR weighting, the S/N measurements were essentially the same as the unweighted readings. Using the Dolby system, the "A"-weighted S/N was 66.7, 65.5, and 63 dB. Finally, with CCIR weighting and Dolby, the S/N was 67.5, 65.5, and 62.5 dB. Through the MIC inputs, at maximum gain, the noise increased by 16 dB. At normal settings of the microphone gain, the increase was much less.

The C919 had one of the fastest wind-rewind modes we have seen in a cassette deck. It moved a C-60 cassette from end to end in 44 seconds (forward) or 47.5 seconds (rewind). The unweighted rms flutter was a very low 0.075 per cent; it was 0.1 per cent in a combined record-playback measurement.

The tracking of the Dolby circuits (between record and playback modes) was very good. With the Maxell UD-XL I tape, switching the Dolby system in and out changed the record/playback frequency response at levels of -20 and -30 dB by less than 1.5 dB at any point. At -40 dB the change was under 0.5 dB up to about 13,000 Hz.

● **Comment.** In its individual specifications such as frequency response, S/N, flutter, and distortion, the Dual C919 compares very favorably with the most highly regarded cassette decks. In its totality, it easily earns a place as "one of the best" (a somewhat over-worked phrase, but valid nevertheless).

The C919 is a bit different from most of its competitors. For one thing, to load the cassette one does *not* place it directly into the well but rather slides it into a pair of clips on the underside of the door. Otherwise, this is an easy deck to get used to, and quite difficult to misuse. It is obvious that human-engineering aspects have received careful attention. For example, linking the power switch to the
(Continued on page 34)

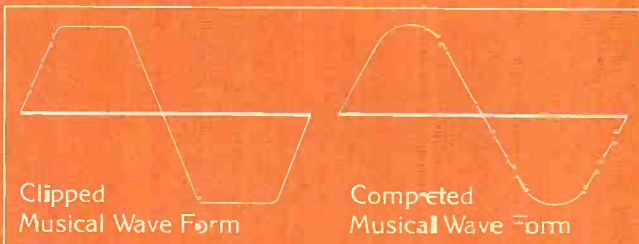


Only Hitachi's SR/903 Receiver has Class G, "the very newest class in amplifier operation."

Stereo Review
January, 1977



Stereo Review went on to explain that this exclusive circuitry "uses... a low power and a high power output stage operating together... At low signal levels the lower power stage drives the speakers. The transition to the more powerful output transistors... takes place smoothly at the point where it becomes advantageous to do so."



The point they're talking about, of course, is where certain portions of the music you listen to demand more than the rated output to sound like they should. (Rated output on the Hitachi SR/903 is 75 watts continuous power per channel, both channels driven into an 8 ohm load, 20 to 20,000 Hz with no more than 0.1%

total harmonic distortion.) So when your music really gets thrilling, Class G cuts into a standby amplifier. Then for just a moment, the SR/903 can pump out a lusty 160 watts per channel—without clipping.

One look at comparison wave forms will show you what we mean. See how the sound from the conventional amplifier has the top of its natural arc clipped off. That's

when you'd get clipping distortion. But the same musical peak graphed on the Hitachi SR/903 is complete. So the sound you'd hear would be clean and crisp.

As a wrap-up, Stereo Review said Class G delivers "much higher overall efficiency than a conventional device, and this brings immediate dividends... in reduced weight, size and power consumption."

All they neglected to mention was that Class G doesn't cost you any more.

Hitachi SR/903 Typical Specifications

Amplifier	Rating
Power minimum RMS, at 8 ohms, 20 to 20,000 Hz	75 watts
Total harmonic distortion at rated power output	0.1%
FM Tuner	Rating
Usable sensitivity (HF) 300 OHMS	1.6 μ V (9.3 dBf)
50 dB quieting sensitivity	3.1 μ V (15 dBf)
Signal/noise ratio 100% mod.	74 dB

 **HITACHI**
When a company cares, it shows.



Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.

The natural cigarette is here!

Announcing Real

**Taste your first low tar cigarette
with nothing artificial added.
Feel the Real taste difference.**

Your cigarette enhances its flavor
artificially. All major brands do.
New Real does not. It doesn't need to.
We've discovered the way to keep
natural taste in, artificial out.
All the taste and flavor in Real is natural.

Of course Real's menthol is fresh,
natural. Not synthetic.
You get a rich, satisfying smoke.
Taste you can feel. Full, natural taste.
So taste your first low tar natural
cigarette. Taste Real...smoke natural.

tape-transport controls makes good sense—no more forgetting to shut off the machine.

The PAUSE control works exceptionally well, with no sign of a “chirp” or speed change on start-up. Unlike most pause keys, which start the tape when they are released after being pressed, the Dual device operates as it is being pressed, with a positive “click.”

In the design of the C919, Dual engineers have taken pains to make it entirely usable in either vertical or horizontal installations. Not only the removable mounting feet, but the tilting meters and index-counter lens contribute to this versatility. A bar across the cassette-well window at first annoyed us by partially

blocking our view of the cassette from above, but it turned out to be part of a mirror assembly that makes the brightly marked hub shafts and their rotation clearly visible from directly in front of or above the deck as well as from all intermediate angles.

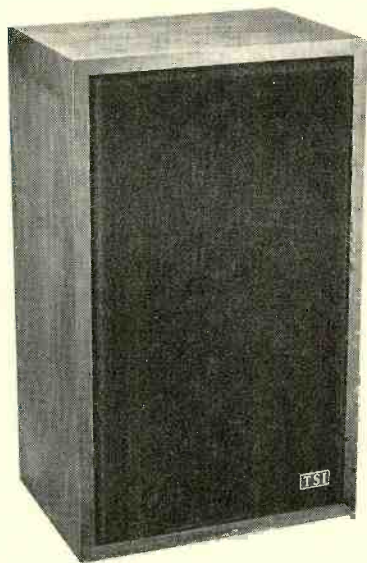
Another nice feature was the memory stop's being set to halt the tape at a counter reading of 000 instead of 999 as most such systems are. Thus, none of the program is lost on the replay, and there is less repetition of preceding material. We also noted that the headphone volume available from the jack was more than adequate, even with 200-ohm phones. Although we were not evaluating

tapes, it seemed evident that a top-grade ferric-oxide tape such as Maxell UD-XL I gives the best overall results with this machine. Slightly extended high-frequency response and headroom can be had with CrO₂ or FeCr tape, but at some sacrifice of overall dynamic range and S/N and with increased distortion.

All in all, the Dual C919 is a pleasure to use. In its listening and handling characteristics it can hold its own with any comparable machine, and it tops most of them. It is a special pleasure for us to work with a product in which everything works “just right”—and that certainly describes the Dual C919.

Circle 50 on reader service card

TSI Models 110 and 120 Speaker Systems



Model 110

TECHNICAL SOUND INDUSTRIES of Columbus, Georgia, a relatively new company in the audio marketplace, manufactures several loudspeaker systems. The most distinctive common feature of the TSI product line is its use of a passive radiator or “drone cone” in conjunction with the active woofer. The speakers also employ a tweeter with a 10-

ounce magnet structure, a 1-inch voice coil, and a 1-inch soft-dome diaphragm surrounded by silastic material.

The TSI speakers are housed in handsome walnut-veneer cabinets finished with a semi-gloss lacquer. Push-type amplifier connectors are recessed into the rear of the cabinet, together with a continuously variable

high-frequency level control. The dark-brown, foam-plastic grilles are held in place with Velcro fasteners and are easily removed.

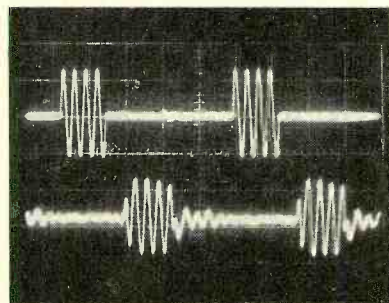
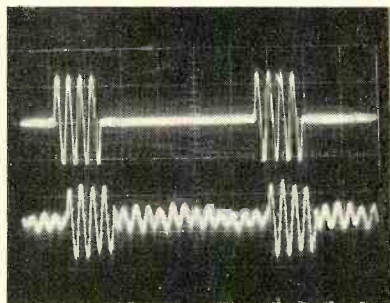
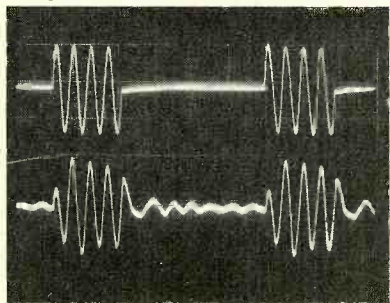
We tested two TSI speaker systems, the Model 110 and the Model 120. Because of their many points of similarity, this report will deal principally with the less expensive Model 110 but will point out the differences we found between the two.

The TSI Model 110 has the appearance of a typical two-way bookshelf speaker. It measures 24 inches high, 14½ inches wide, and 10½ inches deep and weighs about 25 pounds. The system consists of an 8-inch active woofer and a 12-inch passive radiator. The tweeter is the 1-inch soft-dome unit mentioned previously. Crossover between the two active drivers occurs at 3,000 Hz.

The TSI Model 120 is a slightly larger unit than the Model 110, being (as TSI describes it) a floor-standing unit which may also be used on a very sturdy bookshelf. It is nearly columnar in format—30 inches high, 14¾ inches wide, and 10½ inches deep—and weighs about 48 pounds. The Model 120 is a three-way system in which the low frequencies are handled by a 12-inch passive radiator similar to the one in the Model 110, together with a 10-inch woofer. It has a 5-inch cone mid-range in a sealed sub-enclosure and the same dome tweeter used in the Model 110. Cross-

(Continued on page 38)

The oscilloscope photos of tone bursts below accurately represent the performance of both the TSI Model 110 and Model 120.



Frequencies shown are (l. to r.) 100, 800, and 5,000 Hz. In each case the input signal appears above the output from the speaker.

HOW NOT TO RUIN YOUR RECORDS

PART III

Don't age your vinyl

THE PROBLEM:

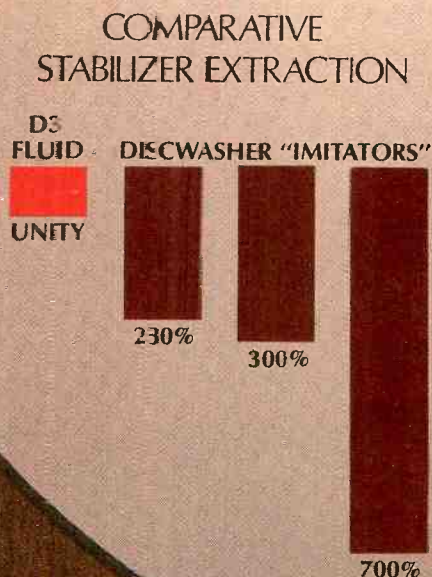
Record vinyl contains additives—chemical stabilizers—which protect the vinyl from aging and breakup during both pressing and playback. If stabilizers are extracted from the record surface, then the life of the vinyl is shortened, and the vinyl surface begins to break down during playback because of chemical weakness. (Typical stylus pressures exceed 16 tons psi, even with the finest equipment.) Long-term record life is very much dependent on leaving bound stabilizers in the vinyl.

COMMON ERRORS:

Large amounts of almost any liquid (even water) on the record surface will extract tiny amounts of stabilizers. But large amounts of these precious stabilizers are extracted with a "cleaning operation" that uses liquids containing large amounts of alcohols, common detergents, alkaline soaps, or many standard anti-static agents. All of these compounds, very common in record cleaners, are much more destructive to record vinyl when combined with a physical brushing action.

AN ANSWER FROM RESEARCH:

The exclusive Discwasher System is chemically buffered, tested, and designed to preserve record vinyl. D3 fluid is "targeted" to remove record contamination but not stabilizers from the vinyl surface. This patented chemistry, developed at the Discwasher laboratories, allows the directional fibers of the Discwasher pad to pick up both debris and solubilized contamination. All without shortening vinyl life. Only Discwasher has this perfect combination of safety and function.



 **Discwasher Group**

1407 N. PROVIDENCE RD.
COLUMBIA, MISSOURI 65201

Unidentical



A-170S

We couldn't leave well enough alone. So when the A-170 was rated a "best buy" we made it even better. Now it's the A-170S.

It's easy to understand what makes it a best buy; if it were our only deck, the A-170S would cost much more. Instead, we were able to take advantage of the same technology and computerized equipment we use in making

decks that cost three times as much as the A-170S. Which means the difference between our lowest priced deck and our heavy duty decks is features, and not tolerances. And speaking of heavy duty, the A-170S even has a built-in Dolby* noise reduction system, to virtually eliminate annoying tape hiss.

So if you're looking for a best buy in a top-loading deck for less than \$200,** your choice is simple; TEAC A-170S.

SPECIFICATIONS

Wow & Flutter (NAB Weighted):
C.09% WRMS

Signal-to-noise ratio:
Without Dolby
50 dB (WTD 3% THD)
With Dolby@ 1 kHz
55 dB
With Dolby over 5 kHz
60 dB

Frequency response:
CrO₂/FeCr tape
30-14,000 Hz
Hi-energy tape
30-11,000 Hz

*Dolby is a trademark of Dolby Laboratories, Inc.

**Nationally advertised value. Actual resale prices will be determined individually and at the sole discretion of authorized TEAC dealers.

The A-100 is shown with an optional simulated wood cabinet.

twins.



A-100

And for you front-loading fans, the TEAC "best buy" deck comes that way, too.

The A-100, also less than \$200,** boasts the same features and specs as the A-170S; the same precise transport system; same capstan driveshaft, ground to a tolerance of one micron or less. You can still change from fast forward to rewind without hitting the STOP button. There's even a special timer function so you can plug in an external

timer and record when you're away from home.

So whether you like your deck up like the A-170S, or up front like the A-100, we have a best buy for you; one of the unidentical twins from the TEAC fine family of tape decks.

TEAC®

The leader. Always has been.

TEAC Corporation of America
7733 Telegraph Road
Montebello, California 90640

In Canada TEAC is distributed by White
Electronic Development Corporation
(1966) Ltd.



over frequencies are 800 and 5,000 Hz, and both speakers have a nominal impedance of 8 ohms. Prices: Model 110, \$169; Model 120, \$209.

● **Laboratory Measurements.** For virtually all our measurements and listening tests we used the maximum positions of the tweeter-level controls, which seemed to give the best results. The following data, unless otherwise stated, apply to the Model 110. The smoothed frequency response of the speaker system, measured in the reverberant field of the room, was remarkably uniform. It varied only about ± 2.5 dB from 100 to 15,000 Hz; between 150 and 5,000 Hz the response variation was close to being within ± 1 dB. The bass response was measured with close microphone spacing. When the outputs of the driven and passive cones were combined, the response rose to a maximum of about +5 dB at 75 Hz. Below that, because of the contribution of the passive cone, the output remained within about 2.5 dB of the average mid-range level down to 26 Hz. The overall response of the speaker system was within ± 4 dB from 25 Hz to beyond 15,000 Hz (our upper measurement limit).

With the tweeter-level control at its minimum setting, the output dropped above 3,000 Hz to a level of about -10 dB near 10,000 Hz. We noted two pronounced "glitches" or jogs in the acoustic output of the active woofer cone. These occurred at 300 and 800 Hz and were also detectable in the impedance curve as slight jogs at those frequencies. The system impedance rose to peaks of about 40 ohms at 26 and 72 Hz, fell to about 6 ohms at 40 and 150 Hz, and rose to a broad peak of 20 ohms at 2,000 Hz before dropping to its minimum value of 5 ohms at 13,000 Hz.

The bass distortion was measured separately at the outputs of the active and passive cones with constant power levels corresponding to 1 and 10 watts into 8-ohm loads. In plotting the measured distortion, we used the active cone value at frequencies where its output was dominant and the passive cone distortion at lower frequencies where its output exceeded that of the driven woofer. (The

"crossover" between the two outputs was at about 70 Hz.) The distortion was high between 70 and 100 Hz (3 to 10 per cent), quite low between 50 and 60 Hz (under 2 per cent), and at 35 Hz it was about 3.5 per cent at a 1-watt input. However, the Model 110 cannot be "pushed" in the bass region, since the distortion rises sharply with a 10-watt input.

The Model 110 was fairly efficient, delivering a 91-dB sound-pressure level (SPL) measured at a distance of 1 meter when driven by an octave of random noise centered at 1,000 Hz. The tone-burst response was fairly good at high and low frequencies, but we could see the effect of the woofer response "glitches" in the form of sustained ringing at 300 and 800 Hz.

The TSI Model 120 proved to be nearly identical to the Model 110 in its frequency response and in most of its other characteristics. The woofer "glitches" were slightly more prominent and could be seen in the reverberant-field measurement. The tone-burst response of the speaker system was virtually identical to that of the Model 110. The impedance curve had a single impedance peak of 28 ohms at 68 Hz (another peak evidently occurred below 20 Hz, which is beyond our measurement limit). The curve's shape resembled that of the Model 110, with an impedance of 6 ohms at 40 and 150 Hz, just under 5 ohms between 10,000 and 20,000 Hz, and a high area of 15 ohms at 1,200 Hz. The tweeter-level control also affected the mid-range driver, and at its minimum setting created a broad shelf at about -5 dB between 2,000 and 15,000 Hz.

The major difference between the Model 110 and the Model 120 was distortion in the bass area. The larger cones and enclosure volume of the Model 120 made a dramatic improvement in its low-frequency distortion, though not in its frequency response. At 1 watt, the distortion was 2 per cent or less down to about 30 Hz, and only 8 per cent at 20 Hz! At a 10-watt input it was higher in level, but still only 2.5 to 4 per cent down to 40 Hz, reaching a maximum of 12.5 per cent at 30 Hz. The efficiency of the Model 120 was identical to that of the Model 110.

● **Comment.** Not surprisingly, the two TSI speakers sounded virtually identical. There was a trace of added low-frequency "feel" (not audible as "heaviness," however) in the output of the Model 120, but in spite of the presence of a separate mid-range driver in the 120, we could hear no differences between the two systems in the middle and high frequencies. In the simulated live-vs.-recorded test, which does not evaluate response below 200 Hz, the systems were absolutely identical.

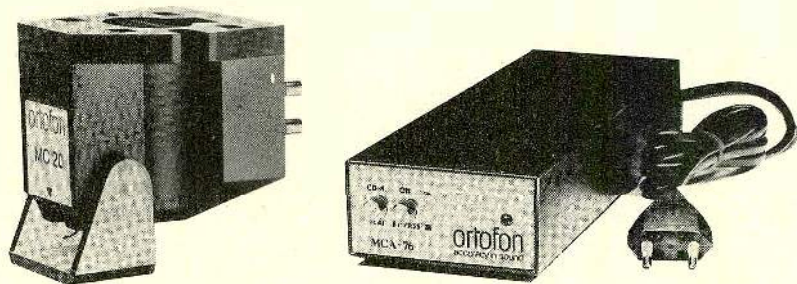
The very flat overall frequency response measured for these loudspeakers would seem to imply an accurate reproduction capability. This was confirmed by the great fidelity with which the speakers matched the sound of our "live" music source. They rank with the most accurate reproducers we have tested, with negligible coloration, emphasis, or de-emphasis of any part of the audio spectrum from 200 to 15,000 Hz and higher.

On occasion, we have found speakers that had similar qualities in this test but which failed to live up to their promise on full-range program material. Not so with the TSI speakers, which always sounded as good as their response curves suggested they should sound—in other words, about as free of aberrations as a speaker can be. As for the woofer-response "glitches," we have occasionally seen such effects on other speakers, but not with such a high amplitude. But whatever their cause, we were never able to hear their effect on program material, though we spent considerable time trying to do just that. Apparently these anomalies can legitimately be ignored.

Originally we intended to report on only one of these speakers, but after preliminary tests of both we could not decide which we preferred. Model 110 is obviously a good value for the money. On the other hand, the Model 120 can be played at considerably higher levels (we were not able to drive it into audible distress with peak amplifier outputs of at least 200 watts), and it has much lower bass distortion, if that is an important consideration. Either way, though you "pays your money and you takes your choice," in this case you can hardly go wrong.

Circle 107 on reader service card

Ortofon MC20 Stereo Phono Cartridge



and MCA-76 Pre-preamplifier

A GENERATION ago, the name Ortofon was synonymous with moving-coil phono cartridges. Since then, the company has added other designs to its product line, but the latest and finest Ortofon cartridge, the MC20, returns to the moving-coil principle. As is the case with most moving-coil cartridges, the stylus of the MC20 is not user-replaceable, but the entire cartridge can be exchanged for a new one at a considerable cost saving should the stylus become worn or damaged. (The cartridge has a hinged guard to protect the stylus.)

The MC20 stylus has a modified elliptical shape ("fine-line") that contacts the groove wall only along a thin edge—like the special styli developed for CD-4 applications—so as to give better high-frequency tracking and lower record wear. The stylus compliance is

(Continued on page 42)

INTRODUCING THE RECEIVER YOU PROBABLY THOUGHT YOU COULDN'T AFFORD.



The new Kenwood KR-4070.

It's got 40 watts of power per channel, minimum RMS, at 8 ohms, from 20 to 20,000 Hz, with no more than 0.1% total harmonic distortion.

And it costs less than \$300*
That kind of power, along



with the famous Kenwood tuner and other outstanding features, at that price, is unheard of.

How did we do it?

That's what Pioneer and Marantz would like to know.

The new Kenwood KR-4070.

Performance is now affordable.

KENWOOD

For the KENWOOD Dealer nearest you, see your yellow pages, or write KENWOOD, 15777 S. Broadway, Gardena, CA 90248

*Nationally advertised value. For information purposes only. Actual prices are established by Kenwood dealers. Handles optional.



Dual
BELT

Now the world's finest tonearm starts at less than \$135.

Complete with drive system.

Introducing Dual's three new fully automatic turntables.

You don't have to wait till someday to play your records with the world's finest tonearm. A gimbal-mounted Dual tonearm. You can afford one right now.

We have designed into our lowest-priced turntable, the new 1237, the very same tonearm (and drive system) formerly available only on our highest-priced models.

Advantages of the four-point gimbal suspension.

If you're not familiar with the gimbal, it's understandable. Few other tonearms, at any price, have one—despite its widely acknowledged superiority.

A true four-point gimbal centers, balances and pivots the tonearm mass at the precise intersection of the vertical and horizontal axes. The tonearm maintains the perfect balance in all planes essential for optimum tracking.

The Dual gimbal employs identical pairs of tempered and finely-honed needle-point bearings, each set in miniature ball-bearings. During assembly, each gimbal is individually tested and adjusted to assure that bearing friction will be no more than 0.008 gram vertically and 0.016 gram horizontally. (If there were a cartridge that could track at forces as low as 0.25 gram, this tonearm would do full justice to it.)

Further, the straight-line tubular design (for maximum rigidity and lowest mass) and the settings for zero balance, tracking force and anti-skating are, like the gimbal, identical in every Dual tonearm. The tonearm establishes and maintains the correct cartridge-to-groove geometry, and allows the stylus to trace the groove contours freely, precisely and with the lowest practical force. In short, flawless tracking.

Advantages of the Vario-belt drive system.

Another important inheritance is the Vario-belt drive system. This drive system comprises a high-torque synchronous motor, a precision-machined Vario-

pulley, a precision-ground belt and a machine-balanced, die-cast platter. The Vario-pulley simply expands and contracts for reliable fine-speed adjustments. There are no complicated mechanics or electronic circuitry, which add nothing but cost.

Versatility and reliability too.

We've just described the qualities of the new Dual fully automatic line that will make your records sound better and last longer. But there's more. For versatility, you have fully automatic and manual start and stop, plus provision for multiple play. And cue-control damped in both directions. Plus pitch-control, rotating single-play spindle and multi-scale anti-skating.

Everything we've described applies to the 1237, which is, incredibly enough, our lowest-priced model. And where the 1237 ends, the 1241 and 1245 begin. With an even higher degree of performance. And very handsome, contemporary, low-profile bases.

One further point. All Dual turntables are ruggedly built. They need not be babied, by you or anyone else in your family. As any Dual owner can tell you, they are designed to last for years and years and years.

Now we suggest that you visit your favorite audio dealer and see first hand what Dual engineering is all about. You may then wonder why no other manufacturer puts so much care and precision into a turntable. The answer is simply this. For more than seventy-five years, craftsmanship of the very highest order has been a way of life with the Dual people in the Black Forest. As nowhere else in the entire world.

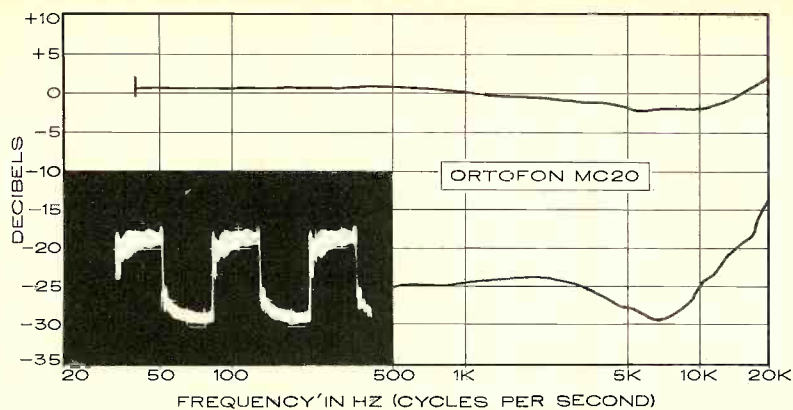
Dual 1237: less than \$135; base and cover less than \$30 additional.
Dual 1241: less than \$200, including deluxe base and cover.
Dual 1245: less than \$230, including deluxe base and cover.
Other Duals to \$400. Actual resale prices are determined by and at the sole discretion of authorized Dual dealers.



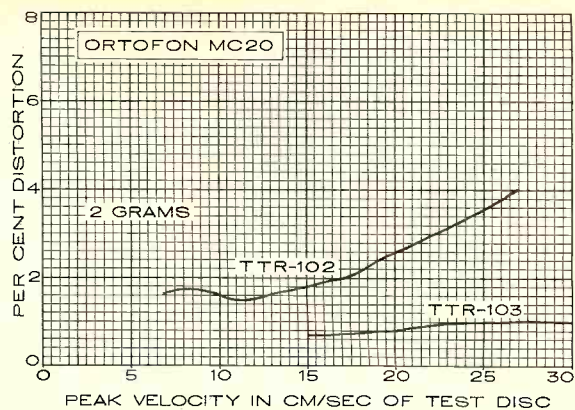
United Audio Products, 120 So. Columbus Ave., Mt. Vernon, N.Y. 10553

Exclusive U.S. Distribution Agency for Dual

CIRCLE NO. 50 ON READER SERVICE CARD



In the graph at left, the upper curve represents the smoothed, averaged frequency response of the cartridge's right and left channels; the distance (calibrated in decibels) between it and the lower curve represents the separation between the two channels. The inset oscilloscope photo shows the cartridge's response to a recorded 1,000-Hz square wave (see text), which indicates resonances and overall frequency response. At right is the cartridge's response to the intermodulation-distortion (IM) and 10.8-kHz tone-burst test bands of the TTR-102 and



TTR-103 test records. These high velocities provide a severe test of a phono cartridge's performance. The intermodulation-distortion (IM) readings for any given cartridge can vary widely, depending on the particular IM test record used. The actual distortion figure measured is not as important as the maximum velocity the cartridge is able to track before a sudden and radical increase in distortion takes place. There are very few commercial phonograph discs that embody musical audio signals with recorded velocities much higher than about 15 cm/sec.

rated at 25 horizontally and 15 vertically (both times 10^{-6} cm/dyne), and the equivalent tip mass is 0.5 milligram. The range of suggested tracking forces is from 1.5 to 2 grams, with 1.7 grams being recommended. The stated vertical tracking angle is the standard 20 degrees, and the total cartridge mass is 7 grams.

The stylus drives the generating coils through a cantilever whose diameter is stepped to provide stiffness with low mass. The fixed end is supported and damped by a rubber suspension, and stylus motion "wiggles" the dual coil assembly in a powerful magnetic field. Each coil has only twenty-eight turns of very fine wire, so that the output voltage at a recorded velocity of 5 centimeters per second (cm/sec) is a mere 70 microvolts. The d.c. resistance of the coils is 2.5 ohms per channel and the coil inductance is negligible.

Either a separate step-up transformer or a pre-preamplifier is needed to boost the cartridge output to a level suitable for a typical magnetic-phono preamplifier input. Ortofon makes both types of devices, and we tested the MC20 with their new MCA-76 pre-preamplifier. The MCA-76 has a voltage gain of 50, increasing the minute cartridge output to about 3.5 millivolts. Its input impedance of 75 ohms is a suitable load for the cartridge, and the amplifier's output impedance of less than 140 ohms permits it to drive long lengths of shielded cable and to be terminated by almost any preamplifier input circuit without effect on either the cartridge or the amplifier response. The maximum input rating of the MCA-76 is 6 millivolts (for 300 millivolts output), which assures that it will never be overloaded by the MC20 cartridge. Distortion in the MCA-76 is negligible (rated at less than 0.04 per cent total harmonic distortion or 0.01 per cent intermodulation distortion at maximum input), and the hum level is 120 dB below its maximum operating level. Since that is almost 40 dB above the nominal cartridge output, the net signal-to-noise ratio (S/N) is of the order of 80 dB, highly noteworthy and surpassing the S/N of any preamplifier likely to be used with it.

The MCA-76 is a small black box with a self-contained a.c. power supply. A pushbut-

ton at one end of the box shuts off the power when released, simultaneously bypassing the internal amplifier circuits. Thus, the MCA-76 can be left connected to a record player in which other types of cartridges will also be used. Another button inserts a CD-4 low-pass filter that rolls off the response sharply above 50 kHz to prevent possible interference with demodulator circuits by r.f. noise. There is also a fixed subsonic filter that cuts off the response sharply below about 7 Hz. Price: Ortofon MC20 cartridge, \$120 (\$65 on exchange basis for stylus replacement); MCA-76 pre-preamplifier, \$170.

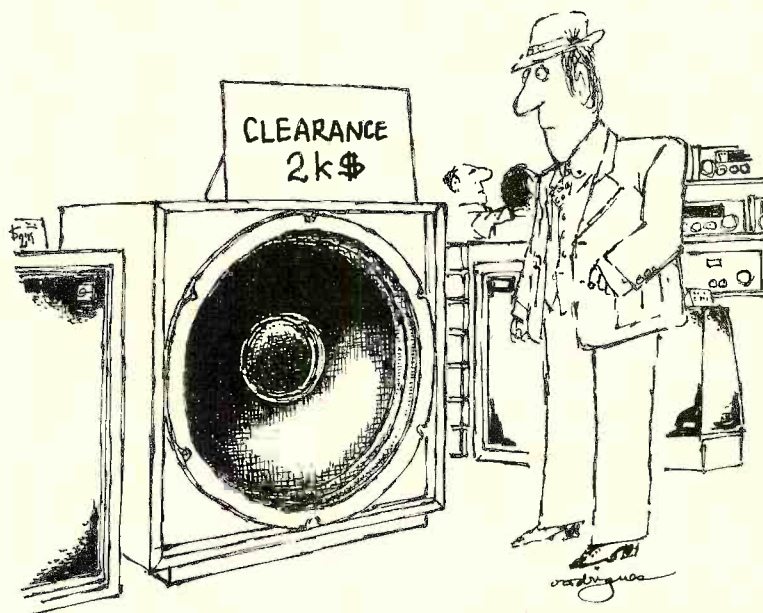
● **Laboratory Measurements.** The Ortofon MC20 cartridge was tested through the MCA-76 pre-preamplifier, and some measurements were made on the MCA-76 alone as well. The cartridge was installed in the tone arm of a Thorens TD-126C record player. (Note that the TD-126C may require a minor wiring modification to prevent a hum-produc-

ing ground loop from occurring when it is used with the MC20 cartridge.)

Experimenting with different tracking forces indicated that 2 grams was needed to track the highest velocities on our test records, so that force was used throughout our tests. With the CBS STR 100 test record, the frequency response sloped gently downward, as the frequency increased, to about -2.5 dB between 5,000 and 10,000 Hz before rising to +1 to +2.5 dB at 20,000 Hz (the two channels were slightly different). The rise was obviously the lower skirt of a relatively undamped stylus resonance, but we did not extend our measurements above 20,000 Hz.

The channel separation was 20 to 25 dB up to 10,000 Hz and beyond, decreasing to 12 to 18 dB at 20,000 Hz. The square-wave response, checked with the CBS STR 112 record (which we have just started to use) showed fairly low-level sustained ringing at about 40,000 Hz. Ortofon states—and we

(Continued on page 44)



Which sounds better? Technics Direct Drive. Or \$149.95*.

Introducing Technics SL-2000. The same type of Technics direct-drive system FM stations use and discos abuse, but with one big difference. A price tag smaller than any other direct-drive turntable. And that price tag even includes the dust cover and integral base.

It also includes the kind of performance most high-priced turntables can't beat. Like wow and flutter at an incredible 0.045% WRMS and undetectable rumble at -70dB DIN B. And instead of 78 separate elements to control the motor, now there's a one-chip IC. That means more accuracy with fewer parts.

And the tonearm: The Technics computer-analyzed universal S-shaped, low mass, static-balanced type with negligible tracking error and sub-

sonic resonance. Which, in plain English, means better performance.

And, unlike some conventional turntables, Technics SL-2000 includes oil-damped cueing. Pitch controls variable by 10° Illuminated stroboscope. Direct-reading tracking force adjustment. And a base designed to minimize feedback.

So, if you thought you had to sacrifice performance for price. Think again. The SL-2000 gives you Technics direct-drive performance for only \$149.95.

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

Technics by Panasonic

CIRCLE NO. 57 ON READER SERVICE CARD



Technics
Direct Drive Turntable SL-2000

Technics
by Panasonic

have no reason to doubt this—that the ringing is inherent in the test record rather than the MC20 phono cartridge and visible only because of the MC20's extended high-frequency response.

The measured vertical tracking angle was 20 degrees, as rated. The cartridge output at 3.54 cm/sec was about 5.1 millivolts through the MCA-76, and the two channels matched within 0.4 dB. In our tracking tests, the cartridge was able to play all levels of the Shure TTR-110 record at 2 grams, although there was a hint of mistracking at the highest level of the bass drum. The 60-micron level of the German Hi-Fi Institute test record was barely tracked at 2 grams. With the Shure TTR-103 record, the 10.8-kHz tone-burst distortion of the MC20 was low—1 per cent or less at all velocities up to the 30-cm/sec maximum. The IM test of the Shure TTR-102 showed distortion increasing gradually from about 1.6 per cent at velocities under 15 cm/sec to 4 per cent at 27.1 cm/sec. There was no evidence of the severe mistracking that occurs with some cartridges at the higher levels of this record.

The MCA-76 amplifier had a gain of 34 dB (a voltage gain of 50), with a frequency re-

sponse within ± 0.3 dB from below 10 Hz to well beyond 50,000 Hz. The distortion at 1,000 Hz was less than 0.04 per cent for outputs up to 100 millivolts, and only 0.1 per cent at the maximum rated output of about 300 millivolts. The output clipped at 430 millivolts, corresponding to just over 8 millivolts input. We could not measure the noise level of the MCA-76, since it was below the minimum levels readable on our instruments.

● **Comment.** Having heard for years about the supposed special audible quality of the moving-coil cartridge, and yet having never been convinced of its reality, we looked forward to hearing the Ortofon MC20. An extended listening experience failed to answer our questions completely, in that we never heard anything in the sound of the MC20 that we did not hear, more or less, when playing the same records with other good cartridges. Similarly, a careful study of the measured performance of the MC20 showed that it is good-to-excellent in practically every respect but that it can also be surpassed in each performance category by one or more of the other fine cartridges we have tested recently.

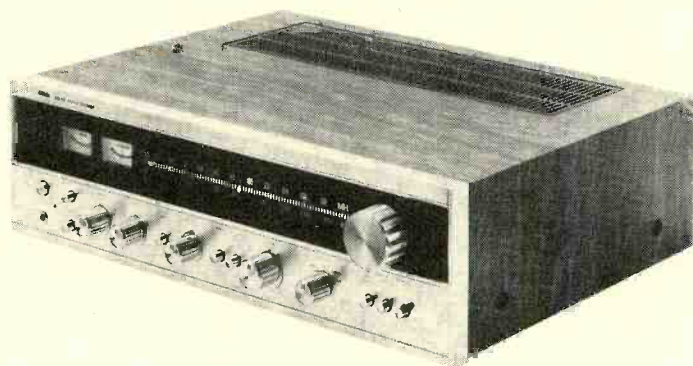
In spite of this, the sound from the MC20 was so devoid of harshness or any identifiable coloration that we eventually came to prefer it to other cartridges whose characteristics were not demonstrably different. The MC20 cartridge has a clarity and sense of definition that set it somewhat apart from most others, although we would not be able to prove this by objective measurements.

The MCA-76 pre-amplifier contributes no noise to the record-playing process. Even at the highest levels we would normally use, lifting the pickup from the record groove resulted in dead silence from the speakers (at volume-control settings much higher than those for listening, some slight hiss could be heard).

The Ortofon MC20 is one of the best as well as one of the most expensive cartridges we have ever used (we include the cost of the MCA-76 in this assessment; the cartridge alone is not unusually expensive). We know of no other cartridge that, in combination with suitable speakers and amplifiers, will produce a greater sense of reality when playing a high-quality recording.

Circle 108 on reader service card

Miida 3140 AM/FM Stereo Receiver



MIIDA Electronics is a subsidiary of Marubeni Corp., a large Japanese manufacturer, and a full line of Miida audio components is now being distributed in this country. Among them is the Model 3140 AM/FM stereo receiver, a medium-power unit with a full complement of features. The 3140 is rated at 40 watts per channel from 20 to 20,000 Hz into 8-ohm loads with no more than 0.5 per cent total harmonic distortion (THD). Its FM tuner section has a phase-locked loop (PLL) multiplex demodulator for a high degree of stereo-channel separation in FM reception.

The external appearance of the Miida 3140 is conventional. The satin-finish aluminum front panel and matching fluted knobs contrast with a full-width "blackout" dial area. The dial scales appear in green when the receiver is turned on, with two blue-lit meters to their left. One reads relative signal strength for AM and FM, and the other is an FM channel-center indicator. The large tuning knob is to the right of the dial area.

The other controls, occupying the bottom of the panel, include a headphone jack and pushbutton switches for power and for energizing the two independent sets of speaker outputs. An electronic protective circuit delays connecting the speakers for a few seconds after the power is first turned on in order to prevent audible transient thumps. It also cuts off the amplifiers instantly in the event of a short circuit or other malfunction that could damage the output transistors or the speakers. A red light next to the power switch glows when this protective circuit is activated.

The bass and treble tone controls have eleven detented positions each, including a center "flat" setting. Pushbuttons turn on the high-cut filter and the loudness compensation and also parallel the two signal channels for mono operation. The balance control has a center detent and the volume control has forty-one detent steps, giving it a slightly "ratchety" feel that we have noticed on other receivers using a similar control. The function switch

selects AM, FM, PHONO, or AUX signal sources. Separate pushbuttons for monitoring from either of two tape decks also permit dubbing from deck 1 to deck 2. A final button turns on the interstation-noise muting.

The signal inputs and outputs in the rear of the receiver are grouped according to function and are clearly marked. Insulated binding posts are used for speaker and antenna connections, and there is a hinged AM ferrite-rod antenna. The TAPE 1 connections are duplicated by a DIN socket, and the single a.c. outlet is switched (it is rated to handle only 50 watts, and should therefore be used only for a low-power device such as an equalizer or turntable). The Miida 3140 is supplied in a wood-grain-vinyl covered cabinet. It measures 19 inches wide, 5½ inches high, and 14 inches deep; it weighs 25 pounds. Suggested retail price: \$349.95.

● **Laboratory Measurements.** The outputs of the Miida 3140, with a 1,000-Hz test signal driving 8-ohm loads, clipped at 54.6 watts per channel. The maximum output into 4 and 16 ohms was 62.4 and 37.2 watts, respectively. Following the FTC-mandated one-hour preconditioning period at one-third of rated power, the ventilation grille over the output transistors was only moderately warm.

Total harmonic distortion (THD) at 1,000 Hz was about 0.01 per cent from 0.1 watt to more than 20 watts output, increasing gradually to 0.019 per cent at 50 watts and 0.08 per cent at 55 watts (just before signal clipping occurred). The intermodulation distortion (IM) was extremely low—about 0.006 per cent for most power outputs up to 50 watts, and only 0.025 per cent at 55 watts. It was higher at

(Continued on page 46)

Some \$5 blank cassettes have the nerve to tinker with Beethoven. We think it's outrageous.

Beethoven, even when he was deaf, knew exactly how a piccolo sounded in relation to the rest of the orchestra. Some cassette manufacturers would just as soon forget. Their cassettes give the piccolo and other high frequency sounds a distorted prominence. They appear to do this deliberately, regarding absolutely natural sound as raw material to be improved upon.

At BASF, we think this is an abomination. We're purists; we stake everything on total accuracy of sound reproduction. You will never encounter artificially enhanced high frequencies in our cassettes. We believe that if you care enough to buy an expensive audio system, the last thing you need is a cassette that imposes its own dubious tastes upon your sensitive ears.

Faithful reproduction entails more than miracle ingredients and fanciful initials on a cassette label. At BASF, we begin with the best quality ferric oxide. We mill it by a patented process to

achieve maximum packing density and uniformity of coating. We use an exclusive chemically cross-linked polymer binding which will never deteriorate and cause head-related frictional noise or wow and flutter.

We use a unique multi-stage polishing process, and our slitting technique results in an edge that's clean even when viewed under a microscope. Even our cassette case is different, incorporating our patented Special Mechanism, designed to assure smooth tape feed for years of dependable performance.

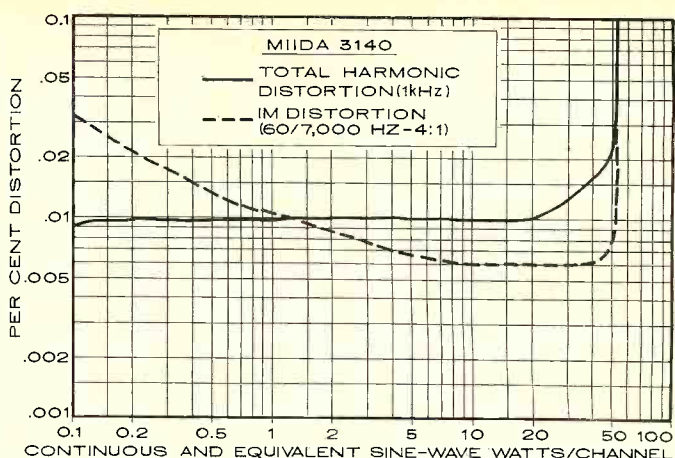
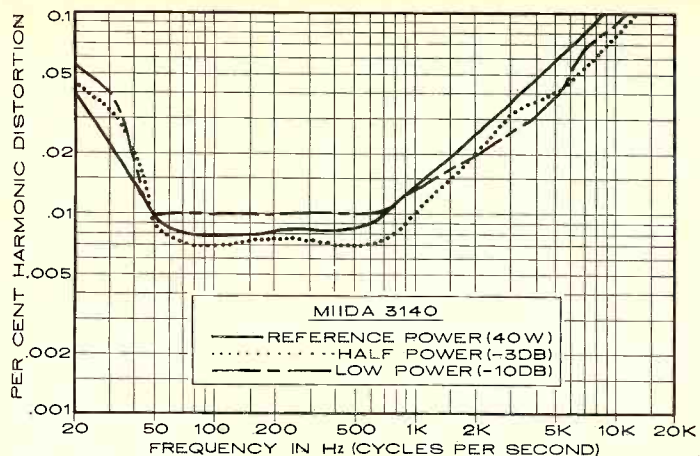
Is completely natural sound worth that kind of effort? To people who know the difference, it is.

At BASF, we're purists. We've been obsessed with total accuracy since we invented magnetic tape back in 1932. There are no shortcuts to perfection. But you knew that when you planned your own audio system. We'll give you no reason to compromise when you buy our cassettes.



 **BASF The Purist**

Our Promise: the purest, most accurate sound that tape can reproduce.



very low power levels, reaching 0.18 per cent at 4 milliwatts output.

Over the full audio-frequency range, the distortion of the Miida 3140 amplifier section varied only slightly from full rated power down to one-tenth rated power. Starting from about 0.05 per cent at 20 Hz, it fell to 0.01 per cent or less at 50 Hz and remained there until the frequency reached approximately 1,000 Hz. The THD then increased linearly with frequency to a maximum of about 0.2 per cent at 20,000 Hz.

An input of 96 millivolts (mV) at the auxiliary inputs or 1 mV at the phono inputs was needed to develop a reference output of 10 watts. The unweighted noise level was a very low 83 dB below 10 watts through the auxiliary input and -75 dB through the phono input. Phono overload occurred at a safe 110-mV input.

The bass tone-control characteristic had a sliding turnover frequency, shifting from about 150 Hz to about 500 Hz as the control was moved toward its extremes. The treble response curve was hinged at about 3,000 Hz. The loudness compensation boosted both low and high frequencies moderately as the volume control was turned down. The high filter had a gradual 6-dB-per-octave slope, with its response 3 dB down at 7,000 Hz. The RIAA phono-response curve, when extended beyond the defined limits of 50 to 15,000 Hz, was flat within +1, -0.5 dB from 20 to 20,000 Hz. Phono-cartridge inductance did not vary the response by more than 0.5 dB.

The FM-tuner section of the Miida 3140 had an IHF sensitivity of 11 dBf (2 microvolts, or μV) in mono and 31 dBf (20 μV) in stereo. The latter signal level was the stereo switching threshold as well as the muting threshold (an unnecessarily high setting in view of the receiver's very good noise and distortion characteristics). The 50-dB quieting sensitivity was 14.1 dBf (2.8 μV) in mono with 1.6 per cent THD. In stereo, it was 36 dBf (35 μV) with 0.43 per cent THD. The signal-to-noise ratio (S/N) at a 65-dBf (1,000 μV) input was 70.5 dB in mono and 68 dB in stereo, with distortion measuring only 0.12 per cent in both modes. Stereo distortion with L-R modulation was 0.32 per cent at 100 Hz, 0.11 per cent at 1,000 Hz, and 0.25 per cent at 6,000 Hz.

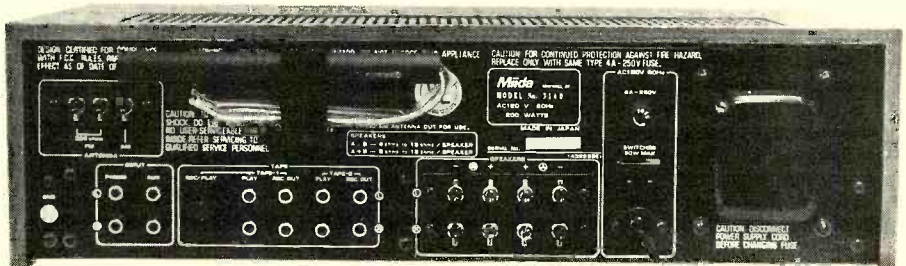
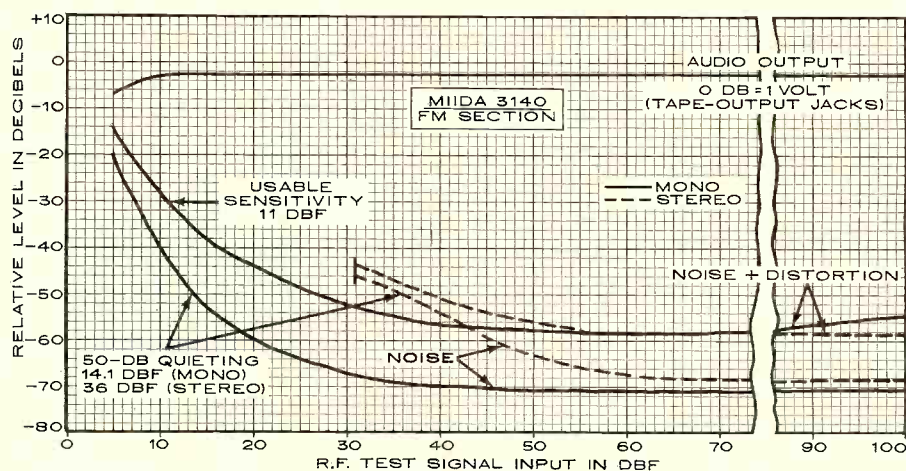
The other tuner-performance characteristics ranged from fair to good, in contrast to the very good sensitivity and distortion measurements. With a 65-dBf input, the capture ratio was 1.75 dB, with a very good 75-dB AM rejection. At a 45-dBf (100- μV) input, the capture ratio improved slightly to 1.5 dB, but the AM rejection was only 55 dB (an acceptable value but nowhere near as good as at higher signal-input levels).

The image rejection was 52 dB. Alternate-channel selectivity was only fair at 47 dB, and adjacent-channel selectivity was a minimal 1.4 dB. The power-line hum in the tuner's output was a very low -72 dB, but the 19-kHz pilot carrier leakage was a relatively high -38 dB.

The stereo FM frequency response was within ± 1 dB from 30 to 15,000 Hz. Interchannel crosstalk was very uniform as well as low, with a channel separation of about 35 dB over most of the audio range. It varied from 38.5

dB at 30 Hz to 28 dB at 15,000 Hz. The FM signal-strength meter had a good logarithmic characteristic over its usable range, with the reading going from 1 to 5 (maximum) as the signal level increased from 12 to 1,300 μV (27 to 68 dBf). The meter circuit saturated at the latter input, and there was no further change as the signal strength increased. The AM tuner's frequency response was down 6 dB at 90 and 2,600 Hz.

● **Comment.** The audio section of the Miida 3140 is clearly its outstanding feature, with distortion so low under most conditions that it can be measured only with the finest laboratory instruments. The same level of excellence was apparent in other audio parameters, such as the accurate phono equalization, unaffected by cartridge inductance, and the exceptionally low noise and hum levels. By current standards, a 40-watt-per-channel rating is
(Continued on page 48)



The Miida's rear panel has conventional phono jacks for inputs and tape-monitor connections, screw terminals for speakers.

**“The Ohm F
may well be the
finest speaker
on the market
and is certainly
without a doubt
among the
top few.”**

Reprinted from the 1977 edition of THE
COMPLETE BUYER'S GUIDE TO STEREO/HI-FI
EQUIPMENT.

If you'd like to find out what hi-fi experts from all
around the world have to say about the patented
Ohm F coherent sound loudspeaker, please visit
your Ohm dealer or write to us at the address
below. An informative full-line brochure that
explains how the Ohm F works is also available.



Ohm Acoustics Corp.

241 Taaffe Place, Brooklyn, N.Y. 11205

Ohm Canada Ltd.

9 Oriole Crescent, Toronto, Ontario M5P 1L6



If your cartridge is more than three years old, don't replace your stylus!

Don't get us wrong. There is nothing worse than playing your records with a worn stylus. And no better way to restore your old unit to its original glory than a new diamond.

But frankly, there have been significant strides made recently in the phono cartridge field. And the new cartridges of today stand head and shoulders above even the finest of a few short years ago.

Here's the choice: Get fresh—but outdated—performance with a replacement stylus, or enjoy all the benefits of modern cartridge research and development for just a few dollars more. You'll find that you can update your system for far less than you might imagine. It's probably the most dramatic single improvement you can make.

For instance, Audio-Technica offers Universal™ cartridges equipped with a genuine Shibata stylus and our uniquely effective Dual Magnet™ system beginning at just \$75.00 list. Or you can replace your present cartridge with a fresh new Audio-Technica cartridge with highly-polished elliptical tip for as little as \$45.00 list.



AT11E	AT12Sa	AT13Ea	AT15Sa
\$45.00	\$75.00	\$65.00	\$125.00

Are these new models worth the difference? Absolutely. You'll be amazed at what you hear from today's generation of phono cartridges. Improved frequency response. Lower distortion. Better separation. Less record wear. Truly better sound.

A new Audio-Technica cartridge.
Your best value in hi-fi.

 **audio-technica**
© INNOVATION • PRECISION • INTEGRITY

AUDIO-TECHNICA U.S., INC., Dept. 777, 33 Sawawassez Avenue, Fairlawn, Ohio 44133

Miida 3140 AM/FM Stereo Receiver

(Continued from page 46)

rather modest, but the Miida 3140 is rated so conservatively that a maximum output of 50 watts or more should be realizable at any audible frequency.

The FM tuner section, though probably adequate for the majority of users, is not up to the performance standards set by the audio section. The key FM parameters of sensitivity, distortion, stereo separation, and S/N are first-rate. However, the selectivity and image rejection of the tuner are no better than fair. Although we did not experience any problems in use with insufficient selectivity or spurious responses, they could arise in some locations. Also, the considerable 19-kHz pilot-carrier leakage could conceivably cause "birdies" with some tape decks when recording stereo FM broadcasts.

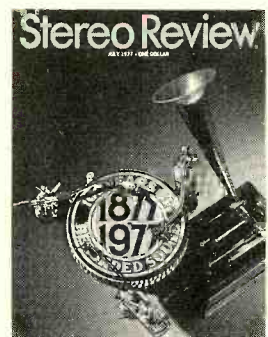
The tactile qualities of the Miida 3140—the "feel" of its controls—were very good. Even such a simple design feature as prominently visible index marks on the knobs sets this receiver apart from most others. One can see at a glance where the controls are set.

The smoothly operating FM muting system makes tuning the 3140 a quiet and uncritical process. There are no noise bursts when tuning on or off a signal, and when the tuning meter is centered the receiver is tuned as accurately as it has to be for low noise and distortion. Unfortunately, the FM dial is calibrated only at 2-MHz intervals, with intermediate markings that appear to have no relationship to the calibration numbers. As a result, considerable guesswork would be needed in a crowded metropolitan area to identify a particular station from the dial reading.

All things considered, the Miida 3140 is an attractive, well made, and competent receiver. Except for use in certain difficult FM receiving areas, it can easily hold its own in comparison with other, more widely known receivers in the same price class.

Circle 109 on reader service card

THIS MONTH'S COVER



The Micro Seiki DDX 1000 turntable, able to accept up to three tone arms, is shown with a Micro Seiki arm plus arms from Shure/SME and Infinity. The early Edison cylinder phonograph (courtesy Rita Ford, Inc.) has a conical playback horn and a clockwork motor.

QUANTA



BRAINS AS WELL AS BEAUTY.

AFTER YEARS OF THINKING, DESIGNING AND TESTING, BSR PRESENTS TWO BRAND NEW IDEAS. TURNTABLES THAT COMBINE THE LATEST TECHNOLOGICAL ADVANCES WITH SPACE-AGE STYLING. QUANTA.

AS WELL AS THE RELIABILITY AND CONVENIENCE YOU'VE COME TO EXPECT FROM EVERY BSR PRODUCT, THE QUANTA 550 TURNTABLE INCORPORATES FUNCTIONS THAT REQUIRE NOTHING MORE THAN THE TOUCH OF YOUR HAND AND OF COURSE THE RECORDS YOU WANT TO HEAR. FUNCTIONS LIKE SMOOTH, QUIET BELT DRIVE, A PRESSED ALUMINUM PLATTER WITH STROBE LIGHT MARKINGS THAT ASSURE YOU OF

ACCURATE RECORD SPEEDS, AN AUTOGLIDE™ UMBRELLA SPINDLE, A 24 POLE MOTOR WITH ELECTRONIC OSCILLATOR SPEED CONTROL, A BI-DIRECTIONAL VISCOUS CUEING, AN ADC INDUCED MAGNET CARTRIDGE, AN 'S' SHAPED TONEARM, DUST COVER, BASE AND MORE.

QUANTA TURNTABLES ARE MORE THAN JUST EASY ON YOUR EARS. THEY ARE FUNCTIONALLY DESIGNED TO PLEASE YOUR EYES, TOO.

QUANTA BY BSR.
BRAINS AS WELL AS BEAUTY.

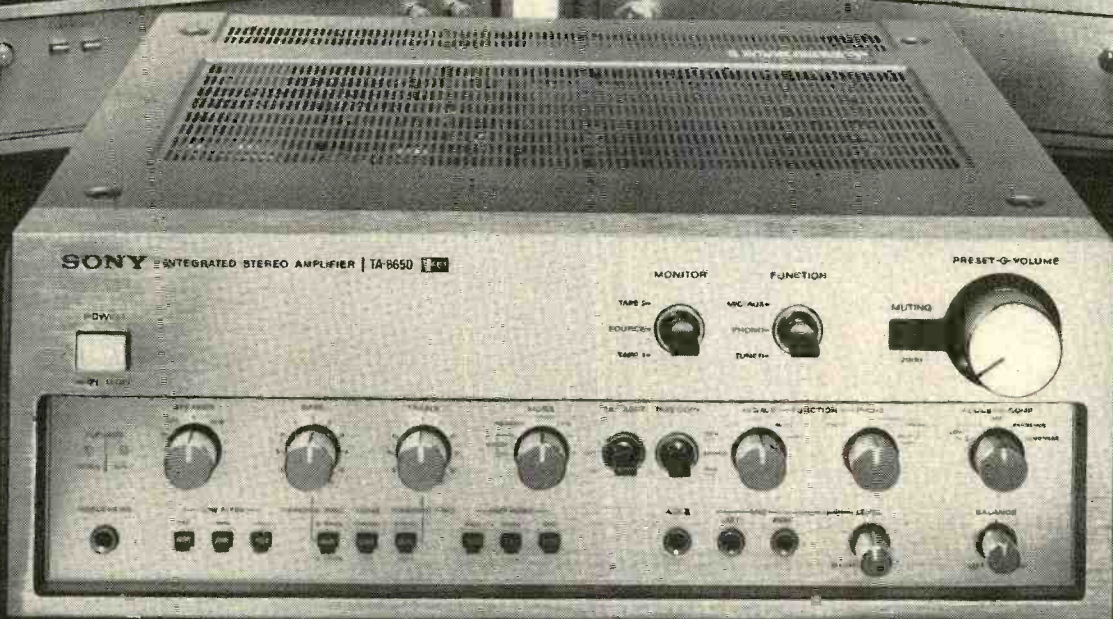
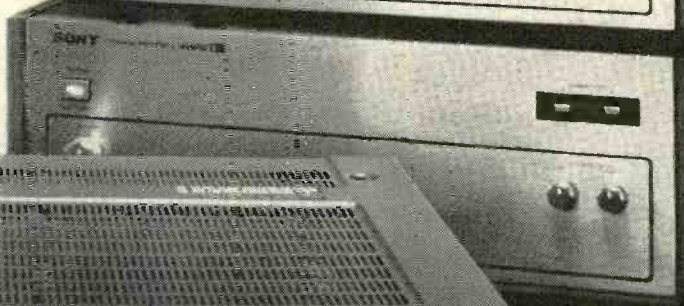
**WHERE YOU CAN HEAR
THE FUTURE TODAY**

BSR

BSR CONSUMER
PRODUCTS GROUP
RT. 303, BLAUVELT, NY 10913

CIRCLE NO. 7 ON READER SERVICE CARD

V-Fets are the new generation of transistors.



And you know how hard it is to understand the new generation.

Remember the phrase "generation gap"? Well it's not only true for generations of men, but generations of machines, too.

V-Fet devices are a major advancement, needing major explanation. And nobody is more equipped to offer it, than Sony.

Sony pioneered the first generation of transistors, some 25 years ago.

Today, Sony is predictably innovative again, being: the first to offer V-Fet equipment commercially. And the only ones to bedazzle you with a whole line of it.

So with these credentials behind us, we will begin our explanation of the new generation.

First came the Fets.

The new generation really began many generations ago. Fets—or field effect transistors—were first conceived in the 1920's. But the concept was so far ahead of its time that nobody quite knew how to execute it.

Fet's work quite differently than the bipolar transistor; the transistor you're familiar with. The bipolar transistor works by conducting a small amount of current, which then induces a high level of current. With the Fet a small amount of voltage (rather than current) controls the high level of current.

This bestows a Fet with high speed reaction time. Regular transistors have a delay in reaction time, creating problems like notch distortion and TIM (transient intermodulation) distortion.

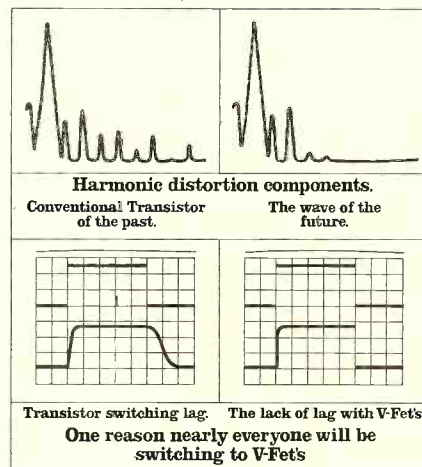
This high speed reaction means also that Fets are extremely efficient and accurate in the high frequency range. Therefore they allow more precise and stable nega-

tive feedback, and minimal distortion.

And, to heat up the argument, a Fet will never be afflicted by thermal runaway. High temperature does not induce the self-destructive current surge that you'll find in the regular transistor.

V-Fets. Or, bye, bye, bipolar.

Wondering why Fets have not taken over, with the transistor



becoming a part of history?

Well, for one reason, a Fet will not allow high currents to pass through it. And today's loud-speakers demand high currents to drive them.

Enter the V-Fet. Vertical field effect transistor. In this structure, thousands of Fets are ordered in a parallel orientation. The current passes through the silicone chips vertically.

Thus, the ability of the V-Fet to handle a lot of current is many times greater than that of small signal Fets—like the kind found in FM tuners and pre-amps.

Sony made it possible for this complex network to be mass produced, by devising the "Selec-

tive Oxidation Process." A new technology originally developed for manufacturing large scale integrated circuits.

Sony's V-Fets. A full line, from A to V.

Sony makes both integrated amps and power amps with V-Fet circuitry. The TA-4650, TA-5650, TA-8650, TAN-5550 and TAN-8550.

But if you rest your purchase decision on specs alone, V-Fets will disappoint you.

For example, Sony makes two amps, one V-Fet, one not, with identical specs. Yet the V-Fet amp costs more than a spec more.

Obviously, the true measure of V-Fets can't be measured by anything except the human ear.

Now that you've listened to us, really listen to us.

So go ahead and measure it! Bring your favorite record to your V-Fet dealer. Ask him to play it. You'll find your favorite record will become even more of a favorite, as the sound opens up to you like never before.

And, if you want to open up a brochure on V-Fets, we'll send you one. Write to SONY, 9 West 57th Street, New York, New York 10019.

We have one note to add. V-Fet equipment is not cheap. So if you've appreciated our explanation, you'll find that a little knowledge can be an expensive thing.

SONY® V-FETS

Tape Talk

By Craig Stark



Coercivity and Quality

Q. *Exactly what is "coercivity"? It seems that a high-coercivity tape is better than one with low coercivity, but I don't know why. Why should one tape be better than another because it's harder to magnetize?*

PETER WENTWORTH
New Canaan, Conn.

A. Contrary to your assumption, coercivity is not the force needed to magnetize a tape. Just the opposite, in fact. Coercivity represents the force required to demagnetize a tape once it has been fully magnetized. Its importance in tape comes about because at short wavelengths (high frequencies at slow tape speeds) oxide particles tend to become demagnetized in the very process of recording with them. Since high coercivity implies a high degree of resistance to this self-demagnetizing process, more of the highs stay on the tape. This is the factor that gives some of the "high-bias" cassette tapes an advantage on the treble end of the audio spectrum.

Cassette Compatibility: A Quick Check

Q. *Is there some way I can tell quickly which cassettes are best to use with my recorder? The manufacturer doesn't say which ones it was adjusted for, and I have no test equipment.*

LAWRENCE MARTIN
San Diego, Calif.

A. Interstation FM "hiss" is probably your best bet. Record about a minute's worth at a very low recording level (-10 dB or a bit less) on several cassettes and leave the FM tuner on. Now, when you play these test sections back, switching between "source" and "tape" with your amplifier or receiver, you can make a pretty direct "A-B" comparison. (You'll have to raise the playback level of the cassettes so the two sounds seem to be equally loud.) If the cassette sounds dull, your machine was probably adjusted for a tape with a "hotter" high end. If there is more apparent high-frequency content in the recorded material than on the "live" FM source, the opposite is probably true.

In using this quick check it is important that your recordings of FM noise be made at a lower-than-normal level, since there is much more high-frequency energy in the interstation hiss than in ordinary music, and you could drive the tape into treble saturation with anything close to a 0-dB record level. You will probably be able to detect a slight loss at the extreme high end with almost all cassettes, but with a good one and a good machine adjusted for it this should be very minor.

Splicing Cassettes

Q. *I am seriously considering splice editing my cassette tapes to desired recording times. I would like your opinion as to the possibility of obtaining sturdy and long-lasting splices. How do tape manufacturers splice the leader onto their tapes?*

J. ROGERS
Springfield, Ill.

A. Splicing cassette tapes is no fun, and no matter how careful you are, there is some possibility that a splice will become sticky in time. Spliced-up professional master tapes are normally stored in a "played" condition partly because high-speed rewinding immediately before playing will break loose any sticky spots that may have developed during storage.

You'll need a splicing jig that holds the tape ends in perfect alignment and has a cutting slot in it, and if the jig doesn't have a built-in cutter you'll need a package of single-edge razor blades. You'll find a variety of cassette-width tape splicers at most audio dealers. You should demagnetize the razor blade in the same manner as you would a tape head, for a magnetized blade will cause a "pop" to occur at each splice. Most important, you must be careful to use splicing tape (sold by audio dealers either in rolls or in convenient precut lengths). Never use ordinary pressure-sensitive cellophane tape for splicing, as its adhesive is sure to bleed out from the edges of the splice and cause sticking later on. So long as you stay with a "name brand" splicing tape you're likely to be using the same product manufacturers (and recording studios) use.

The splicing tape will be slightly narrower than the cassette tape itself, and must be carefully aligned so it doesn't have an exposed

corner. Manufacturers with automated machinery have the advantage here. I use tweezers to lay the splicing tape on, so that oil from my fingers won't foul the adhesive. When it is in place, press it down with a rubber pencil eraser to work out the air bubbles.

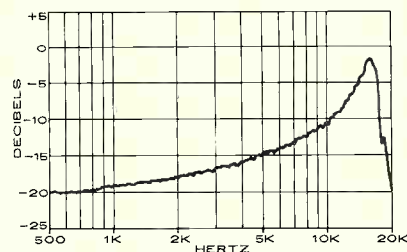
And remember: the splice always goes on the backing, not the oxide side of the tape; unlike the case with open reel, the cassette's oxide side faces outward, away from the hubs.

CrO₂ for Cars

Q. *Many automobile stereo cassette players have no selector switch for chromium-dioxide tapes. I record CrO₂ cassettes on my home deck and want to play them on my car unit. Should I record them with the regular ferric-oxide position at home, since that's how they will be played back in the car?*

VOYLE R. DAWSON
Naderville, Ill.

A. A CrO₂ tape, properly recorded but played back in "ferric" mode, will have about 4 to 5 dB too much treble response. And if you record and play back a chromium-dioxide (or equivalent) cassette



with your machine set for ferric oxide, the distortion will be boosted along with the higher frequencies. (The accompanying graph shows what the response would look like.) However, there's no harm in trying a couple of properly recorded CrO₂ tapes in your car to see how they sound. The extra high-end boost may compensate for the treble losses in your player and speakers.

Hiss and Track Width

Q. *I've been told that the reason so many of the new open-reel decks are half-track instead of quarter-track stereo is because you get a better signal-to-noise ratio by using wider tracks. I don't see why. Won't you also pick up twice as much hiss as well as twice as much signal, leaving you just where you were before?*

LARS JOHNSON
Fargo, N.D.

A. Doubling either the track width or the tape speed doubles the signal voltage (6-dB increase) that can be developed in the playback head. Noise, however, is made up of (nearly) random frequencies whose voltages add together on a "root-mean-square" (rms) basis where doubling produces only a 3-dB increase. The 3-dB difference between the two figures represents the net potential gain obtainable by using either twice the track width or twice the speed. Half-track operation also has the advantages of less crosstalk and greater freedom from dropouts, particularly those dropouts that result from edge damage (and show up on the left channel of a quarter-track machine).

The Dolby System in FM Broadcasting – April 1977



In June 1973 Dolby Laboratories proposed an improvement in FM broadcasting which would overcome high-frequency overmodulation problems and at the same time reduce receiver noise. The technique combines a reduction in the pre-emphasis time constant to 25 microseconds and the use of the Dolby B-Type noise reduction system. In May 1974 the new method was approved by the Federal Communications Commission for optional use in the U.S.A. A number of other countries either have approved the system or are considering it.

Transmitters

Since 1974, 160 FM stations in the U.S.A., in addition to 25 in other countries, have purchased the Dolby Model 334 FM broadcast encoder unit.



Receivers

Concurrently, Dolby consumer product licensees have been preparing tuner and receiver models incorporating Dolby FM decoder circuits. At the present time there are 51 different models of such receivers from 22 manufacturers. About 300,000 units are in use, increasing by some 30,000 units per month.

Listening Advantages Gained

1. High-level high-frequency signal recoverability.
2. Noise reduction.

The Dolby FM process works at both extremes of the dynamic range. The maximum permissible level of high frequency signals is

increased, while low level noise is reduced. The 10 dB action of the Dolby B system is split in an optimum way between these two equally important areas of operation. The net result is an FM system which can pass signals from transmitter input to receiver output with high integrity.

Information Available

To find out more about this new development, please write to us for further details.

A NOTE ON DOLBY LABORATORIES

Founded in 1965, Dolby Laboratories specializes in complementary noise reduction methods and systems. In London the company manufactures equipment for professional use by recording studios, broadcasters, and the motion picture industry. In the consumer field, Dolby Laboratories functions purely as an R & D and licensing organization, based in San Francisco, California. Licensing is handled by a subsidiary, Dolby Laboratories Licensing Corporation, which has world-wide non-exclusive agreements with about 60 manufacturers for the incorporation of the Dolby B-Type noise reduction system into consumer audio products. A uniform royalty rate is applied on a sliding scale based on circuit quantities; the average royalty paid is about \$0.21 per circuit (two circuits for stereo). All Dolby circuits are manufactured to meet standardized performance requirements for universal interchangeability of hardware and software: 20 million such circuits have been made since 1968. Software products (duplicated tapes and FM broadcasts) are produced on a royalty-free basis.



Dolby Laboratories

'Dolby' and the double-D symbol are trademarks of Dolby Laboratories

731 Sansome Street
San Francisco CA 94111
Telephone (415) 392-0300
Telex 34409
Cable Dolbylabs

346 Clapham Road
London SW9
Telephone 01-720 1111
Telex 919109
Cable Dolbylabs London

The Pop Beat

By Paulette
Weiss

Pop singer Sammy Hagar
backstage at New
York's Other End with
our Pop Music Editor.
(Photo by Wendie Lombardi)



LET'S HEAR IT FOR THE LITTLE GUYS

MOVIES about the underdog, the little guy struggling against enormous odds merely to survive on his own terms or, if he's lucky, to make it really big, have always appealed to me. They reflect a typically American vision, and the tenacity of that vision in the face of current hard times is exemplified in the runaway success of *Rocky*, a film about an endearing fictional underdog written by and starring a real-life one.

Distressing as it may at first seem to those who are bothered by it, the punk-rock phenomenon is a true spinoff of this American Dream scenario. "Punk" is an unfortunate sobriquet for the vital wave of music swelling up from our urban centers. The term conjures up nasty images of leather-clad hoods bent on mayhem, and it sets up an automatic barrier against wide audience appeal. In labeling an entire underground rock movement on the basis of a colorful, vociferous minority within it, the press has self-servingly created splashy copy at the expense of one of the most exciting developments of the musically confused Seventies.

So forget the descriptive epithets: "punk" is flashy but ultimately meaningless; "progressive" smacks of dedicated intellectual experimentation, which is not the case here; and "underground" tells *where* it can be found but not *what it is*. What it is is a quasi grass-roots movement to revitalize rock, with those roots planted firmly in the cracked pavement of our city streets. It is a deliberate rejection of the commercialization that has sapped rock's energy in order to create a sophisticated and highly profitable pop product, and it is also a reaction to the increasing difficulty unknown performers have in reaching an audience.

Well, the little guys have squared their skinny shoulders and taken an admirable step onto the sidewalk to deal with the situation. Besides creating their own local followings through regular appearances in the often grubby clubs that have sprung up across the country to accommodate them, they have reached into their ragged, lint-lined pockets and shelled out hard-earned cash to press and distribute their own records (mostly singles and EP's) which are selling in increasingly impressive quantities. This takes guts, heart, and initiative, and I'm up and cheering.

What at first seemed a fluke of the New York City scene, a movement destined to live

and die there, unlamented by all but patrons of such underground clubs as CBGB, Max's Kansas City, Club 82, and others, has since spread to cities all over this continent and beyond. Poring over the pages of *Bomp*, the most professional and informative of the underground rock magazines, one finds reviews of (and ads for) numerous independently released and/or distributed discs from such scattered points as San Francisco, Chapel Hill, Providence, Lincoln, and Akron. Published in Burbank, California, by dedicated rockaphile Greg Shaw (and available on most major-city newsstands or by subscription), *Bomp* also contains generous lists of fanzines for rock aficionados interested in extended coverage of the whole music scene. Many of these 'zines, as fandom calls them, started as record collectors' auction lists. They range from professional glossy-cover books dealing with several aspects of rock (including the underground) to rough collections of mimeographed sheets stapled together. Their numbers and widespread cities of origin (Ann Arbor, Baton Rouge, Bloomington) are further evidence of the vigor and appeal of this rock revival.

The music these publications deal with is often aggressively *regressive*, harking back to the early Sixties in an attempt to reawaken the energy and freshness of rock's earlier years. When successful, it's the most exhilarating

sound in town; when it fails (and it often does), it is infantile and boring. At its best, it has an honest vigor and a love of yesteryear expressed in up-to-date musicianship and a Seventies point of view. It is enough, in short, to set big-company record execs to handing out contracts in triplicate whenever they get to hear it.

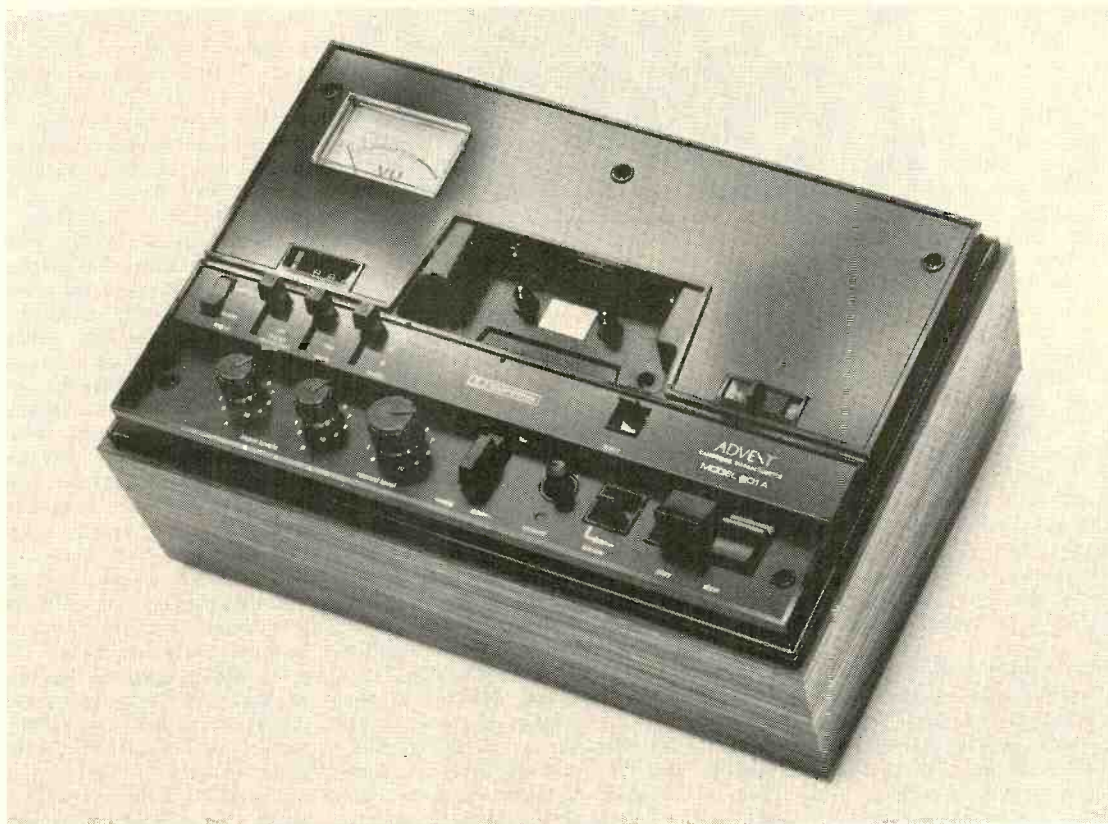
Thanks to the club showcases and private-label discs, that's what has been happening: undergrounders like Blondie and Mink DeVille have achieved the prerequisite of commercial success, the pressing of an LP with a major label. Hilly Kristal, the owner of CBGB, and the man responsible for the album that disseminated the New York underground sound to the nation ("Live at CBGB's," Atlantic SD2-508), has become a kind of new rock-impresario/saint as a result of issuing and distributing singles on his OMFUG label. In Boston, Jim Harold has been elevated to a similar position with his release of "Live at the Rat" (Rat 528), a two-disc sampler of Boston groups recorded at his club, the Rathskeller. The album is as yet available only directly from his Rat Records (528 Commonwealth Ave., Boston, Mass. 02215, \$8.98 plus 75¢ postage and handling), but its distribution by a major company seems imminent.

Although the Boston groups thus vinylized offer less variety of style and fewer polished performances than the CBGB crew, "Live at the Rat" is in no way a Mickey Mouse production. There is an emphasis on early Sixties r-&-b, some heavy metal, and lots of Mick Jaggeresque vocals. Of the nineteen performances by ten Beantown underground heavies, a handful are absolute gems. Willie "Loco" Alexander and His Boom Boom Band simply run off with the album. Their *Pup Tune* is a funny, affectionate poke at rock that includes demented "ooo-oooh"s, fey "la-la"s, bird trills and ululations à la Trini Lopez, plus the title line of the Ronettes 1963 single *Baby I Love You*, which gets strangled into vocal oblivion with each repetition. Susan, a four-man (!) group, contributes *Right Away*, the only studio recording included; it is a gentle ballad highlighted by a shimmering guitar intro reminiscent of the Beatles' "Abbey Road." Marc Thor's *Circling L.A.* has an offbeat charm, and the Infliktors are fine musicians whose *Da Da Dali* brings back the ghosts of the Doors. The remaining bands—Third Rail, Thundertrain, the Boize, Sass, the Real Kids, and DMZ—vary from boffo to stinko. This is a must-have album for anyone with an interest in the *new rock*.



Willie "Loco" Alexander and his Boom Boom Band: the Beantown stranglers attack the Ronettes with humor and affection

There Are Bigger, Chromier, Knobbier, More Expensive Cassette Machines Than The Advent 201A. But...



If you are going to buy a high-performance cassette deck, you ought to know that no cassette machine will make more satisfying recordings (and keep on making them for year after year) than the Advent 201A.

The Advent 201A is a new version of the machine that made cassettes the high-fidelity medium they are today.

It is a uniquely simple, precise, and durable piece of recording machinery that will make cassette tapes that sound essentially identical to the best material you will find to put on them—with an ease (and repeatability) that is approached by very few cassette decks at any price and surpassed by none.

The 201A is designed to be *used*, not worshipped. Its unique single VU meter (which continuously scans both stereo channels and reads out the louder at any given moment) and its precise recording controls make it the same kind of day-after-day joy to operate as a fine camera.

If you will send us the coupon, we will be

happy to send full information on the Advent 201A (including a description of the new features, such as the Sendust tape head, that distinguish it from the original 201).

In the meantime, we suggest that before you buy *any* tape machine, cassette or open reel, you give the 201A the performance test it deserves. And check with anyone who owns an Advent on the kind of satisfaction it gives year after year.

Thank you.

TO: Advent Corporation, 195 Albany Street, Cambridge, Massachusetts 02139.

Please send information on the Advent 201A, including a list of your dealers.

Name _____

Address _____

City _____

State _____ Zip _____

Advent Corporation, 195 Albany Street, Cambridge, Massachusetts 02139.

Going on Record

By James Goodfriend



DA CAPO

IN March of this year, Britain's *New Scientist* published a brief article, by Denys Parsons, whose stated conclusion was as follows: "Composers tend to place the nine pitch profiles which characterise the first three notes of musical themes in this order of preference: * UP UP, * UP DOWN, * DOWN UP, * DOWN DOWN, * REPEAT REPEAT, * REPEAT UP, * UP REPEAT, * REPEAT DOWN, * DOWN REPEAT. Anybody who has the patience to do a recount will come to the same surprising conclusion. What will the musicologists make of it?"

I am not a musicologist, so the gauntlet, so to speak, was not thrown down for me. But what I make of it is that someone has found a new way of jumping to confusions (and I wouldn't be a bit surprised if there were a computer behind it somewhere). In case the above quotation is not absolutely clear and self-sufficient, let me explain that Mr. Parsons is the author of *Directory of Tunes and Musical Themes*, a book designed to identify for us all those melodies that run through our heads and whose origins we cannot recall. The melodies he wants us to do a recount of are listed according to what he calls "pitch profile" (more accurately, interval-direction profile), which is constructed on the basis that once you have a starting note (the asterisk), the second note can only be up, down, or sideways from it, and the third can have the same possible relationships to the second, and so on. For example, this gives us * UP DOWN DOWN UP UP UP DOWN DOWN DOWN (OR *UDDUUDDD) as a representation of the opening theme of Beethoven's *Eroica*, though it may be a half-dozen other things as well, since no particular pitches or intervals are signified, only directions.

As a sideline of this worthy task (though one should bear in mind that if Beethoven had had access to the book he might never have written the *Eroica*, since Mozart had already written that theme), Mr. Parsons began compiling statistics. He limited his counting to the first three pitches of each theme, and found, for example, that 21.5 per cent of 7,387 themes of thirty major composers began with the profile *UU, while only 2.6 per cent began with *DR. He found also that another 3,005 themes from 270 other composers followed the same distribution (26.0 to 2.4 per cent) and that 3,763 selected popular songs did the same

(27.3 to 2.5 per cent). On the basis of such figures he came to the conclusion quoted at the beginning of this column.

Now, quite apart from the fact that his list of selected "popular" songs includes such items as *The Wombles of Wimbledon* and *Amo, Amas, I Love a Lass* (chorus: "Rorum, corum . . ."), as well as the *Hare Krishna Mantra*, there are certain basic problems here, the primary one perhaps being that of trying to establish anything more than a telephone exchange on the basis of three notes.

The theme of Beethoven's *Ode to Joy*, for example, would be represented by *RU-URDDDDRUURDR, but the recent pop adaptation of it, *A Song of Joy*, is correctly listed by Mr. Parsons as *UURDDDDRU-URDR. Now these are obviously the same melody, though the first three notes read *RU and *UU respectively, so what is wrong? What is wrong is that the pop adapter, a certain Señor de los Ríos, decided to leave out Beethoven's first repeated note, and so, though the melodies are the same, the "pitch profiles" are different—*UU, as you may remember, finished in first place in the thematic sweepstakes, whereas *RU ran a bad sixth. Has someone fixed the race?

What Mr. Parsons' little study tells us is not that there are similarities among themes of different composers—we knew that all along—but rather that it is not as simple as it



might seem to represent and document those similarities. The pattern *RU also represents *Yankee Doodle*, *Taps*, a theme from Holst's *St. Paul Suite*; one from Schubert's *Great C Major Symphony*, and Brahms' *Intermezzo in A Minor*, Op. 116, No. 2, among other things, and if any of those come closer to Beethoven's *Ode* than the pop rip-off does, I will eat my piano.

Or, take the case of the maligned *DR, the last choice, so the study has it, of composers beginning a theme. Shall we assume, then, that the opening themes of Mozart's G Minor Symphony, Wagner's *Meistersinger*, Bruckner's Third, Fourth, and Ninth Symphonies, and Chopin's A-flat Polonaise (not to mention the first piano theme in Brahms' First Piano Concerto and the opening themes of the first, second, and fourth movements of the Beethoven Ninth Symphony) are all, in some inexplicable way, "last-choice" material?

"Pitch profiles" are fine and useful things in thematic indices, but to expect such note-by-note renderings to tell us anything important about the way composers compose is naïve at best. The fact is that in any given theme all the notes are *not* equally important, and a *real* profile of the theme would have to take that into account. Certain notes outline harmonic structure, and, from a harmonic point of view, at least, they are the more important. On the other hand, it is often a small quirkiness of construction that gives a theme its real character, and the notes that express that departure from the expected must be reckoned as the important notes melodically. The dramatic emphasis of Beethoven's *Ode to Joy* theme, to take an extreme example, lies in that note tied across the bar, specifically in its *not* sounding again on the first beat of the measure where one expects it. It is, in effect, the *absence* of that note, rather than the presence of one, that gives the theme its memorable character.

And what of grace notes and other ornaments? Anyone who has heard a theme of, say, Rameau shorn of its ornamentation is aware that though harmonically those small additions signify little (and probably would not even make it into a "pitch profile"), melodically they *are* the very character of the theme. Then again, if one took the opening theme of Brahms' Fourth Symphony and made every half-note into two quarter-notes (thus adding at least eight notes to the melody), would that really change things very much? Or suppose one made the repeated eighth-notes in the first of Borodin's *Polovetsian Dances* into a single quarter-note. Would that destroy anything? You can pose any similar question. The answer is most often "yes and no." But that's why I love music so much: it isn't chaotic, but it is so wonderfully unsystematic that it defeats every cocksure effort to pin it down in diagrams.

STILL (to return to Mr. Parsons' thesis), the niggling thought remains that all those statistics must signify *something*. How about this: The hierarchy of pitch profiles given expresses the order of preference of the listening public in the way *they* like themes to begin. After all, Mr. Parsons selected, quite naturally, those themes, works, and composers that are well known rather than obscure. It's possible. And that might explain why Señor de los Ríos changed Beethoven around. To begin with *RU might be all right for a symphony, but he knew instinctively that if you wanted a pop hit, it had to be *UU or nothing.

**Finally, a part-time job that builds
your career as well as your wallet.
And we have over 400 part-time
careers to choose from.**

The problem with most part-time jobs is that you never feel fulfilled. Just tired. Like standing behind a counter to earn a few extra dollars.

The Army National Guard offers you a part-time job with a future. So we'll train you to learn the career of your choice. Not some job you have to settle for. And, we'll actually pay you to learn. About \$50 for just one weekend a month, to start. With a pay raise, to go along with every promotion.

And you'll experience the pride and satisfaction of serving your country and your community in the same tradition that patriotic men and women have been doing for centuries.

So why not join the Army National Guard? It will probably be the only part-time job you've ever had that's a golden opportunity. Instead of a drab necessity.

If you'd like more information about the Army National Guard, mail in the attached coupon, or call toll-free 800-638-7600 (except in Alaska, Hawaii, Puerto Rico and the Virgin Islands). In Maryland call (301)728-3388.

**The most important
part-time job in America.**



The Guard belongs.

CIRCLE NO. 59 ON READER SERVICE CARD

A COMPACT WITH THE GUTS TO RUN AN AD IN STEREO REVIEW.

Compact stereo systems are not generally known for their high-fidelity sound reproduction.

But now, thanks to advanced solid-state technology and Pioneer ingenuity, it is finally possible to offer a stereo system with the benefits of a compact, and the performance of components.

In fact, we even call it component stereo.

Without components.

	Centrex by Pioneer KH-7766 System	Marantz 2216 Receiver AR 16 Speakers BSR 2320W Changer Teac A-100 Tape Deck	Sansui 221 Receiver Bose 301 Speaker BSR 2320W Changer Akai CS-702D Tape Deck	Kenwood 2600 Receiver AR 16 Speakers BSR 2320W Changer Teac A-100 Tape Deck
Minimum RMS Power Output Per Channel	12 watts (8 ohms)	16 watts (8 ohms)	8 watts (8 ohms)	15 watts (8 ohms)
Power Band	40 - 30,000 Hz	20 - 20,000 Hz	40 - 20,000 Hz	20 - 20,000 Hz
Total Harmonic Distortion <i>(smaller is better)</i>	0.8%	0.5%	1.0%	0.8%
FM IHF Sensitivity <i>(smaller is better)</i>	1.9 Microvolt 10.7 dBf	2.5 Microvolt 13.2 dBf	2.5 Microvolt 13.2 dBf	2.5 Microvolt 13.2 dBf
FM Stereo Separation <i>(larger is better)</i>	40 dB	38 dB	35 dB	33 dB
FM Capture Ratio <i>(smaller is better)</i>	1.0 dB	3.0 dB	1.5 dB	2.5 dB
FM Selectivity <i>(larger is better)</i>	60 dB	50 dB	60 dB	50 dB
Total Suggested Retail Price*	\$429.95	\$719.85	\$651.95	\$669.80

*Source: Stereo Review's Stereo Directory & Buying Guide/Manufacturer's Suggested Retail Price
Dollar for dollar, dB for dB, the new Centrex System compares favorably with many typical audio store component packages.

Specifications and prices subject to change without notice.

A 3-speed automatic record changer features moving-magnet ADC cartridge, with pressure and anti-skate adjustments, and a dust cover with free-stop hinge. Naturally, cueing is damped.

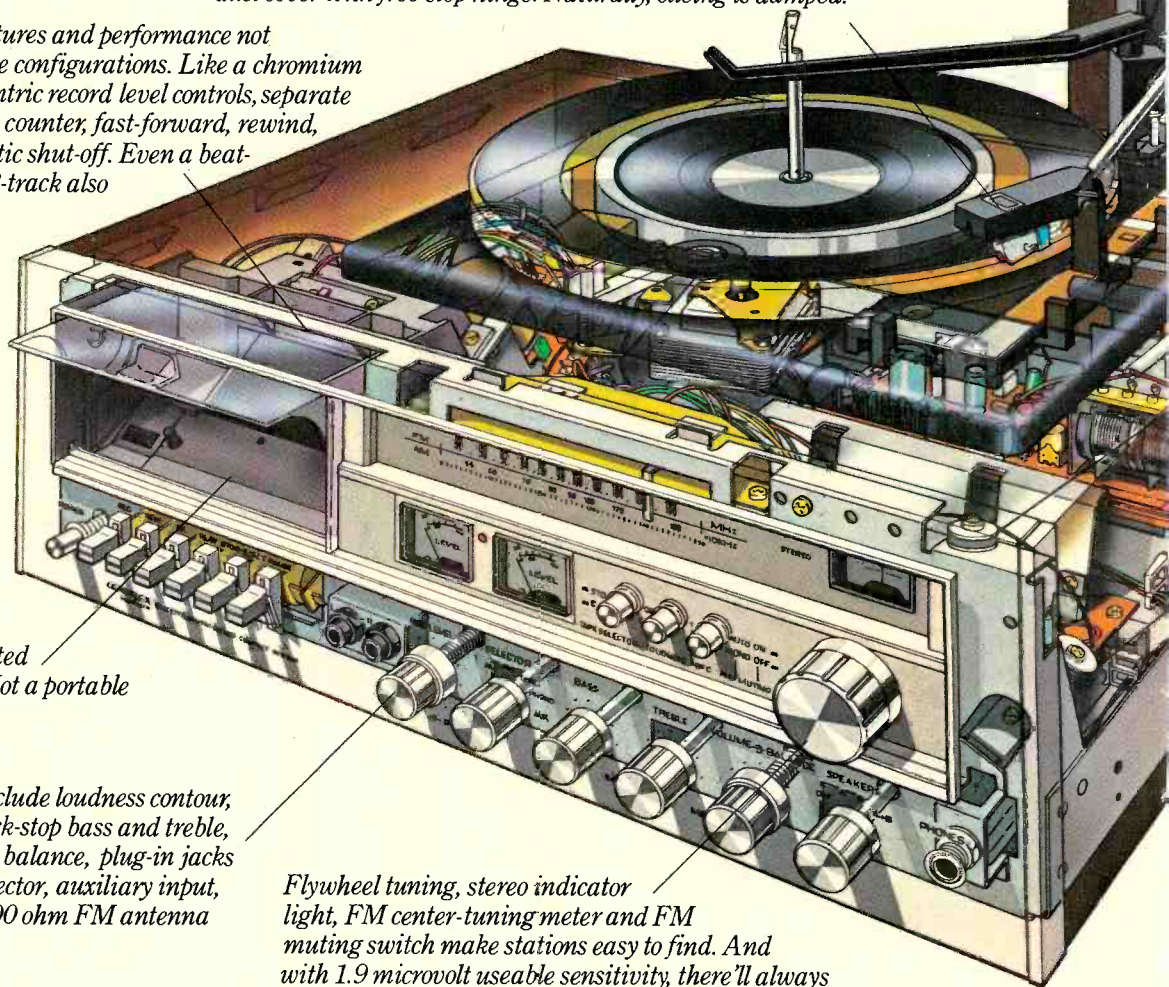
This cassette deck has features and performance not found in many competitive configurations. Like a chromium dioxide tape switch, concentric record level controls, separate VU meters, resettable tape counter, fast-forward, rewind, pause button, full automatic shut-off. Even a beat-frequency cancel switch. (8-track also available.)

Model KH-7766

Centrex offers a sophisticated front-loading tape deck. Not a portable unit, dropped into the top.

Audiophile features include loudness contour, stereo/mono switch, click-stop bass and treble, concentric volume and balance, plug-in jacks with A + B speaker selector, auxiliary input, headphone jack and 300 ohm FM antenna hook-up.

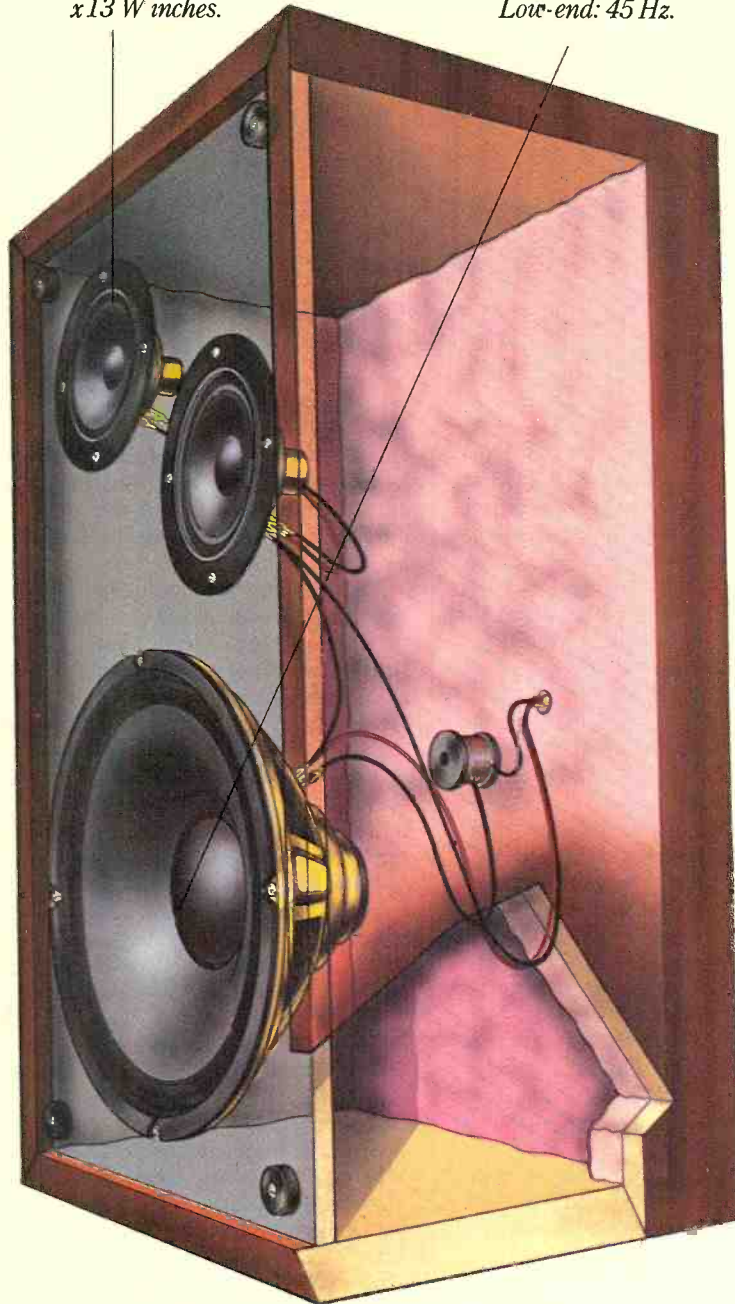
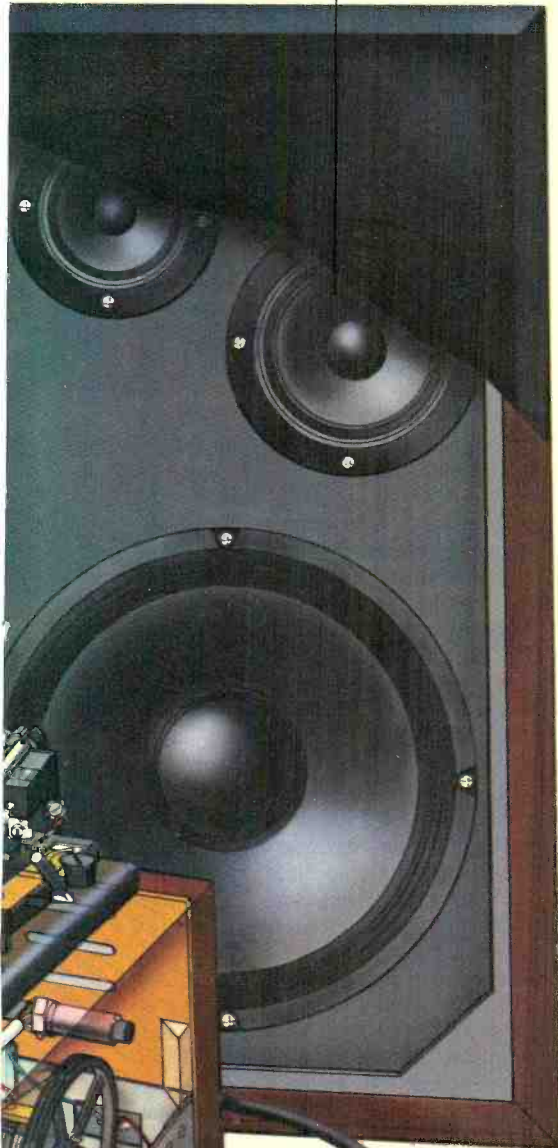
Flywheel tuning, stereo indicator light, FM center-tuning meter and FM muting switch make stations easy to find. And with 1.9 microvolt useable sensitivity, there'll always be plenty to choose from.



Housed in walnut-tone cabinetry is a 3-way speaker system, controlled by a precise frequency divider network. A 4-inch mid-range speaker provides excellent depth and breadth. Crossover frequencies: mid to woofer-1,000 Hz; mid to tweeter-10,000 Hz.

An efficient 3-inch tweeter puts top-end output at an outstanding 20,000 Hz. Knitted grille fabric is acoustically transparent. Cabinet dimensions: 22½ H x 10½ D x 13 W inches.

This full-frequency, 3-way system is anchored by a hefty 10-inch woofer, perfectly matched to the amplifier's output, for maximum driving power and minimum distortion. Low-end: 45 Hz.



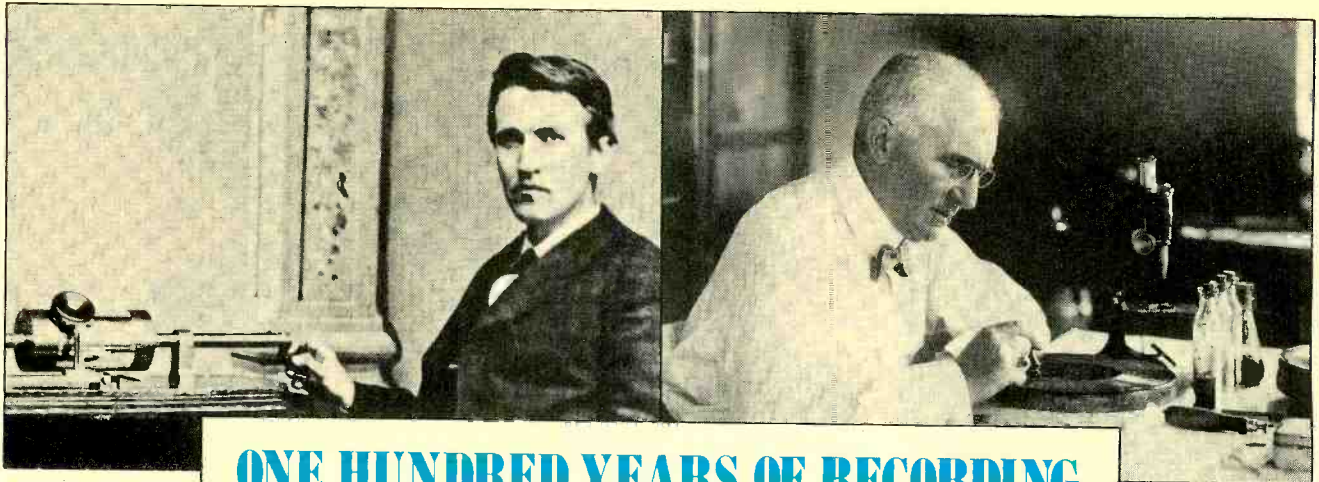
Here's the best part of all.
The installation kit.



Thanks to Centrex, compact stereo has come a long way. It took a lot of guts. But then, that's what Pioneer is known for.

CENTREX
by PIONEER

For more information write Pioneer Electronics of America, Dept. 25, 1925 E. Dominguez Street, Long Beach, CA 90810.

Edison, father
of the cylinder

ONE HUNDRED YEARS OF RECORDING

Berliner, father
of the disc

By Ivan Berger

THOMAS ALVA EDISON was somewhat deaf. That didn't stop him. Perhaps it even made him extra-sensitive to what he did hear—and its implications. After all, hadn't he nearly invented the telephone? And hadn't he already made more money from telephone patents than Alexander Graham Bell, the man who had succeeded in inventing it in 1876, just one year earlier?

Edison, Bell, and Elisha Gray were all starters in a race to be the first with one invention—a "harmonic telegraph" that could send several messages at once over one pair of wires—and wound up racing to turn that idea into a telephone. Bell beat Gray to the patent office by mere hours, and Edison didn't discover until too late that one of his attempts could carry voices, too. So when Edison's next telegraph invention, a dot-and-dash recorder, began to make a "humming sound, resembling human talk heard indistinctly" when played at high speed, Edison was ready at once to change direction toward something that would resemble human speech heard distinctly: the phonograph.

From History's standpoint, he needn't have bothered. If Edison hadn't invented the phonograph, someone else would have—and soon. Charles Cros, a French amateur scientist, photographer, and poet, had already conceived of a working phonograph some months before. But, perhaps because he was a poet, he lacked either the money or the technical ability to actually construct one. He safeguarded his place in history (but little else) by depositing his idea with the Académie des Sciences, and it would be ten years before his ideas

would be fully implemented. Edison had invented and built the first recorder, but Cros, for all the good it did him, had invented the flat, replicable disc.

The phonograph actually *spoke*, shocking Edison almost as much as word of it would later shock Cros. Edison was no great sophisticate, but even he might have chosen more historic words for the first test than "Mary had a little lamb" had he expected History would hear them. "I was never so taken aback in my life," he later said. "I was always afraid of things that worked the first time."

But Edison did not build the first "talking machine"—not even, as he is reputed to have jested later, the first talking machine that could be shut off. Nor did he, strictly speaking, build the first recorder. What he did build was the first machine that could record sound and then play it back again. Attempts at making machines that would talk go back in legend to the time of Roger Bacon and Albertus Magnus, and some semi-successful nineteenth-century attempts were well known (even Barnum got into the act). Machines that recorded sound *visually* went back at least to the late eighteenth century. In 1802, Thomas Young designed such a recorder using many of the techniques Edison reinvented seventy-five years later, plus a parabolic recording horn better than Edison's conical one. And in 1857, Edouard Léon-Scott built a device that traced sound waves on smoke-blackened paper.

EDISON'S phonograph was remarkably simple in construction. A spiral-grooved brass cylinder wrapped in a sheet of tin foil was turned by a crank while a needle mounted on a tele-

phone-like diaphragm embossed a record of its up-and-down movements onto the tin foil. The recording would wear out after only a few plays, and Edison himself later admitted that "no one but an expert could get anything intelligible back from it," but no one questioned that it was a marvel. And it made money from the start. By January of 1878, a company had been formed to manufacture and exhibit the little wonder, and some exhibitors found that a single phonograph could earn them over \$1,000 a week.

Meanwhile, Edison kept working on his baby and coming up with fresh ideas. A patent application of early 1878 suggested such ideas as the disc phonograph (easier to attach the foil to, but suffering from inner-groove distortion), clockwork motors to replace the hand crank, electrotype duplication of the embossed foil, amplified cutting (by magnetic force or compressed air), noise reduction (by magnetic repulsion of a steel needle and an iron record), tape recording (but not *magnetic* tape), multi-channel records (probably just to increase clarity and volume), electrical recording (though probably just for telephone use), and speaking toys. In an article that same year, he predicted such uses as dictation, talking books for the blind, elocution teaching, music, family voice albums, speaking clocks, language instruction, recording school classes for later review, and telephone recording. Others suggested that the new invention could preserve the voices of the dead (from its frequent mention this seems to have been a particularly powerful idea to Victorians), sound-effects records ("the puffing and rush of the railroad train . . ."), audio complaint boxes, "musical kaleidoscopes" that

would create new tunes by playing old ones backwards (another idea that seems to have caught the nineteenth-century imagination firmly), recorded drama, and the voices of "great singers . . . put into the hand organs of the streets."

Of course, the infant phonograph was not yet good enough to carry out any of these sound predictions. As one contemporary writer put it:

The tone of the phonograph is usually rather shrill and piping, but . . . The instrument, when perfected . . . will undoubtedly reproduce every condition of the human voice.

But it was not to be perfected soon. The novelty wore off, the crowds drifted away, and so did Edison, off to launch his ten-year effort to produce the electric light and the generating and power systems that would make it workable.

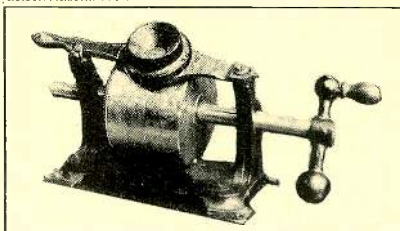
By 1886, however, Alexander Graham Bell, his cousin Chichester Bell, and Charles Sumner Tainter had patented two significant improvements in the phonograph: a "floating" playback stylus that followed the record groove more readily, and the use of wax as a substitute for Edison's tin foil. Wax was the big advance: it made finer grooves possible and thus more time for recording, and it gave clearer sound. That the sound was also less loud was no problem: the "Graphophone" (as the Bell-Tainter group called their machine) was seen mainly as an office dictating machine for which the necessity of listening through ear tubes was no handicap. Edison later responded with a wax machine of his own, this one with solid wax cylinders which could be "erased" by shaving off the old grooves and recording new ones. Soon, the Graphophone also had solid-wax cylinders. And soon, too, of course, Edison and the Bell-Tainter group were suing each other for patent infringement. The infant recording industry was about to tie itself in knots, but Jesse H. Lippincott cut those knots for a time by buying licensing rights to *both* sets of patents and setting up the American Graphophone Company to sell talking machines of both types.

LIPPINCOTT had a monopoly on a fast-growing industry, but despite his already proved business acumen the monopoly went broke. The new machine was not yet ready for use as a dictating machine, and stenographers, to a man, resisted it. About the only thing that kept the wolf away from the door of the industry was the invention, in 1889, of the coin-operat-

ed phonograph. A nickel in the slot at, say, San Francisco's Palais Royal Saloon would set a record in motion and turn on one pair of listening tubes. Additional nickels opened up tubes for additional listeners. The nickels rolled in, and by 1891 single-selection phonographs were swallowing them from coast to coast. Grouping the machines for ease of service and to offer a choice of musical selections led to the establishment of "phonograph parlors," ancestors of today's penny arcade. By 1896 there was the Multiplex, which had five cylinders built in. By 1905, the Multiphone—a *real* jukebox—not only held twenty-four selections but actually let the customer decide which one he'd hear.

What did he hear? At first, not much. For a while, each local sales company recorded its own cylinders. Then they began to exchange recordings, and North American Graphophone began to act as an exchange. By 1891 they'd had to issue fifteen supplements to their original recording list, and by 1893 there were twenty-five such supplements. One of the companies, Columbia, had a ten-page record catalog by 1891. It included twenty-seven marches (some by the United States Marine Band conducted by John Philip Sousa) plus polkas, waltzes, whistling records, hymns, national anthems, speaking records, and songs listed only by such categories as "Sentimental," "Topical," "Comic," "Negro," and "Irish." By 1893 *their* catalog had expanded to thirty-two pages and included foreign-language courses.

Edison National Historic Site



Above, the Edison cylinder phonograph in its most basic form. Below, a gramophone intended to play the disc records developed by Berliner.



Smithsonian Institution

During this time Edison himself had been dragging his feet. In 1891, though he was offering to duplicate cylinders for local companies, he was also writing that companies who ignored the "legitimate side" of their business to concentrate on "coin-in-the-slot" would find it

a fatal mistake . . . calculated to injure the phonograph in the opinion of those seeing it only in that form, as . . . nothing more than a mere toy, and no one would comprehend its value or appreciate its utility as an aid to businessmen and others.

But the sales companies were losing money from their "legitimate" business and making profits only from the "toy"! A couple of years later, however, Edison had relented at least enough to see the phonograph as becoming, in his lifetime, "almost as common in homes as pianos and organs are today." Since sound quality was still rather Donald-Duckish and since there was no practical way to mass-duplicate the cylinders, that day was still some years away.

Competition brought prices tumbling down. Machines were first \$190, then \$140, \$75, \$40, even \$25 (the recording attachment, of course, was extra). In country and in city, sales were booming for machines and for records as well. Luckily for the musicians of the day, the cylinders produced no million-sellers. At first the rule was one performance, one record, although in time the recordists began surrounding the performers with multiple machines. Later they used multiple recording diaphragms, dubbing the resulting master cylinders with pantographs that copied their traces onto other cylinders. If the master did not wear out too quickly, one run-through of a song might now produce as many as 125 salable copies. But a million-seller would still have taken 8,000 "rounds" at the recording horn!

EARLY recording sessions were nothing like today's. Studios were small and acoustically "dead," orchestras "huddled together after the manner of a group photograph," violins had tin-horn attachments (brasses and woodwinds substituted for the other stringed instruments), and singers who forgot to pull back from the horn on high or loud notes were likely to be pulled away by anxious engineers. And because the record label hadn't been invented yet, the engineer would stop at each horn before the musicians began and announce the tune, the performers, and other credits. (Continued overleaf)

ONE HUNDRED YEARS

But Charles Cros, remember, way back in 1877, had had the answer to the problem of record duplication: record on a flat disc, and you could easily mold, etch, or engrave duplicates to your heart's content. Emile Berliner, a German immigrant to the U.S., patented essentially that system eleven years later, and after a few false starts he began to make a success of it. Fifty of his 7-inch discs could be stacked in the space required for four cylinders, and duplicates could be stamped out like pennies—an idea that naturally had great popular appeal. Besides, the zinc etching process that Berliner used for master discs let chemistry do some of the groove-cutting work rather than make the recording stylus do it all. It was actually a "chemical" form of amplification, and the result was a louder groove. The zinc disc still sounded scratchy—"like a partially-educated parrot with a sore throat and a cold in the head"—but it was on its way. In 1897, Berliner replaced his early hard-rubber disc—its grooves had a tendency to flatten spontaneously—with a shellac composition that was used for disc records well into the 1950's. Also, a year earlier, work had begun on replacing the rough zinc masters with smooth wax and making molds from that.

Meanwhile, Berliner went on to found overseas subsidiaries—the Gramophone Company (now part of EMI) in England, Deutsche Gramophon in Germany, and subsidiaries or divisions in Russia, Austria, France, and Spain—before he himself became a subsidiary (really a partner) of the newly formed Victor Company.

In 1902, the Gramophone Company in England sent some scouts off to Italy in search of talent worthy of its new Red Label series. They found, of course, Enrico Caruso. One might speculate as to what extent the gramophone "made" him (his first Metropolitan Opera contract was offered on the basis of his records), but there is no question that he did much to make the gramophone a success.

The recordings of Caruso and other operatic notables served the industry in three important ways. Because the human voice best fit the limited range of the early records, singers showed the recording process off to its best advantage (that opera singers were accustomed to *loud* singing doubtless helped). Opera stars brought prestige to the squabbling infant industry. And

their records *sold*: they were such superstars that chefs even named their finest dishes for them—Peach Melba and Chicken Tetraxini are just two examples found on menus to this day.

IN 1906, Victor took the dust-catching horn off the top of their newest player and folded it down into the wooden cabinet beneath. That meant a slight loss in sound quality but a massive gain in sales. The Victor was now *furniture*; it was acceptable in terms of interior décor. Victor's name for the new model, "Victrola," became a generic term for decades.

Meanwhile, the cylinder market was dying. The public preferred the disc's massive advantage in convenience over the slight sonic advantage the bulky, fragile cylinders enjoyed. By 1912, Columbia, long since embarked in the disc business, abandoned the cylinder field to Edison. A year later, Edison entered the disc field himself, though vowing never to abandon his loyal cylinder-record customers. His discs used the same vertically cut ("hill-and-dale") groove his cylinders did and were therefore incompatible with the more widespread laterally cut discs. But there were sound technical reasons for his choice as he saw it. Furthermore, non-standard records were hardly new: the buyer was already faced with records using different groove widths, different speeds, sizes from 5 to 20 inches in diameter, and even grooves that ran "inside out"—from the label to the rim.

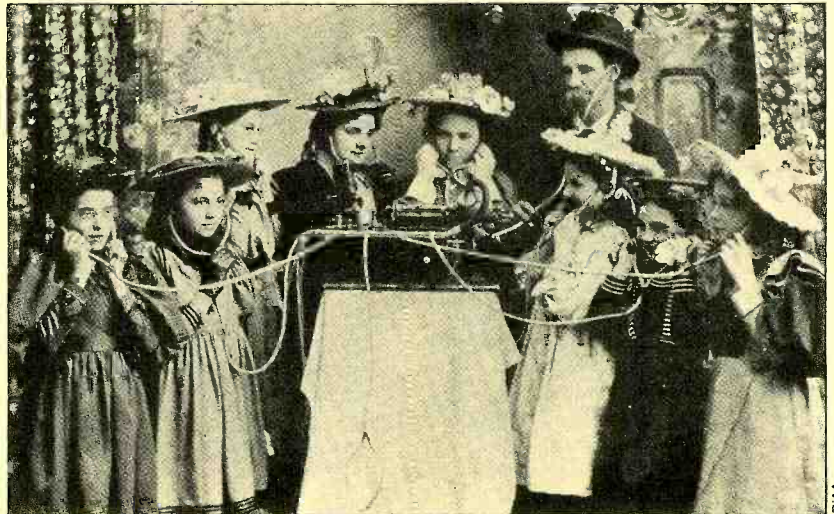
Edison's "Diamond Disc" system had much to recommend it: hard, smooth, phenolic-plastic surfaces (Edison had to assemble a group to invent the plastic), fine grooves (150 per inch against the lateral disc's 90, which permitted a compact 10-inch disc to play for four minutes or

more), a motorized tone arm that reduced groove wear, and "permanent" jeweled styli. The tone arm even had a cueing lift. When Edison introduced his system with the first of a series of "Tone Test Recitals"—live-vs.-recorded sound comparisons—stores began to sell off their Victrolas at a discount.

Victor (and the rest of the industry) had some other troubles as well. Radio soon began to cut into their audience. The box that brought free entertainment—and *live*, just as it happened—into the home began to push the phonograph out of the living room and up to the attic. And radio's sound was better, too, with increasingly sensitive microphones, plus amplifiers and loudspeakers to take the place of the phonograph's acoustic horns. It was obvious that the phonograph could use some of the same technical medicine. In short order the first electrical reproducer, the Brunswick Pantrope, appeared, with electric pickup, amplifier, and speaker. It wasn't long before the marketplace was full of electric phonographs.

Unfortunately, these innovations notwithstanding, the phonograph was foundering, and the Depression seemed the final blow. What ultimately saved the adolescent industry, as it had saved the infant one, was the coin-operated phonograph. The juke box, now blaring its offerings to everyone within earshot rather than piping its sound privately through ear tubes, served as a major means of exposure for new records. Just as important, it was a major customer. In 1939, for instance, more discs (13,000,000 of them) were sold for juke-box use than for any other purpose. Such hits of the thirties as *Beer Barrel Polka*, Ella Fitzgerald's *A-Tisket, A-Tasket*, and Kay Kyser's *Three Little Fishies* sold as many as 300,000 copies each.

The phonograph, being heard here through ear tubes, was at first a mild curiosity . . .



WITH the onset of World War II, civilian production of everything slowed to a trickle. Shellac imports from the Orient ceased, and record companies were forced to buy and grind up old recordings to eke out their dwindling virgin supplies. But this did not stop phonograph development. The need for a light, unbreakable disc—and the shellac shortage—led to the use of vinyl as a record material. And the need for high-quality recordings through which Britain's RAF Coastal Command could demonstrate the difference in sound between German and British submarines led Decca in England to the "FFRR" (Full Frequency Range Recording) process. Finally, exposure to sophisticated electronics gear—plus its postwar availability as surplus—led many Americans to wonder if such techniques could improve their own home sound systems.

In late 1948, Columbia unveiled the 12-inch long-playing (LP) vinyl record. Columbia had taken bits and pieces adopted and dropped by others (such as the microgroove approach Edison used as early as 1926, the 33½-rpm speed Victor had tried and failed with in 1931) and had put them together in a way that made the total system work. Not that it was easy. It took Columbia only three months to bring playing time up to 16 minutes per side, but two years more to get it up to the goal of 22 minutes per side, a figure chosen because analysis showed that 96 per cent of all important symphonies took less than 45 minutes to perform. It was a "total" system. Longer play required a finer groove. The finer groove required a material that could withstand the higher tracking pressures brought about by the finer stylus point. That, and the need for a smoother, more finely moldable surface, meant the adoption of vinyl.

So far, so good. But a few months before the scheduled introduction, Columbia's research team was told that the first offering of LP records *must* include Beethoven's *Eroica*, a symphony requiring a side one of 29 minutes, or seven minutes more than had been achieved up until then. The solution Columbia found was variable groove spacing, or variable pitch. An engineer, following the music with a score as the record was cut, used a pitch control on the cutting lathe to bunch the grooves more closely together during soft musical passages, saving a great deal of space on the record side. As a loud passage approached the engineer reverted to wider spacing to accommodate the larger groove excursions.

As the LP began to run away with the market, Victor was ominously silent. Then, in 1949, the company sprang a system of its own, the familiar large-hole 45-rpm 7-inch disc. The 45 never did succeed in the market Victor had intended for it, but it ultimately became the standard format for popular singles and the mainstay of every juke box in the nation.

MEANWHILE, another technical development, tape, was about to join hands with the LP to bring about a major revolution in the recording industry. Tape was destined to spawn an entire industry of its own, of course, but its impact on the recording industry—which remains largely one of *disc* recording—amounted to a total transformation. A tape recorder can go anywhere and record anything. Furthermore, the final tape can be turned into discs at the recordist's leisure. He doesn't even have to own disc cutting and pressing facilities himself, for the major record companies are pleased to get the business on a sub-contract basis.

As a result, new record companies bloomed like dandelions, and record producers by the dozen began to fly off to Europe, where musicians were cheap and unions unobtrusive. And that was not tape's only effect. The conversion from earlier records' four-minute sides to LP's twenty minutes and more imposed a considerable strain on performers, who were expected to maintain the same high levels of musicianship throughout. As the record industry was finding, minor imperfections that slip by in concert become glaring errors the third, or sixth, or twentieth time a listener hears them on a record. Moments before the cracked note or the audience cough are due, his subconscious braces him for the expected blow. Tape changed all that. Unlike a disc-cutting lathe, a tape recorder can be stopped at any time for rest periods and retakes. Coughs can be edited out, along with clicks, pops, and ticks in older recordings being rereleased. Isolated passages—even isolated notes, if need be—can be spliced together to form a perfect whole.

It was tape that also made possible first stereophonic and then quadraphonic sound. Like everything else in sound-recording history, stereo wasn't new. A. D. Blumlein, a British inventor, had patented what is essentially today's method of putting two channels of signal into one record groove in 1931, but his ideas had been all but forgotten when it first occurred to the tape-recording industry that tape could hold more than just one track of signal. The earliest commercial tape machines designed expressly for stereo and binaural sound appeared in 1947. The first stereo discs as we know them today would not come until 1958, or more than ten years later. A similar sequence of events took place more recently when experiments with four-channel tapes in 1969 preceded the first quadraphonic discs by several years.

... and then a resounding commercial success at "phonograph parlors."



Library of Congress

TODAY the disc record is looked upon as the end product of a perfect frenzy of multitrack activity involving tape and (increasingly) computer systems. And some are inclined to believe it is an end product that is rapidly approaching obsolescence. We'd prefer not to take a stand on this issue right now, except to point out that the disc remains unsurpassed in its technical capabilities for sound reproduction and unchallenged in the affections of its many users. It appears sensible, therefore, to sit back and let the next hundred years take their course. □

**BE SURE YOU CHOOSE
THE ONE YOU LIKE.**



A TEAC LASTS A LONG, LONG TIME.



One of the reasons is that we've been *making* them for a long, long time. In 1955, TEAC came on the scene with the first in a long line of fine open reel tape recorders.

Since then, of course, we have developed a sister line of cassette decks. But our first love remains open reel tape recording equipment: the truest method of sound reproduction available today.

Consider the alternatives. If you want top-of-the-line quality, but only need bottom-of-the-line features, the A-2300SX is the buy of the year. From there, you can add DOLBY,* larger 10½" reels, four heads, auto reverse, four-in/two-out mixer, memory stop, 15 ips, four channel Simul-Sync, and variations thereof.

In short, as long as you're getting a tape deck, can you conjure up a single reason it shouldn't be a TEAC?

TEAC®

The leader. Always has been.

TEAC Corporation of America
7733 Telegraph Road
Montebello, California 90640

In Canada TEAC is distributed by White
Electronic Development Corporation
(1966) Ltd.

*Dolby is a trademark of Dolby
Laboratories, Inc.

CIRCLE NO. 55 ON READER SERVICE CARD



©TEAC 1977

The Toshiko Akiyoshi / Lew Tabackin Big Band

By Chris Albertson



IN the early Forties a frenzied period of screaming brass, stomping saxophones, hot solos, and gravity-defying ballroom acrobatics came to an end. There would always be big bands, but never again would they precipitate the nationwide fervor of the Swing Era, which had been sparked by Benny Goodman in a California ballroom one summer night in 1935.

Americans are as fickle about music as they are about clothes, and by the mid-Forties both swing and bobby socks were suffering the same fate, but changing tastes alone did not do in the

big bands. Among the other factors were gasoline rationing, which made travel difficult for players and patrons alike; the infamous Petrillo recording ban, which for more than two years robbed the big-band business of one of its most effective promotional tools; a 20 per cent amusement tax that made some employers of big bands simply throw in the towel; and the World War II draft, which deprived many band-leaders of their star soloists and inspired blues man Brownie McGhee to comment in song "Uncle Sam ain't no woman, but he sure can take your

man." Some musicians who weren't drafted took advantage of the scarcity of players by demanding outrageous salaries that few bandleaders could afford to pay. But even if none of the above had happened, TV—and the change in lifestyle that came with it—would eventually have struck the fatal blow.

Today there is still a Basie band, Mercer Ellington continues the struggle to keep what's left of his late father's orchestra afloat, Woody Herman valiantly maintains a youthful reincarnation of his old Herds, and even Benny

Goodman is known to assemble an orchestra from time to time. But, as Duke Ellington himself put it in 1941, when he saw the handwriting on the wall, "Things Ain't What They Used to Be." Until recently, the only successful new band with any kind of longevity has been one led jointly by trumpeter Thad Jones and drummer Mel Lewis. Consisting of top New York studio musicians, it has survived virtually unchallenged, and against tremendous odds, for the past twelve years. There are, of course, other new big bands, such as those led by David Matthews and Clark Terry, but the most powerful new voice to hit the big-band scene of late is the steeped-in-tradition-but-*au-courant* roar of the West Coast-based Toshiko Akiyoshi/Lew Tabackin Big Band. It is a dynamic orchestra that has been delighting audiences in Japan and California for the past three years and is fast winning a world-wide following by way of some extraordinary record albums.

Toshiko Akiyoshi was growing up when the big bands began their reign, but for her there wasn't a riff to be heard for miles around. If you think *your* home town was jazz-forsaken, just imagine what it was like in Dairen, a Manchurian port at the tip of the Liaotung Peninsula roughly midway between Peking and Seoul. When she was seven, Toshiko began studying classical piano. "Because my parents weren't exactly poor, we had the piano, and it was just the thing to do," she says, but she had no thought of making a career out of music, a turn of events which she jokingly attributes to "the gods watching me seriously."

JAZZ would probably not have entered Toshiko's life if her parents hadn't moved to Japan in 1946. "I had been playing the piano ten years by then," she explains, "and I loved it as an instrument, but my parents had lost everything during the war, and they couldn't afford to buy me a piano. So, one day as I was walking down a street in Fukuoka, I saw a sign that read 'Pianist wanted for dance hall,' and I went in and got the job—that's how it all started.

"I didn't consult my parents, but they found out a few days later because I was coming home very late. My father really got upset, because it was unthinkable for a girl to be working in a dance hall in those days and because I was supposed to start medical school." Toshiko's mother finally convinced Mr. Akiyoshi that there would be no harm in the girl's taking the job for the eight months that remained before the start of medical school the following April, and by that time Toshiko had

managed to talk her parents out of further schooling altogether. That first job, however, wasn't exactly a dream come true. Flanked by violin, accordion, alto sax, and drums, she spent a year and a half playing some pretty dreary fare. "It was quite bad," she recalls. "I didn't understand anything in those days, I mean those chord symbols and things, but I got a little better as time went on."



"...here I could listen to so many musicians in person... We have a saying in Japan: 'One swimming lesson in the water is worth more than a hundred on the mattress.'"

In 1947 she was good enough to join Yamada's big band—not a giant step, but one in the right direction. "We played a lot for the American officers' club, and one day a Japanese man came to me there and told me he thought I had a lot of potential. I still hadn't heard jazz, but this man had a large collection of 78's, and the first one he played for me was Teddy Wilson's *Sweet Lorraine*. That was my introduction to jazz. I became interested immediately and started listening to anything I could get my hands on—I had no particular preferences, I just lis-

tened to anything." Toshiko began spending her days in the club's office, listening to V-Discs (records made for distribution to G.I.'s overseas) by such Swing-Era stars as Harry James and Gene Krupa. The Bop Era had already been ushered in, but it would be another three years before this newest jazz idiom came to her attention.

"I was living in Tokyo then," she recalls, "and I used to listen to AFRS (Armed Forces Radio Service) broadcasts a lot. One day I heard a piano solo, and it sounded so beautiful that I called up the station to find out who was playing. That's how I became interested in Bud Powell." The influence was considerable, and Toshiko's subsequent mastering of Powell's style gained her more rewarding employment with various bop-oriented groups and bands, including the Blue Coats, the Six Lemons, and—of all things—the Gay Stars (who, she assures us, really were neither). By 1952, having earned a good reputation as player and arranger, Toshiko formed her first group, which was heard by pianist Oscar Peterson in November of the following year when he visited Japan with Jazz at the Philharmonic. "It was a lucky break for me," says Toshiko, "because Oscar recommended me to Norman Granz, who then gave me the chance to make my first recordings." Eight selections were made with an illustrious rhythm section consisting of Herb Ellis, Ray Brown, and J. C. Heard, and around the time of their release (on two Norgran EP's) Granz wrote a lengthy article on Toshiko for *Metronome* magazine. The combination of records and article brought the offer of a scholarship from the Berklee College of Music in Boston.

By 1956, when she arrived in this country, Toshiko had become Japan's highest-paid free-lance arranger, but she admits that she still had a lot to learn and recalls her first year here as a real eye-opener. "I was still playing very much in the Bud Powell style," she says, "but I soon began to develop a much broader attitude, and I guess I became more of an individual. In Japan, in those days, it was very difficult to get records. We had to pay about ten dollars for a ten-inch LP, and so we used to go to jazz clubs to listen to records on earphones. We listened diligently and tried to pick up the changes—that's how we got our material and developed a repertoire. But here I could listen to so many musicians in person, and although I had heard them on records, it just wasn't the same as actually being in the room with them. We have a saying in Japan: 'One swimming lesson in the water is

Big Band

worth more than a hundred on the mattress.' That was the difference. I was in the water over here.'"

Soon after her arrival in Boston, Toshiko began appearing four nights a week at George Wein's Storyville Club and recording for his Storyville label (with such musicians as Roy Haynes, Ed Thigpen, Paul Chambers, and Oscar Pettiford). Wein, obviously an admirer of her forceful, Powellesque playing, also began presenting Toshiko at his Newport festivals beginning in 1956, when she made her debut assisted by Percy Heath and Ed Thigpen. Toshiko Akiyoshi had, as they say, arrived.

DURING her three years at Berklee she made more recordings (for Verve and Metrojazz, MGM's jazz label) and personal appearances. In November of 1959 she married alto saxophonist Charlie Mariano, with whom she formed a group and toured extensively. By the end of 1966 the marriage had broken up, and though she could look

and pay for the musicians, Toshiko asked trumpeter Bill Berry to be her contractor. "I told him I wanted Joe Farrell on tenor," she recalls, "and I panicked when Bill told me that Joe would be on the West Coast with Thad and Mel's band. 'Don't panic,' he said, 'I know a tenor player who is just as good, maybe even better. His name is Lew Tabackin.' I had been living in New York for quite a long time by then, and I had never heard of Lew Tabackin, so I was convinced that he couldn't be any good. A few days later I was substituting for Don Friedman in the Clark Terry band at the old Half Note. I couldn't see the horns from the piano, but we had started playing an E-flat blues when I suddenly heard this tenor coming out of nowhere. It was such a glorious sound—a tone like Lucky Thompson or Don Byas, but much more modern playing—and it just knocked me out. During the intermission, I called Bill Berry and said 'I found a tenor player, and I want you to get this guy.' He asked me what he looked like, and when I described him Bill said 'That's Lew Tabackin, the guy I've been telling you about!' That's how we met."

Lew Tabackin comes from Phila-

1969. In 1970 and 1971 they toured Japan together, settling down in Los Angeles the following year. "Nothing really happens in Los Angeles," Tabackin observes. "It's not like New York, where everybody seems to have some kind of project and there's electricity in the air. In Los Angeles, if you just sit around and become a part of the inertia, you can just die. So we decided to start a band."

As Toshiko had done five years earlier in New York, they saved up money (Tabackin was working in the Doc Severinsen *Tonight Show* band, a "boring experience" he recently left behind him) and rented a Hollywood theater for their first big concert. It worked. The Japanese Victor company decided to fund an album, "Kogun" (RCA-6246), which has yet to be released in this country, but with 30,000 copies sold, it has become Japan's biggest jazz hit of all time. Three more albums followed; "Road Time" (Japanese RCA 9115-16), a two-record set just now released in the States, "Long Yellow Road" (RCA JPL1-1350), and "Tales of a Courtesan" (RCA JPL1-0723). The last two are American releases, both of which got rave reviews in this country; "Long Yellow

School days: a young and exuberant Toshiko Akiyoshi shares some moments with jazz all-stars at Boston's Berklee College of Music. Near right, with Louis Armstrong; far right, with Duke Ellington and Berklee president Lawrence Berk.



Berklee College of Music

back on ten years that, by most people's standards, had been successful, Toshiko felt a lack of accomplishment. "Japanese people do a lot of reflecting around New Year's," she says, "and on New Year's Eve in 1966 I sat down and thought, 'Well, I've been in this country for ten years, and what have I accomplished?' I was in pretty pathetic shape. I just didn't think I'd done *anything*—I hadn't had any really glorious moments, and I didn't have any prospects. So I felt I had to do something for my own sake, and I decided to have a concert."

When she had saved up enough money to rent New York's Town Hall

delphia, where he grew up "with a generation of white Coltrane imitators." He had been in New York two years when he met Toshiko that night at the Half Note, and he had already de-Coltrane his style. "I heard a lot of other white tenor players imitating Coltrane," he recalls, "and it irritated me when I realized that I was probably doing the same thing, so I decided to investigate some of the older players. I listened to Lester Young, Don Byas, and Coleman Hawkins, and found that I was more in agreement with their style." As it turned out, Tabackin wasn't able to make Toshiko's Town Hall concert, but they were married in

Road" received a STEREO REVIEW Record of the Year Award for 1976.

The albums, all of them outstanding, will surely create a demand for the Toshiko Akiyoshi/Lew Tabackin Big Band outside of Japan and beyond the West Coast, for it is the most exciting big band to come along in many years. There is, of course, still room for the Thad Jones/Mel Lewis Orchestra, but for my money the Tabackins are in the lead, and much of the credit goes to the wonderfully imaginative compositions and arrangements of Toshiko. If she sits down this New Year's and bemoans a lack of accomplishment, she had better have her head examined. □

The Akiyoshi/Tabackin Big Band: A Musical Dynamo

It is a sad indication of the lack of support for and interest in jazz shown by Americans these days that promoters and bookers continue to regard bringing the Toshiko Akiyoshi/Lew Tabackin Big Band to the East Coast as an economically unfeasible proposition, while in Japan a tour by the group reaps sufficient profits to warrant repetition. But perhaps it is only to be expected from an audience that seems to encourage retaining on the tube a Bobby Vinton or a Sammy Davis, Jr.—both of whom have weekly shows of their own—while the likes of Sarah Vaughan and Ella Fitzgerald are reduced to occasional guest shots and the Betty Carters and Ornette Colemans are simply ignored altogether. Maybe the television networks—and, in turn, the public—might open their doors and ears to such internationally revered artists as Teddy Wilson and Charles Mingus if discrimination against jazz were not also rampant in the record industry. Sure, there are lots of jazz records, but look who's putting them out: mostly small, independent labels. Ironically, it is the major labels—giants breast-fed in their infancy by jazz—that are most guilty of either ignoring jazz artists or treating them as of secondary importance.

Toshiko Akiyoshi and her husband, Lew Tabackin, do have the advantage of having their music committed to vinyl on a label that is likely to be carried even by stores in Oshkosh and Peoria, but they have still been victimized by the aforementioned prejudicial attitudes. They lead an American band, based in the U.S., but they had to look to Japan for a recording contract (they are signed to Japanese RCA). This absurdity is hardly justified by the Japanese origins of the band's co-leader, and it is only partly redeemed by American RCA's rather arbitrary release of their albums here.

The latest of these releases is "Road Time," a two-record set of lively, imaginative performances recorded by the band at concerts in Tokyo and Osaka during a tour of Japan in the early part of last year. Underlining its lack of confidence (or is it lack of interest?) in jazz, American RCA has packaged its version of "Road Time" in a sleeve designed for a single disc, doing away with the double spread plus an additional page of photos and notes offered Japanese consumers. But they have not managed to water down the music

itself. This group has everything you ever wanted to hear from a big band: the heat and bounce of Basie at his best, imaginative Gil Evansesque voicings, and as fine a battery of soloists as your ears are likely to encounter. Akiyoshi, who composed and arranged all but one selection, paints her orchestral pictures with strokes that are modern, yet unmistakably rooted in the

lanche—and an avalanche of Akiyoshi/Tabackin music is not a bad thing to be hit by.

"Road Time" is a live recording, so there are the unavoidable rough spots, but they are amazingly few and far between. From *Tuning Up*, which starts off as if the band were, but quickly develops into an infectiously funky affair, to *Kogun*, which draws some of



Lew Tabackin and Toshiko Akiyoshi accept STEREO REVIEW's Record of the Year Award for their RCA Album "Long Yellow Road." Presenting the award is Bud Dean of STEREO REVIEW's Los Angeles office.

past. The result is glorious, and I can think of no other big band today that can match the Toshiko Akiyoshi/Lew Tabackin Big Band for sheer vivacity and excitement.

If it can generate this much electricity on records, it must be one hell of a band to experience in person. The more I hear of this musical dynamo, the more I am convinced that its bursting forth on the national scene is inevitable. The band's first album, "Kogun," and three individual albums (one by Akiyoshi, two by Tabackin) have yet to be released in this country, but one big hit (a high sales figure, that is) is usually the rock that starts the ava-

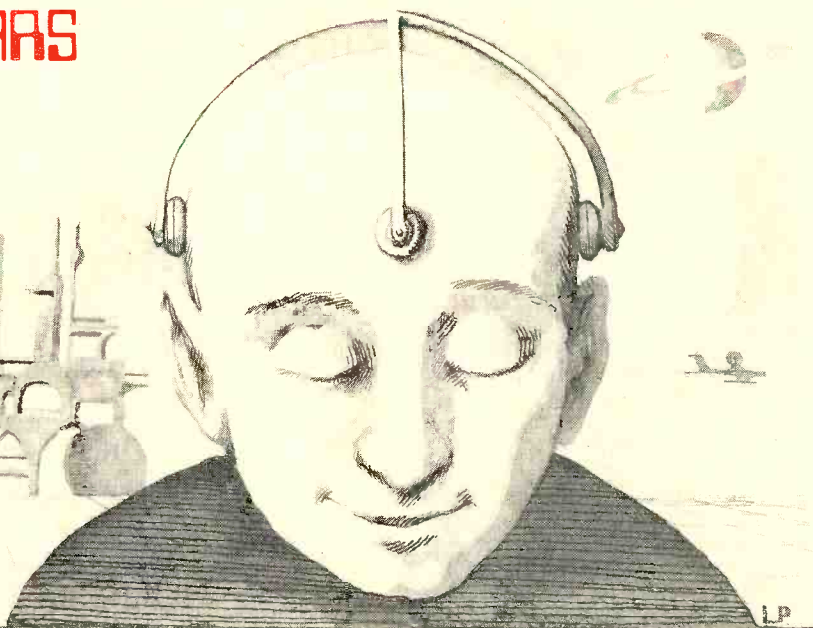
lanche—and an avalanche of Akiyoshi's own cultural heritage, and *Road Time Shuffle*, the album's rousing, ever-so-bluesy finale, "Road Time" is the band's best so far—and that's saying a great deal.

—Chris Albertson

TOSHIKO AKIYOSHI/LEW TABACKIN BIG BAND: *Road Time*. Toshiko Akiyoshi/Lew Tabackin Big Band (instrumentals). *Tuning Up*; *Warning: Success May Be Hazardous to Your Health*; *Henpecked Old Man*; *Soliloquy*; *Kogun*; *Since Perry/Yet Another Tear*; *Road Time Shuffle*. RCA CPL2-2242 two discs \$9.98, ® CPS2-2242 \$9.98.

TWO HUNDRED YEARS OF RECORDING

BY LARRY KLEIN III



THE fact that this year, 2077, is the Bicentennial of sound recording has gone virtually unnoticed. The reason is clear: electronic recording in all its manifestations so pervades our everyday lives that it is difficult to see it as a separate art or science, or even in any kind of historical perspective. There is, nevertheless, an unbroken evolutionary chain linking today's "encee" experience and Edison's successful first attempt to emboss a nursery rhyme on a tinfoil-coated cylinder.

Elsewhere in this Transfax printout you will find an article from our archives dealing with the first one hundred years of recording. Although today's record/reproduce technology has literally nothing in common with those first primitive, mechanical attempts to preserve a sonic experience, it is instructive from a historical and philosophical perspective to examine the development of what was to become known as "high fidelity."

Primitive Audio

It is clear from writings of the time that the period just after the year 1950 was the turning point for sound reproduction. For a variety of sociological, economic, and technological reasons, the pursuit of accurate sound reproduction suddenly evolved from the passionate pastime of a few engineers and Bell Laboratories scientists into a

multimillion-dollar industry. In the space of only fifteen years, "hi-fi" became virtually a mass-market commodity and certainly a household term. In the late 1970's, the first primitive micro-processors (miniature computer-type logic-plus-memory devices) appeared in home audio equipment. These permitted the user to program what was known as an "FM tuner," "record player," or "tape recorder" to follow a certain procedure in delivering broadcast or recorded material.

For those who are not collectors of those antique audio devices which employed "records" or "tapes," such terms require explanation. From its earliest beginning, recording employed an *analog* technique. This means that whatever sound was to be preserved and subsequently reproduced was converted to an equivalent corresponding mechanical irregularity on a surface. When playback was desired, this irregularity was detected or "read" by a mechanical sensing device and directly (later, indirectly) reconverted into sound. It may be difficult to believe, but if, say, a middle-A tone (which corresponds to air vibrating at a rate of 440 times per second) was recorded, the signal would actually consist of a series of undulations or bumps which would be made to travel under a very fine-pointed stylus at a rate of 440 undulations per second. Looking back from a present-day perspective, it seems a wonder that this sort of crude mechani-

cal technique worked at all—and a veritable miracle that it worked as well as it did.

The End of Analog

Magnetic recording first came into prominence in the 1950's. Instead of undulations on the walls of a groove molded in a nominally flat vinyl disc, there were a series of magnetic patterns laid down on very long lengths of thin plastic tape coated on one side with a readily magnetized material. However, the system was still analog in principle, since if the 440-Hz tone was magnetically recorded, 440 cycles of magnetic flux passed by the reproducing head in playback. All analog systems—no matter what the format—suffered from the same inherent problem (susceptibility to noise and distortion), and the drive for further improvement caused the development of the digital audio recorder.

Simply explained, the digital recording technique "samples" the signal, say, 50,000 times a second, and for each instant of sampling it assigns a digitally encoded number that indicates the relative amplitude of the signal at that moment. Even the most complex signal can be assigned one number that will totally describe it for an instant in time if the "instant" chosen is brief enough. The more complex the signal, the greater the number of samples

"IT IS CLEAR... FROM WRITINGS OF THE TIME... THAT..."

needed to represent it properly in encoded form.

In the late Seventies and early Eighties, digital audio tape recording proliferated on the professional level, and slightly later it also became standard for the home recordist. Many of the better home video-tape recording systems were adaptable for audio recording; they either came with built-in video-to-audio switching or had accessory converters available.

The video disc, first announced in the late 1960's, progressed rapidly along its own independent path, since it benefited from many of the same technical developments as the other home video and digital products. By the mid-1980's a variety of video-disc players were available that, when fed the proper disc, could provide both large-screen video programs with stereo sound or multichannel audio with separate reverb-only channels. The flat semiconductor TV screen that was available in any size desired appeared in the early 1980's. It was the inevitable outgrowth of the light-emitting diode (LED) technology that provided the readouts for the electronic watches and calculators that were ubiquitous during the 1970's. Later in the decade, giant-screen home video faced competition from the holographic recording/playback technique. Whether the viewer preferred a three-dimensional image that was necessarily limited in size and confined (somewhat) in spatial perspective or a life-size two-dimensional one ultimately came down to the specifics of the program material. In any case, the two noncompatible formats competed for the next twenty years or so.

LSI, RAM, and ROM

By the late 1980's, the pocket *computer* (not calculator) had become a reality. Here too, the evolutionary trend had been clearly visible for some time. The first integrated circuits were built in the late 1950's with only one active component per "chip." By the end of the Seventies, some LSI (large-scale integrated circuit) chips had over 30,000 components, and RAM (random-access memory) and ROM (read-only memory) micro-processor chips became almost as common as resistors in the hi-fi gear of the early 1980's. ADC's Accutrac turntable (ca. 1976) was the first product resulting from (in

their phrase) "the marriage of a computer and an audio component." The progeny of this miscegenation was the forerunner of a host of automatic audio components that could remember stations, search out selections, adjust controls, prevent audio mishaps, monitor performance, and in general make equipment operation easier while offering greater fidelity than ever before. As a critic of the period wrote: "This new generation of computerized audio equipment will take care of everything for the audiophile but the listening." Shortly thereafter, the equipment did begin to "listen" also, and soon any audiophile without a totally voice-controlled system (keyed, of course, only to his own vocal patterns) felt very much behind the times. One could also verbally program the next selection—or the next one hundred.

"Resident" Computers

The turn of the century saw LSI chips with million-bit memories and perhaps 250 logic circuits—and the eruption of two controversies, one major and one minor. The major controversy would have been familiar to those of our ancestors who were involved in the cable-vs.-broadcast TV hassles during the 1970's and later. The big question in the year 2000 was the advantage of "time-sharing" compared with "resident" computers for program storage.

Since the 1950's the need for fast output and large memory-storage capacity had driven designers into ever more sophisticated devices, most of them derived from fundamental research in solid-state physics. The late 1970's, a period of rapid advances, saw the primitive beginnings of numerous different technologies, including the charge-transfer device (CTD), the surface acoustic-wave device (SAW), and the charge-coupled device (CCD), each of which had special attributes and ultimately was pressed into the service of sound-reproduction processing and memory. The development of the technique of molecular-beam epitaxy (which enabled chips to be fabricated by bombarding them with molecular beams) eventually led to superconductor (rather than *semiconductor*) LSI's and molecular-tag memory (MTM) devices. Super-fast and with a fantastically large storage capacity, the MTM chips functioned as the heart of the

pocket-size ROM cartridge (or "cart" as it was known) that contained the equivalent of hundreds of primitive LP discs.

The read-only memory of the MT carts could provide only the music that had been "hard-programmed" into them. This was fine for the classical music buff, since it was possible to buy the complete works of, say, Bach, Beethoven, and Carter in a variety of performances *all* in one MT cart and still have molecules left over for the complete works of Stravinsky, Copland, Smythe, and Kuzo. However, anyone concerned with keeping his music library up to date with the latest Ramarock releases or Martian crystal-tone productions obviously needed a *programmable* memory. But how would the new program get to the resident computer and in what format?

By this time, every home naturally had a direct cable to a master time-sharing computer whose memory banks were constantly being updated with the latest compositions and performances. That was just one of its minor facilities, of course, but music listeners who subscribed to the service needed only request a desired selection and it would be fed to and stored in their RAM memory units. Those audiophiles who derived no ego gratification from owning an enormous library of MT carts could simply use the main-computer feed directly and avoid the redundancy of storing program material at home. Everyone was wired anyway, directly or indirectly, to the National Computer by ultra-wide-bandwidth light-guide cable. The cable normally handled multichannel audio-video transmissions in addition to personal communication, bill-paying, voting, etc., and, of course, the Transfax printout you are now reading.

Creative Options

The other controversy mentioned, a relatively minor one, involved a question of creative aesthetics. The equalizers used by the primitive analog audiophiles provided the ability to second-guess the recording engineers in respect to tonal balance in playback. This was child's play compared with the options provided by computer manipulation of the digitally encoded material. Rhythms and tempos of recorded material could easily be recomposed ("de-

THE PERIOD... JUST AFTER THE YEAR 1950... WAS...

TWO HUNDRED YEARS

composed" in the view of some purists) to the listeners' tastes. Furthermore, one could ask the computer to compose original works or to pervert compositions already in its memory banks. For example, one could hear Mongo Santamaria's rendition of Mozart's *Jupiter Symphony* or even *A Hard Day's Night* as orchestrated by Bach or Rimsky-Korsakov. The computer could deliver such works in full fidelity—sonic fidelity, that is—without a millisecond's hesitation.

Since Edison's time, the major problems of high fidelity have occurred in the interface devices, those transducers that "read" the analog-encoded material from the recording at one end of the chain or converted it into sound at the other. Digital recording, computer manipulation of the program material, and the MT memory carts solved the pickup end of the problem elegantly; however, for decades the electronic-to-sonic reconversion remained terribly inexact, despite the fact that it was known for at least a century that the core of the problem lay in the need to overlay a specific acoustic recording environment on a nonspecific listening environment. Techniques such as time-delay reverb devices, quadraphonics, and binaural recording/playback, which put enough "information" into a listening environment to override, more or less, the natural acoustics, were frequently quite successful in creating an illusion of sonic reality. But it continued to be very difficult to establish the necessary psychoacoustic cues. The problem was soluble, but it was certainly not easy with conventional technology. And the necessary unconventional technology appeared only in the early years of this century.

Brain Waves

It has long been known that all the material fed to the brain from the various sense organs is first translated into a sort of pulse-code modulation. But it was only fifty years ago that the psychophysicists managed to break the so-called "neural code." The first applications of the neural-code (NC) converters were, logically enough, as prosthetic devices for the blind and deaf.

(The artificial sense organs themselves could actually have been built a hundred years ago, but the conversion of their output signals to an encoded form that the brain would accept and translate into sight and sound was a major stumbling block.)

The NC (encee) converter was fed by microminiature sensors and then coupled to the brain through whatever neural pathways were available. Since rather delicate surgery was required to implant and connect the sensory transducer/converter properly, the invention of the Slansky Neuron Coupler was hailed as a breakthrough rivaling the original invention of the neural-

It is doubtful that the early audiophiles ever dreamed that the achievement of ultimate high-fidelity sound reproduction would one day threaten the very fabric of the society that made it possible."

code converter. The Slansky Coupler, which enabled encoded information to be radiated to the brain without direct connection, took the form (for prosthetic use) of a thin disc subcutaneously implanted at the apex of the skull. Microminiature sensors were also implanted in the general location of the patient's eyes or ears. Total surgery time was less than one hour, and upon completion the recipient could hear or see *at least* as well as a person with normal senses.

What has all this to do with high-fidelity reproduction? Ten years ago a medical student "borrowed" a Slansky device and with the aid of an engineer friend connected it to a hi-fi system and then taped it to his forehead. Initially, the story goes, the music was "translated"—"scrambled"—would be more accurate—into color and form and the video into sound, but several hundred engineering hours later the digitally encoded program and the Slansky device

were properly coupled and a reasonable analog of the program was directly experienced.

When the commercial entertainment possibilities inherent in the Slansky Coupler became evident, it was only a matter of time before special program material became available for it. And at almost every live entertainment or sports event, hi-fi hobbyists could be seen wearing their sensory helmets and recording the material. When played back later, the sight and sound fed directly to the brain provided a perfect you-are-there experience, except that other sensory stimuli were lacking. That was taken care of in short order. Although the complete sensory recording package was far too expensive for even the advanced neural recordist, "underground" cartridges began to appear that provided a complete surrogate sensory experience. You were there—doing, feeling, tasting, hearing, seeing whatever the recordist underwent. The experience was not only subjectively indistinguishable from the real thing, but it was, usually, better than life. After all, could the average person-in-the-street ever know what it is to play a perfect *Cyrano* before an admiring theater audience or spend an evening on the town (or home in bed) with his favorite video star?

THE potential for poetry—and for pornography—was unlimited. And therein, as we have learned, is the social danger of the Slansky device. Since the vicarious thrills provided by the neural-code-converter/coupler are certainly more "interesting" than real life ever is, more and more citizens are daily joining the ranks of the "encees." They claim—if you can establish communication with them—that life under the helmet is far superior to that experienced by the hidebound "realies." Perhaps they are right, but the insidious pleasures of the encee helmet has produced a hard core of dropouts from life far exceeding in both number and unreachability those generated by the drug cultures of the last century. And while the civil-liberties and moral aspects of the matter are being hotly debated, the situation is worsening daily. It is doubtful that the early audiophiles ever dreamed that the achievement of ultimate high-fidelity sound reproduction would one day threaten the very fabric of the society that made it possible. □

...THE TURNING POINT... FOR SOUND REPRODUCTION...."

THE FEEL OF MUSIC

The Realistic® Mach One isn't just for your ears!

Multicell midrange horn

Provides a true spatial image. Smooth 800-8000 Hz response for a "live" presence.

Heavy-duty tweeter horn

Delivers crisp and clean highs from 8000 to 25,000 Hz.

Treble, midrange L-pads

Calibrated controls for precise adjustment of response to suit room acoustics.

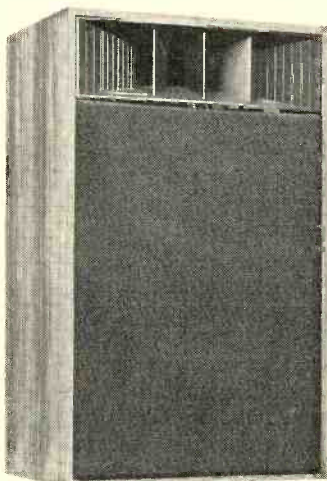
Oiled walnut veneer

We make speaker positioning easy by including a cabinet with the look and feel of fine furniture — so the Mach One looks great anywhere!



Massive 15" woofer

The acoustic suspension, large-excursion cone has an effective radiating area of over 100 square inches—the equivalent of a huge air-pump — for bass you can feel all the way down to 20 Hz. The four-layer voice coil is wound on a brass form for heavy power handling capacity—over 100 watts peak program material.



Removable grille

The sturdy grille frame snaps on and off for easy access to the response controls.

A great loudspeaker doesn't just please your ears. It reproduces deep bass with a power and punch your entire body feels . . . it recreates the live ambience so accurately that when you close your eyes, you're "on location" in that auditorium, concert hall or night spot . . . and it delivers top performance with both moderate and high-powered amplifiers. If you think we're talking about a \$400 speaker, you haven't experienced the Mach One. For under \$200 each*, you get incredible "live theatre" sound from a name you can depend on: Realistic. Backed by 56 years in audio design, manufacture, sales and service. So bring in your favorite record for a Mach One audition, and discover the feel of music.

SOLD ONLY WHERE YOU SEE THIS SIGN:

Radio Shack®

A TANDY COMPANY • FORT WORTH, TEXAS 76107
OVER 5000 LOCATIONS IN NINE COUNTRIES



These two credit cards honored at most Radio Shacks.

*Price may vary at individual stores and dealers.

FROM 1900 to 1948, the year of the first mass-distributed LP records, nearly 500,000 performances of classical music were commercially recorded. The three subsequent decades provided probably double that number, documented via magnetic-tape-to-microgroove-disc technology. It is only the first twenty-five years of the phonograph era that speak rather sparsely to the general public, for the harnessing of Thomas Edison's ba-

pre-electrical "historic" recordings, because of space limitations and because the highly specialized knowledge needed to assess—in some cases even to appreciate—these early recordings is the proper province of specialists. And third, so that this list may be more real than merely theoretical, I have heavily slanted it toward those recordings that are available today, in some form, for general consumption. Of course, the "time frame" of what is actually available on LP has expanded enormously over the past decade. But I would suggest that anyone interested in *historical* recordings equip himself with a variable-speed turntable that will allow him to hazard his own aesthetic guess as to proper speed and pitch, rather than being at the mercy of the original "78" or a reissue's perhaps fallible engineer.

HERE, then, is my lightly annotated list of "Great Recordings of the Centenary." The record number and label listed are those of the present incarnations, except in the case of 78-rpm recordings, where both the original American issue (if there was one) and the current reissue are given. If the performance is not available today, the number given is that of its last LP issue followed by the notation "out of print." Records are in alphabetical order by composer.

□ **BACH: Goldberg Variations.** Wanda Landowska (harpsichord). VICTOR 78-rpm set M 1022; RCA VICTROLA VIC 1650. A noble testament by *la grande maîtresse* of the rediscovered instrument.

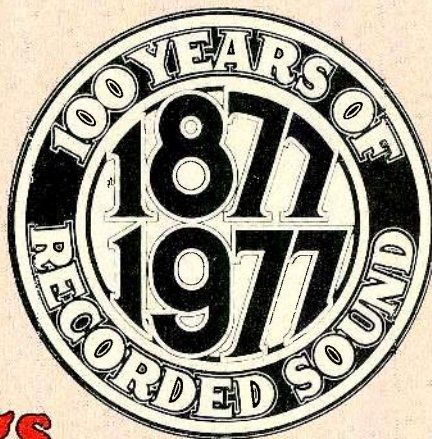
□ **BACH: Mass in B Minor (BWV 232).** Maria Stader (soprano); Hertha Töpfer (alto); Ernst Haefliger (tenor); Dietrich Fischer-Dieskau (baritone); Munich Bach Choir and Orchestra, Karl Richter cond. DG ARCHIV 2710001 two discs. A superbly vital and beautifully recorded performance.

David Hall's

Best

Recordings

of the Centenary



sic invention to the mass-production techniques and playback equipment developed by Emile Berliner and Eldridge Johnson did not take full effect until just after the turn of the century.

The recordings of the last seventy-five years, however, are so numerous and so varied that, in making even the most personal, idiosyncratic selection of great records, one can really only skim the surface. Since I do not propose to let that stop me, I'd better warn the reader that the annotated list that follows is biased in several ways. I am first, of course, laying my own musical tastes on the line. Second, I am omitting (with a single exception)

□ **BARTÓK: *Bluebeard's Castle***. Christa Ludwig (mezzo-soprano); Walter Berry (baritone); London Symphony Orchestra, István Kertész cond. LONDON OSA 1158. An impassioned and stunningly recorded realization of Bartók's 1911 masterpiece.

□ **BEETHOVEN: *An die Ferne Geliebte, Op. 98***. Gerhard Hüsch (baritone); Hans Udo Müller (piano). VICTOR 78-rpm 12246/7; in PREISER LV 85 (available on import). A beautiful transfer job of one of the many great lieder performances by Hüsch.

□ **BEETHOVEN: *Symphony No. 5, in C Minor, Op. 67***. Vienna Philharmonic Orchestra, Carlos Kleiber cond. DEUTSCHE GRAMMOPHON 2530516. Is this the *ultimate* interpretive-sonic realization of this quintessential basic repertoire work?

□ **BEETHOVEN: *Symphony No. 7, in A Major, Op. 92***. New York Philharmonic-Symphony Orchestra, Arturo Toscanini cond. VICTOR 78-rpm set M 317; RCA VICTROLA VIC 1502. The Maestro's 1936 performance still remains for me the definitive statement.

□ **BEETHOVEN: *Variations on a Theme of Diabelli, Op. 120***. Artur Schnabel (piano). HMV (England) 78-rpm DB 3519/25; in SERAPHIM 6067 three discs. The Old Master in 1937, at the peak of his form and splendidly recorded.

□ **BELLINI: *Norma***. Maria Callas (soprano); Ebe Stignani (mezzo-soprano); Mario Filip-peschi (tenor); Nicola Rossi-Lemeni (bass); La Scala, Milan, Chorus and Orchestra, Tullio Serafin cond. SERAPHIM 6037 three discs. "*La Divina*" in her prime, breathing new life into the classic bel canto opera. A new era of operatic performance was launched with this set.

□ **BERG: *Lytic Suite***. Juilliard String Quartet. COLUMBIA ML-2148 (out of print). The 1950 Juilliard Quartet's sizzling performance has never, in my estimation, been surpassed. An Odyssey reissue is in order.

□ **BERLIOZ: *Les Troyens***. Jon Vickers (tenor); Josephine Veasey (soprano); Berit Lindholm (soprano); Roger Soyer (baritone); Peter Glossop (baritone); Covent Garden Royal Opera Chorus and Orchestra, Colin Davis cond. PHILIPS 6709 002 five discs. Berlioz's epochal operatic masterpiece in its

(thus far) one and only complete recorded performance, and a mighty fine one at that.

□ **BRAHMS: *A German Requiem, Op. 45***. Elisabeth Schwarzkopf (soprano); Dietrich Fischer-Dieskau (baritone); Philharmonia Chorus and Orchestra, Otto Klemperer cond. ANGEL S-3624 two discs. The monumental and compassionate aspects of Klemperer's interpretive genius find a near-perfect realization here.

□ **BRITTEN: *Serenade for Tenor, Horn, and Strings, Op. 31***. Peter Pears (tenor); Barry

sical-poetic tour de force on Lorca's texts may well outlast most other avant-garde works of its time—due in no small measure to this spell-binding performance and the superb recording of it.

□ **DEBUSSY: *La Mer***. NBC Symphony Orchestra, Arturo Toscanini cond. RCA VICTROLA VIC 1246. Elemental is the word for Toscanini's reading of Debussy's "Sea Symphony." Vintage 1950 sound or no, this recorded document is in a class by itself.

□ **DVOŘÁK: *Cello Concerto in B Minor, Op. 104***. Pablo

Smith Singers; Texas Boys' Choir of Fort Worth; E. Power Biggs (organ); Edward Tarr Brass Ensemble, Vittorio Negri cond. COLUMBIA MS-7071. Giovanni Gabrieli's sumptuous polychoral masterpiece gloriously performed and recorded in St. Mark's Cathedral, Venice, for which the music was originally written. What more can one ask?

□ **GLUCK: *Alceste***. Kirsten Flagstad (soprano); Raoul Jobin (tenor); Alexander Young (tenor); other soloists; Geraint Jones Singers and Orchestra, Geraint Jones cond. RICHMOND RS 63512 three discs. The noble line and compassion of Gluck's music provided a splendid vehicle for Flagstad at the end of her singing career. The artist and the music here are wholly one.

□ **GRAINGER: *Lincolnshire Posy***. Eastman Wind Ensemble, Frederick Fennell cond. MERCURY SRI 75093. Superb folk-song settings, magnificent band scoring, and quite possibly the most impressive recorded band performance achieved up to 1958. I have heard almost nothing as good since.

□ **HANDEL: *Messiah: Comfort ye . . . Every valley shall be exalted***. Aksel Schiøtz (tenor); Danish Young Artists' Orchestra, Mogens Wöldike cond. HMV (England) 78-rpm DB 5239; in SERAPHIM 60227. The late, great Danish singer and teacher recorded this performance in 1940 and therein set a standard by which all other versions since are judged. Indispensable.

□ **HAYDN: *The Seasons***. Gundula Janowitz (soprano); Peter Schreier (tenor); Martti Talvela (bass); Vienna Singverein Choir; Vienna Philharmonic Orchestra, Karl Böhm cond. DEUTSCHE GRAMMOPHON 2709-026 three discs. Haydn's celebration of the country life has always been a special favorite of mine. Böhm and his forces achieve a splendidly colorful and virile realization, abetted by gorgeous sonics.

□ **IVES: *Piano Sonata No. 2 ("Concord, Mass. 1840-1860")***. John Kirkpatrick (piano). COLUMBIA MS-7192. The essence of Ives' musical thought is encompassed in the four movements of this masterpiece, evocative of Emerson, Hawthorne, the Alcotts, and Thoreau. The artist-school-er who gave the first complete performance con-

The invention of the phonograph one hundred years ago was responsible for the greatest changes in our ways of listening to music since the invention of the concert hall. The documentation of performances it led to was something previously unknown in music, for up to this time a given interpretation, no matter how great, was preserved only in the fallible memories of those who were present on the occasion. In a hundred years, this process of documentation has resulted in the establishment of a huge body of recorded material, most of it still extant in some form or other, that must be constantly sifted through, appraised, and reappraised both by musical scholars and by ordinary listeners in the light of continually changing knowledge and taste. —James Goodfriend, Music Editor

Tuckwell (horn); London Symphony Orchestra, Benjamin Britten cond. LONDON OS 26161. To all intents and purposes, the definitive recorded realization of Britten's youthful masterpiece.

□ **CHOPIN: *Fantasia in F Minor, Op. 59***. Solomon (piano). COLUMBIA (England) 78-rpm DX 688/9; in ODEON RLS 701/3 three discs (available on import). The young Solomon's impassioned yet superbly controlled playing of Chopin's great Fantasia is for me the prize item in this "Tribute to Solomon" package.

□ **CRUMB: *Ancient Voices of Children***. Jan DeGaetani (mezzo-soprano); Michael Dash (boy soprano); Contemporary Chamber Ensemble, Arthur Weisberg cond. NONESUCH H-71255. George Crumb's mu-

Casals (cello); Czech Philharmonic Orchestra, George Szell cond. VICTOR 78-rpm set M 458; SERAPHIM 60240. The fact that this masterpiece was recorded in the homeland of the Czechs at a time when Casals' own country was being riven by civil war unquestionably accounts for the unique intensity the cellist brought to this performance. It is unsurpassed to this day.

□ **FRANCK: *Chorale No. 2, in B Minor***. Marcel Dupré (organ). MERCURY 75006. For me, this is the finest of the Three Chorales, Franck's final masterpiece; this 1957 recording from New York's St. Thomas Church is the finest documentation both of the music and of Dupré's interpretive artistry.

□ **GABRIELI: *In Ecclesiis Benedicite Domino***. Gregg



1

2

3

4

veys that essence in all its wholeness in this, his second recording of the work for Columbia.

□ **JANÁČEK: Slavonic Mass.** Evelyn Lear (soprano); Hilde Rössl-Majdan (alto); Ernst Haefliger (tenor); Franz Crass (bass); Bedrich Janáček (organ); Chorus and Orchestra of the Bavarian Radio, Rafael Kubelik cond. DEUTSCHE GRAMMOPHON 138954. If Kirkpatrick's recording of the *Ives Concord Sonata* can be described as a special sort of artistic testament, so too can Rafael Kubelik's of Janáček's mighty *Mša Glagolskaja*. The performance is one of shattering power, with sound to match.

□ **LEONCAVALLO: Pagliacci: Vesti la giubba.** Enrico Caruso (tenor); orchestra. VICTOR 78-rpm 88061; in RCA CRM1-1749. A classic Caruso performance (1907)—here, in this latest LP reissue, with spurious resonances removed through the medium of computer technology. The end result does not yet give us the ultimate in restoration, but it is a big step in the right direction.

□ **MAHLER: Das Lied von der Erde.** Kathleen Ferrier (contralto); Julius Patzak (tenor); Vienna Philharmonic Orchestra, Bruno Walter cond. RICHMOND 23182. A uniquely beautiful and affecting performance of Mahler's great elegiac cycle, matched in eloquence only by Walter's Vienna recording of sixteen years before, done from public performance.

□ **MENDELSSOHN: A Midsummer Night's Dream, Over-**

ture. Philadelphia Orchestra, Arturo Toscanini cond. In RCA CRM5 1900 five discs. One of the choicest of several very choice items from the Maestro's 1942 Philadelphia Orchestra series, which had to wait almost thirty-five long years for release.

□ **MEYERBEER: L'Africaine: O Paradiso!** Jussi Bjoerling (tenor). VICTOR 78-rpm 12150; in ODEON ALP 1620 (available on import). The young Bjoerling (1938) is heard here in all his full-throated splendor and first-rate musicianship. One of several outstanding Thirties performances on the LP disc.

□ **MOUSSORGSKY: Boris Godounov: Prayer and Death of Boris.** Feodor Chaliapin; chorus and orchestra, Eugene Goossens cond. VICTOR 78-rpm 6724; in MELODIYA 018101/16 eight discs (available on import). For all the stage realism of the live Covent Garden recording of 1928, I have always cherished Chaliapin's one and only electrical studio recording, which reveals far more of the musical aspects of his interpretation. The one LP transfer I know of is in the comprehensive USSR collection.

□ **MOUSSORGSKY: Songs and Dances of Death.** Jennie Tourel (mezzo-soprano); Leonard Bernstein (piano). ODYSSEY Y2 32880 two discs. The number of truly great performances, on or off records, of Moussorgsky's macabre song cycle can be counted on the fingers of one hand. The 1950 Tourel-Bernstein collaboration falls easily into that category

and is for me the high point of the *Odyssey "Tribute"* album.

□ **MOZART: Symphony No. 36, in C Major ("Linz," K. 425).** London Philharmonic Orchestra, Sir Thomas Beecham cond. COLUMBIA 78-rpm set M-387; in TURNABOUT THS 65022/6 five discs. Other than the celebrated *Magic Flute* recording, the finest of Beecham's full-blooded Mozart is to be found in the London Philharmonic discs of the late 1930's, among which my special favorite happens to be this one of the *Linz*.

□ **PROKOFIEV: Violin Concerto No. 2, in G Minor, Op. 63.** Jascha Heifetz (violin); Boston Symphony Orchestra, Serge Koussevitzky cond. VICTOR 78-rpm set M 450; in RCA ARM4 0945 four discs. Heifetz's technique and musicality coupled with Koussevitzky and his Boston Symphony in peak form make for a pretty unbeatable combination. The glitter easily shines through even the dull 1937 sonics.

□ **PUCCINI: La Bohème.** Licia Albanese (soprano); Ann McKnight (soprano); Jan Peerce (tenor); Frank Valentino (baritone); Nicola Moscona (bass); George Cehanovsky (baritone); NBC Symphony Orchestra and Chorus, Arturo Toscanini cond. RCA VICS 6019E two discs. For me this has the most spontaneity of any of the Toscanini radio opera productions documented on commercial discs. The sentimentality is soft-pedaled here, and what emerges is a fresh work of immensely youthful ardor and impulse.

□ **RACHMANINOFF: Vespers, Op. 37.** USSR Russian Chorus, Aleksander Sveshnikov cond. MELODIYA/ANGEL SRB-4124 two discs. The most profoundly beautiful of all Rachmaninoff's work, done with loving care by his countrymen and superbly recorded. A singularly moving aural and spiritual experience.

□ **RAVEL: L'Enfant et les Sortilèges.** Françoise Ogeas (soprano); Jeanine Collard (contralto); others; RTF Choir; French National Orchestra, Lorin Maazel cond. DEUTSCHE GRAMMOPHON 138675. Ravelian fantasy was never more poignant and comical than in this little operatic excursion into a child's life and psyche. Maazel, his cast, and the recording engineers together bring the whole thing off most beautifully and touchingly.

□ **SCHOENBERG: Variations for Orchestra, Op. 31.** Berlin Philharmonic Orchestra, Herbert von Karajan cond. DEUTSCHE GRAMMOPHON 2530627. Karajan not only makes this knotty piece seem as easy as a Mozart or Haydn symphony, he also makes it electrifyingly dramatic. The superb recording helps too.

□ **SCHUBERT: Piano Sonata in D Major (D. 850).** Artur Schnabel (piano). VICTOR 78-rpm set M 888; in ODEON C153 1220/2 three discs (available on import). I have always loved Schnabel's way with Schubert even more than his accomplishments as a Beethoven interpreter. The 1939 reading of the D Major Sonata is only the greatest of many riches in

10

11

12

13

14

15





5

6

7

8

9

the all-Schubert LP collection.

□ **SCHUBERT: *Der Doppelgänger***. Alexander Kipnis (bass); Frank Bibb (piano). COLUMBIA 78-rpm 72057D; in COLUMBIA SPECIAL PRODUCTS CSP AM 30405. I know of no lieder performance better calculated to raise the hairs on the back of one's neck than this 1927 Kipnis rendering of *Der Doppelgänger*, unless it be Helge Roswaenge's Hugo Wolf Society recording of *Der Feuerreiter* (not yet available in LP format). Columbia's transfer is remarkably fine.

□ **SCHUMANN: *Papillons, Op. 2***. Alfred Cortot (piano). VICTOR 78-rpm 1819/20; in SERAPHIM 60143. The brilliant and idiosyncratic Cortot is in top form here (he was always, for my taste, a good Schumann interpreter). The recording was a gem in its original two- (ten-inch) disc format; it remains so thirty-seven years later as an LP.

□ **SCRIABIN: *Vers la Flamme, Op. 72***. Vladimir Horowitz (piano). COLUMBIA M-31620. I think Horowitz can be greater playing the Mendelssohn *Spring Song* than the most dazzling Lisztian pyrotechnics, but if you want to confront the demonic Horowitz I recommend this incredible Scriabin performance. Is it like this inside an atomic reactor?

□ **SHOSTAKOVICH: *Symphony No. 14, Op. 135***. Galina Vishnevskaya (soprano); Mark Reshetin (bass); Moscow Philharmonic Soloists, Mstislav Rostropovich cond. COLUMBIA/MELODIYA M-34507. Shostako-

vich's *Totenfeier* (death celebration) is overpoweringly realized here. No words can do justice to this listening experience; it must be undergone.

□ **SIBELIUS: *Violin Concerto in D Minor, Op. 47***. Jascha Heifetz (violin); London Philharmonic Orchestra, Sir Thomas Beecham cond. VICTOR 78-rpm set M 309; SERAPHIM 60221. There have been many fine recordings of the Sibelius concerto, but this 1935 collaboration still sets the standard both violinistically and in terms of teamwork. Only the Prokofiev G Minor Concerto with Koussevitzky is in the same class as a performance.

□ **R. STRAUSS: *Ein Heldenleben, Op. 40***. New York Philharmonic-Symphony, Willem Mengelberg cond. VICTOR 78-rpm set M 44; RCA AVM1 2019. The classic performance, conducted by its dedicatee, and newly restored to some semblance of its pristine state (ca. 1929), which is to say less most of the extraneous noise.

□ **STRAVINSKY: *Le Sacre du Printemps***. Columbia Symphony Orchestra, Igor Stravinsky cond. COLUMBIA M-31030. The classic performance of the twentieth-century counterpart to Beethoven's *Eroica*, conducted in this instance by its creator. A splendid antidote to those recorded performances intent only on mindless virtuosity for its own sake.

□ **TALLIS: *Spem in Alium (Forty-part Motet)***. Kings College Choir, David Willcocks cond. ARGO ZRG 5436. Music of subtle but overwhelming

grandeur is magnificently realized through the Kings College Chapel's acoustic ambiance and the recording engineers' art and craft—not to mention the contributions of a superb choir and conductor.

□ **VARESE: *Poème Electronique***. COLUMBIA MS-6146. In grandeur of conception and execution, Varèse's 1958 masterpiece still makes most other electronic music seem pretty piddling. Now I'd like to see Columbia tackle a four-channel realization.

□ **VAUGHAN WILLIAMS: *Symphony No. 4, in F Minor***. BBC Symphony Orchestra, Ralph Vaughan Williams cond. VICTOR 78-rpm set M 440; WORLD RECORDS SH 128 (available on import). A superb transfer of the composer's 1937 recording. No other performance has conveyed this music's tautness and savagery to such a degree.

□ **VERDI: *Te Deum***. Robert Shaw Chorale; NBC Symphony Orchestra, Arturo Toscanini cond. RCA VICTROLA VICS 1331E or RCA GERMANY AT 131. Quintessential Verdi! Quintessential Toscanini! But avoid the electronic stereo version if you can.

□ **WAGNER: *Das Rheingold***. George London (baritone); Kirsten Flagstad (soprano); Gustav Neidlinger (bass); Set Svanholm (tenor); others; Vienna Philharmonic Orchestra, Sir Georg Solti cond. LONDON OSA 1309 three discs. Operatic stereo came of age in this first John Culshaw-produced spectacular; one can

speak of an almost aural-visual phenomenon here. The performance is a Wagnerian's dream come true, and only the finest playback equipment can do justice to the sonics.

□ **WAGNER: *Die Walküre: Act I***. Lotte Lehmann (soprano); Lauritz Melchior (tenor); Emanuel List (bass); Vienna Philharmonic Orchestra, Bruno Walter cond. VICTOR 78-rpm set M 298; SERAPHIM 60190. Here is another kind of Wagnerian's dream come true: three of the greatest singers of their era, together with a great conductor and a great orchestra, all in peak form. Any deficiencies inherent in the 1936 sonics are of small moment. This performance sets the standard for all others.

□ **WOLF: *Michelangelo Lied-er***. Alexander Kipnis (bass); Coenraad V. Bos (piano); Gerald Moore (piano). HMV (England) 78-rpm set DB 2045/50; in SERAPHIM 60076, 60163. Sublime performances of the three somber Michelangelo settings that were to be Hugo Wolf's last musical utterances. These are among the thirty-six songs out of the hundred nineteen recorded for the HMV Hugo Wolf Society series that have thus far been reissued on LP. □

David Hall is the curator of the Rodgers and Hammerstein Archives of Recorded Sound at New York's Lincoln Center Music Library. A former music editor of STEREO REVIEW and the author of the ur-text *The Record Book*, he has been a writer on the subjects of records and recording for almost forty years.

16

17

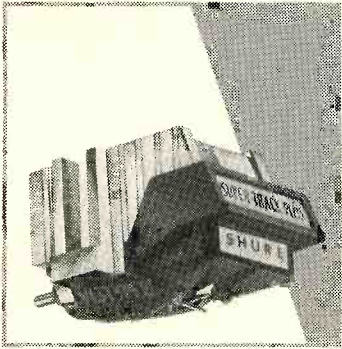
18

19

20

21

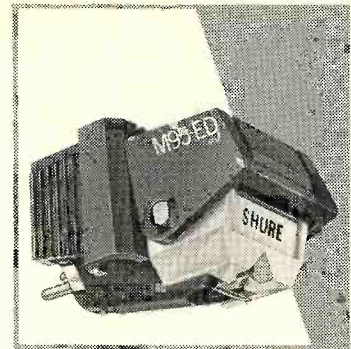




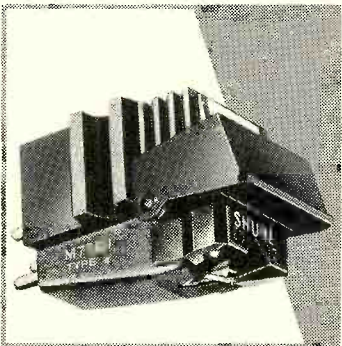
V-15 Type III . . . critics called the Type III the finest cartridge ever when it was introduced. The ultimate test, however, has been time. The V-15's engineering innovations, the uniform quality, and superb performance remain unsurpassed by any other cartridge on the market today. 3/4 to 1-1/4 gram tracking force.



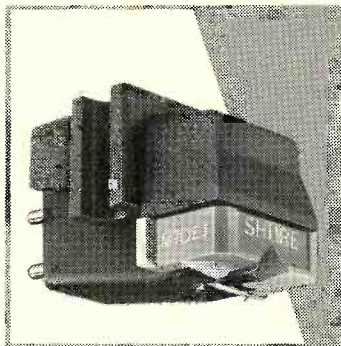
M24H . . . the cartridge that does not compromise stereo reproduction to add four-channel capability. Superb stereo trackability and quadraphonic carrier signal retrieval. New hyperbolic stylus tip, high energy magnet, and low-loss laminated electromagnetic structure. 1 to 1-1/2 gram tracking force.



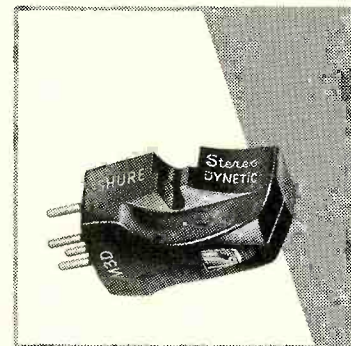
M95ED . . . second only to the V-15 Type III in stereo reproduction. A thinner, uninterrupted pole piece minimizes magnetic losses. Its 20 to 20,000 Hz response remains essentially flat across the entire frequency range for excellent sound quality. 3/4 to 1-1/2 gram tracking force.



M75ED Type 2 . . . excellent trackability at a lesser price. The M75ED Type 2 features a built-in snap-down stylus guard and a smooth 20 to 20,000 Hz frequency response. 3/4 to 1-1/2 gram tracking force.



M70EJ . . . the easiest way to upgrade your hi-fi stereo system without straining your budget. Basically flat response is comparable to other brand cartridges costing twice as much. 1-1/2 to 3 gram tracking force.



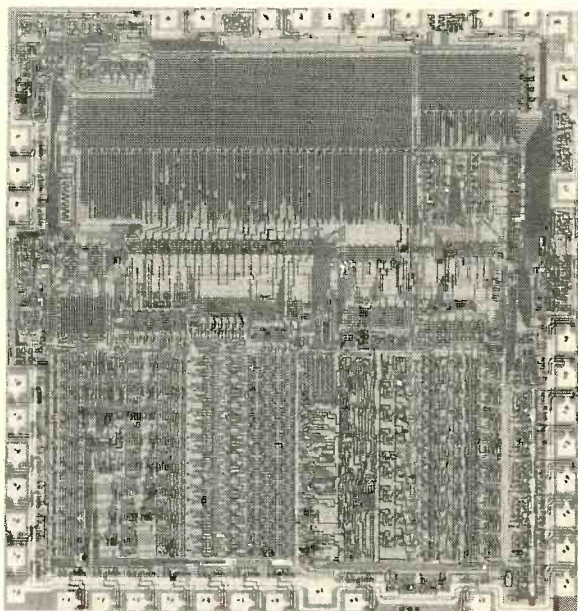
M3D . . . the original famous Shure Stereo Dynetic® Cartridge. The M3D provides extremely musical and transparent sound at a rock bottom price. 3 to 6 gram tracking force.

The People's Choice-World-wide.

From Singapore to London to New York, Shure hi-fi pickup cartridges outsell every other brand — according to independent surveys. And for good reason: Shure cartridges, no matter where they're purchased, are guaranteed to meet the exacting published specifications that have made them the Critics' Choice in every price category.



Shure Brothers Inc., 222 Harrey Ave., Evanston, IL 60204
In Canada: A.C. Simmonds & Sons Limited



AUDIO'S DIGITAL FUTURE

By Robert Berkovitz

Bell Labs' new MAC-8 microprocessor chip is shown framed by an ordinary paper staple, both with the same enlargement. The device contains over 7,000 transistors fabricated on a single chip of silicon, and it can execute over a hundred thousand electronic logic ("thinking") functions per second while using only 0.1 watt of power.

THERE was almost nothing about the first mechanical phonographs of one hundred years ago that could not have been duplicated by technology available to the ancient Greeks. And even our "modern" methods of sound recording and reproduction, based on electricity and magnetism, are far from being the most sophisticated systems of their kind. For example, the human hearing system converts incoming sound waves into streams of electrical pulses sent along nerve pathways to the brain. Although this is sometimes compared to the operation of a microphone converting sound waves into electricity, our biological hearing system is profoundly different.

A good microphone will produce an electrical output with a varying pattern which is an exact replica of the pattern of changing air pressure; the electrical signal sent to the brain by the ear contains no such simple replica, but consists mainly of bursts or volleys of electrical discharges. The electrical discharges result from the firing of individual nerve cells which either fire or do not—they have no intermediate state. They either make or withhold their contribution to the total stream of impulses, like members of the audience at a stadium match-lighting ceremony. It is the statistics that count. A second—more subtle but no less important—characteristic of the biological hearing system is that the streams of electrical impulses moving toward and through the brain are combined, selected, and interpreted along the way to

permit the detection of certain features of a sound which may be of special importance. Indeed, it is these two properties of the central nervous system—communication by simple impulses and the complex interconnection of pathways—that scientists now believe form the physical basis of thought and memory.

By now, almost everybody knows that digital computers are designed along similar lines. But comparing a computer to the human brain because both can sort or calculate is like claiming that a plastic sponge is the same as a living sponge because both soak up water. The subtlety of the living brain still eludes even the most thorough of investigators. However, men have learned to mimic the nervous system's operating principles and have found that there are important advantages to communication systems based on pulse transmission. We have also learned how to produce equipment to process and interpret "message" pulses. The same techniques are now being applied in a limited way to the recording and reproduction of music, with results that have staggering implications for the recording and high-fidelity industries as well as all music listeners.

The operating principles of the human brain and central nervous system (combined with other techniques which that brain has invented) form digital technology. This technology is bound to change almost every aspect of music recording and reproduction within a few years. The rapidity with which the change is likely to take place can be at-

tributed to the development of highly complex new integrated circuits—the ubiquitous "chips."

The sound we hear in our homes will certainly be different when digital recording becomes common. Consider tape or disc recordings that have no inherent noise, so that the dynamic range of music reproduction is limited only by the listening environment. Or consider master recordings, free of any audible noise and distortion, that may be copied through hundreds of generations yet still sound exactly the same as the original. Consider disc recordings immune to scratches and dust, discs that do not wear out and that give superb reproduction with relatively low-cost cartridges. Think about making a multitrack recording in a studio, exploiting virtually every effect in the recording engineer's repertoire, mixing down the recording and making a perfect master without a recording console full of switches and meters—and without ever once cutting into the original tape. If you also consider that the equipment making all this possible will eventually *cost less* than present methods, you can develop some idea of the impact digital technology will have on both studio recording and home playback systems.

How Do Digital Systems Work?

It would be a good idea at this point to define "digital." Electrical circuits which work with pulses have been with

us for decades in such applications as telephone-dialing circuits and remote-control units for TV sets. Most of these systems are not, in the fullest sense of the word, digital. Digital systems are unique in this respect: *information is moved about in the form of groups of pulses which represent numbers.* Numerical representation is a key point, for it allows these groups of pulses to be dealt with like other numbers, using various mathematical techniques. It is the application of these two concepts which brings to bear upon music recording and reproduction the powerful techniques of digital signal processing.

The sounds produced by human voices and musical instruments are not digital, of course. In order to take advantage of the technology we have been talking about, it is necessary first to convert a sound to digital form. Suppose you have an instrument that measures the air-pressure variations produced by sound and shows its value on a meter of some sort. Every so often you look at the meter and write down its reading. If you do this at frequent intervals and make a graph of the resulting list of numbers, you will get a pattern of dots which can be connected together to give a continuous line. Question: how often do the readings have to be taken to insure that nothing of consequence will occur between two readings and therefore be missed? The answer to this question depends on the fidelity one expects in the result. For telephone conversation, the answer would be about 5,000 readings per second. For a single channel of high-fidelity music, about 40,000 samples per second are necessary. This process of taking periodic measurements, or sampling, can be carried out automatically by an electronic circuit at very high speeds. Other circuits take care of smoothly connecting these values so that listeners have absolutely no way of telling that the program has been chopped into segments, the segments converted into a list of numbers, then later reconverted and reassembled into a facsimile of the original program.

This process would be a matter of only academic interest, even to engineers, were it not for the fact that in recent years extremely powerful techniques have been developed for the large-scale storage and *manipulation* of numbers. The digital revolution that is

about to strike the music industry has largely come about because it is now possible to make machines that can do simple mathematical operations at a rate far in excess of 40,000 times each second. The numbers generated by the sampling process, if converted to binary form, can be accepted and used by a computer. This conversion process can be carried out at high speed by a small electronic module, an analog-to-digital (A-D) converter that can fit into the palm of one's hand. A corresponding module at the output of the computer, the D-A converter, does the reconversion job.

Before considering the interaction between a music signal and a computer, let us take a closer look at the two converters which have just been mentioned and consider the remarkable results they are able to produce even in

"If things are working right, there is absolutely no way in which we could possibly tell [a digital] copy from the original."

the absence of a computer. First, let us say we make a "perfect" direct-disc (no tape) recording. Later, if we duplicate the record, we obtain not only a copy of the music but also a copy of all the noise produced by dust, scratches, and wear as well. If we didn't play the original but instead made a copy of it and then made a copy of our copy, we would find that with each copy step the background noise increased. The quality of the program would also be diminished by the distortion added to the music with each succeeding generation. Various noise-reduction techniques can help, but there is almost nothing that can be done to eliminate the degradation totally. The problem arises because, in addition to playing back the music, we are playing the imperfections of the record's material, the accidental scratches and dust particles that have found their way onto the surface of the record, and the minute, but cumulative, noise present even in the best electronic equipment.

Now let us use digital conversion to make a similar series of recordings. Before recording on the disc, the signal passes through the analog-to-digital converter, emerging as a stream of pulses in groups, each group represent-

ing a number. It is easiest to record the pulses in sequence, one after another, leaving blank spaces where necessary. Thus, a very short period in our recording, consisting of a single value, might for example be represented by the binary number 1101001111100011. It is not at all hard to make a circuit that responds only to those pulses occurring just at specific time intervals. It is also easy to make the circuit insensitive to impulses that differ in shape from those which we intend to use in our recording. In copying a digital recording, the presence of a pulse in the original is used to generate a fresh, brand-new pulse for recording onto the copy; this is a further guarantee that nothing at all will be lost during the copying process. To play back either the original or the copy, we simply feed the stream of pulses to our digital-to-analog converter, connect the output to an amplifier and loudspeaker, and listen. If things are working right, there is absolutely no way in which we could possibly tell such a copy from the original.

This, then, is the basis for the extraordinary integrity (or fidelity) of digital recordings or transmissions. First, they can be played in such a way as to totally separate the information in the recording from those physical characteristics of the recording itself that might cause noise and distortion. Second, copying is transformed into a kind of regeneration, so that losses or degradation that might be transferred from an original to the copy are almost completely suppressed. Because the characteristics of recording or transmission media are more effectively suppressed by digital systems, magnetic or disc recordings and FM and AM broadcasts will tend to have the same general properties so far as reproduction quality is concerned. Standards, however, will have to be different from those for today's broadcasts.

Digital Signal Processing

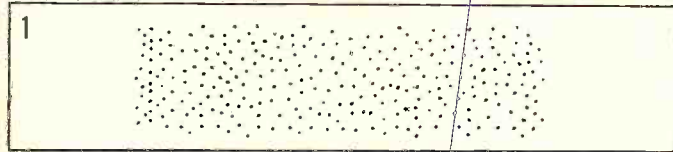
Now let us put a computer between the analog-to-digital and digital-to-analog converters. The computer need not be large or in any way formidable. Indeed, some of the hobby computers being sold in stores all over the country today and costing no more than a few hundred dollars can do significant signal-processing work, at least in measurement applications. However, appropriate computers for audio use will be designed for that specific purpose. Take, as an example, DITTO, a sixteen-channel digital delay network built at Acoustic Research. DITTO can fairly be said to have almost no intelligence, but it has memory enough to

hold about 9,000 binary numbers and sixteen simple programs, and it includes some typical digital circuitry along with the inevitable A-D and D-A converters. Although used primarily as a research tool, DITTO has entertained many hundreds of visitors to the Audio Engineering Society conventions during the past few years by making a small demonstration room sound like a recital hall, a concert hall, or a cathedral. This system can even shift the listener's apparent position in the hall, enabling him to hear the difference it would make.

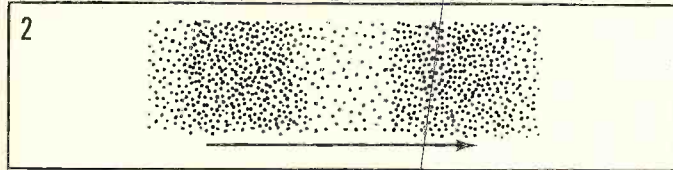
To use DITTO, one adds to a standard stereo system sixteen additional loudspeakers and the special sixteen-channel power amplifier built for use with the system. The same ordinary stereo recordings fed to the main system are also fed to DITTO; the same signal comes from each of the sixteen loudspeakers at a slightly different time. The heart of this system is a full-scale research computer programmed to analyze the acoustical properties of the hall to be simulated; its results are entered via the keyboard on the front of DITTO. Sixteen different sets of acoustical characteristics can be stored in DITTO at any one time; one can therefore jump to any of sixteen simulated rooms in a fraction of a second by touching the appropriate button on the control panel. When a good recording—especially one with realistic room reverberation in it—is played through the system, the results can be strikingly realistic, particularly if heard with the room lights turned out or the eyes shut. In principle, there is nothing to prevent DITTO from being operated with a little deck of punched cards, presumably marked "Concertgebouw, Amsterdam," "Symphony Hall, Boston," "The Musikvereinsaal, Vienna," etc. Similar but far simpler devices of the same kind are beginning to appear on the market for consumer use, although these do not partake of digital technology in the sense in which the term is used in this article.

Delay units based on similar concepts were introduced for professional use years before AR's unit was built. The Delta-T systems, based on designs by Dr. Francis Lee of M.I.T. and made by Lexicon, meet extremely high standards of audio performance, and some permit recording engineers to obtain various special sound effects in addition to simple time delay. The EMT All-Electronic Reverberation System, the first digital product to reach the marketplace that can fairly be described as a special-purpose computer, is conceptually similar to AR's DITTO system, but it is much more complex in operation. (Continued overleaf)

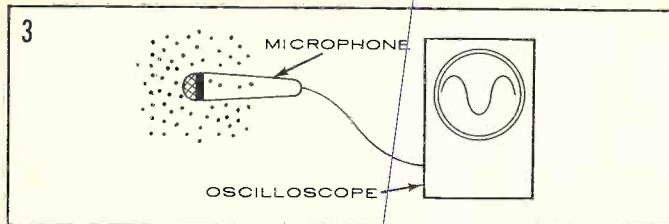
CONVERTING A MUSIC SIGNAL TO DIGITAL FORM



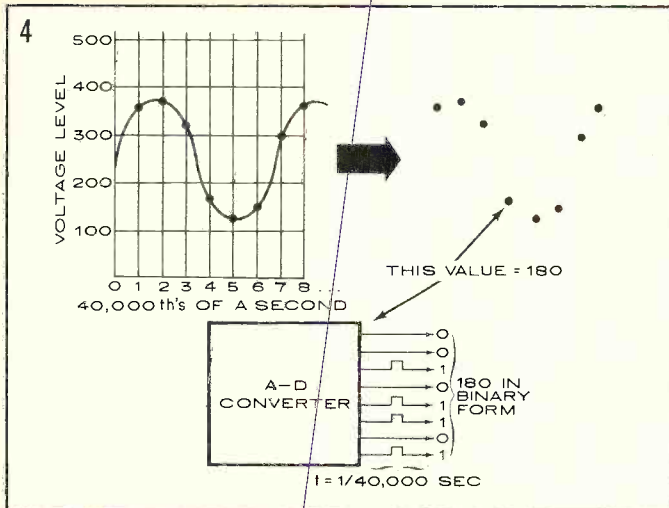
1 Quiet air consists of gas molecules more or less uniformly distributed.



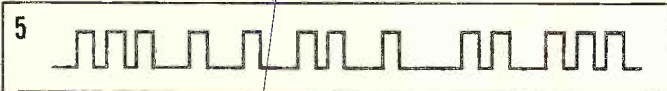
2 Sound is waves of greater-than and lower-than normal air density or pressure traveling from a source of sound.



3 A microphone responds to these pressure changes as a sound wave passes, giving a "reading" in the form of a changing voltage. An oscilloscope displays the pattern of voltage change.



An analog-to-digital (A-D) converter takes the voltage coming from the microphone and measures it about 40,000 times each second. Its reading—or output—is a number; a new number is generated each 1/40,000 of a second. Since the numbers are in binary-encoded form, they are made up of 1's and 0's only, and are easily represented as the presence or absence of a pulse (00101101 = 180, for example, if the binary number is read, left to right, from least-significant to most-significant bit).



The signal transmitted or stored no longer resembles the original waveform, but in effect, like the above diagram, it is a "description" of the original in numerical form. A digital-to-analog converter can reconvert it to the original waveform.

Artificial delays and reverberation are far from being the only signal-processing uses in the audio field that will grow out of digital techniques. Thomas Stockham of the Soundstream Company, responsible for some remarkable restorations of old operatic recordings (the recent Caruso release on RCA, for example), has been increasingly turning his attention to development of efficient and practical digital systems for professional and domestic music recording and reproduction. Full details are unavailable at present, but clearly Stockham's efforts are partially aimed at replacing the recording console with a special-purpose computer, thereby enhancing the precision, flexibility, and potential of the studio process.

Stockham and his colleagues delivered a most impressive demonstration of digital recording a few months ago to members of the Audio Engineering Society in New York City. Using a converted instrumentation tape recorder running at 30 inches per second, several minutes of opera were recorded in stereo on three tracks (the purpose of the third track was not disclosed). True, this is a relatively high tape speed. But still, the information density on the tape was far higher than that of any digital recording system for audio applications demonstrated up to that time. The music reproduction was, as expected, remarkably clear, with no apparent distortion, noise, or overload.

Digital Radio?

Will there be digital broadcasting, bringing to listeners all over the country—or all over the world, by satellite—the same superior fidelity available from digital tape or disc recordings? The answer to this question depends largely on the willingness of government agencies in various countries to set new standards for such transmissions. Digital transmission and recording require much more frequency separation between stations than is presently provided by the regulations.

In the United States, for example, government regulations require that FM stations be spaced a certain distance apart on the FM dial to prevent interference between them. The amount of separation is dictated by the level at which the station modulates its signal and also by the frequency con-

tent of the program being transmitted. In the case of FM broadcasting, the separation required is at least 200 kHz (200,000 Hz). Digital broadcasting of high-fidelity stereo signals, however, might require five times as much separation between stations. This would make it necessary to reduce the number of available channels for FM broadcasting to one-fifth the present number unless some new and different method of transmission were adopted. Should digital broadcasting systems be developed, it is most likely that new space for high-fidelity broadcasting would be allocated in an entirely different frequency band, one where the increased separation of stations would not matter.

As for disc recording, something considerably less sophisticated than the existing video disc will be perfectly satisfactory for a digital program: the required frequency response is about 500 kHz (500,000 Hz), which is beyond the capabilities of conventional LP record/playback technology, but certainly not out of bounds for some possible "intermediate" system. Tape recording presents some remaining technical problems, but, as Stockham's demonstration shows, these can be dealt with by improving technology instead of requiring entirely new methods of magnetic recording. It is therefore likely that existing phonograph and tape-recorder technology will serve (in modified form) for digital products, but this cannot be said to be true for radio broadcasting.

How Soon?

Since the technology for digital processing is readily available, most of the remaining engineering work has to do with adapting the technology to audio applications. Digital techniques have already been proved in many years of service in telephone and military communications, and they have even found their way into such prosaic applications as the headphone audio systems in the passenger cabins of Boeing 747's.

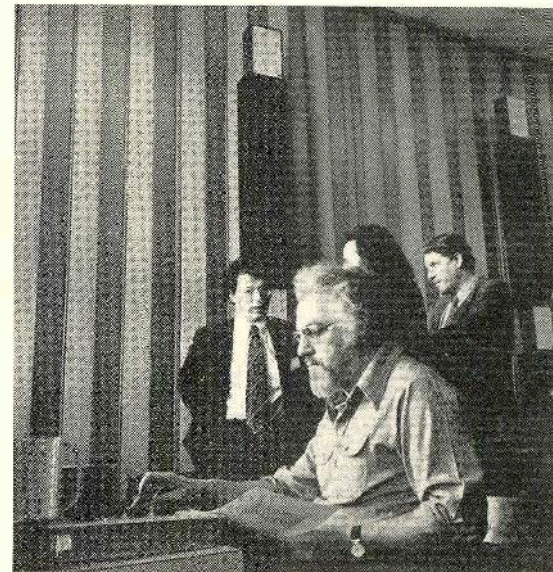
Nor is cost likely to be an object in the future. The complexity of digital audio electronics is no greater than that involved in designing and building pocket calculators, and the basic elements—integrated circuits—are similar or identical. And, as M.I.T.'s Prof. Francis Lee, who directs advanced development for Lexicon (a company that has pioneered in the field of speech time-compression—see Craig Stark's "Tape Progress" in March STEREO REVIEW), recently noted: "When Lexicon's [speech compression] unit was

first introduced in 1972, the cost of the digital memory portion of the circuit was approximately \$100. Today it is about \$2.50."

Of course, some audio techniques are unlikely to be affected significantly by the digital revolution. Dolby B-type noise reduction, for example, is already available from a number of manufacturers in the form of low-cost integrated circuits. While the same job could be performed by digital circuits, the need for expensive conversion techniques would make such a digital version impractical in any case. Indeed, it is not yet clear that digital techniques could ever compete with the high quality and low overall cost of today's cassette format at its best.

In recent years new tapes, together with noise reduction, have brought professional recording very close to the point at which purely technical flaws are quite inaudible. As the first professional digital recorders become available, studio engineers will have to compare their results closely with those obtainable using the finest current equipment embodying Dolby professional (A-type) noise reduction. It may be that the main contributions of the digital revolution to professional recording will be archival permanence and extreme ease of editing and mixing. But, from the home listener's point of view, broadcasting, disc recording, and the making and playing of open-reel tapes seem to be very likely beneficiaries. □

Author Robert Berkovitz, research director at Acoustic Research, enters computer-generated data into DITTO, AR's digital time-delay system, at a recent Audio Engineering Society convention. For the past several years, Berkovitz has supervised the application of advanced techniques, including digital methods, to various audio products.



The source of perfection in stereo sound... Pickering's new XSV/3000



The reviewers applaud as never before!

"... we don't see how you can do better at any price."

Hirsch-Houck Laboratories. Stereo Review. February 1977

"The new unit offers the stereo performance of the XUV/4500Q (or perhaps a little better than that) at a lower price. It seems hard to go wrong with such a combination."

CBS Technology Center. High Fidelity. February 1977

"Congratulations to all concerned on a fine contender amongst the world's best stereo pick-ups."

John Borwick. Gramophone. United Kingdom 1977

Pickering's new XSV/3000 is a remarkable development. It possesses a totally new and different design that makes it the precursor of a whole new generation of sophisticated, advanced stereo cartridges.

This has been made possible by technological advances in two areas. **First**, it has an unusually tiny, samarium cobalt (rare earth) magnet of remarkably high power that

permits extremely low mass, and also offers high output.

Second, this cartridge features the new Stereohedron™ stylus tip, a Pickering first! This extraordinary shape has a far larger bearing radius, which provides increased contact area in the record groove. This assures gentler treatment of the record groove, longer record life, and also, far longer stylus life.

This cartridge provides remarkably smooth and flat frequency response; its channel separation is exceptional, its transient response possesses superb definition.

Truly, Pickering's XSV/3000 represents a whole new concept of excellence in stereo cartridges... the true **Source** of perfection in stereo sound.

For further information write to
Pickering & Co., Inc. Dept. SR,
101 Sunnyside Blvd., Plainview,
New York 11803



"for those who can hear the difference"

PICKERING & CO., INC., COPYRIGHT 1977

THE TAPE THAT'S TOO GOOD FOR MOST EQUIPMENT.

Maxell tapes are not cheap.

In fact, a single reel of our most expensive tape costs more than many inexpensive tape recorders.

Our tape is expensive because it's designed specifically to get the most out of good high fidelity components.

So it makes no sense to invest in Maxell unless you have

no one gets into our manufacturing area until he's been washed, dressed in a special dust-free uniform and vacuumed.

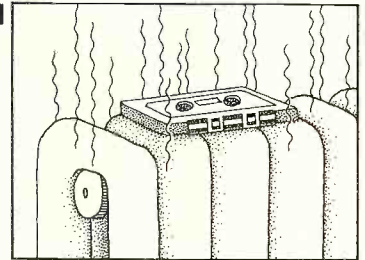
WE CLEAN OFF THE CRUD OTHER TAPES LEAVE BEHIND.

After all the work we put into our tape, we're not about to let it go to waste on a dirty tape recorder head. So we put special non-abrasive head cleaner

OUR TAPE COMES WITH A BETTER GUARANTEE THAN YOUR TAPE RECORDER.

Nothing is guaranteed to last forever. Nothing we know of, except our tape.

So our guarantee is simplicity itself: anytime you ever have a problem with any Maxell cassette, 8-track or reel-to-reel tape, you can send it back and get a new one.



Our guarantee even covers acts of negligence.

sounds at your nearby audio dealer.

(Chances are, it's what he uses to demonstrate his best tape decks.)

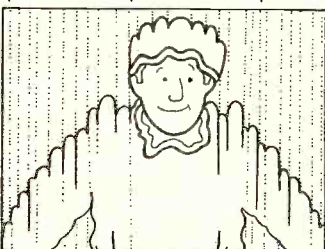


equipment that can put it to good use.

THE REASON OUR TAPE SOUNDS SO GOOD IS BECAUSE IT'S MADE SO CAREFULLY.

Every batch of magnetic oxide we use gets run through an electron microscope. Because if every particle isn't perfect, the sound you hear won't be either.

And since even a little speck of dust can put a dropout in tape,



Every employee, vacuumed.

No other tape starts off by cleaning off your tape recorder.

on all our cassettes and reel-to-reel tapes. Which is something no other tape company bothers to do.

OUR CASSETTES ARE PUT TOGETHER AS CAREFULLY AS OUR TAPE.

Other companies are willing to use wax paper and plastic rollers in their cassettes. We're not. We use carbon-impregnated material. And Delrin rollers. Because nothing sticks to them.

A lot of companies weld their cassettes together. We use screws. Screws are more expensive. But they also make for stronger cassettes.

GIVE OUR TAPE A FAIR HEARING.

You can hear just how good Maxell tape

You'll be surprised to hear how much more music good equipment can produce when it's equipped with good tape.



Maxell Corporation of America, 130 West Commercial Ave., Moonachie, New Jersey 07074.

CIRCLE NO. 25 ON READER SERVICE CARD

STEREO REVIEW'S SELECTION OF RECORDINGS OF SPECIAL MERIT
BEST OF THE MONTH



Photo by Robert Parent



More recent Miles (1973) with the plug-ins

New (Old) Miles: An Album That Will Be Relevant Long After All The Electronic Groups Short-circuit

WATER BABIES" is the finest, most outstanding new Miles Davis album released since 1970, when "Bitches Brew" appeared and signaled a new direction for Miles: toward a rock-influenced, highly electronic brand of near-jazz aimed at the vestiges of the flower-children audiences who took their love beads, peace signs, and smokes to the Fillmores East and West night after night. Unfortunately, Miles' continuing quest for the youth market saw him sacrificing his artistry for a sound that became increasingly artificial and boring, and he never got beyond second billing to such a group as Blood, Sweat & Tears (which, ironi-

cally, sometimes grabbed young audiences by playing a music fashioned after the very sound Miles himself had created and already abandoned).

I liked "Bitches Brew" and some of the releases that followed, but as the emphasis on rhythm and synthetically produced sounds increased, Miles was playing worse and worse, less and less, until his input was reduced to mere incidental sounds within a whole that was saying very little to begin with. This may have made Miles a richer man financially, but it robbed him of his prestige as a jazz artist, and it precipitated a general migration from jazz to a bastardized, electrified form of pseudo

rock that has emasculated virtually a whole generation of exceptionally gifted jazz players.

"Water Babies" is a new album in the sense that it has not been released in any previous form, but the recordings date back eight to ten years, to the period immediately preceding "Bitches Brew." We are assured by Columbia that these are not "leftovers" from their vaults, and, indeed, they don't sound like it. According to a Columbia news release, these recordings were scheduled for issue but were "bumped in favor of the next Miles stage—"Bitches Brew,"" which is like substituting water for wine. For wine this is, and a fine vintage too. Hearing Miles' clear, sharp tones again without that damn wah-wah device is a joy, and *Capricorn*, a Wayne Shorter composition propelled by the driving rhythmic

work of Tony Williams and Ron Carter, features such magnificent solo work by Miles (playing a wide open horn), Shorter himself (on tenor), and Herbie Hancock (on acoustic piano) that it alone is worth the \$6.98 list price. The following track—*Sweet Pea*, another Shorter piece—gives us the Miles of old at his brooding best, then a soulful, raspy tenor statement from Shorter, followed by Hancock, who maintains the mood, and it makes one wonder if we will ever again hear these men play such exquisite music.

Chick Corea and bassist Dave Holland are added for side two, on which we hear an electric piano—an unobtrusive omen of things to come. But this, too, is a fine side containing some glorious statements from Miles and Shorter, and the album is one that will be relevant long after the more recent Miles Davis efforts, the *Headhunters*, *Weather Report*, and *Return to Forever* all short-circuit. —Chris Albertson

MILES DAVIS: *Water Babies*. Miles Davis (trumpet); Wayne Shorter (soprano and tenor saxophone); Herbie Hancock and Chick Corea (keyboards); Ron Carter and Dave Holland (bass); Tony Williams (drums). *Capricorn; Sweet Pea; Two Faced; Dual Mr. Tillman Anthony; Water Babies*. COLUMBIA PC-34396 \$6.98, © PCA-34396 \$7.98, © PCT-34396 \$7.98.

A Glittering Evening With Diana Ross: Teasing Messages From the Chiffon Beyond

AN Evening with Diana Ross" is the Motown siren's latest release, apparently a complete transcript of her one-woman show at the Ahmanson Theatre in Los Angeles late last year (it was also adapted for a TV special aired in March). It isn't precisely what you'd call easy-chair listening. With this lady, you'd better be sitting bolt upright in one of those thousand-dollar leather-and-chrome Mies van der Rohe jobs, preferably in dinner clothes and ready to go-go-GO! She sure as hell is, and she proves it on all four sides of a two-disc album that glitters with her customary brittle chic (somehow you can hear the expensiveness of the clothes) and glows with her lowdown, earthy sexiness (always, for some reason, a surprise).

Diana Ross may or may not actually

be the ultimate super-cool, super-beautiful, super-desirable black superstar of the Seventies that the fantasies of Barry Gordy, Motown, or even the general public make her out to be. But it doesn't really matter. She comes across that way, even on recordings. She was a gigantic turn-on from the time of her early appearances with the Supremes, and she has remained one through her solo act, her lugubrious (but successful) film debut, and her rare but special TV "specials."

Like all great glamour stars, she has a hint of mystery about her. Is she laughing with you, or at you? Are her tears manufactured, or are they true barometers of the changing moods of another human being? If she's smart (and she is), we'll never know. All she need do to keep our attention is continue to send us these teasing messages from the Chiffon Beyond.

"Evening" doesn't break any new ground—Ross is superb in a medley of

hits from her days with the Supremes and amateurish beyond belief in another called *The Working Girls* in which she vainly tries to imitate Billie Holiday, Josephine Baker, Ethel Waters, and Bessie Smith—but, overall, her galvanically exciting personality carries everything off. The engineering and production hum richly around her, in keeping with the million-dollar production number she is. To me, Diana Ross is like that gorgeous sweep of chrome statuary by Brancusi called "Bird in Flight." Her albums have always seemed to me only useful pedestals designed to display a remarkable *objet d'art*. The *objet* is as stunning as ever, and this new pedestal is one of the best she's had so far. —Peter Reilly

DIANA ROSS: *An Evening with Diana Ross*. Diana Ross (vocals); orchestra. *Here I Am/I Wouldn't Change a Thing; The Lady Is a Tramp; Touch Me in the Morning; Smile/Send In the Clowns; Love Hangover; Girls*.

Diana Ross: you can hear the expensiveness of the clothes



Six Medleys: *The Point*; *The Working Girls*; *The Motown Story*; *The Supremes*; *Reach Out*; *One Giant Step*. MOTOWN M7-877R2 two discs \$11.98, © 9-840NT \$9.98, © 9-840NC \$9.98.

The Legacy of Josef Krips: Charm and Substance in Model Mozart Performances

THE late Josef Krips, never regarded as one of the most exciting or glamorous conductors of his generation but enormously revered by his fellow musicians, completed a major recording project with the Concertgebouw Orchestra of Amsterdam shortly before his death at the age of seventy-two in 1974: the last twenty symphonies of Mozart. Philips has only now gotten around to releasing the first three discs in this series, and no superlatives would be excessive for them; they are an enhancement of the Mozart discography as well as of Krips' own, and would have been sufficient by themselves to identify this conductor as one of the truly great practitioners of his art.

The Symphonies Nos. 39 and 40, recorded in 1972, are simply models of Mozart performance—aristocratic but not austere, expressive without excesses, the majestic mellowness of the E-flat and the angelic pathos of the G Minor making themselves felt in the most direct and thoroughly musical manner without any awareness of an “interpreter” being thrust upon us. There are other recordings of these familiar works that are equally stylish and several that are more dramatic, perhaps, but none that are, overall, more satisfying than these.

The two discs of earlier symphonies, both recorded in 1974, are even more remarkable. The greatest of these six works, No. 29 in A, has not been given so persuasive and well-balanced a presentation on records since the unforgettable debut disc of Peter Maag in 1951, and the slight but enchanting No. 27 in G rivals, in Krips' hands, the grace and fluidity of the similarly memorable old 78's of Sir Thomas Beecham. The “Little G Minor” (No. 25) may lack the driving fury of Solti's vivid mono version (just reissued on London R-23238), but it is a different sort of drama that Krips perceived in this

score, and on its own scale it is no less compelling. The three remaining symphonies—Nos. 22, 24, and 26, all more or less in the Italian opera mold—emerge with not only more charm but more substance than they have disclosed in any of the previous recorded versions.

Krips looks extremely happy in the jacket photographs, as well he might, for this is quite a testament he left us: extraordinary Mozart by any standards, with the great orchestra responding at the top of its form and the sound itself exemplary in its balance and definition. By the time these words appear in print Philips will have released three additional discs in this series—Symphonies Nos. 21 and 36 on 6500.525, Nos. 32, 33, and 34 on 6500.526, and the *Haffner* and *Jupiter* on 6500.429; there is every reason to expect that these will be similarly satisfying, but there is no need to wait for completion of the series to begin enjoying the outstanding discs already avail-

able. The two made up of earlier works, as already mentioned, are especially desirable for their literally surpassing quality; not one of the six performances engraved on 6500.528 or 6500.529 is matched by any of the current competition. —Richard Freed

MOZART: *Symphony No. 22, in C Major (K. 162)*; *Symphony No. 27, in G Major (K. 199)*; *Symphony No. 29, in A Major (K. 201)*. Concertgebouw Orchestra, Amsterdam, Josef Krips cond. PHILIPS 6500.528 \$7.98.

MOZART: *Symphony No. 24, in B-flat Major (K. 182)*; *Symphony No. 25, in G Minor (K. 183)*; *Symphony No. 26, in E-flat Major (K. 184)*. Concertgebouw Orchestra, Amsterdam, Josef Krips cond. PHILIPS 6500.529 \$7.98.

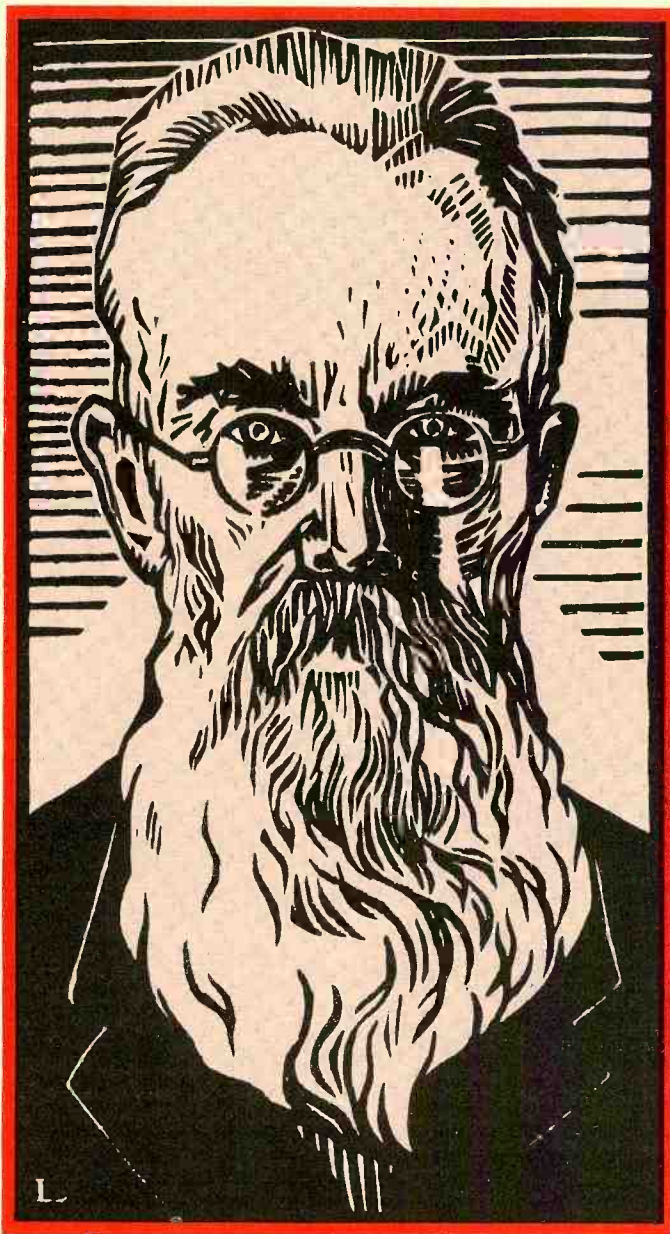
MOZART: *Symphony No. 39, in E-flat Major (K. 543)*; *Symphony No. 40, in G Minor (K. 550)*. Concertgebouw Orchestra, Amsterdam, Josef Krips cond. PHILIPS 6500.430 \$7.98.

(Continued overleaf)

Frits van Swoll/Phonogram



The late Josef Krips, 1902-1974



Bettmann Archive

Nicolai Rimsky-Korsakov: woodcut by Alexander Ivanovich Lebedeff

Rimsky's *May Night*: The Warmth, Color, Magic, and Humanity of Life in the Ukraine

RIMSKY-KORSAKOV's real genius was for opera. He wrote fifteen of them, but, although *Coq d'Or* is occasionally played in the West, the others are likely to turn up only in the Soviet Union, where they stoutly resist translation and transportation—except, fortunately, in the form of recordings.

May Night is the second of the fifteen, written in 1878 and produced

two years later in the Maryinsky Theater in St. Petersburg. It is based on a collection of stories by Gogol about village life in the Ukraine and is complete with a pompous, lecherous old mayor, a drunken charcoal-burner who keeps muttering "I'm my own mayor," and a distiller who proposes to manufacture spirits in an old house inhabited, it seems, by other kinds of spirits, a waspish sister-in-law, and the required young lovers. The twist is that the mayor is making eyes at the same young lady as his son, setting up a conflict resolved in the end only by the appearance of the Russalki, spirits of departed young ladies who were deserted by their lovers.

This is not exactly an action-packed opera: it has a pair of love scenes—one

serious, one comic—for a first act, a slapstick second act, and a fairy finale along the lines of *Giselle*. And if opera is (as someone has said) an art of exits and entrances, then this one doesn't make the dramatic grade. But none of this need concern the record listener; whatever *May Night* may lack in dramatic conflict is richly compensated for by the warmth, the color, the magic, and the humanity of the setting.

The Ukraine is an ancient southern land to the Russians, and the idyllic vision—the lyricism and the humor of country life—is brilliantly caught by Rimsky. The score is full of folk melody treated in the simplest, most vivid manner. Rimsky is never afraid to be direct, and his strokes are always telling: the solo violin in the first love duet; the drunken charcoal-burner who tries to dance the Hopak and cannot; the musical enchantment of a May night on which anything can happen; the orchestration whose brilliance is so perfectly adapted that you notice it only in retrospect (this is a score without a wasted or unheard note!); the mastery of the vocal lines as an expression of character and mood; the extension of folk materials, authentic and invented, to make scenes and ensembles of considerable size and power.

I don't want to imply that *May Night* is another *Boris*, but it is much, much more than merely a folkloric operetta. Rimsky elevates the attractiveness of the story and the musical invention to epic dimensions without ever failing to charm us, engage us, excite us, or stimulate our imaginations.

Part of the problem with Russian opera performances and recordings has been the weakness of the singing, the routine nature of the performance, and the inadequacy of the recording quality. Perhaps those days are largely past. The characterizations here are superb, and all of the male solo singing is excellent. Even the women, always the weaker side (why?) in the Russian vocal department, are satisfactory, and of course the choral singing is wonderful. The entire production is full of a character and spirit that always work with and within the music. Conductor Vladimir Fedoseyev's direction is inspired, and the recording is crystalline.

—Eric Salzman

RIMSKY-KORSAKOV: *May Night*. Alexej Krivchenja (bass), Mayor; Konstantin Liovsky (tenor), Levko; Anna Matjushina (mezzo-soprano), Sister-in-law; Ljudmilla Sapegina (soprano), Hanna; Jury Yelnikov (tenor), Distiller; Ivan Budrin (baritone), Kalenik; Olga Pastushenko (soprano), Maiden/Russalka; Chorus and Symphony Orchestra of the Moscow Radio, Vladimir Fedoseyev cond. DEUTSCHE GRAMMOPHON 2709 063 three discs \$23.94.

Setton front access turntable: 8 unique features for a world premiere.



The TS-11 is a true rarity. Because, even for the ever-changing world of high fidelity, it represents total innovation: front access for professional-standard turntables. Without doubt, the TS-11 will become the most-imitated development in the history of hi-fi.

Conceived by the Research Division of Setton Engineering, the TS-11 does away with several outdated traditions associated with nearly all turntables in existence today.

1 - Setton cuts out wasted space above and behind the turntable by the introduction of Slide-O-Magic horizontally sliding. Their featherlight sliding and closing action cannot disturb tonearm tracking.

2 - These dust-covers are open at the front, allowing precision, accident-free manipulation of the tonearm at all times.

3 - Thus Setton can offer the option of lifting the entire component and placing it where many felt it has always belonged: near or actually at eye level in a rack or shelf position.

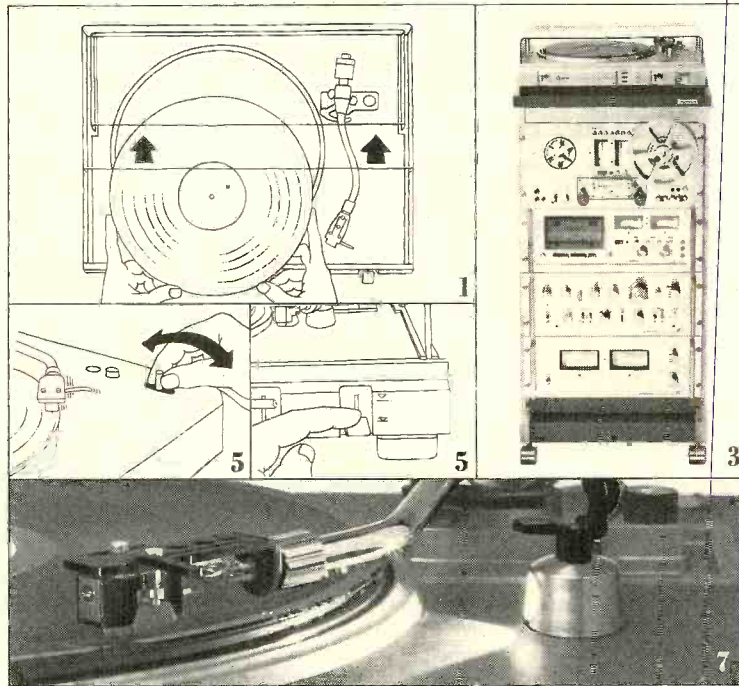
4 - Frontal configuration of the controls, for optimal handling, especially in conjunction with other components.

5 - Vertical-action controls. It is a fact that a vertical movement induces less vibrations than an horizontal one since it exerts pressure toward a perfectly rigid surface.

6 - Illuminated instant read-out panel to check speed and functioning; when recording, it makes it possible to ascertain at a glance that a record is finished.

7 - Totally unique lighting to let you choose exactly the cut you want to hear, even in the full darkness of your shelf.

8 - New designed wide insulating base pads. The extraordinarily slim body houses a self-cooling motor, driving a precision cast-aluminium alloy platter to full speed in less than three-eighths of a revolution. Precision belt-drive is the reason for the astoundingly low 0.08 % average wow and flutter, with practically nonexistent audible rumble particularly important figures when taping is involved. Vertical and horizontal friction is a mere 0.001 gram, and the stylus force gauge and anti-skating settings are calibrated, allowing for an accuracy as perfect as can be measured.



This unit was designed, aesthetically and technically, to frankly appeal to only the most exacting and perceptive buyer: Setton Engineering went to extreme lengths in the conception, development and testing of this project. The Setton standard of solidity, too, will become a legend in its time. Each TS-11 is heat-tested for eight hours and every circuit, every moving or non-moving part exhaustively function-tested for 90 minutes, details of which are confirmed on the Quality Control card accompanying each component.

Likewise, the TS-11 carries a two-year comprehensive guarantee. Clearly, such exigencies dictate limited supply and prices somewhat above average. The only way to appreciate the front-access TS-11 is to test it for yourself at your Setton dealer. We are confident that you will find it a singularly profound experience.

SETTON
Towards Perfection.

SETTON INTERNATIONAL LTD. 60, Remington Boulevard - Ronkonkoma, N.Y. 11779

CIRCLE NO. 42 ON READER SERVICE CARD



POPULAR DISCS AND TAPES

Reviewed by CHRIS ALBERTSON • NOEL COPPAGE • PAUL KRESH • PETER REILLY
STEVE SIMELS • JOEL VANCE

AMERICA: Harbor. America (vocals and instrumentals). *God of the Sun; Sergeant Darkness; Sarah; These Brown Eyes; Monster*; and seven others. WARNER BROS. BSK 3017 \$7.98, © M83017 \$7.97, © M53017 \$7.97.

Performance: **Treading water**
Recording: **Very good**

You can't sue yourself for plagiarism, which may come in handy for America with parts of this album. Beyond that, the thing is harmless enough, settling into a sort of Mom-and-Dad-and-Bud-and-Sis rock that Ozzie Nelson would've no doubt loved. It even slips up occasionally and gets tuneful, especially in *Don't Cry Baby*. Producer George Martin continues to make a little song go a long way for America, and every now and then the group still writes a lyric you wouldn't want to get downwind from, but, as I said, "Harbor" is mostly just harmless. N.C.

ASHFORD & SIMPSON: So So Satisfied. Nickolas Ashford and Valerie Simpson (vocals); orchestra. *Over and Over; It's You; If You're Lying; Destiny*; and four others. WARNER BROS. BS 2992 \$6.98, © M82992 \$7.97, © M52992 \$7.97.

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

An agonized r-&-b gospesele seems to be this duo's predominant performing style. It fits

their songs, which generally deal with the "heavy" topics suggested by such titles as *Destiny* or *If You're Lying* ("I died/I died a thousand times/I cried . . .") or *Maybe I Can Find It*. Even in *So So Satisfied*, it doesn't sound as if anyone's going to be satisfied for very long. But Valerie Simpson and Nickolas Ashford are the kind of skillful, up-front musicians who can handle all of this somberness without letting it lapse into turgid bathos, and their vocal blends, ornate and distended as they often are, have the calm assurance of total professionalism. Your enjoyment of this album will depend on your gloom threshold. For me, one side was enough. By side two, it was beginning to get to me. P.R.

BAD COMPANY: Burnin' Sky. Bad Company (vocals and instrumentals). *Burnin' Sky; Morning Sun; Leaving You; Like Water; Heartbeat; Everything I Need*; and five others. SWAN SONG SS 8500 \$6.98, © TP 8500 \$7.97, © CS 8500 \$7.97.

Performance: **Strictly by rote**
Recording: **Good**

When I reviewed the first Bad Company album, I recall, I made some irresponsible statements to the effect that this band was destined to be the greatest thing since indoor plumbing and that they had enormous potential for growth. Well, I am finally ready to take it all back. *Mea culpa*. In four albums these guys have only managed to come up with perhaps three reasonably memorable tunes, and they have now reached the point where they can't even manipulate their own formula (the search for the Ultimate Imitation Rolling Stones Riff) with the slightest degree of imagination. Paul Rogers remains, technically, a great vocalist, but I haven't believed a word he's sung since he left Free, and the rest of the group might as well be Kiss, Aerosmith, or any other of the undistinguished loud noises currently being enshrined in vinyl. Hell hath no fury like a rock critic whose expectations have been rudely dashed, I guess. S.S.

THE BEACH BOYS: The Beach Boys Love You. The Beach Boys (vocals and instrumen-

tals). *Roller Skating Child; I'll Bet He's Nice; Airplane; Love Is a Woman; Johnny Carson; Let Us Go On This Way; I Wanna Pick You Up*; and seven others. REPRISE MSK 2258 \$7.98, © M82258 \$7.97, © M52258 \$7.97.

Performance: **Eccentric but lovable**
Recording: **Good**

If you review records professionally (or even if you just listen to a lot of records), you eventually reach a point where it becomes difficult to separate your reactions to an artist's work from what you know, or think you know, of his personality as it is conveyed by reporting or hype in the various media—and your reactions to that.

I adore the Beach Boys, so just like any other fan I've devoured every word about them I could get my hands on over the years. And, what with the kind of press the Boys have been getting lately—the stories about Brian Wilson's . . . er . . . health problems are only slightly less ubiquitous than those about Cher's affairs or Keith Richards' drug busts—I wonder whether the reactions I have to this new album are the result of my own projections. Does it sound weird to me because I'm afraid Brian is? Would it sound weird if none of those press items had ever appeared? I haven't quite gotten it worked out to my satisfaction.

That bit of confessional background out of the way, I can tell you a few concrete things about "The Beach Boys Love You." First of all, both musically and thematically it's a kind of back-to-the-roots record for them. The production is generally sparse, with very few of those ethereal vocal choirs that characterized most of their Seventies work, and by and large the subject matter of the songs is the same middle-American teenage stuff—cars, girls, cruising, watching TV—that dominated their earliest records. The sound of it recalls "Wild Honey" in its primitiveness and spontaneity, which is good, and some of the songs (especially *Roller Skating Child*) are just delightful, lyrically dumb but melodically irresistible despite the signs of strain Brian's voice is showing. But take a cut like *Johnny Carson*. The lyrics make about as much sense

Explanation of symbols:

- Ⓜ = reel-to-reel stereo tape
- Ⓢ = eight-track stereo cartridge
- Ⓒ = stereo cassette
- = quadrasonic disc
- Ⓡ = reel-to-reel quadrasonic tape
- Ⓟ = eight-track quadrasonic tape

Monophonic recordings are indicated by the symbol Ⓜ

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

as something by the Ramones, and for the life of me I can't tell if it is just another example of the half-baked humor the Boys have been peddling for ages or the work of somebody who hasn't got all his marbles. I'll give this one a conditional B-plus and wait a few months to see how it sinks in. S.S.

RECORDING OF SPECIAL MERIT

JORGE BEN: *Tropical.* Jorge Ben (vocals and guitar); instrumental accompaniment. *Taj Mahal; My Lady; Pais Tropical; Jesus De Praga; Georgia;* and four others. ISLAND ILPS 9390 \$6.98, © Y81-9390 \$7.98, © ZC1-9390 \$7.98.

Performance: **Imaginative and expert**
Recording: **Good**

Jorge Ben pulls off a really imaginative and often exciting fusion of bossa-nova, jazz, and rock in this album of his own material. He is a very fine singer (mostly in Portuguese), with that easy, coaxing manner one associates with the best bossa-nova stylists. As a guitarist he's close to virtuoso class as he switches brands, moods, and textures at will. The arrangements are as extravagantly thick and heavy as the scent of sandalwood in an overheated room, but they fit Ben's work perfectly. The best tracks are *Jesus De Praga*, a complex mixture of several styles, all expertly done, and *My Lady*, a showpiece, eight-minute song in English in which Ben introduces himself and his talents and immediately establishes himself as one of the more interesting composer/performers you are likely to hear this year. The sound is good enough, but somehow the quality of Ben's work seems to call for a more special kind of engineering. P.R.

DEE DEE BRIDGEWATER. Dee Dee Bridgewater (vocals); instrumental accompaniment. *My Prayer; My Lonely Room; It Ain't Easy;* and five others. ATLANTIC SD 18188 \$6.98, © TP 18188 \$7.97, © CS-18188 \$7.97.

Performance: **Very good in the light moments**
Recording: **Excellent**

Dee Dee Bridgewater's a bit of a drag in her "serious" moments such as *My Lonely Room* and *You Saved Me*—same old r-&-b, gospel-style, same puffed-up dramatics as a thousand other young singers. When she lightens up, however, as she does here in a "fast" version of *My Prayer* (as opposed to the "ballad" version that ends the album), or in a fast, furious, and very funny song called *Every Man Wants Another Woman*, she's a flashy, gaudy delight. Her delivery of this last song against what sounds like an enormous jug-band background is broad, loud, and farcical. Her big, flexible voice wrings every bit of comedy out of this cautionary tale about men and women with wandering eyes, and there's a chorus, too, that injects its own "tsk-tsk's" all through Bridgewater's sermon on extracurricular mounting. The production work by Stephen Scheaffer is really fine, with especially impressive guitar playing by Cliff Morris and Jerry Friedman in the "fast" version of *My Prayer*. Bridgewater ought to leave the heavy breathing to others who do it a lot better and concentrate on her comic gift. P.R.

RECORDING OF SPECIAL MERIT

BING CROSBY: A *Legendary Performer.*

Bing Crosby (vocals); instrumental accompaniment. *Ol' Man River; Three Little Words; It Must Be True; Wrap Your Troubles in Dreams; Just a Gigolo; I'm Through with Love; Just One More Chance; Some Sunny Day;* and five others. RCA CPL1-2086(e) \$7.98.

Performance: **Masterly**
Recording: **Good reprocessing**

Bing Crosby remains the master, the seminal pop vocalist of the century. He is, though he would deny it, an art form unto himself.

The RCA archives are not especially rich in Crosby performances. In the early Thirties, when Bing became a national sensation, he re-

corded for Columbia, and for many years thereafter he recorded for Decca. What the Victor vaults do contain are examples of the young Crosby's vocals with the Paul Whiteman orchestra, some odd sides from the period just before he became a star, and a few he made when his style and stage personality were serenely perfect three decades later.

The earliest track on this collection is Crosby's 1928 vocal on the Whiteman dance version of *Ol' Man River*, especially notable for the way he handles the bridge, as though his voice were a jazz horn. *Three Little Words* has him with his cronies, the Rhythm Boys, on a Duke Ellington date. (In 1932 he recorded again with Ellington as a soloist on *St.*

Nils Lofgren Gets Lucky



A FEW years ago, I was firmly convinced that A&M Records was missing a great bet. They had two relatively unsuccessful solo artists on their roster who I was sure would make an unbeatable team. They struck me as perfectly matched front men for a band. Both were short, both were hot guitarists and inconsistent songwriters capable of occasional brilliant tunes, one was a pretty boy and the other a believable rock-and-roll tough kid; in other words, they could conceivably have complemented each other as well as Lennon and McCartney. I tried unsuccessfully to get rumors started about this fantasy partnership of mine, but then half of the duo got lucky, became an overnight superstar, and ruined the whole project. The successful one was Peter Frampton, but I don't really mind, since his music of late is so determinedly bland that obviously I was wrong about the whole business to begin with.

But Nils Lofgren . . . ahhh. Though he has yet to achieve anywhere near the kind of commercial success that Frampton has, he's

continued to grow and mature as an artist, and I'd like to take this opportunity to apologize publicly for never having said anything nice about him in print before. A lot of outrageous claims have been made for the kid, and most of them are absolutely true. He's a natural rocker in the classic mold, which means that—unlike most Seventies stars—he plays the music because he loves it and it's in his blood. His best songs are melodically charming, neatly constructed, and imbued with a teen romanticism that never rings false. Bruce Springsteen excepted, he may be the last real innocent in rock.

"I Came to Dance" is not his best solo effort (the first one, titled simply "Nils Lofgren," strikes me as a wee bit more consistent, and if you ever chance across a copy of the limited-edition "authorized bootleg" A&M issued of one of his live shows, grab it immediately), but it is marvelous nonetheless. The title song, despite a token bow to disco, is still a flat-out rocker and a neat summary of Lofgren's thinking these days. "I'm not Bob Dylan, but I never miss a beat," he sings, without a hint of rancor (this boy respects the rock tradition far too much to take any cheap shots), and concludes, "I ain't no philosopher, I dance in the street." Then he proves it with a graceful guitar solo and a melodic hook that will probably have you dancing too.

The whole album is like that. It has an endearing sense of humor, a punk attitude leavened with real intelligence, and, best of all, that increasingly rare quality we used to call soul. All that and a marvelous cover version of the Stones' *Happy*, with Nils cheerfully botching his heroes' lyrics. What more do you want? There will probably be better albums released this year, but not many, and certainly few that are as much fun. —Steve Simels

NILS LOFGREN: *I Came to Dance.* Nils Lofgren (guitar and vocals); Tom Lofgren (guitar); Wornell Jones (bass); Andy Newmark (drums); other musicians. *I Came to Dance; Rock Me at Home; Home Is Where the Hurt Is; Code of the Road; Happy Ending Kids; Goin' South; To Be a Dreamer; Jealous Gun; Happy.* A&M SP-4628 \$6.98, © 8T-4628 \$7.98, © CS-4628 \$7.98.

Southside Johnny & the Asbury Jukes

To begin with, the cover of "This Time It's for Real" is absolutely perfect. The Jukes are posed somewhere in South Jersey (in an area that practically defines the phrase "urban blight") wearing their scuzziest street duds and looking tough enough to be one of the gangs from *West Side Story*. The whole thing is lighted (or retouched) to create the kind of atmosphere Guy Peelaert conjured up in his series of illustrations for his book *Rock Dreams*. Well, let me assure you folks that the Jukes aren't fooling around, and that the title is the album's best review. Good as their debut effort was, this one is an unqualified masterpiece. No sophomore jinx for these guys.

The format is basically the same as before: there are a bunch of great r-&-b guest stars, a few cover versions of obscure oldies, and a whole lot of originals contributed by producer Miami Steve Van Zandt and the Jukes' pal Bruce Springsteen. The big difference, however, is in the production. The first album had enormous energy and enthusiasm, but the band was pretty green in the studio and their inexperience resulted in a somewhat thin sound. They learned quickly, though. "This Time" has a dense, rich, almost Spector-ish quality to it that makes you lunge to turn up the volume control. The strings and the Juke's brilliant horn section come off especially well. This is a cruising-in-your-car record if there ever was one.

Most of the tracks are just incredible. *Without Love*, an Aretha Franklin tune that has been part of the band's stage show recently, is as moving a soul ballad as you can imagine, and guitarist Willy Rush embellishes the already lush arrangement with some shimmering lines that recall Mick Taylor's best work on the later Stones albums. Springsteen and Van Zandt's *Little Girl So Fine*, recalling New York street-corner chestnuts like *Spanish Harlem* and *Up on the Roof*, appropriately features gorgeous backing vocals by the Drifters. Drummer Kenny Pentifallo, that remarkable basso profundo, gets to work on an old novelty tune, *Check Mr. Popeye*, with the Coasters contributing their best naughty-boy back-ups à la their own *Charlie Brown*. And as for Johnny himself, his singing has matured tremendously; he's so natural and unforced in his approach to this stuff that it's almost spooky.

They are the best band
working in America
at the moment. . .

But it is the concluding track, *When You Dance*, that best demonstrates the real breakthrough of this album. Beginning with a collage of jungle noises (which I'd like to think was meant as a parody of Patti Smith's *Radio Ethiopia*), it is a stupendous production number that sounds like Sam and Dave running amuck through the Motown studios of 1966. The Jukes have now, in only two tries, reached the stage where they have transcended their original influences. They may have begun as Sixties soul purists, faithfully copying all the oldies in their collections much as the J. Geils Band did, but unlike that crew



Stuart G. Libben

they are now resolutely making a unique and personal kind of music, a music that owes a debt to the past but is stamped with an instantly identifiable character of its own.

Let us not mince words. The Asbury Jukes are the first white band since the Rolling Stones to manage that kind of quantum leap. They are the best band working in America at the moment, and this is a great, great album. Play it loud. Really loud. —Steve Simels

SOUTHSIDE JOHNNY & THE ASBURY JUKES: *This Time It's for Real*. Southside Johnny and the Asbury Jukes (vocals and instrumentals); the Miami Horns; other musicians. *This Time It's for Real*; *Without Love*; *Check Mr. Popeye*; *First Night*; *She Got Me Where She Wants Me*; *Some Things Just Don't Change*; *Little Girl So Fine*; *I Ain't Got the Fever No More*; *Love on the Wrong Side of Town*; *When You Dance*. EPIC PE 34668 \$6.98, ® PEA-34668 \$6.98, © PET-34668 \$6.98.

Louis Blues.) *Just a Gigolo*, as George T. Simon points out in his liner notes, is an artistic success because Crosby empathizes with the character, creating pathos where other singers of the era would have made bravura hash out of it.

The second side of this album is made up of a date Crosby had with Bob Scobey's 'Frisco Jazz Band behind him in 1957, and his vocals are something to marvel at. How can anyone sound so casual and be such an uncanny craftsman at the same time? Crosby has given the answer: "I don't sing; I phrase." Within that brief statement is the gist of the artistic success or failure of every vocalist who reached his prime after he did, from Sinatra to Presley (both of whom operated on the same principle). It didn't hurt Crosby, of course, to have a fine voice. And it sure won't hurt to have this album for your special collection.

J.V.

RECORDING OF SPECIAL MERIT

JONATHAN EDWARDS: *Sailboat*. Jonathan Edwards (vocals, guitar, harmonica); instrumental accompaniment. *Blow On Chilly Wind*; *Evangelina*; *Sailboat*; *People Get Ready*; *How About You*; *Girl from the Canyon*; *Weapon of Prayer*; and four others. WARNER BROS. BS 3020 \$6.98, ® M83020 \$7.97, © M53020 \$7.97.

Performance: **His best yet**
Recording: **Excellent**

Jonathan Edwards has a winner in "Sailboat." It has a whole slew of songs you can stand to hear a lot of times—which is a good thing, since you probably have been, are, and will be doing just that. In addition to writing some himself, he includes tunes here that range all the way from one by Curtis Mayfield to one by the Louvin Brothers. *Carolina Caroline* may have a few holes in its syntax, but what the hell—it's the catchiest of the Edwards originals, a terrific juke-box tune. He went to Jesse Winchester for three songs, and here he delivers them in a benignly decorated, straightforward way that actually gets me into them (at least two of them) deeper than Winchester's original versions did. Edwards seems to have great confidence in his voice these days and doesn't hesitate to give it some tough assignments. He also plays some of the tastiest harmonica he has yet put on record. The album is tuneful and artfully arranged (only once or twice is it self-consciously so). Goldarned good. N.C.

EMERSON, LAKE & PALMER: *Works, Volume 1* (see *Classical Discs and Tapes*, page 116)

FLAME: *Queen of the Neighborhood*. Marge Raymond (vocals); instrumental accompaniment. *Beg Me*; *Long Time Gone*; *Queen of the Neighborhood*; and six others. RCA APL1-2160 \$6.98, ® APS1-2160 \$7.98, © APK1-2160 \$7.98.

Performance: **Invisible**
Recording: **Excellent**

Marge Raymond, Flame's leading lady, is obviously a tough chick. This album's front cover shows her standing on a dingy tenement stoop, looking sultry with her Jaggerish pout (though she actually seems more like Steven Tyler) and the Ozzie Osbourne cross on the choker around her neck. Come to think of it, her hair looks kind of like Ozzie's too, but that's not why she looks so familiar. She



Warner Bros. Records

MICHAEL FRANKS
"It just ain't like Cole Porter. . ."

looks familiar because she's been on an LP cover before, namely, the Ventures' 1966 "Wild Thing" set. On that one she was notable for the white frosted lipstick she wore. Here the big eyecatcher is a tight pullover emblazoned in florid script with the logo "Brooklyn." (I don't know what sort of product Brooklyn is, though I suspect it's either a rock group or a new brand of beer.)

There are five other members of Flame, but

they're just session hacks. There are also nine original songs on this album. I've been listening to them for four hours straight and it still seems as if I'm hearing them for the first time. They're sonically invisible: nothing there to catch the ear and hold it—including Raymond's voice, which is so glottal-scrapingly growly she may well pose the first serious challenge to Neil Sedaka in the What-Sex-Is-That-Voice? sweepstakes (if anyone cares). One song stands out a bit, though: in *All My Love to You* Raymond gargles like a trooper in a browser of an imitation of Mick Jagger imitating Otis Redding.

URGENT MESSAGE: RUNAWAYS COME HOME. WE NEED YOUR TRUTH AND SOUL. P.S. TRY TO PICK UP A SIX-PACK OF BROOKLYN IF YOU PASS A DELI ON THE WAY. Lester Bangs

RECORDING OF SPECIAL MERIT

MICHAEL FRANKS: *Sleeping Gypsy*. Michael Franks (vocals); instrumental accompaniment. *The Lady Wants to Know*; *I Really Hope It's You*; *In the Eye of the Storm*; *B'wana—He No Home*; *Don't Be Blue*; and five others. WARNER BROS. BS 3004 \$6.98, Ⓜ M83004 \$7.97, © M53004 \$7.97.

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

Michael Franks is a jazz singer, and, like most current jazz singers, he continually flirts with atonality and seems to sing with only one lung. I was somewhat taken aback by his voice, too; it reminded me of Astrud Gilberto, famous for her vocals on *The Girl from Ipanema*.

ma. But the more I listened to this album, the more I grew accustomed to his voice and his tonal flappoodles—and the more I liked his songs.

Good lyrics are hard, mighty hard, to come by these days, and Franks has supplied some tasty ones. For instance, from *I Really Hope It's You*: "It's the Prince of Cynics they call me/It's three hundred shades of blue./It's multiple 'nope'!/But I really hope it's you." Or this, from *In the Eye of the Storm*: "I hear from my ex—/On the backs of my checks/ . . . It just ain't like Cole Porter/It's just all too short-order." Franks has excellent instrumental support, especially from the versatile saxophonist Michael Brecker (brother of trumpeter Randy) and the Brazilian composer João Donato, who appears on piano in both *B'wana—He No Home* and *Down in Brazil*. The arrangements by Klaus Ogerman, the engineering by Al Schmitt (who for many years worked with the Jefferson Airplane), and the production by Tommy LiPuma are all first-rate. The album becomes better the more it is played, and I'm already looking forward to Franks' next outing. J.V.

DON HARRISON BAND: *Red Hot*. Don Harrison Band (vocals and instrumentals). *Red Hot*; *Jaime*; *This Ol' Guitar*; *Rock 'n' Roll Lady*; *My Heart*; *In the Rain*; and four others. ATLANTIC SD 18208 \$6.98, Ⓜ TP-18208 \$7.97, © CS-18208 \$7.97.

Performance: **Big smoke, no fire**
Recording: **Okay**

The first album by the Don Harrison Band contained their hit version of the old Tennes-

TWO WAYS TO CATCH THE WIND



The Kodak Tele-Instamatic™ 608 camera lets you take two kinds of pictures without moving a step: normal shots and telephoto shots. Just flick a switch and take your pick of pictures.

The Tele-Instamatic camera is pocket-size so it's easy to take along. And it's easy to use for big, color pictures (3½" x 4½"). Own your own at a **new low price, less than \$31**. Complete outfits with Kodak color film and flipflash are a few dollars more.

Price is subject to change without notice.



KODAK Tele 608 Camera. New low price. Less than \$31. 

CIRCLE NO. 12 ON READER SERVICE CARD

"I've got a 60-minute recording studio in my pocket."

It's called the MICROCASSETTE® PearlCorder-S®.



A MICROCASSETTE recorder that's so unique, it's like having your own mini-studio in your pocket with remarkably good fidelity for music as well as voice. It's smaller than a checkbook (5¼" from top to bottom, slightly thicker than a pack of cards), and lightweight (12 ounces with batteries), but it's packed with studio precision and professional features:

- 60 minutes recording time.
- Capstan drive for constant tape speed, built-in electret condenser microphone, AC bias, record-warning light.
- All metal construction for years of dependable service.
- One-hand operation; instant loading.
- Fast forward and rapid rewind.
- Automatic level control.
- Connects to your stereo or full-size recorder with a Compaticord, for both recording and playback.

The PearlCorder-S performs beautifully in an office, in your car, even on airplanes; and it's backed by the reputation of the Olympus Optical Co., Ltd., a company famous for fine cameras, medical and other precision scientific instruments.

The PearlCorder-S. Carry one. And have a studio with you.

Available at fine photographic, audio, and A-V dealers everywhere. Or write for our brochure, "Pocket Full of Miracles."

OLYMPUS CORPORATION OF AMERICA

TWO NEVADA DRIVE / NEW HYDE PARK, NEW YORK 11040
In Canada: W. Carsen Co., Ltd., Ontario

60 minutes of sound in this actual-size MICROCASSETTE.®



CIRCLE NO. 33 ON READER SERVICE CARD

see Ernie Ford success, *Sixteen Tons*. That cut (and the others on the album) was a solid example of slugging, no-frills rock by a combo with a strong lead singer (Harrison), a capable lead guitarist (Russel DaShiell), and a tight bass-drum back-up (Stu Cook and Doug Clifford, both formerly of Creedence Clearwater Revival).

But the present effort never makes it more than a few feet off the ground. Although it is still muscular rock-and-roll, one gets the impression that the band is flexing its muscles instead of using them. The trouble, as it so often is, is that the material doesn't match the combo's capabilities. It is almost mandatory for groups to write their own songs these days (and, indeed, it has been for nearly a decade) for reasons of prestige and distinction, not to mention mechanical royalties. But what is the point of writing your own stuff if the stuff you write is substandard? What the Harrison band ought to do—what hundreds of bands ought to do—is give up the false notion that self-penned material is essential to its glory and start drawing on the tremendous catalog of solid, proven tunes that are both fun to play and can reveal the band's talents. The Harrison group is a combo with a good one-two punch when it aims at the right material, but this album is mere shadow-boxing. J.V.

LAVENDER HILL MOB. Lavender Hill Mob (vocals and instrumentals). *Magic Lady; Head over Heels; Loneliest Man on the Moon; Warning; The Party Song*; and three others. UNITED ARTISTS UA-LA719-G \$6.98, © EA719-H \$7.98.

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

This Lavender Hill Mob is from Montreal. Now, Canadian pop/rock is often interesting (witness the Guess Who) and sometimes outstanding (Motherlode), but there is also a great deal of it that, like its American counterpart, is less than inspiring. The Mob plays in an expedient, amorphous manner—some Crosby-Stills-Nash-Young vocal setups *here*, some Carpenters lushness *there*, and so on—and the banality of the lyrics is sometimes too much to bear ("Stars are falling down from the sky" indeed). My guess is that this band is a local favorite that packs 'em in at clubs and concerts, basically a floor-show group. On the

evidence of this album, they certainly don't do anything that needs to be recorded. J.V.

LIVE AT THE RAT (see *The Pop Beat*, page 54)

RECORDING OF SPECIAL MERIT

ANDY FAIRWEATHER LOW: *Be Bop 'n' Holla*. Andy Fairweather Low (vocals, guitar); vocal and instrumental accompaniment. *Shimmie-Doo-Wah-Sae; Ain't No Fun Anymore; Hot Poop; Travelin' Light; Lighten Up*; and six others. A&M SP-4602 \$6.98.

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

This delightful album is blessed with relaxed performances, a variety of material, and a knowledgeable sequencing of cuts that makes each new track a pleasant surprise. Low gleefully glides through several styles—Latin, jazz, reggae, rock, country—with accompanying lyrics that are alternately zany and straightforward. All the while he seems to be having great fun and not taking anything too seriously. *Ain't No Fun Anymore* and *Lighten Up* are fine examples of what rock can be if you don't complicate it. *Da Doo Rendezvous* is jazz-oriented, with Low's guitar set against a string section. *Hot Poop* is a silly and funny countryish tune whose lyrics simply call its chord changes. *I Can't Take Much More, Be Bop 'n' Holla*, and *Shimmie-Doo-Wah-Sae* use Latin and reggae rhythms, while *Rocky Raccoon*, by Paul McCartney, is included because it is such precious nonsense. If you put this charming and infectiously satisfying album on your turntable you will probably not be able to take it off. Try it. J.V.

RECORDING OF SPECIAL MERIT

THE MARSHALL TUCKER BAND: *Carolina Dreams*. Marshall Tucker Band (vocals and instrumentals). *Fly Like an Eagle; Heard It in a Love Song; Life in a Song; Desert Skies*; and three others. CAPRICORN CPK 0180 \$7.98, © M80180 \$7.97, © M50180 \$7.97.

Performance: **Impressive**
Recording: **Very good**

This is one of the best of the Southern rock bands. A couple of their songs, *Willin'* and

THE MARSHALL TUCKER BAND: one of the best of the Southern rock bands



Capricorn Records

Can't You See, have caught the fancy of all manner of songwriters and singers as well as a huge audience. There's nothing here of that caliber, although two (out of three) long ones on side two are worth getting to know. The hit, *Heard It in a Love Song*, was damaged for me by overexposure, but most of the rest is pretty good stuff. The band plays what you'd swear was Sixties music yet manages to sound fairly in tune with the times; it may be Jerry Eubanks' reeds that give them the edge on that. He takes one really fine break on the sax, but generally the band sounds more sure of itself when he's playing the flute. Doug Gray's vocals may take a little getting used to, unless *Can't You See* was the first thing you heard him sing—that one was a natural for him. A lot of little things done right contribute to the good feelings I have about this album; the acoustic guitars, for example, are beautifully recorded and are used sort of like accent devices in the generally electrified sound. It must have been well planned, but it *sounds* spontaneous, and how it sounds is what counts.

N.C.

ROGER McGUINN: *Thunderbyrd*. Roger McGuinn (vocals, guitar); Rick Vito (guitars, vocals); Charlie Harrison (bass, vocals); Greg Thomas (drums); others. *All Night Long; It's Gone; Dixie Highway; American Girl; Why Baby Why*; and four others. COLUMBIA PC-34656 \$6.98, © PCA-34656 \$6.98, © PCT-34656 \$6.98.

Performance: **Offhand**
Recording: **Excellent**

First of all, this is not the Thunderbyrd of your dreams, the band Roger McGuinn was supposed to have put together at the close of Dylan's Rolling Thunder tour. *That* Thunderbyrd would have featured the rhythm section of Rob Stoner and Howie Wyeth (for my money, the most exciting bass and drum combination to emerge in rock in almost a decade) as well as Mick Ronson, whose heavy-metal Jeff Beckisms would have made for a fascinating contrast with McGuinn's inimitable twelve-string pyrotechnics. By the same token, it is not, mercifully, the Thunderbyrd McGuinn dragged around earlier this year (those Commander Cody dropouts), which was one of the most God-awful outfits ever to tread a stage. What it is, simply, is McGuinn and some unknown younger musicians who can best be described as serviceable.

As for the album . . . well, it's pretty weak. Roger continues to let his lead guitarist hog the show, and this one is a particularly uninteresting Clarence White disciple. No one in the group is much of a harmony singer, and since McGuinn has never been a strong enough vocalist to front a band (it was no accident that the Byrds were famous for their ensemble vocals), we're left with what sounds like an average bar band cranking out Eagles imitations. The material is interesting enough—a few good originals, two fine numbers from Tom Petty and Peter Frampton, and a really rousing *Why Baby Why*, an ancient George Jones hit that cooks like some of the better mid-period Burrito Brothers stuff—but there's very little here that merits repeated listening.

This album should once and for all put an end to the Roger McGuinn-as-*auteur* theories of certain rock critics. McGuinn was no more the Byrds than, say, John Lennon was the Beatles. He's a talented guy, of course, but in

(Continued on page 99)

WHY SPEND MORE MONEY? CALL US FOR FREE! DIAL 800-638-6666

Call 800-638-6666 for price quotes on over 40 brands

If you want the lowest possible price plus the fastest delivery you can't afford to pass us by!

PIONEER

SX-750



\$279

Receiver with features, at a low price.

PL-530



\$171

Fully-auto, direct drive turntable.

marantz.

Imperial 7



\$195 pr.

3-way speaker system with a 12" woofer.

SONY

STR-6800SD



\$390

Top of the line receiver with built in Dolby.



discount
sound

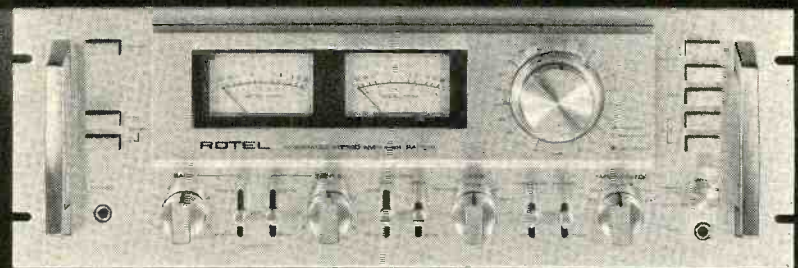
301-881-8890

800-638-6666

5618 RANDOLPH RD., ROCKVILLE, MD. 20852 All orders shipped immediately • Phone orders accepted • Use your BankAmericard or Master Charge • Call or write for price quotes on all the top audio brands • Write for free catalog • All merchandise in factory sealed cartons with full manufacturer's warranty.

CIRCLE NO. 10 ON READER SERVICE CARD

This is not our most powerful stereo integrated amplifier



it just sounds like it

some serious data on the RA-1312

80 watts per channel, min. RMS, both channels driven into 8 ohms, from 20-20,000 Hz with no more than 0.3% total harmonic distortion; Direct Readout Power Meters; Mic Mixing; Bass and Treble Roll-Off; 3 Position Switch, Phono, Impedance and Sensitivity; Tape Dubbing 1 to 2 and 2 to 1.

for literature, write

ROTEL

QUIETLY MAKING A NAME FOR ITSELF

Rotel of America, Inc. 1055 Saw Mill River Road, Ardsley, New York 10502

CIRCLE NO. 38 ON READER SERVICE CARD

The "Click and Pop" machine

only by

SAE



Ever since the invention of the recorded disc annoying "clicks" and "pops" caused by scratches, static and imperfections have consistently disturbed the listening pleasure of music lovers.

Now, SAE introduces the unique model 5000, an Impulse Noise Reduction System which eliminates those unwanted sounds with no adverse effect on the quality of the recorded material.

This breakthrough in electronic circuitry is so demonstrably effective that the SAE 5000 is destined to become an essential part of any sound system.

The SAE 5000 is compact and sleek, built to SAE's exacting standards, and ready to enhance the performance of any system, from the standard receiver/turntable combination, to the most sophisticated audiophile components.

SAE is proud to add the 5000 to their broad line of *Components for the Connoisseur*.

SAE

Scientific Audio Electronics, Inc.
P.O. Box 60271, Terminal Annex
Los Angeles, Cal. 90060

Please send more information on the 5000.

Name _____

Address _____

City _____

State _____ Zip _____

SR-777

CIRCLE NO. 39 ON READER SERVICE CARD



Windsong Records

Helen Schneider: New Girl In Town

THERE'S a new girl in town and she's made quite a splash with her debut Windsong album, "So Close." On the cover, Helen Schneider looks like she just stepped out of a shower; on the disc inside she sounds terrific. Ms. Schneider is young, self-confident, and talented. While she takes no particular pains to exploit it, her youth is important in that she so perfectly and unaffectedly represents the new breed of pop singer. Unselfconsciously, naturally, and expertly, her style of singing and way with words reflect the experience of growing up with rock.

In the twenty or so years it's been with us, rock has metamorphosed from teenager's jalousy to something very like the family car. It is now the mainstream of American popular music, with everything else reduced to a tributary status. Things haven't yet gone that far *everywhere*, of course, as I learned in a brief conversation recently with a Frenchwoman. On hearing that I reviewed records, she asked what kind—*la vraie musique* or *la cacophonie*?—and I suddenly realized that, somewhere along the line, what she considered cacaphony had become, to me, the real thing (sorry, *ma petite*).

And so it is to Helen Schneider too. She doesn't have to try to be a new kind of pop singer; by circumstances of time and place she just is one. Take, for instance, her opening song, *So Close*. This is a semi-rhapsodic rip-off of Jimmy Webb's *Didn't We*, a song veteran pop singers invariably hold up as

proof that "they're still writing good songs"—and then proceed to murder with a time-capsule performance. Schneider handles it with the easy self-confidence of one to the rock manor born. She instinctively searches out the ballad's throbbing rock underbeat and brings it up front, and she does this—no sweat, no stretch—without sacrificing one iota of clarity or listener comprehension. Her diction, in fact, is a marvel. It's so good that I never once regretted the absence of a lyric sheet in the album—something that's been a necessity lately with even some of the best performers (too many of today's really good, really talented rock stars apparently feel that the less we can understand them the more likely we are to take them seriously). Schneider is no belter, no stripling Ethel Merman. She just wants to communicate, and she does so, using today's idiom coupled with an old-fashioned respect for the sense of the words she sings.

When her material gets broad and loose and raucous—as it does in *Sad Eyes*, for instance—Schneider rolls along with it in an offhandedly funky way that is totally engaging. One appreciates her light touch in a song like *Yakkin' (Your Mind Is on Vacation)*, in which she glides over the humor of the situation instead of poking you in the ribs to be sure you get the point of the joke. And yes, she's *sophisticated*, not in the sense popularized by left-over Sixties hippies—*phony*, that is—but in its real-world, real-life meaning: not likely to be surprised by anything. But you are probably in for a surprise, and a great deal more, when you first hear Helen Schneider. She's what pop music has grown up to as the Seventies draw to a close: a performer who uses "rock" as an action verb in her musical sentences; one who can actually *sing* and thus doesn't have to fake it and try to cloak that

... rock is now
the mainstream of
American pop music

fakery with "meaningfulness"; and, most of all, a performer who wants to get close to her audiences, not dazzle or berate them.

The album's production, by Ron Dante, is careful without being cautious, though too many of the songs are, for my taste, a bit bland. Nonetheless, "So Close" brings a fresh breeze of hope that rock can get over its recent pomposity. Helen Schneider doesn't need rock so much as rock needs Helen Schneider.

—Peter Reilly

HELEN SCHNEIDER: *So Close*. Helen Schneider (vocals); orchestra. *So Close*; *Tryin' to Say Goodbye*; *All the Time*; *Sad Eyes*; *Cuddle Up*; *Why Don't We Live Together*; *Darlin'*; *Yakkin' (Your Mind Is on Vacation)*; *How I Miss You*; *I Never Meant to Hurt You*. WINDSONG BHL1-2037 \$6.98, © BHS1-2037 \$7.98, © BHK1-2037 \$7.98.

the end he's no better than the musicians he surrounds himself with. I wish he'd start surrounding himself with better ones. A lot better ones. S.S.

BILL QUATEMAN: *Night After Night*. Bill Quateman (vocals, electric rhythm guitar); vocal and instrumental accompaniment. *Dance Baby Dance; Doncha Wonder; Down to the Bone; Mama Won't You Roll Me; You're the One;* and five others. RCA APL1-2027 \$6.98, © APS1-2027 \$7.98, © APK1-2027 \$7.98.

Performance: **Pseudo-streetwise schmaltz**
Recording: **Very sharp**

I believe we have encountered a Document Symptomatic of Our Era, worthy of preservation in a time capsule, in the following hype from RCA's ad for Bill Quateman's debut album: "If you've had it with mister macho and superstar punks, this man has a very intriguing proposition for you. Meet Bill Quateman. He's not just another one-dimensional, ego-tripping ladies' man with hair on his chest and lust in his jeans. Bill Quateman is more interested in what kind of music he's making with his band than what kind of girl he's making backstage. And... he's articulate enough to express the frustrated intensity we all feel living life in the Seventies."

Now, if there's one thing I hate, it's naked honesty. It's so embarrassing. Why didn't they just lie and say he wants to be the Elton John of the burnt-out swingles set, or something? These are tough times, and such mortifying truthfulness doesn't help things any. When I'm sitting here under my headphones I want entertainment, not devastating revelations of the sordid truth about the way we live today. Quateman's insights into promiscuity and the human condition are just too cruel. In fact, this record has slammed so many unpleasant truths about myself into my face that I'm going to commit suicide. A gruesomely real death it'll be, too—I'll hang myself on one of Quateman's hooks. He's got one screwed into every song on this record, which is why Bill Quateman may well become very popular among those who can take him at all. Then everyone else who hears his pseudo-streetwise schmaltz can commit suicide too, providing the perfect setting for the solo album to end 'em all! It will be really lonely at the top then, but that's life, Bill baby—only the strong survive. Lester Bangs

KENNY RANKIN: *The Kenny Rankin Album*. Kenny Rankin (vocals and guitar); orchestra, Don Costa arr. and cond. *Groovin'; I Love You; On and On; Make Believe; A House of Gold;* and five others. LITTLE DAVID 1013 \$6.98, © TP-1013 \$7.97, © CS-1013 \$7.97.

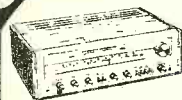
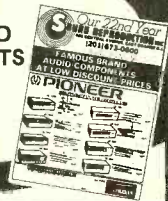
Performance: **Smooth**
Recording: **Even smoother**

Here's Kenny Rankin in his guise of the Smoothest Singer in the World (Who Isn't Married to Eydie Gormé). There's more than a touch of Steve Lawrence's high-gloss style here, but perhaps that's because Don Costa, who has worked so often with Lawrence, is apparently the dominant force in the recording. His conducting and arranging create an almost flawless setting (if you like lucite) for Rankin, who comes through with some very pretty but hardly individual sounds. Rankin's been around since the early Sixties, never making it really big but always surviving re-

Sound Reproduction . A PIONEER IN MAIL ORDER

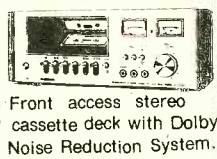
A PIONEER IN DISCOUNTING

SEND FOR OUR
CATALOG ON
PIONEER AND OVER
40 OTHER
FAMOUS BRAND
AUDIO COMPONENTS
AT LOW
DISCOUNT
PRICES.



PIONEER
SX-650
AM/FM
STEREO RECEIVER
LIST \$300.00
199⁵⁰

CTF-9191
FRONT
LOADING
CASSETTE
LIST \$450.00
293⁰⁰



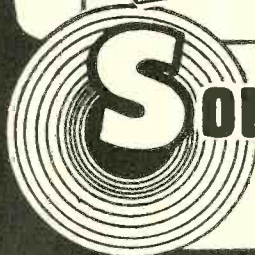
Front access stereo cassette deck with Dolby Noise Reduction System.



PIONEER
SX-1250
AM/FM
STEREO RECEIVER
LIST \$900.00
559⁰⁰



PIONEER
HPM-100
SPEAKERS
12", 4 way, 26H x 15W x 16D.
LIST \$300.00 ea.
165⁰⁰ ea.



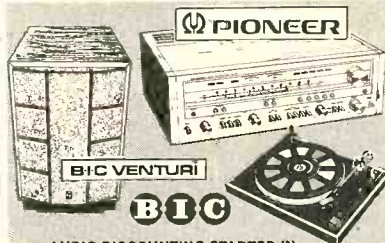
Order Now By Mail From..
SOUND REPRODUCTION INC.
460 CENTRAL AVE., EAST ORANGE, N.J. 07018

(201) 673-0600

CIRCLE NO. 46 ON READER SERVICE CARD

PRICE WAR

AMERICA'S #1 VALUE LEADER
STEREO CORPORATION OF AMERICA



AUDIO DISCOUNTING STARTED IN NEW YORK & NOW WITH THE END OF FAIR-TRADE WE ARE SURE THAT NO ONE CAN BEAT OUR PRICES:

- WE DISCOUNT OVER 60 MAJOR BRANDS
 - OVER 10 YEARS OF RELIABLE SERVICE IN THE MAIL ORDER FIELD.
 - LARGEST INVENTORY/LOWEST PRICES!
- WE GET THE BEST DEALS FROM THE MANUFACTURERS; YOU GET THE BEST DEAL FROM US. DON'T DELAY!!!

WRITE US NOW FOR LOWEST PRICE QUOTE

WRITE OR CALL
For **FREE**
STEREO
PRICE CATALOG

SHOP BY PHONE!
(212) 253-8888
N. Y. TIME
9-5 MON. THRU SAT.
Mastercharge/BankAmericard

STEREO CORPORATION OF AMERICA

S-R 1629 Flatbush Ave.,
Brooklyn, New York 11210

CIRCLE NO. 47 ON READER SERVICE CARD

Hi-Fi Buys

ON **PIONEER**
AT WAREHOUSE TO YOU PRICES

RECEIVERS		AMPS & TUNERS	
SX-1250	\$375	SA-9900	\$495
SX-1050	\$475	SA-9500	\$330
SX-950	\$409	SA-8500	\$264
SX-850	\$349	SA-7500	\$198
SX-750	\$279	SA-6500	\$123
SX-650	\$210	TX-9500	\$264
SX-550	\$175	TX-7500	\$165
SX-450	\$149	TX-6500	\$123

TURNTABLES		DOLBY CASSETTE DECKS	
PL71	\$198	CT-F9191	\$308
PL530	\$170	CT-F8282	\$272
PL510	\$136	CT-F7272	\$218
PL117D	\$119	CT5151	\$184
PL115D	\$91	CT4141A	\$164
PL112D	\$74	CT-F2121	\$149

SPEAKERS

HPM200	\$330	CS63DX	\$185
HPM100	\$165	CS99A	\$159
HPM60	\$124	CS700G	\$132
HPM40	\$83	CS500G	\$99

Save on other famous brands. Quotations answered same day. Write or call for free catalog. All units factory sealed. Full manufacturer's warranty. CB's also available at tremendous savings.

PHONE TO ORDER BY COD, BANKAMERICARD, MASTER CHARGE

For shipment within 48 hours send money order or certified check. Two week delay on personal checks. 20% deposit requested on C.O.D. shipments. \$1.25 handling fee on all orders. Shipping cost are collected C.O.D. unless paid in advance.

Hi-Fi Buys
1362 HOLTON LANE
LANGLEY PARK, MD. 20783
(301)434-5330

CIRCLE NO. 14 ON READER SERVICE CARD

Bold, Basic,



The Nakamichi 600 Series components bring a new approach to system high fidelity—a bold concept distinctly ahead of its time. Never has a group of components combined such high standards of excellence in performance and quality, uniquely attractive styling and supreme ease of installation and operation.

The basic Nakamichi 600 Series trio consists of the 600 Cassette Console, 620 Power Amplifier and 630 FM Tuner Preamplifier. Each is a study in human engineering; witness the gracefully sloped front panels with logically positioned controls. All three are timeless design expressions—sculptures worthy of artistic praise. And each performs its assigned function elegantly and flawlessly. But the three together form the nucleus of an incredibly impressive music system that is not likely to be equalled for many years to come. See and hear the trio at your nearest Nakamichi dealer. For complete information, write Nakamichi Research (USA) Inc., 220 Westbury Avenue, Carle Place, New York 11514

600 The highly acclaimed 600 Cassette Console enjoys the established reputation as the world's best two-head cassette deck. And, as such, it actually outperforms other manufacturer's three-head cassette decks! It is loaded with unique features, including Nakamichi's famous Focused-Field Crystal Permalloy head, rock steady DC Servomotor transport, lightning-fast peak level meters with an unheard of 47dB range, front panel calibration controls, phase-corrected electronics, and special IM Suppressor circuitry. Guaranteed minimum frequency response is 40–18,000 Hz \pm 3dB (EX or SX tape, with or without Dolby[®]). Signal-to-noise ratio is better than 65dB (Wrms at 400 Hz, 3% THD, with Dolby[®] and SX tape)—a greater dynamic range than today's best records.

spectably enough commercially to be able to keep on recording. His work here is characterized by the expected flexibility and professionalism of a survivor and his own consistently excellent musicianship. His voice is a bit squeezed at the top for this kind of straight-out singing, but he still does well, particularly in such things as Stephen Bishop's semi-calypto *On and On* and his own *I Love You*. Mildly entertaining. P.R.

CHARLIE RICH: Take Me. Charlie Rich (vocals, piano); vocal and instrumental accompaniment. *On My Knees; Easy Look Even a Fool Would Let Go; Mood Indigo; Where Do We Go from Here?; Spanish Eyes*; and four others. EPIC KE 34444 \$5.98, © EA 34444 \$6.98.

Performance: **Peter Pan smooth**
Recording: **Very good**

Charlie Rich is a jazz singer in the same way Peggy Lee is a jazz singer: in a mass-market, by-the-numbers sort of way that the big, sluggish pop market can track fairly easily, with him coming out of country just as she comes from easy-listening pre-rock-and-roll pop. I don't say this is a bad thing; good for Charlie and Peggy, I say, for tricking people into listening to quality singing. If you want to know how smoothly Charlie sings in this one, imagine rubbing your fingers together after dipping them in cornstarch. That's how easily he's going these days, and I find myself admiring his craftsmanship and being dismayed with his penchant for slickness at the same time. The album seems to put you on notice that this is stylized, this is acting—these are songs, just

songs, and this is what's known as putting songs across. But Charlie is a pretty *convincing* actor sometimes, and then I wonder if he isn't actually *feeling* something for the song. I'd rather my relationship with the album on this point weren't so ambivalent. N.C.

DIANA ROSS: An Evening with Diana Ross (see Best of the Month, page 88)

SEA LEVEL. Sea Level (vocals and instrumentals). *Rain in Spain; Shake a Leg; Tidal Wave; Country Fool; Nothing Matters but the Fever; Grand Larceny*; and two others. CAPRICORN CP 0178 \$6.98, © M80178 \$7.97, © M50178 \$7.97.

Performance: **Disparate, desperate**
Recording: **Good**

There's a difference between a band that is versatile and one that will play *anything* in the hope of making a hit. Sea Level is of the latter type. When they are not playing California steak-house-lounge jazz, they are trying to be condescendingly funky or hesitantly pop. The result is an album of skillful blithering. The band never comes to a decision; they don't know what to play *for*, so they play *at*. Bands of this type don't last long unless they get lucky. No one can predict what Sea Level's luck will be, but the kind of slapdash music they play here mortgages fortune.

It is likely that Sea Level is just a halfway house for its three Allman Brothers Band graduates (Jai Johanny Johanson, Chuck Leavell, and Lamar Williams), who were floundering after the disintegration of that supergroup. I predict these guys will soon move on

to other groups. And I can just hear the interview with one of them a couple of years from now: "I was with the Allmans for some time and . . . oh, yeah, I played in a band called Sea Level, but it didn't last too long." End of story. J.V.

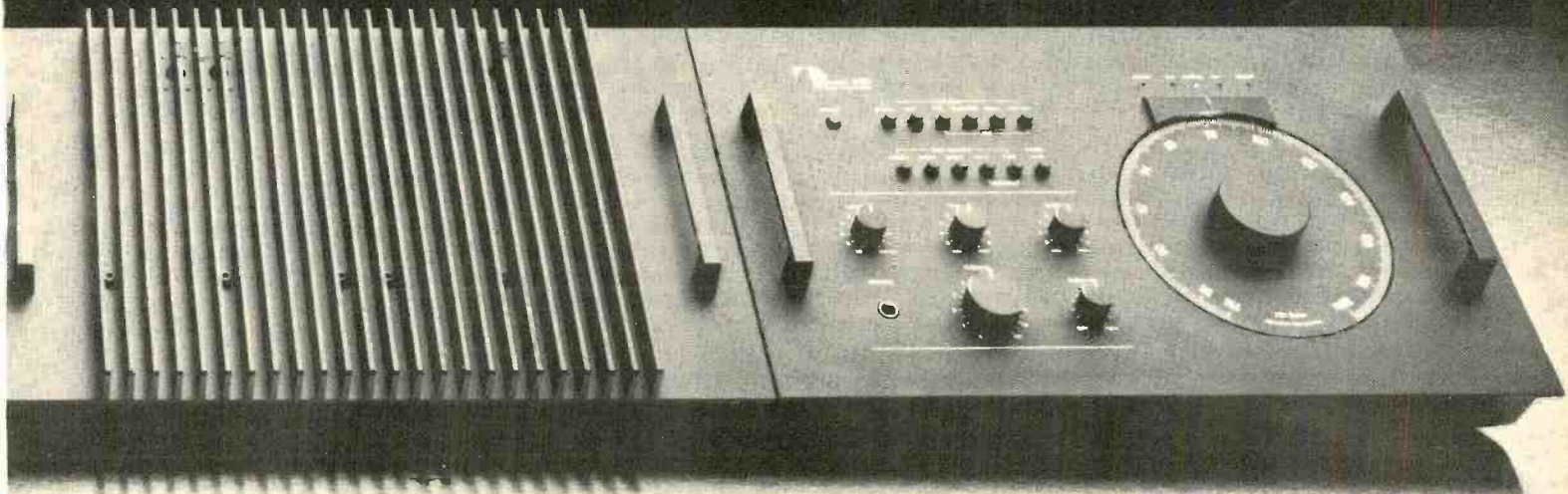
SON SEALS: Midnight Son. Son Seals (vocals, guitar); instrumental accompaniment. *I Believe (You're Tryin' to Make a Fool Out of Me); No, No Baby; Four Full Seasons of Love; Telephone Angel; Don't Bother Me*; and four others. ALLIGATOR AL 4708 \$6.98.

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

Son Seals is a solid blues singer and guitarist in the manner of Albert King (with whom he used to play), and this is a perfectly respectable blues album featuring well-executed, if pedestrian, horn arrangements behind Seals' singing and playing. I might have liked it better if it hadn't been for the fervid liner notes pleading the case of the poor, down-trodden blues singer, who has to suffer through a torturing work schedule and never gets to stay in fancy hotels like them no-good sell-outs, the rock-and-roll stars. The proselytizers so overstate their claims for both blues in general and their particular idols that no performer could possibly live up to them.

The blues has not been a living and growing musical form for several years now. Most of the original practitioners (Bessie Smith, Ma Rainey, Elmore James, Howlin' Wolf, Little Walter, Magic Sam, and others) have gone to heaven, and the conditions that formed their sensibilities have largely disappeared. The

Beautiful... Nakamichi!



620 Although the 620 Power Amplifier is distinguished by an unusual exterior, the real story is its impeccable performance, the result of Nakamichi's unique "complete-mirror" push-pull circuitry, which eliminates distortion without the use of high idling current or high negative feedback. A massive toroidal core transformer and two 40,000 μ f filter capacitors assure ample power reserve. The 620 handles all types of loads in stride, and its low operating temperature assures long-term reliability far surpassing conventional designs. Power output is 100 Watts per channel, minimum rms at 8 ohms, 5-20,000 Hz with less than 0.01% THD.

630 The unusual and versatile 630 FM Tuner Preamp offers a degree of performance unmatched by receivers and rarely found in complete "separates." The tuner section boasts stereo distortion under 0.08% and separation better than 50dB (1 kHz, normal selectivity). Selectivity can be switched from normal (over 40dB) to narrow (over 80dB). Signal-to-noise ratio is better than 70dB *without* the help of built-in Dolby* Noise Reduction circuitry provided for Dolby* FM broadcasts. The preamplifier section defies conventional distortion measurement while phono equivalent input noise is an incredible -140dB.

*Dolby is a Trademark of Dolby Laboratories, Inc.

CIRCLE NO. 29 ON READER SERVICE CARD

number of middle-aged black musicians now actively engaged in singing urban blues (post-World War II, Chicago-style) is small. As far as I can see, young blacks today do not take much of an interest in blues, do not know much about it, and perhaps do not care to learn; the same is true for jazz in the styles of 1917 through 1955. Black pop, *a.k.a.* "soul," replaced the blues quite a few years ago. I am glad that people like Son Seals are still alive, working, and delivering the real goods, but I wish the proselytizers would face facts and shut up. *J.V.*

SKYHOOKS: *Living in the Seventies.* Skyhooks (vocals and instrumentals). *Million Dollar Riff; Mumbo Jumbo; Blue Jeans; Is This America; Crazy Heart;* and five others. MERCURY SRM-1-1124 \$6.98, © 81-1124 \$7.95, © 41-1124 \$7.95.

Performance: **Beside the point**
Recording: **Good**

Poor Australia has been suffering from the greatest national inferiority complex in rock-and-roll almost since the music's inception, and with good reason. Quick, name three important (or even internationally known) Australian rock acts. If you're really hip, you might remember the Easybeats, and if you're one of those lunatics who'll listen to *anything*, you might recall two entertaining albums from a strange Aussie band called Daddy Cool (circa 1971). Other than those, the closest thing to a successful rocker from Down Under is . . . egads, Helen Reddy.

Poor Skyhooks. This, their second American release, is actually several years old, and

from what I've been able to learn, they may already be living back in the Seventies equivalent of the carwash (traditional haven for out-of-work rockers). It seems that a gang of Australian kids decided that if Alice Cooper could wear funny clothes and make-up, so could they. They followed suit, conquered Australia's teenagers, and then decided to take on the world. They didn't make it, and if you're wondering why, all you have to do is wait 'til "Living in the Seventies" hits the bargain bins. You'll be treated to the usual heavy metal riffs, silly, sexually ambivalent lyrics, and, in general, the kind of music that almost makes you *want* to listen to Helen Reddy. I hope Skyhooks got a huge advance from Mercury Records. *S.S.*

SPLIT ENZ: *Mental Notes.* Split Enz (vocals and instrumentals). *Late Last Night; Walking Down a Road; Titus; Lovey Dovey; Sweet Dreams; Mental Notes;* and four others. CHRYSALIS CHR 1131 \$6.98.

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

Split Enz is an English group playing what may be termed British Gothic rock. The material, arrangements, and performances are murky, smell slightly of madness and evil, and are intended to make the hair on the back of one's neck rise rather than set the foot to tapping.

It is difficult to tell when this group—or any English Gothic group—is kidding or when the emotional unbalance described in the music does in fact reflect the state of mind of the musicians. The album cover is not much help.

It depicts Split Enz in various stages of mental peril; the photo on the inside cover shows them dressed in weird costumes, their faces painted.

There is, and has always been, a fascination with madness, else why do people go to horror movies? But while madness can attract the curious and those who like a good scare, it can also repel. In this case, it's more the latter than the former. *J.V.*

THE STATLER BROTHERS: *The Country America Loves.* Statler Brothers (vocals); instrumental accompaniment. *The Movies; Let It Show; All I Can Do; You Could Be Coming to Me; Hat and Boots; I Was There;* and five others. MERCURY SRM-1-1125 \$6.98.

Performance: **One-dimensional**
Recording: **Average**

The Statler Brothers are capable enough—they've got fine individual voices and come up with dandy harmonies when they work at them—but here's another of their albums sounding like country music's answer to junk food. The boys can't seem to get over how cute it all is, although their parody of the Ink Spots (or tribute to them, or whatever it is) does stand surprisingly well on its own. Mostly the deliveries sound as if they're being read off a teleprompter, unless there is some fun to be had with a song, in which case its meager humor gets beaten to a pulp. The Statlers made it clear long ago they aren't guilty of the sin of taking themselves too seriously. Now if only they would get *on* with something. *N.C.*

(Continued on page 105)

Stereo Review's

'HOW TO' REPRINT SERIES

Whether you are about to buy your first high-fidelity component or your fifteenth, you need to have all the facts you can get your hands on if you want to insure your complete satisfaction. Yes, the audio field is a complicated one, but *Stereo Review* has been running a kind of monthly seminar on the subject for almost two decades now, furnishing the kind of basic buying, installation, and operating guidance you can get nowhere

else. Today, over 450,000 readers use it monthly as the first, best textbook in their on-going audio educations. If you have come a little late to class, here's your chance to catch up. Any questions you may have about *How to Buy*, *How to Set Up*, *How to Use*, or *How to Understand* audio equipment are probably answered in one or more of the reprints listed below.

1. ROOM ACOUSTICS (How to Correct Your Room Acoustics)
2. GUIDELINES TO SPEAKER SHOPPING
3. RECORD DEFECTS (Their Causes & Cures)
4. LOUDSPEAKER POWER NEEDS (How Much Power Do You Need for Your Speakers)
- * 5. HOW IMPORTANT IS AUDIO-COMPONENT COMPATIBILITY?
6. GUIDE TO UPGRADING YOUR COMPONENTS
7. HOW TO SELECT A MICROPHONE
8. HOW TO CHOOSE AN AMPLIFIER
9. HI-FI TROUBLESHOOTING CHARTS
10. SPEAKER MYTHS (How to Avoid Bad Choices)
11. TURNTABLE BASICS (How to Buy a Turntable)
12. HOW TO SELECT AN FM TUNER
13. HI-FI DEMONSTRATION DISCS
- *14. AUDIO EQUALIZERS (Understanding and Choosing Equalizers)
15. CLEAN UP AND TUNE UP YOUR AUDIO SYSTEM
- *16. HOW TO BUY A CASSETTE DECK
17. USING FM INTERSTATION HISS TO TEST RECORDERS AND SPEAKERS
18. HOW TO BUY A RECEIVER
19. HOW TO BUY A PHONO CARTRIDGE

*Reprints marked with Asterisk \$1.50. All others, \$1.00. Minimum order \$2.00.

Stereo Review Information Center
Consumer Service Division
595 Broadway, New York, N.Y. 10012

Please send the reprints circled below:

\$1.00 each _____

1 2 3 4 6 7 8 9 10 11 12
13 15 17 18 19

\$1.50 each _____

5 14 16

NUMBER OF REPRINTS ORDERED:

@ \$1.00 _____ @ \$1.50 _____

TOTAL ENCLOSED
(MINIMUM ORDER \$2) _____ †

†Residents of CA, CO, FL, IL, MI, MO, NY, D.C., and TX
add applicable sales tax.

Print Name _____

Address _____

City _____

State _____ Zip _____

SR-77

SAVE!

MONEY • TIME • FREIGHT

- ▶ QUALITY STEREO EQUIPMENT AT LOWEST PRICES.
- ▶ YOUR REQUEST FOR QUOTATION RETURNED SAME DAY.
- ▶ FACTORY SEALED CARTONS—GUARANTEED AND INSURED.
- ▶ SAVE ON NAME BRANDS LIKE:

A.D.C.	KLH
A.R.	SHURE
DYNACO	KOSS
SONY	FISHER

PIONEER
AND MORE THAN 50 OTHERS
BUY THE MODERN WAY
BY MAIL—FROM

illinois audio

Department 217S
12 East Delaware
Chicago, Illinois 60611
312-664-0020

CIRCLE NO. 15 ON READER SERVICE CARD

DISCO



GLORIA GAYNOR: *Glorious*. Gloria Gaynor (vocals); instrumental accompaniment. *Sweet Sweet Melody; Life Ain't Worth Living; So Much Love; Why Should I Pay*; and five others. POLYDOR PD-1-6095 \$6.98, © 8T-1-6095 \$7.98, © CT-1-6095 \$7.98.

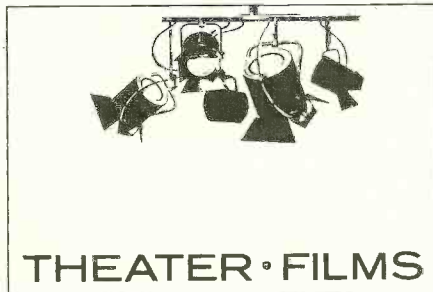
Performance: **Strong**
Recording: **Good**

Gloria Gaynor really deserves a lot better than she gets in this release. How very good she is can be measured and confirmed by her treatment of *As Time Goes By* (in tandem with *The Hands of Time*), which is so vivid and forceful that you know you are in the presence of a real talent. Aside from her smoky, pleasantly affected lyric attack and her rhythmic urgency, she has the gift of pacing that particular old warhorse so dynamically that you really couldn't give a damn whether or not Sam *ever* played it again. Elsewhere, though, she's led up the garden path of pop solemnity with a nine-minute *Most of All*, the mealy-mouthed mush of *So Much Love*, and others of their ilk. Gaynor might profitably consider doing an album composed solely of standards. Profitable or not, I have a feeling that I'd love it. P.R.

OTHER RECOMMENDED DISCO HITS

- C. J. & COMPANY: *WESTBOUND* WB-301 \$6.98
- KRAFTWERK: *Trans-Europe Express*. CAPITOL SW 11603 \$7.98
- IDRIS MUHAMMAD: *Turn This Mutha Out*. KUDU KU 34 \$7.98.
- DEXTER WANSEL: *What the World Is Coming To*. PHILADELPHIA INTERNATIONAL PZ 34487 \$6.98.

(List compiled by David Mancuso, owner of the Loft, one of New York City's top discos.)



RECORDING OF SPECIAL MERIT
FOR COLORED GIRLS WHO HAVE CONSIDERED SUICIDE WHEN THE RAINBOW
(Continued on page 107)

BIG DISCOUNTS

STEREO COMPONENTS

Largest selection of top name brands...try us and see.

It's worth a call
(301) 488-9600



6330 Frankford Ave.
Baltimore, Md. 21206

All mail answered within 24 hours

Phone Daily 9 AM to 9 PM
Saturday 9 AM to 4 PM
Phone (301) 488-9600

CIRCLE NO. 16 ON READER SERVICE CARD

Audio Discount WAREHOUSE SALES DIRECT TO PUBLIC "HOT STUFF"

IF YOU CAN BUY IT
ANY CHEAPER YOU COULD
DO 2 TO 5 YEARS



CALL THE HOTLINE TOLL FREE
OUT OF STATE
800-631-2175
IN NEW JERSEY
800-822-8926

Write Today FREE Audio Catalog

MASTER CHARGE/BANKAMERICARD
HONORED ON
MAIL & PHONE ORDERS

AUDIO DISCOUNT
WAREHOUSE SALES
175 Monmouth Rd. W. Long Branch, N.J. 07764
Please rush me your FREE Audio Catalog.

Name _____
Address _____
City _____
State _____ Zip _____

CIRCLE NO. 6 ON READER SERVICE CARD

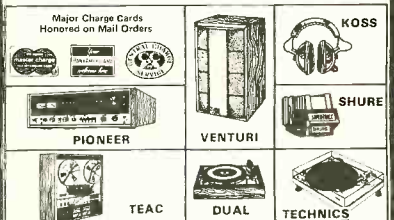
DIXIE HI-FI SAVE ON

Brand Name Audio Components

BY MAIL

Write Today for Our
FREE Audio Catalog

DIXIE is one of the oldest and largest stereo mail order houses in the country. Our lower prices on brand name components can save you real money. Call us today for a price quote, toll free (800) 446-7925, in Virginia call (804) 257-4241. Everything shipped in factory sealed cartons with manufacturer's warranty.



DIXIE HI-FI

P.O. Box 6496
Richmond, Va. 23230

SR-7

Please rush me your FREE Audio Catalog and complete information. I understand there is no obligation.

Name _____
Address _____
City _____ State _____ Zip _____
Phone () _____
A.C. _____



MCA Records

Loretta Remembers Patsy

LORETTA LYNN and Patsy Cline were close friends when Loretta was Most Promising Female Vocalist and Patsy was Best Female Vocalist by official Nashville decree. Now Loretta, in "I Remember Patsy" for MCA, has recorded a tribute to her dead friend, singing a passel of songs identified with Cline. While it is interesting to compare the results to the Cline versions and to a couple of super covers (about which more later), they do not compare all that wonderfully to other Loretta Lynn albums.

There's the "theme-album" hump to get over first, and it seems to loom larger in country than in other kinds of music. I'm not sure why this is so; Merle Haggard has been derailed by it a few times and Johnny Cash has been sidetracked. The problem may be that the theme album is a slightly corny or at least romantic idea to begin with, and country music—which must border on being corny if it is to have its requisite charm—exacerbates that problem. Anyway, a sentimental theme album such as this one tends to divide the audience between those who fall for every misty-eyed move an entertainer makes (in country, there's no end to the pious "sacred" albums some of them have recorded and no end, apparently, to the audience's appetite for them), and those who recoil from that sort of thing.

Lynn, however, has more natural grace than most people, letting us know, without consciously having to try to, that there is no question about her sincerity. She convinces

me she'd have done this album if she'd known in advance it wouldn't gross fifty bucks. In fact, of course, it will do somewhat better commercially, with *She's Got You*, one of several Hank Cochran songs Cline liked, already leading the way in air play. Part of what's convincing about the singer's attitude is partly what bothers me about her handling of a couple of songs: she sounds as if she's trying too hard. The Loretta Lynn I'm used to has a kind of relaxed aggressiveness. Always stirring up something, like recording *The Pill*.

...Lynn still sounds best on a side-road truck-stop juke box...

Here she does a slightly overcooked bit of "interpretation" in *Sweet Dreams*, and, as covers go, hers doesn't soar the way the recent Emmylou Harris one did. She does a middle-of-the-road reading of *Crazy*, and as covers go it doesn't get up there the way the recent Linda Ronstadt one did. In both cases, I guess it is because Lynn's emotional in-

volvement with the subject theme hampered her imagination, as she obviously *can* sing with anybody, especially a song like *Sweet Dreams*. She has a sweet and lovely voice, just enough quirkiness in her phrasing and enough Eastern Kentucky left in her accent, plus impressive control of the microphone.

Some of the songs here—probably including *Crazy* and probably *not* including *She's Got You*—are simply not Lynn songs but Cline songs. Well, maybe not so simply. *I Fall to Pieces* (nobody could touch Cline at hitting that low note at the beginning) and *Walking After Midnight* are notable examples. Cline appeared to be vulnerable in ways that went with these songs; Lynn appears to be survival-oriented-to-tough in these areas and vulnerable in other ways. Their friendship must have had lots of complementary elements. Cline was small-town, but Lynn was and is rural; she still sounds best not on Main Street but on a side-road truck-stop juke box in the northeast corner of farm country. I was jolted into remembering this when I wandered into such a place and heard her voice singing *Somebody Somewhere*. A perfect moment.

From the oddly corny ways Cline was backed and from what I've read that Lynn, among others, has said about her, I assume that she was not too much, as they say, "into business." Lynn is enough into business to have bought herself an entire town, and you can bet she has the last word on who plays what behind her.

THEY had things in common, of course. Pain apparently was one, if I get the drift of Loretta's liner notes, excerpted from her book *Coal Miner's Daughter*. They were both struggling, perhaps on different planes, when Lynn first came to Nashville. But their singing styles reflect more of their differences than their similarities, and their singing styles call for different repertoires. In general, Lynn sings a smoother, simpler, "more country" tune than the jazzy, sometimes leapfrogging melodies Cline had an affinity for. If you take the view that vinyl should catch only a person's best, then virtually every cut on this album pre-empts or puts off Lynn's topping Cline's performance of *It Just Dawned on Me*. *What Sundown Does to You*, not to mention *Fist City* and other three-chord classics. She might have done that, you see, in a straightforward Loretta Lynn album. Still, this is an interesting thing to have around; it does satisfy a sort of what-if peckishness one might have about singers identified with certain styles. Lynn proves she can do the other person's kind of song, and her way never wavers from true-blue Loretta Lynn. The sentimental aspect is handled pretty well, and it probably stands up reasonably well as an album for those who never heard (or heard of) Patsy Cline. It's just that it would be rather misleading to those who've also never heard Loretta Lynn.

—Noel Coppage

LORETTA LYNN: I Remember Patsy. Loretta Lynn (vocals); instrumental accompaniment. *She's Got You*; *Walking After Midnight*; *Why Can't He Be You*; *Faded Love*; *I Fall to Pieces*; *Crazy*; *Sweet Dreams*; *Back in Baby's Arms*; *Leavin' on Your Mind*. Plus "I Remember Patsy," a conversation with Owen Bradley. MCA MCA-2265 \$6.98.

IS ENUF (Ntozake Shange-Bill Eaton). Original-Broadway-cast recording. Trazana Beverley, Laurie Carlos, Rise Collins, Aku Kado-go, Janet League, Paula Moss, Seret Scott, Ntozake Shange (vocals and recitations); orchestra. BUDDAH BDS 95007-OC \$6.98.

Performance: **Strong stuff**
Recording: **Excellent**

It was a lucky day for black theater in this country when poet Ntozake Shange met choreographer Paula Moss in San Francisco. They decided to join poetry and dance in a program that developed into *For Colored Girls Who Have Considered Suicide When the Rainbow Is ENUF*. The show moved to New York's New Federal Theater on East Third Street, later reopened at Joseph Papp's Public Theater, and eventually went to the Booth on Broadway, all the while to the sweet accompaniments of audience enthusiasm and critical acclaim. The seven women—the poet and the choreographer among them—who perform in this powerful examination of the black experience from the female point of view are versatile indeed, appearing in costumes of contrasting hues to dance as they recite and act out Shange's devastating verses under Oz Scott's ingenious direction.

Now a good part of the show has been preserved in a handsomely designed album from Buddah, and, though I miss many of the visual elements, especially the dances, the recording still has a gripping effect. Bill Eaton's score provides mood and continuity to poignant proceedings where the subject matter is often almost unendurably harsh, yet leavened with the sort of humor that makes pain bearable in real life as well as on the stage. Here is Laurie Carlos describing the humiliation and suffering that goes with an abortion; love poems that deny the existence of love while pining for it; verses and monologues about the trauma of growing up black. All this time the action slowly builds to the shattering tabloid horror of *A Nite with Beau Willie Brown*, which deals with a desperate woman's efforts to protect her children from death at the hands of a deranged Vietnam veteran. At length, the women turn to each other for solace in a finale that provides some balm for Willie Brown's victim in Diana Wharton's gospel-like song *I Found God in Myself*.

There are echoes in all this of Lorraine Hansberry's *To Be Young, Gifted, and Black*, and for the private listener the recitations may come across at times as a bit overwrought and mannered in that stylized singsong that characterizes much black acting at the moment, but the disquieting power of *For Colored Girls* is undeniable, and it comes through in this lovingly produced album. P.K.

NANCY WALKER: Show Stoppers. Nancy Walker (vocals); piano accompaniment. *I Can Cook, Too; Some Other Time; My Cousin in Milwaukee; I Can't Get Started; Get Married, Shirley; Down to the Sea; The Saga of Jenny*; and seven others. STET 2002 \$6.98 (plus 50¢ handling charge, from Out Take Records Inc., P.O. Box 298, Ansonia Station, New York, N.Y. 10023).

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

It may be hard to believe, but the truth is that Rhoda's mother and the raucous vendor of paper towels in the Bounty television commercials actually started life as a singer—a serious one whose model was sob-sister Hel-

en Morgan perched on a piano. Luckily for the history of show business, Nancy Walker was laughed out of that career and went on instead to delight us all as the loudmouth undergraduate in *Best Foot Forward*, the tough-talking lady cabdriver in *On the Town*, the comic relief in plays and musical revues both on and off Broadway, and one of television's few genuine comedienne. Yet all these years she has been singing, too, and some time ago Doubleday issued an LP of her musical efforts in its "Dolphin Personalities" series. The reissue of that album on the new Stet label is welcome news. Here's Nancy re-creating *I Can Cook, Too* from *On the Town*, as well as that show's endearing second-act ballad *Some Other Time; I'm Tired of Texas*, from *Look Ma, I'm Dancin'*, the musical that practically

put an end to *Swan Lake*; and *Milkman, Keep Those Bottles Quiet* from *Broadway Rhythm*. She is at her best when she gets hold of some comic number like *Down to the Sea*, with its salute to the weekend sailors of suburban shores ("Down to the sea in ships we go, the middle class to a man, we're so amphibian . . ."). She is less effective trying to get back up on that piano with *Long Ago and Far Away, I Can't Get Started*, and other romantic ballads, though she's oddly touching all the same and almost disconcertingly subdued. Her accompanist is David Baker, who wrote many of the songs she sings. The record is a must for all Nancy-worshippers, a category that certainly includes me. P.K.

(Continued overleaf)



So your listening room won't accommodate a KLIPSCHORN®. Then Klipsch gives you a choice. Large, small, horn-loaded bass, direct radiator bass. All non-corner speakers. Yet all except the HERESY® have the same drive components. Even with it the only difference is a 12" instead of a 15" bass driver. And each Klipsch speaker is individually tested to meet Klipsch standards. Ask your dealer to show you how closely the children approach the father in true sound reproduction. Mail this coupon for information on the complete Klipsch line.

klipsch

P.O. Box 688 S-7¹ Hope, Arkansas 71801

Please send me your latest brochure and list of dealers.

Name _____

Address _____

City _____ State _____ Zip _____

In Canada: Superior Electronics, Inc.



CIRCLE NO. 20 ON READER SERVICE CARD

Now the column reaches monitor heights

In the 14XP column system, American Monitor Company introduces column design to recording studio monitor quality speakers.

14XP captures tight bass, clear midrange, vast high frequency dispersion—and releases the precise sonic images demanded of the finest studio monitors. All in an efficient, appealing column.

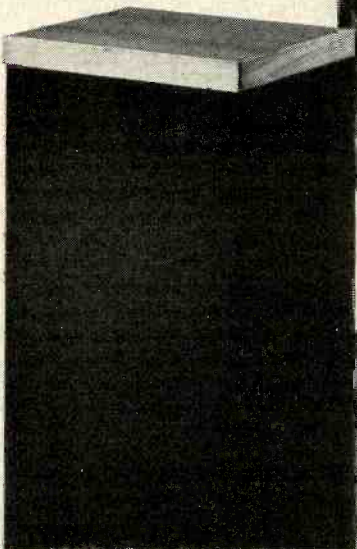
Reach for the 14XP at your franchised American Monitor Company dealer soon.



AMERICAN MONITOR COMPANY

8116 Deering Ave., Dept. SR
Canoga Park, CA 91304

Write for dealer list and specifications



JAZZ



LOUIS ARMSTRONG: *Young Louis Armstrong, 1932-1933.* Louis Armstrong (trumpet, vocals); vocal and instrumental accompaniment. *That's My Home; Hobo You Can't Ride This Train; I Hate to Leave You Now; (You So and So) You'll Wish You'd Never Been Born; When You're Smiling/Dinah/St. James Infirmary; You Rascal You/When It's Sleepytime Down South/Nobody's Sweetheart; I've Got the World on a String; I Gotta Right to Sing the Blues; High Society; Some Sweet Day; Basin Street Blues; Laughin' Louie; Sweet Sue, Just You; St. Louis Blues;* and seventeen others. RCA BLUEBIRD AXM2-5519 two discs \$9.98, © AXS2-5519 \$9.98, © AXK2-5519 \$9.98.

Performance: **Colossus at work**
Recording: **Good restoration**

Shortly after he returned from his first European tour in 1932, Armstrong was signed to Victor Records. The recordings from that period, collected here, are interesting to compare with his 1931 waxings for Columbia. The difference between them is that by 1932 Armstrong was projecting his showmanship almost as much as his amazing trumpet playing, so there is a vaudeville atmosphere about these Victor recordings that, while it does not seriously detract from the displays of genius, makes them less satisfying as jazz than his performances of the year before. A case in point is *(I'll Be Glad When You're Dead) You Rascal You*. On the Columbia version, his guffaws and spoken asides seem to be spontaneous (as is the interpolated line, "I'll be standin' on the corner high/When they bring your body by"). In the Victor recording there is a deliberate attempt to re-create the same hilarity, but it just doesn't work as well.

In general, the arrangements here are commercial dance-band items, and there is more noise made than jazz played. But Armstrong was at the peak of his powers, a jovial titan,

an awesome trumpet player. There are also some other notables present: drummers Sid Catlett and Chick Webb, pianist Teddy Wilson, and a terrific trombonist named Keg Johnson. The package is essential for Armstrong fans and collectors, but get the Columbia records first. J.V.

WILLIE BOBO: *Tomorrow Is Here.* Willie Bobo (vocals, arrangements); instrumental accompaniment. *Suitcase Full of Dreams; Funk de Mambo; Keep On Walking; Dreamin'; Wacky Tobacky (The Race);* and four others. BLUE NOTE LA711-G \$6.98, © EA711-H \$7.98.

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

Willie Bobo is a veteran musician, and he contributes some warm and seemingly effortless vocals to this Latin-flavored jazz album. A singer has to be awfully good before he can make his work sound easy; Bobo is *that* good. The instrumental cuts are frisky, friendly jazz. This is an all-weather album, good for sunny or rainy days and any kind of mood. J.V.

RECORDING OF SPECIAL MERIT

THE DAVE BRUBECK QUARTET: *25th Anniversary Reunion.* Dave Brubeck (piano); Paul Desmond (alto saxophone); Eugene Wright (bass); Joe Morello (drums). *St. Louis Blues; Take Five; African Times Suite; Salute to Stephen Foster;* and two others. A&M/HORIZON SP-714 \$6.98.

Performance: **Typical**
Recording: **Very good remote**

The Dave Brubeck Quartet broke up the day after Christmas 1967, but to hear the performances on this reunion album one would think these men had gone right on playing together. Actually, only Brubeck and Paul Desmond kept in touch during the nine years from the breakup to this reunion, and a couple of years ago they recorded a duet album ("1975: The Duets"—A&M/Horizon SP-703), which I can strongly recommend as a perfect expression of the sympathy between them. Only Brubeck and Desmond were charter members of the quartet—which was formed in 1951, having grown out of a three-year-old octet (which sometimes became a trio) that is well preserved in a series of recordings on the San Francisco-based Fantasy label. Drummer Joe Morello and bassist Eugene Wright joined the quartet in 1956 and 1958, respectively.

The Dave Brubeck Quartet as it was in its heyday. Left to right, Joe Morello, Gene Wright, Dave Brubeck, Paul Desmond



This reunion album was recorded in March of last year during concerts at Interlochen, Michigan, and Fort Wayne, Indiana—two stops in a twenty-five-day tour covering twenty-five cities. It is excellent throughout, a wonderful reminder of what jazz was before musicians became electronic engineers. If anything, the Brubeck four are better here than in their earlier recordings. They seem more relaxed and are obviously enjoying their work, which makes it all the more enjoyable to listen to. The dull front cover notwithstanding, the album is expertly packaged with good liner notes (including personal notes from each of the four players), a selected discography, and a fine portrait of the group by artist Barron Storey (it should have been on the cover). C.A.

MILES DAVIS: *Water Babies* (see *Best of the Month*, page 87)

KEITH JARRETT: *Hymns Spheres*. Keith Jarrett (pipe organ). *Hymn of Remembrance; Hymn of Release; Spheres (nine movements)*. ECM ECM-2-1086 two discs \$9.98, © 8T-2-1-1086/2-1086 two cartridges \$7.98 each. © CT-2-1-1086/2-1086 two cassettes \$7.98 each.

Performance: **Too sacred**
Recording: **Excellent**

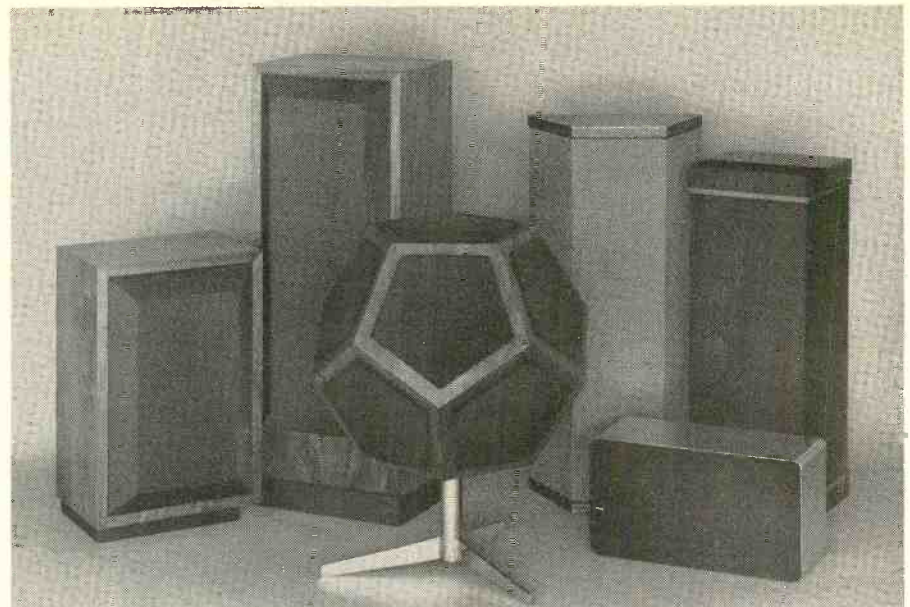
The Trinity organ is the larger of two built by Karl Joseph Riepp for the Benedictine abbey in Ottebeuren, Germany, in the eighteenth century, and I suppose the fact that Keith Jarrett, an artist closely identified with modern jazz and its derivatives, is performing on a two-hundred-year-old Baroque instrument makes this a somewhat unusual album. But the music—despite novel effects achieved by unorthodox usage of the organ's stops—is disappointingly ordinary and, in spots, downright traditional.

I am admittedly not very familiar with pipe-organ music, nor do I find its sound particularly appealing, but I don't think Mr. Jarrett will find as wide an audience for this set of recordings as he has for his extraordinary piano improvisations. I wonder if *one* disc of these hymns and spheres would not have sufficed. C.A.

BABY LAURENCE: *Dancing Master*. Baby Laurence (tap dancer); instrumental accompaniment. *Baby at Birdland; The Sand; Buck Dance; Mall March; Concerto in Taps*; and six others. CLASSIC JAZZ CJ 30 \$5.98.

Performance: **Too many taps**
Recording: **Good**

Can the feet of a tap dancer serve as a musical instrument? Nat Hentoff seems to think so. In his informative but shamelessly admiring liner notes for this album, he claims that jazz tap dancer Baby Laurence's toes had the ability to "conjure up a visual impression even on record by the way he shapes his sound." There is no doubt that Baby Laurence (born Laurence Jackson in Baltimore back in 1921) was a phenomenon to watch at one of his performances, practically a living musical instrument (Whitney Balliett called him "essentially . . . a great drummer") as he tapped away to the improvisations of the most elite jazzmen of his day, from Art Tatum to Charlie Parker. Laurence's death in May 1974 was mourned by jazz musicians everywhere. But listening to a tap dancer's feet, however rhythmically ingenious the sound patterns they set out, is in the long run a numbing ex-



Our speakers sound more alike than they look.

That's easily explained. Our continuing commitment is to design and build speakers that produce as true an illusion of original musical events as the art permits. Yet we must build them at various prices. It would be easy to mimic a single design time after time. But maximum accuracy, as well as optimum power handling, sensitivity and power output, are best served by starting from the ground up with each model. What better way to achieve the minimum

possible compromise at any given price?

The Design Acoustics family of loudspeakers. Look at them. All different, because the best solution to the numerous acoustic problems varies widely with cost constraints. Now go out and listen to them. You'll find the resemblance unmistakable.

Please write us for brochures and test reports.

Design Acoustics, Inc.
Dept. SR-6-7, 2426 Amster St.,
Torrance, CA 90505
(213) 326-3621.



TM

TDK AMPEX

Blank Tapes

at wholesale prices!

CASSETTE TAPES		
AMPEX C-90 3 pk w/stackette	3.79	for 3
AUDIO MAGNETICS C-60 3 pk	1.39	for 3
AUDIO MAGNETICS C-90 3 pk	1.79	for 3
MAXELL UDC-60	1.79	
MAXELL UDC-90	2.49	
MAXELL UDC-120	3.39	
MAXELL UDXL 1 or 2 C-60	2.49	
MAXELL UDXL 1 or 2 C-90	2.99	
MEMOREX C-90 3 pk	4.99	for 3
SCOTCH C-90 3 pk	3.99	for 3
SONY C-60	1.29	
SONY C-90	1.79	
SONY C-120	2.29	
TDK SD C-60	1.39	
TDK SD C-90	1.79	
TDK SA C-60	1.99	
TDK SA C-90	2.49	
TDK SD-120	2.79	
TDK D-180 180 minutes	2.99	
8 TRACK		
AMPEX 84 min.	1.35	
MEMOREX 2 pk 90 min.	3.59	for 2
SCOTCH 2 pk 90 min.	3.59	for 2
REEL-TO-REEL		
MAXELL UD50-60 1200 ft.	3.99	
MAXELL UD35-90 1800 ft.	4.49	
MAXELL UD35 180 3600 ft. 10 1/2 in.	13.49	
SCOTCH 206 1200 ft.	3.99	
SCOTCH 207 1800 ft.	4.49	
SCOTCH 212 1800 ft.	3.59	
SCOTCH 214 3600 ft.	7.99	
SHAMROCK 1800 1800 ft.	1.79	

J & R Music World
33 Park Row N.Y.C. 10038
(212) 732-8600

MAIL ORDERS ACCEPTED For shipment within 24 hours send money order or certified check. Two weeks delay on personal checks. Please add \$2.00 per order for shipping & handling. N.Y.S. Residents add applicable sales tax. NO C.O.D.s. Minimum Order 12 Tapes.

Write for prices on other tapes

THE SOLUTIONS

to hi-fi's most unrecognized problems

The Problems: acoustic feedback and structure-borne vibration

The Solutions: Netronics Acousti-Mounts and Speaker-Pods

Feedback may be the mysterious reason why your sound is muddy, your turntable rumbles, and in severe cases, you can't turn up the bass or volume controls without speaker howl. Designed specifically to accommodate today's fine turntables, the Netronics turntable Acousti-Mount sub-base platform suppresses acoustic feedback by effectively decoupling the entire turntable assembly from structure-borne vibration up to 30dB of isolation.

The vibrating speaker cabinet, which causes much of the turntable feedback, also causes walls and other objects to vibrate producing spurious audible distortions as well as annoying the neighbors. These vibrations can now be isolated using "Speaker Pods" designed to isolate the speaker cabinet from the room. Simply inserted between the floor or shelf and the speaker they isolate vibration up to 40dB.

Julian Hirsch's test report: "We doubt that any other \$15 investment could make such an improvement in a record-playing system."

MONEY BACK IF NOT DELIGHTED Canadian residents add \$1.00 per item. Patents Pending. Conn. res. add 7%.

Please Send:
 ___ 16x13 1/2 turntable Acousti-Mount at \$15.00 ea.
 ___ 19x13 1/2 turntable Acousti-Mount at \$17.50 ea.
 ___ Set of 4 "Speaker Pods" (spkrs. to 45 lbs.) at \$11.95 per speaker.

For heavier speakers use 2 extra pods for every 15 lbs. over 45 lbs.

NAME _____
 ADDRESS _____
 CITY _____ ZIP _____

Send information on direct drive turntable kits
 NETRONICS R&D LTD., 333 Litchfield Road, New Milford, Connecticut 06756 or call (203) 354-9375.

CIRCLE NO. 31 ON READER SERVICE CARD

Dexter Gordon's "Homecoming": Worth the Hype



"I'm always making a comeback," Billie Holiday noted in her autobiography, "but nobody ever tells me where I've been." The way they were talking about Dexter Gordon when he appeared at the Village Vanguard in New York's Greenwich Village last year, you'd think he was making some sort of comeback. But everybody who knew of Dexter knew where he had been: in Copenhagen, Denmark, which he has made his home and base of operations since 1962. Columbia, a label that has virtually ignored jazz in recent years, recorded Gordon at the Vanguard, turning the occasion into an event that—in terms of promotional noise, at least—rivaled anything the company has done for its pop artists lately.

It's good to see Columbia pushing a worthwhile artist for a change, but one has to wonder why there is this sudden interest in Dexter Gordon from a company that for the past ten years has consistently either disregarded or commercialized beyond recognition so many notable jazz performers. Nobody made a fuss over Gordon on his previous annual returns when he recorded for Prestige and Cobblestone and played dates from New York to Chicago and Los Angeles; he did not, on those occasions, become the subject of long write-ups, get booked on TV talk shows, or have press parties thrown in his honor. That kind of thing did happen this last time around, though, and it happened because the president of Columbia Records, Bruce Lundvall, who is a jazz fan with a particular affinity for bop, signed Gordon to the label. Could it be that Columbia has seen the light and decided to unplug the Hancocks and others? Only time will tell. In the meantime, we have the promise of a good, straightforward jam session with Benny Golson, Freddie Hubbard, and others (recorded at Columbia's 1976 convention in Atlanta); a Golson studio recording; and some more unissued early Miles (a Paris concert). We also have "Homecoming," the Dexter Gordon album for which Columbia's promotional machine was set in motion. Is it worth all that hype? You bet.

Dexter Gordon, now in his middle fifties,

came up through the Lionel Hampton and Louis Armstrong bands of the mid-Forties and joined that veritable breeding ground of bop known as the Billy Eckstine Orchestra. By the end of the Forties, Gordon, his style an amalgam of Hawkins and Young, had influenced John Coltrane and Sonny Rollins, two up-and-coming players who later, in turn, made a deep impression on Gordon. Traces of that ricocheting influence are still found in his playing, but Gordon continues to express himself with a strong, individual voice, and he does so with much authority and drive. With Woody Shaw on trumpet and a tight-knit, spirited rhythm section headed by pianist Ronnie Mathews, vibrant jazz in the bop vein—the likes of which Columbia has not captured in many years—leaps at you from these Village Vanguard sessions. Bassist Stafford James, a powerhouse from the avant-garde, is obviously quite at home in this setting, and drummer Louis Hayes—who has worked with Dexter before, both on and off records—fits in beautifully. The eight compositions (two to a side) include good originals by Gordon, Shaw, and Mathews, and there is not a dull moment in the hour and forty-three minutes. Highlights? The album itself is a highlight, and I hope it sells as well as the music merits. Maybe a decent sales record for this one would encourage not only Columbia but the rest of the sleeping giants to reactivate their jazz catalogs.

With this album we are seeing not so much the homecoming of Dexter Gordon as a hope for the homecoming of a record company. Columbia Records and jazz had a fruitful and happy relationship in the past. Let's hope this rekindles it.

—Chris Albertson

DEXTER GORDON: Homecoming. Dexter Gordon (tenor saxophone); Woody Shaw (trumpet); Ronnie Mathews (piano); Stafford James (bass); Louis Hayes (drums). *Gingbread Boy; Little Red's Fantasy; Fenja; In Case You Haven't Heard; It's You or No One; Let's Get Down; Round Midnight; Backstairs.* COLUMBIA PG-34650 two discs \$7.98, © PGT-34650 \$7.98.

perience if you aren't watching the dancer. Laurence made this record in 1960 with the support of some expert jazz personnel, though, and their improvisations on *Lullaby of the Leaves, Whispering*, and other old favorites, as well as such novelties as *Buck Dance* and *Mall March*, provide some beautifully textured backgrounds. P.K.

CHARLIE MARIANO: Helen 12 Trees. Charlie Mariano (soprano and alto saxophones, flute, nagaswaram); Jan Hammer (keyboards); others. *Sleep, My Love; Charlotte; Neverglades Pixie*; and four others. MPS/BASF G-22941 \$6.98.

Performance: **Contrived**
Recording: **Very good**

Charlie Mariano was born in Boston in 1923. He worked with various name groups and bands throughout the Fifties, formed a group with Toshiko Akiyoshi (then his wife) in the early Sixties, and gravitated toward a jazz-rock fusion in the late Sixties. He is an excellent player and arranger whose work with such leaders as Charles Mingus, Elvin Jones, and McCoy Tyner has been exemplary. But his long-standing affair with rock leaves me cold.

This album was produced by Joachim E. Berendt, who has in recent years attempted to emulate the success of ECM's Manfred Eicher, but he has neither the ear for music nor the concern for technical perfection that characterizes most of Eicher's work. Much of what we hear on "Helen 12 Trees" is strained and contrived, but there is one track of merit: *Charlotte* is a wonderful duet featuring Mariano on soprano saxophone and Jan Hammer on acoustic piano. An entire album of such duets would not have been out of order; the two men are obviously in rapport and do not need that boring rhythm section behind them. C.A.

RECORDING OF SPECIAL MERIT

GERRY MULLIGAN: Idol Gossip. Gerry Mulligan (soprano and baritone saxophones); Dave Samuels (vibraphone); Tom Fay (piano); Mike Santiago (guitar); George Duvivier (bass); Bobby Rosengarden (drums). *Taurus Moon; North Atlantic Run; Waltzing Mathilda*; and four others. CHIAROSCURO CR-155 \$6.98.

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

Gerry Mulligan just turned fifty, but he has been a strong, individual voice on the jazz scene for so long that it seems as if he should be years older. Mulligan's playing is just as vital and exciting today as it was in the Sixties, when he and a handful of jazz musicians became the darlings of the college set. Yet there seems to be little interest now in recording him. Only six albums are listed in the current Schwann catalog, and, of those, two are Columbia rereleases of fifteen- to twenty-year-old sessions and another two stem from the 1974 reunion concert with Chet Baker. Considering the enormous amounts of money and effort spent each year by the major labels in trying—often successfully—to convince the public that talent exists where it doesn't, it is doubly hard to understand their neglect of true talent. That neglect has become particularly evident in recent years when the only way to survive on a major label's artists' roster seems to be by plugging in, souping up, and emitting that bland brand of near-jazz

that qualifies a group for a guest appearance on *Soul Train*.

You won't find the new Gerry Mulligan sextet on *Soul Train*, but, thanks to Chiaroscuro—a small, dedicated label—its straightforward, buoyant swing and delicate balladry are fittingly preserved, and there's promise of more to come. Mulligan himself is superb throughout this set, whether *Waltzing Matilda* like a gentle giant with his baritone or taking his soprano for a brisk *Walk on the Water*, and the rest of the group is in step all the way. Guitarist Mike Santiago is a particular delight. Except for *Waltzing Matilda*, all the compositions are by Mulligan, whose talent in that department alone should be enough to evoke the interest of major labels. C.A.

TERJE RYPDAL: *After the Rain*. Terje Rypdal (flute, soprano saxophone, guitars, keyboards, bells); Inger-Lise Rypdal (voice). *Air; Autumn Breeze; Like a Child, Like a Song;* and seven others. ECM ECM-1-1083 \$6.98, © 8T1-1083 \$7.98, © CT1-1083 \$7.98.

Performance: **Nordic romanticism**
Recording: **Excellent**

Terje Rypdal is a thirty-year-old Norwegian composer/multi-instrumentalist who graduated from pop music (if you've heard Norwegian pop, you'll have to agree that *graduated* is the correct term) to modern jazz. He joined Jan Garbarek's group in the late Sixties and became one of the many Norwegian composer/players to draw inspiration from George Russell (in whose sextet and big band he also played). Though Rypdal's recent background has been in jazz, this album is not a jazz album but rather a collection of ten brooding, non-rhythmic, somewhat ambling pieces Rypdal composed and which he plays on various instruments simultaneously. According to the credits, Rypdal's pop-singer/actress wife, Inger-Lise, lends her voice to the proceedings, but she blends in with the electronic "string ensemble" and is hardly noticeable. This is a pleasant enough sound, easier on the ear than the jazz-rock of Rypdal's *Odyssey* group, but easy listening can be a bore, and "After the Rain" is, at times. Terje Rypdal may want to leave his excellent jazz guitar playing behind, but if he does he'll also leave behind much of his following. C.A.

TAB SMITH: *Because of You*. Tab Smith (alto and tenor saxophones); Leon Washington (tenor saxophone); Walter Johnson (drums); others. *Milk Train; Hurricane T; Jump Time; Mean to Me;* and eight others. DELMARK ® DL-429 \$6.98.

Performance: **Jolly jump band**
Recording: **Good early Fifties sound**

Born in Kinston, North Carolina, almost seventy years ago, Talmadge "Tab" Smith played the riverboats with Fate Marable's band before gaining a taste of prominence with Lucky Millinder's orchestra in the mid-Thirties. Although he also worked with such prominent swing leaders as Frankie Newton, Count Basie, and Teddy Wilson, it wasn't until he formed his own little band (in 1944) that Smith really made a name for himself. The recordings in this album were made for United, a small Chicago label, during the early Fifties, his most successful period.

Smith, who died in 1971, was a good if not terribly exciting saxophonist of the Johnny Hodges school. He could sound quite bland, especially when he delivered such ballads as

For Only You and *Because of You*, but he was also capable of admirable, bouncy swing performances, of which there is a goodly number here. The bands, ranging in size from four to seven pieces, were good little jump bands designed to show off their leader. Tab Smith recorded about fifty sides for United, enough material to have made this a strong album from beginning to end, but I guess producer Bob Koester felt compelled to use such tracks as *Because of You* because it sold records in its day. Still, it's a good reissue. C.A.

MICHAL URBANIAK: *The Beginning*. Michal Urbaniak (violins, flute, soprano and tenor saxophones); Ursula Dudziak (vocals, Dyncord Echocord); others. *Inactin; Silence; Lato;* and nine others. CATALYST

CAX-7909 two discs \$6.98. © CLT 8XT-7909 \$7.98.

Performance: **Squeaking out a living**
Recording: **Good**

Michal Urbaniak is undoubtedly a skilled musician, but he is so hung up on gimmicks that it's hard to take him seriously. This album was recorded in Europe before Urbaniak and his overly echoed wife, Ursula Dudziak, came to this country and started selling their strained and tiresome sounds to Columbia Records. It is called "The Beginning," and it may well have been, but as they were in the beginning, so they are now: dreadful.

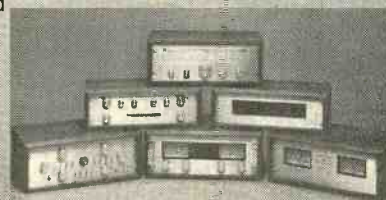
This is a very cheaply packaged album, so it appears that the Catalyst people don't really take this nonsense very seriously either. C.A.

Phase Linear FM Tuner with exclusive Dynamic Range Expander.

With the new Phase Linear 5000 FM Tuner you can actually improve FM broadcasts to rival that of tapes and records. Advanced electronics combine excellent reception capabilities with a unique Dynamic Range Expander that restores compressed FM signals to their original sonic quality. The Phase Linear 5000 has many other un-

usual features not available on most conventional tuners, including an L.E.D. Multipath Distortion Indicator that identifies this type of distortion, thus simplifying its removal; a Variable Muting Control; De-emphasis; and more.

Phase Linear
The Powerful Difference



See your dealer
and listen to this
remarkable tuner.



Manufactured in the USA. Distributed in Canada by H. Roy Gray, Ltd.



CLASSICAL DISCS AND TAPES

Reviewed by RICHARD FREED • DAVID HALL • GEORGE JELLINEK • PAUL KRESH
STODDARD LINCOLN • ERIC SALZMAN

RECORDING OF SPECIAL MERIT

BEETHOVEN: Piano Concerto No. 4, in G Major, Op. 58. Maurizio Pollini (piano); Vienna Philharmonic Orchestra, Karl Böhm cond. DEUTSCHE GRAMMOPHON 2530 791 \$7.98; © 3300 791 \$7.98.

Performance: **A joy!**
Recording: **Excellent**

BEETHOVEN: Piano Concerto No. 4, in G Major, Op. 58; Leonore Overture No. 3, Op. 72a; Symphony No. 5, in C Minor, Op. 67. Claudio Arrau (piano); Bavarian Radio Symphony Orchestra, Leonard Bernstein cond. DEUTSCHE GRAMMOPHON 2721 153 two discs \$15.96.

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

Tastes in performance style can differ radically when it comes to the Beethoven G Major. The reading by the immensely gifted Maurizio Pollini with Karl Böhm matches my own preferences as none other since the early and late Schnabel collaborations with Sargent and Dobrown, respectively. Some of Schnabel's ruggedness may be missing here, but all too many of the recorded performances I have heard in the recent past have been lacking in the special type of seamless lyrical flow that marked Schnabel's versions and most certainly characterizes this one. As in Pollini's readings of the late Beethoven sonatas, which I re-

viewed in these pages some months ago, the command here of "floating *legato*" is simply awesome and the fingerwork in running passages is wholly effortless—"like oil," to use Mozart's description of one of his own performances. The slow movement is, as it should be, the high point, altogether moving in its flawless blend of tonal beauty and gripping drama. The finale ripples along its joyous way in the most satisfying manner imaginable. It sheds a rather special light on Pollini's concept of this music when we realize that in the first movement he uses the almost-never-heard shorter of the two cadenzas written by Beethoven, a choice that tends to keep one's mind and heart more involved with the music itself than with the digital dexterity of the soloist. Perhaps here is the key to both the merit of this particular recorded performance and what it has in common with Schnabel's: it's the music that matters.

Böhm is the ideal partner, and the Viennese players are with him all the way in terms of responsiveness and lovely sound. I do wish that the DG engineers had given them just a mite more presence relative to the piano, but aside from this minor cavil the sonics, especially of the piano, are first-rate. I think I'm going to be living with this recording of the Fourth Concerto for a long, long, time.

Extra-musical considerations are a factor in the Arrau-Bernstein set since the album documents a special benefit concert given in Munich on October 17, 1976, for Amnesty International. In light of the present human-rights situation in Claudio Arrau's own homeland of Chile and the forthright stand being taken on worldwide human-rights issues by President Carter, there is a rather special potency to the gestures of these performers in donating their services and of DG in donating profits from the album's sales to Amnesty International.

DG has done a good live-concert recording job; as might be expected, the overall sound is somewhat less brilliant than that normally achieved in an empty hall or a large studio, but it is well balanced and full bodied, with easy audibility of the conductorial foot-stamping. The piano-orchestra balance in the concerto strikes me as somewhat *more* just than in the Pollini-Böhm disc. Bernstein deliv-

ers himself of an immensely dramatic reading of the *Leonore* No. 3, and I find Arrau in better pianistic form and less mannered than in most of his other recent interpretations of the Classical concerto literature—though his fingers, at age seventy-three, may not be quite as limber as those of the youthful Pollini. The realization of the great piano-vs.-orchestra slow-movement dialogue is particularly telling in this performance.

It is in the Beethoven Fifth that my critical faculties become ascendant over my sympathy for a good cause. As in his 1963 Columbia recording with the New York Philharmonic, Bernstein here takes all exposition repeats, including that in the finale, and he achieves a splendidly majestic reading of the slow movement. The opening movement is another matter, however. Whereas in the 1963 recording a workable, even convincing, compromise was achieved between a weighty treatment of the famous "Fate" figure and the main tempo of the movement, in the Bavarian concert the two elements are distractingly at odds with one another. Also, the main body of the scherzo is a bit too freewheeling for my taste. But the finale is wholly satisfying and truly cumulative in its impact. D.H.

BRITTEN: Variations on a Theme of Frank Bridge (see BUTTERWORTH)

RECORDING OF SPECIAL MERIT

BRUCKNER: Symphony No. 4, in E-flat Major ("Romantic"). Berlin Philharmonic Orchestra, Herbert von Karajan cond. DEUTSCHE GRAMMOPHON 2530 674 \$7.98, © 3300 674 \$7.98.

Performance: **Top-drawer**
Recording: **Excellent**

Karajan has tightened up his reading of this most accessible of the mature Bruckner symphonies considerably since his 1971 Angel recording, and I must say that I prefer it this way, for the music gains in sinew and sense of momentum. The *quasi allegretto* marking for the slow movement gets special attention, so that these pages take on the character of a Schubert walking-tune (as in the slow move-

Explanation of symbols:

- Ⓜ = reel-to-reel stereo tape
- Ⓢ = eight-track stereo cartridge
- Ⓒ = stereo cassette
- Ⓚ = quadraphonic disc
- Ⓜ = reel-to-reel quadraphonic tape
- Ⓢ = eight-track quadraphonic tape

Monophonic recordings are indicated by the symbol Ⓜ

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

ment of the E-flat Trio or *Der Wanderer an den Mond*) instead of sounding like a funeral cortège. I'm inclined to support this approach relative to the musical context of the symphony as a whole, which takes a somber turn only in the stormy outbursts of the finale, though Bruckner purists won't like Karajan's use of cymbals in the climax to herald the recall of the opening horn motive. If you don't mind that one bit of lily-gilding, however, this is the Bruckner Fourth to have on the shelf. The craggy, yet clean, recorded sound is a great improvement over the churchy acoustics of the earlier Angel issue. *D.H.*

RECORDING OF SPECIAL MERIT

BUTTERWORTH: *Six Songs from "A Shropshire Lad"; Bredon Hill and Other Songs.* **FINZI:** *Earth and Air and Rain.* Benjamin Luxon (baritone); David Willison (piano). ARGO ZRG-838 \$7.98.

Performance: **Expert and communicative**
Recording: **Very good**

BUTTERWORTH: *A Shropshire Lad; The Banks of Green Willow; Two English Idylls.* **BRITTEN:** *Variations on a Theme of Frank Bridge, Op. 10.* Academy of St. Martin-in-the-Fields, Neville Marriner cond. ARGO ZRG-860 \$7.98.

Performance: **First-rate but second-best**
Recording: **Excellent**

I don't think George Butterworth's name has been listed in Schwann since 1962, when Boult's London mono of *A Shropshire Lad* and *The Banks of Green Willow* and Barbirolli's Mercury stereo of *A Shropshire Lad* were both deleted. This more than promising English composer, killed in World War I at the age of thirty-one, was a fastidious craftsman who destroyed many of his manuscripts before he left for the front; fortunately, the works recorded on these two Argo discs survived. I can't pretend to know enough about Butterworth's output to say these pieces represent him at his best, but I suspect they do, and they are fine enough to stand beside almost anything of Vaughan Williams or Holst or Bax in the same vein—that vein being a consummately English one, rich in the spirit of folk music and actual citations from it. The five *Bredon Hill* songs as well as the *Shropshire Lad* cycle are settings of poems by A.E. Housman, and in every case the music fits the text so perfectly as to suggest a Housman-Butterworth collaboration from the outset.

The cycle by Gerald Finzi (1901-1956) is a similarly apt series of ten songs to poems of Thomas Hardy, in which the vocal writing suggests now and then a bit of Butterworth, a bit of Britten—but only bits amid much more that is distinctively Finzi. Here the piano comes more into its own, seeming to be not so much an accompanying instrument as a full partner; the keyboard writing in such songs as *When I Set Out for Lyonesse* and *The Phantom* is quite fascinating. Benjamin Luxon is the ideal interpreter of both composers' songs; he sings them all as if he truly loved both the verses and the music, projecting them with unselfconscious skill and exceptional communicativeness, and David Willison is a most knowing and effective partner. Even though Luxon's enunciation is clarity itself, it is most disappointing that Argo did not include printed texts.

There is nothing really disappointing about the Marriner disc, which is, as one expects

from the Academy, first-rate in every way (sonically as well as musically). Still, it is not mere sentiment that dictates a preference for Britten's own recording of his *Bridge Variations* (London CS-6671), and, good as Marriner's *Butterworth* is in its own right, it is no replacement for Boult's incomparably persuasive performances. Sir Adrian's London mono is long gone, but Lyrita, in England, has issued his new recording of all three of these titles, which is now available here as an HNH import. *R.F.*

BYRD: *Music for Viols and Virginals. Prelude and Ground; Four Fantasias; In Nomine à 4; In Nomine à 5; Browning; Will Yow Walke the Woods Soe Wylde; Lord Willobies Welcome Home; The Third Pavan and Galliarde; Pavan à 5; The Barelye Breake.* Edward Smith (harpsichord); New York Consort of Viols. MUSICAL HERITAGE SOCIETY MHS 3460 \$3.50, © MHC 5460 \$4.95 (plus 95¢ handling charge, from Musical Heritage Society Inc., Oakhurst, N. J. 07755).

Performance: **Refined**
Recording: **Clear**

William Byrd was certainly one of the greatest instrumental composers of the Renais-

sance, and this record beautifully demonstrates his power and ingenuity when it came to writing for viols and solo harpsichord. But viol music seems to have been conceived mainly for the joy of the performers. It is inward-looking, incredibly subtle, and all but impossible to project in a concert situation. Realizing this, the New York Consort of Viols plays for itself and its own wonder. It is this very quality, so admirably captured here, that makes this album so special. Although we cannot partake of the actual performance, we can listen to the recording as many times as we wish and gradually be drawn into this meticulously ordered world of serene beauty and contemplation.

As for the performance itself, the Consort begins rather tentatively. There are some problems of intonation and a few scruffy moments, but soon they settle down and one can enjoy the unearthly sound of the viols without any worry about technique. Edward Smith is essentially a fine harpsichordist. His technique is flawless and brilliant, and the sound of his instrument perfect for this difficult music. I would like more rhythmic vitality in such robust pieces as *Lord Willobies Welcome Home* and the rustic theme of *The Barelye Breake*. But once the divisions begin

A Master Clarinetist



Pianist Knardahl, clarinetist Stevensson

KJELL-INGE STEVENSSON was all of twenty-six last year when he made this record, and he had already identified himself as an outstanding master of his instrument in the recording of the clarinet concerto in EMI's set of Nielsen's orchestral works. Here he earns further admiration for bringing these all but unknown works to our attention. Only the Stravinsky is at all familiar; the Mendelssohn sonata is one of that composer's recently resurrected bits of juvenilia, and the very names of Edison Denisov, Einojuhani Rautavaara, Ingvar Lidholm, and Bernhard Henrik Crusell will be new even to many seasoned listeners. All of these (and of course Penderecki and Shchedrin) are contemporaries except Crusell (1775-1835), whose five-minute rondo—actually a delicious set of mini-varia-

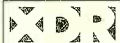
tions with a brilliant little cadenza by Stevesson—is the sort of lovable gem by which many a composer's name has been preserved. I especially liked, too, the Shchedrin *Basso Ostinato*, essentially a rhythmic workout for the piano with some high-flying elaborations for the clarinet. But all of these works are provocative, and there is enough contrast between them to make the array thoroughly fascinating. I have put off saying anything about the playing because, really, the old superlatives seem a bit shopworn when trotted out to describe something so spectacularly alive and involved and secure as these performances. Perhaps none of this music is "important," but anything that provokes music-making on this level is certainly worthwhile. Stevesson and his associates are having a hell of a good time, and nobody with ears is likely to feel like an outsider at their party. This recording is simply glorious in every respect—including the splendidly natural sonics.

—Richard Freed

KJELL-INGE STEVENSSON: *Clarinet Recital. Mendelssohn: Sonata for Clarinet and Piano. Lidholm: Invention for Clarinet and Bass Clarinet. Crusell: Rondo for Two Clarinets and Piano. Shchedrin: Basso Ostinato for Clarinet and Piano. Stravinsky: Three Pieces for Solo Clarinet. Penderecki: Three Miniatures for Clarinet and Piano. Denisov: Sonata for Solo Clarinet. Rautavaara: Sonetto for Clarinet and Piano, Op. 53.* Kjell-Inge Stevesson (clarinet, A-clarinet, bass clarinet); Kjell Fagés (clarinet in Lidholm, A-clarinet in Crusell); Eva Knardahl (piano). Bis LP-62 \$7.98 (from HNH Distributors Ltd., P.O. Box 222, Evanston, Ill. 60204).

MUSIC TO GO.



The finest cassette sound going...
ANGEL'S super-sounding
new  Cassette Series

204 newly processed titles from which to choose, here is but a representative selection.

- | | |
|-----------------------------------------------------------------|-----------|
| Albinoni: Adagio. Marriner. | 4XS-37044 |
| Beethoven: 'Triple' Concerto.
Oistrakh/Richter/Rostropovich. | 4XS-36727 |
| Berlioz: <i>Symphonie fantastique</i> .
Martinon. | 4XS-37138 |
| Bloch: <i>Schelomo</i> . Rostropovich/
Bernstein. | 4XS-37256 |
| Dvořák: <i>Symphony No. 9</i> . Muti. | 4XS-37230 |
| Handel: <i>Water Music</i> . Menuhin. | 4XS-36173 |
| Holst: <i>The Planets</i> . Boult. | 4XS-36420 |
| Joplin: <i>The Easy Winners</i> .
Perlman/Previn. | 4XS-37113 |
| Liszt: <i>Piano Concertos 1 & 2</i> .
Ohlsson. | 4XS-37145 |
| Mahler: <i>Symphony No. 1</i> . Giulini. | 4XS-36047 |
| Orff: <i>Carmina burana</i> .
Frühbeck de Burgos. | 4XS-36333 |
| Puccini: <i>La Bohème</i> . Freni/Gedda. | 4X2S-3643 |
| Rachmaninoff: <i>Symphony No. 2</i> .
Previn. | 4XS-36954 |
| Ravel: <i>Boléro</i> . Martinon. | 4XS-37147 |
| Respighi: <i>Birds/Botticelli</i>
Pictures. Marriner. | 4XS-37252 |
| Rossini: <i>The Barber of Seville</i> .
Sills/Milnes. | 4X3S-3761 |
| Saint-Saëns: <i>Symphony No. 3</i>
'Organ.' Martinon. | 4XS-37122 |
| Satie: <i>Piano Music, Vol. 1</i> .
Ciccolini. | 4XS-36482 |
| Strauss, J.: <i>Music of. Karajan</i> . | 4XS-37144 |
| Tchaikovsky: <i>Swan Lake</i> .
Rozhdestvensky. | 4X3S-4106 |
| Tchaikovsky: <i>Symphony No. 6</i> .
Karajan. | 4XS-36886 |
| Verdi: <i>Aida</i> -Hlts. Caballé/
Domingo. | 4XS-37228 |
| Verdi: <i>La Traviata</i> . Sills/Gedda. | 4X3S-3780 |
| Wagner: <i>Orchestral Music, Vol 1</i> .
Karajan. | 4XS-37097 |
- COLLECTIONS
- | | |
|---------------------------------------------|-----------|
| Improvisations. Shankar/
Menuhin/Rampal. | 4XS-37200 |
| Parkening and the Guitar. | 4XS-36053 |
| Perlman Plays Fritz Kreisler. | 4XS-37171 |
| Previn Plays Gershwin. | 4XS-36810 |
| Sills Sings Victor Herbert. | 4XS-37160 |

Catalog available from dealers, or write Angel Records,
1750 No. Vine St., Los Angeles, CA 90028.

© 1978 MCA Records, Inc.



CIRCLE NO. 5 ON READER SERVICE CARD

taking over from the themes, we are treated to a fine technical show that covers up the rhythmic weakness, and the disc ends in a rousing blaze of glory. S.L.

RECORDING OF SPECIAL MERIT

CLÉRAMBULT: *Gloria in Excelsis; Motet de Saint Michel; Antienne de la Sainte Vierge; Suite for Organ in the First Mode; Suite for Organ in the Second Mode*. Mady Mesplé (soprano); Gaston Litaize (organ). CONNOISSEUR SOCIETY □ CSQ 2126 \$7.98.

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

I am always a bit apprehensive when confronted by a well-known opera singer tackling Baroque music, especially when that opera singer is a high coloratura and a fine Lakmé. On hearing this recording of Clérambault motets, however, my apprehension was assuaged, and I enjoyed some fine music and excellent singing. Miss Mesplé's voice is typically French—hard and nasal—but it is well focused, with a cutting edge that gives it a thrilling sound. At first one wonders how she will manage to articulate the minute French ornamentation with her rapid vibrato; somehow she manages, though, and comes through with delightful, authentic, and precise readings. Mesplé has an excellent coloratura, of course, and she has the rhythmic control so often lacking when opera singers attempt Baroque measured fioratura. In short, her performance is a fine one in which the music is brought to life precisely because she is an opera singer and approaches it dramatically.

Clérambault's organ music is also a delight. Written in the spirited tradition of Couperin, it is full of contagious melodies and jaunty rhythms. Gaston Litaize brings out its natural charms by making full use of the snarling French reed stops and a dialogue of registration appropriate to the music. S.L.

DOHNÁNYI: *Sonata in C-sharp Minor for Violin and Piano, Op. 21*. SIBELIUS: *Sonatina in E Major for Violin and Piano, Op. 80; Devotion, Op. 77, No. 2; Souvenir, Op. 79, No. 1; Berceuse, Op. 79, No. 6*. Diana Steiner (violin); David Berfield (piano). ORION ORS 76244 \$7.98.

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

Give this one an "A" for enterprise: I don't recall seeing any of these titles on a domestic label before, and nearly all these pieces—the two big ones, especially—are worth hearing. The Dohnányi sonata becomes more intriguing from one of its three movements to the next, as additional Hungarianisms creep in—but always Hungarian à la Brahms! All of the Sibelius items date from 1915, more than a decade after the masterly concerto. The sonatina, as meaty as it is concise, is a romantic bravura piece that any violinist should love to play and any audience should love to hear, and yet it is utterly neglected in our recital halls and record catalogs. *Devotion*, originally titled *Ab imo pectore*, is the second of the *Two Solemn Melodies* Sibelius wrote for violin or cello with orchestra; although it is more animated than the title might suggest, the neglect in this case is easier to understand, for it is simply not a very distinguished piece. The first and last of the Six Pieces, Op. 79, on the other hand, are unpretentious and exquisitely fashioned—fine little encores. The per-

formances strike me as a good deal more than competent and the sound is quite good, though the violin is perhaps just a shade too forward. R.F.

DONIZETTI: *Gemma di Vergy*. Montserrat Caballé (soprano), Gemma di Vergy; Paul Plishka (bass), Guido; Luis Lima (tenor), Tamas; Louis Quilico (baritone), Count di Vergy; Natalya Chudy (mezzo-soprano), Ida; Mark Munkittrick (bass), Rolando. Schola Cantorum; Opera Orchestra of New York, Eve Queler cond. COLUMBIA 34575 three discs \$20.98.

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

Donizetti stood at the zenith of his creativity when he wrote *Gemma di Vergy* in 1834, the same year that also produced his *Rosmonda*



RAFAEL KUBELIK
Sensationally attractive Dvořák tone poems

d'Inghilterra and *Maria Stuarda*. (Marino Faliero and *Lucia di Lammermoor* followed in quick succession in 1835.) Felice Romani, Donizetti's chosen librettist, was otherwise engaged, and the book eventually provided by the less gifted Emanuele Bidera leaves a lot to be desired, even by the not too exalted contemporary standards. And yet, weak libretto notwithstanding, and even allowing for some musical scenes that were put together with obvious haste, *Gemma di Vergy* turned out to be an effective opera. It is extraordinarily tuneful and could easily rival *Lucia di Lammermoor* in popularity if it were on display with similar frequency.

This recorded performance, taped at a Carnegie Hall concert on March 14, 1976, captures much of the opera's vibrancy and melodic attractions. Without quite taking seriously Montserrat Caballé's reference to one *Gemma* being as difficult to sing as three *Normas* (as quoted in the notes), I go along with the observation that the role is both demanding and very rewarding for an artist of her caliber. It is indeed a special vehicle for Madame Caballé, whose warm-toned, virtuosic, and expressive singing justifies the production.

Her colleagues perform on a less exalted but still noteworthy level. In the role of the Count (whose abandonment of Gemma for not providing him with an heir precipitates the tragic sequence of events) Louis Quilico sails

through his high-lying part with firmness and confidence. Paul Plishka delivers the music of Guido, the Count's confidant, with fine sonority. It is hard to work up much sympathy in this opera for Tamas, the tenor non-hero, an impetuous hothead. Louis Lima sounds convincing in his youthful ardor but vocally not quite equal to his task.

Eve Queler leads a vigorous, idiomatic-sounding account of the opera. Neither the orchestra nor the chorus functions with ultimate precision, but the results are not bad at all for a "live" and obviously not rigorously rehearsed undertaking. The sound is good, and, evidently through the judicious use of some rehearsal "takes," all applause but the final well-deserved round has been eliminated. An attractive and well-annotated booklet completes the laudable presentation. G.J.

DUBOIS: Concerto for Flute and Orchestra (see IBERT)

RECORDING OF SPECIAL MERIT

DVOŘÁK: The Golden Spinning-Wheel, Op. 109; The Wood Dove, Op. 110. Bavarian Radio Symphony Orchestra, Rafael Kubelik cond. DEUTSCHE GRAMMOPHON 2530 713 \$7.98.

Performance: **Marvelous**
Recording: **Finely detailed**

These are the last two—and surely the best—of Dvořák's four tone poems after Erben's ballads, his penultimate works for orchestra. They are still far from well-known, and anyone hearing the opening of *The Golden Spinning-Wheel*, with its percussion-ornamented horn calls, must wonder why this is so; the work conjures up and sustains a fairy-tale atmosphere (in this case a rather grisly tale, but one whose happy ending is never in doubt) through imaginative orchestral coloring that might suggest Dvořák was out to beat Rimsky-Korsakov at his own game. *The Wood Dove* is more concise and more sober, but no less enticing. Both of these marvelous works draw marvelous performances from Kubelik and his orchestra, and DG's finely detailed recording insures that none of Dvořák's effects, so splendidly realized here, are lost to the ear. A slightly greater spring in Kubelik's rhythms and greater clarity in the sound give this version of *The Golden Spinning-Wheel* a slim edge over Kertész's (London CS-6721), while Václav Neumann's *Wood Dove* (in Telefunken set 36.35075) may have a similar edge over Kubelik's by virtue of a still more opulent sonic frame. But all these differences amount to little: this is a sensationally attractive release, just the sort of thing to give both works a boost toward the so-called standard repertoire. R.F.

DVOŘÁK: Serenade in E Major for Strings, Op. 22 (see TCHAIKOVSKY)

FINZI: Earth and Air and Rain (see BUTTERWORTH)

RECORDINGS OF SPECIAL MERIT

HAYDN: Piano Trios in E-flat Major, G Minor, and C Major (Hob. XV: 29, 19, 27). Amadé Trio. TITANIC Ti-12 \$7.00.

Performance: **Exquisite**
Recording: **Alive**

HAYDN: Piano Trios in C Minor, D Major, (Continued on page 117)

Len Feldman doesn't think that our 3140 stereo receiver is as good as we think it is. He thinks it's better!

When Len Feldman* commented that our rated performance specifications for the Miida 3140 AM/FM receiver were conservative, we weren't surprised. Conservative ratings are a fact of life at Miida.

Take our power specifications. While we quote 43 watts per channel, minimum RMS into 8 ohms with less than 0.4% total harmonic distortion, Mr. Feldman, in his report, states, "Our sample did much better. Mid-frequency power reached 55 watts, while at the frequency extremes we obtained 53 watts at 20 Hz and 43 watts at the 20kHz extremes."

Mr. Feldman adds, "Connected to a pair of low-efficiency air suspension speakers...it was pretty obvious that power output has been conservatively rated.

We were able to attain 105 to 110 dB listening levels without clipping or amplifier overload." Other specs, writes Mr. Feldman, "were either equalled or exceeded in our measured sample."

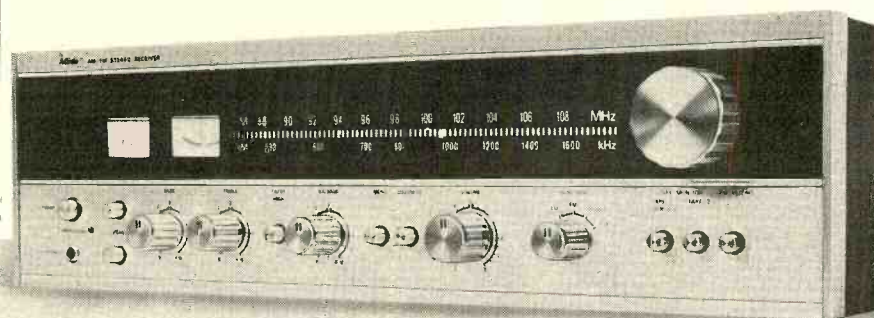
Because more for less is a Miida tradition, the 3140 incorporates Phase Locked Loop for superior FM stereo separation, fully detented tone controls, inputs for tape monitoring and cross-dubbing, both FM signal strength and center-channel tuning meters, overload speaker and amplifier protection, and much more.

Visit your Miida dealer today. Or call Ron Frare at (201) 933-9300. For information on our complete audio line, write Miida Electronics, Inc., 205 Chubb Avenue, Lyndhurst, N.J. 07071.

Miida SP3150 4-Way Speaker System. Overall frequency response: 25Hz to 22kHz \pm 5dB; Impedance: 8 ohms; built in crossover: 750Hz-1800Hz, 7.5kHz, 12kHz; Power handling capability 65 watts RMS.

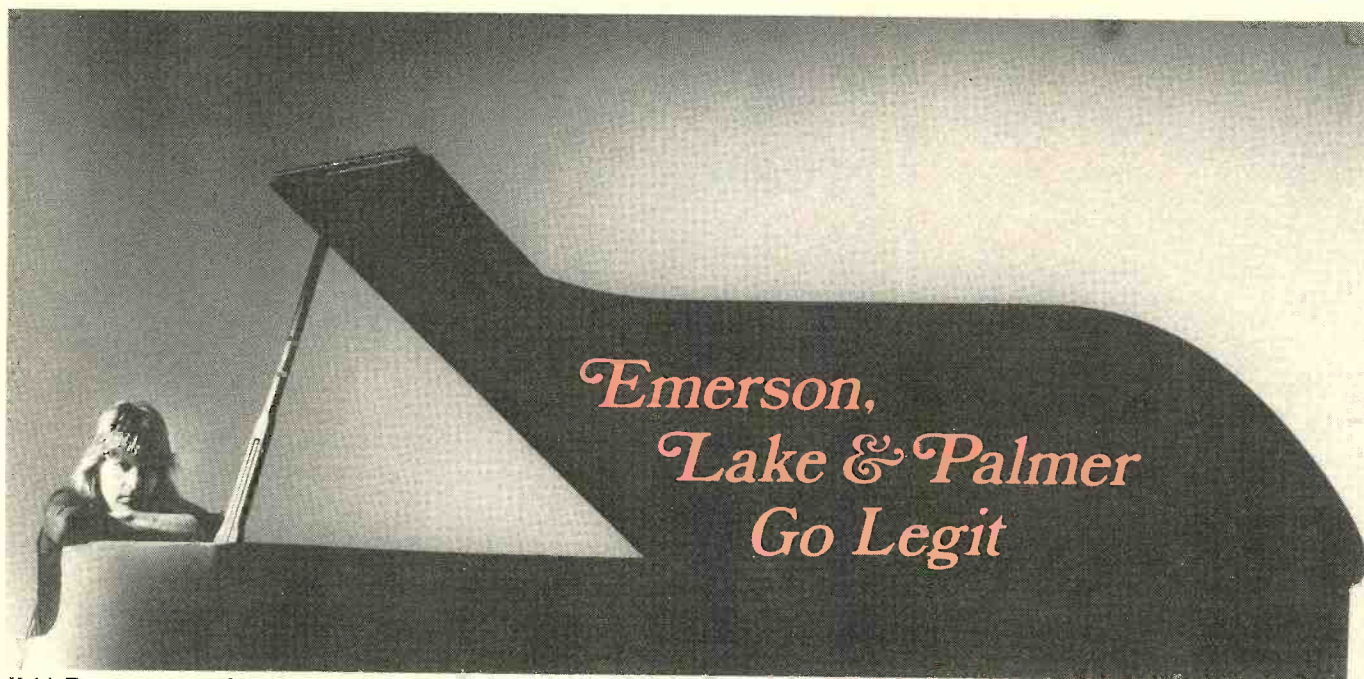


Miida T3115 Direct Drive Turntable. Stroboscope allows you to adjust speed with pinpoint accuracy; 2-speed adjustments; 13 1/2" turntable; 6 pole electronic motor; S-shaped tone arm with anti-skate.



Miida...the stereo specialist.

*The Feldman Report (FM GUIDE magazine, January 1977) and other reviews of Miida components are available without charge on request.



Keith Emerson as Igor Stravinsky

AN odd thing happened on the way to the Royal Festival Hall. Keith Emerson, musician par excellence, put on his concert drag and promptly forgot almost everything of value that he had learned in jazz/rock. Except for one Gershwin-esque cadenza and a bit of British upper lip, his Piano Concerto No. 1, which can be heard in a new release ("Works, Volume 1") from Atlantic, is a straight, lightweight piece of busy neo-Classicism of the kind that used to win foundation grants a quarter of a century back.

The truth is that deep in many a jazzier's or rock-and-roller's soul is a desire to go legit, to "do" classical music, to climb up the social ladder on the musical scale. Ironically enough, this often corresponds to a parallel desire by classical composers to incorporate the vernacular (Ives-Joplin, Copland-Gershwin, etc.), and we're quite clearly slouching into one of those synthesis periods right now. I recently wrote a book on popular or "vernacular" harmony with Michael Sahl [see review on page 14—*Ed.*] and we discovered (or rediscovered) the tremendous areas of overlap between the languages of popular and modern classical music; this helped give a couple of old-time avant-gardists a new freedom to use the popular speech in new contexts. How odd, therefore, to find as skilled and original a rock-head as Keith Emerson trying to earn the right to write old-fashioned modern music!

First of all, let us admit that this double album, with its pretentious get-up, pompous title, formal black cover, concerto and all, is mainly a frame for Keith Emerson's "serious" ambitions: Piano Concerto No. 1 (is there a No. 2?) in the Russo-French manner of Prokofiev and Poulenc, with a touch of Stravinsky and Gershwin—*et voilà*. Make no mistake, Keith Emerson, the most musical head in the rock business, has the musical powers and the pianistic dexterity to carry this off. Questions of style or fashion aside, this concerto is *almost gauche* enough to be

camp, but there is not a false move or hint of awkwardness in it. And, in spite of its looseness, I would say that it at least hangs together better than, say, the comparable Gershwin pieces do. Emerson's powers of invention are not remotely equal to Gershwin's, but his ideas are amusing and engaging. What Gershwin could deliver that this piece does not are (1) a true ability to *synthesize* elements from apparently disparate sources and (2) *schmaltz*. This is said not to make odious comparisons, but to try to get some perspective on what's going on here. I find this concerto wistful and appealing—"Like me," "Accept me," "I'm classical," it seems to say. But it is pops without the *pop* and obviously someone will now have to hire EL&P to do the rock version!

I don't have much to say about EL&P's version of Copland's *Fanfare for the Common Man*; it never had much musical content to start with, and it is stretched awfully thin in this arrangement. *Pirates*, a long instrumental

edge of Alfred Newman (the film composer, that is) and the Hollywood Bowl. The attention-grabber in the bag is *Hallowed Be Thy Name*, one of those weirdo Black Mass pieces left over from Lake's days with King Crimson. Besides the plushy singing, the key to the other songs is the lush orchestral arranging; elegant as it is, it cannot alone provide the classical-masterpiece aura that, I gather, is supposed to hover over everything in this set.

Carl Palmer's involvement in this wildly eclectic montage is even more peripheral. Versions of Prokofiev and Bach (having been caught out before, EL&P now carefully label their classical sources) and a re-release of *Tank* from the group's first album are accompanied by three heavily written, musically thin tunes authored or co-authored by Palmer (probably mostly studio-made riff improvs).

There is nothing wrong with EL&P's musicality and eclecticism, but the very title "Works" implies a serious synthesis that is nowhere even attempted, let alone achieved. We await Volume 2. —Eric Salzman

... this concerto is almost gauche enough to be camp, but . . .

with orchestra and a Zap comics lyric by Peter Sinfield, is really closer to that synthesis idea than anything else on the record, although, interestingly enough, it has none of the far-out qualities sometimes associated with EL&P.

Greg Lake's side is a set of simple songs designed to set off his sexy singing. His style is—ahem!—ecstatic eclecticism (does that sound musicological enough?), right on the

EMERSON, LAKE & PALMER: Works, Volume 1. Emerson: Piano Concerto No. 1; *Fanfare for the Common Man* (arr. from Copland); *Pirates*. **Lake:** *Lend Your Love to Me Tonight*; *C'est la Vie*; *Hallowed Be Thy Name*; *Nobody Loves You Like I Do*; *Closer to Believing*. **Palmer:** *New Orleans*. **Palmer/Emerson:** *L.A. Nights*; *Tank*. **Palmer/South:** *Food for Your Soul*. **Prokofiev:** *The Enemy God Dances with the Black Spirit* (arr. from "Scythian Suite"). **Bach:** *Two Part Invention in D Minor* (BWV 775). Keith Emerson (piano, synthesizer); Greg Lake (guitar); Carl Palmer (drums); London Philharmonic Orchestra, John Mayer cond. (in concerto). Greg Lake (vocals); orchestra and choir, Godfrey Salmon cond. (in Lake songs). Orchestra of the Paris Opera, Godfrey Salmon cond. (in *Pirates*). ATLANTIC SD 2-7000 two discs \$13.98 © TP 2-7000 \$13.97, © CS 2-7000 \$13.97.

and *F Major* (Hob. XV: 13, 16, 17). Beaux Arts Trio. PHILIPS 9500.035 \$7.98.

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

Although Haydn's piano trios embody some of the Viennese master's most exalted inspirations and greatest piano writing, they are all too frequently misunderstood or neglected. Not only are string players reluctant to take a secondary role to the piano, but until recently there has been no reliable performing edition of the music. Now, however, we have the *Diletto Musicale* series, magnificently edited by H. C. Robbins Landon, and the string players' objection will perhaps be overcome as they gain a greater knowledge of the history of the genre and realize that their parts in these pieces are much more important than they might seem to be on a first reading and with a modern piano.

Haydn's piano trios are closer to the "accompanied sonata," a kind of piano sonata virtually unknown today, than they are to the trios of Mozart and Beethoven, which put the strings on a far more equal footing with the keyboard. Thus, when playing them with the overpowering modern concert grand, a violinist may feel expendable, since he is rarely assigned any material of structural or melodic importance. The cellist is even more frustrated, since just about every note he has is doubled, continuo fashion, by the keyboard player's left hand. But with the fortepiano (the Viennese instrument of the Classical period) the situation is quite different. Admittedly, the violin does not share in the principal melodic exposition, but its part is frequently the expressive heart of the composition; it offers a sensitive comment on the music and gives it its soul. The cello part, too, becomes essential, as it supplies the very foundation of the music—which the fortepiano cannot do because of its relatively weak bass. This is all beautifully demonstrated by the new Amadé Trio recording, not only because they use original instruments (or copies of them) but also because they are superb musicians.

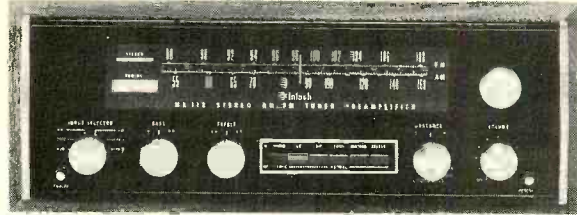
The members of the Amadé Trio are by no means historians who play well. They are soloists of the highest caliber whose instinct for musical perfection has led them to study authentic performance practice. As members of the Cornell music faculty, they are an established ensemble; thus they are sensitive to each other's playing and perform as a beautifully balanced unit. Malcolm Bilson understands the fortepiano and is capable of bringing it to fullest expression. His articulation is subtly detailed, each phrase clear and exact. Sonya Monosoff's violin playing is a perfect match. When doubling a melody, she adds a dimension that only a singer could duplicate. Her accompanying figures are exquisitely molded and offer an intimate commentary that gives the music breadth. Although John Hsu's cello is unobtrusive, as it should be, it offers just the right support needed by his colleagues. The Titanic recording engineer also deserves some credit, for he has caught the balance of a live performance without once artificially emphasizing a line that is naturally submerged. This is a very special disc, and I hope it will lead to more Haydn recordings from the Amadé.

Although the Beaux Arts Trio covers the entire trio repertoire, they seem to have a special fondness for Haydn. Few people realize that Haydn wrote more trios than any other composer, and the present album is the sev-

FREE

McIntosh CATALOG and FM DIRECTORY

Get all the newest and latest information on the new McIntosh Solid State equipment in the McIntosh catalog. In addition you will receive an FM station directory that covers all of North America.



MX 113

FM/FM STEREO - AM TUNER AND PREAMPLIFIER

**SEND
TODAY!**

McIntosh Laboratory, Inc.
East Side Station P.O. Box 96
Binghamton, N.Y. 13904
Dept. SR

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

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.

CIRCLE NO. 26 ON READER SERVICE CARD

SAVE

CONSUMER STEREO
PROFESSIONAL STEREO
OVER 80 BRANDS STOCKED

PHASE LINEAR	SHURE
PIONEER	DUAL
DYNACO	BIC
KENWOOD	TEAC
AKAI	A-R
SANSUI	SONY
ALTEC-LANSING	

**Wisconsin
Audio**

Please write or phone for price
quotations on your choice
of audio equipment

303 West Johnson Street
Madison, Wisconsin 53703
608-271-6889

CIRCLE NO. 61 ON READER SERVICE CARD

TOP Discount
AUDIO

Your NATIONAL
HEADQUARTERS
For Famous Brand
Electronics By Mail

1150 N. Powis Rd., West Chicago,
Ill. 60185 • (312) 293-1825

All Orders Shipped In
Factory-Sealed Cartons

Write Or Call For
The Lowest Prices
Anywhere!

MILLION \$\$\$ INVENTORY

LOWEST PRICES ON

RECEIVERS	TURNTABLES	TUNERS
SPEAKERS	CHANGERS	CARTRIDGES
TAPE DECKS	AMPLIFIERS	HEADPHONES
CALCULATORS	COMPACTS	CAR AUDIO

Top Discount Audio
1150 N. Powis Rd.
West Chicago, Ill. 60185
SR-7 (312) 293-1825

We honor Master Charge and
Bank Americard. Date _____

Please send me a quote on: _____

MR.
 MS.

(First) (Initial) (Last)

(Number And Street)

(City) (State) (Zip Code)

CIRCLE NO. 58 ON READER SERVICE CARD

enth in the Beaux Arts' project to record the whole miraculous set. Like the Amadé, the Beaux Arts Trio understands the delicate problem of balance in these works, a problem that often escapes even the finest musicians using modern instruments. Here a fine balance is achieved purely through sensitive playing; each instrument falls naturally into its assigned role. This plus excellent ensemble work and fine recording affords a rewarding representation of musically stimulating works that are just now beginning to find their proper place in the concert hall. S.L.

RECORDING OF SPECIAL MERIT

IBERT: *Concerto for Flute and Orchestra.*
DUBOIS: *Concerto for Flute and Orchestra.*

MARTIN: *Ballade for Flute, String Orchestra, and Piano.* Louise di Tullio (flute); English Chamber Orchestra, Elgar Howarth cond. CRYSTAL S503 \$6.98.

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

Ibert's flute concerto, one of his most successful works, has not been available on records for a decade or more; Frank Martin's *Ballade* has been recorded heretofore only in its original version for flute and piano alone; and the concerto of Pierre-Max Dubois (born 1930), whose four movements run just a bit over twelve minutes, is a delicious little discovery, rather in the vein of Prokofiev's *Classical Symphony*. These all add up to an intriguing package of lightweight but superbly

crafted material, all reflecting, to a greater or lesser degree, the influence of jazz (or, at least, an awareness of it), and all admirable as much for their succinctness as for their imaginative coloring. Louise di Tullio plays all three works with great flair, Elgar Howarth is a suave partner, the sound itself is quite good, and the surfaces are excellent. The focus on the Dubois/Martin side has the soloist a little too far forward, perhaps, but that is just about the only imperfection to be noted in this most attractive release. R.F.

MARTIN: *Ballade for Flute, String Orchestra, and Piano* (see IBERT)

MENDELSSOHN: *String Quartet in D Major, Op. 44, No. 1.* **SCHUMANN:** *String Quartet in A Minor, Op. 41, No. 1.* Budapest String Quartet. ODYSSEY ® 34603 \$3.98.

Performance: **Dated**
Recording: **Live mono**

Mendelssohn was a wonderful chamber music composer, and it is a pity that such works as the D Major Quartet are not better known. Unfortunately, though, this is difficult music to play; not only does it require the utmost in skill, care, delicacy, and poetic feeling, but it must sound effortless. I don't think this old Budapest Quartet recording, taped at the quartet's famous Library of Congress Concerts more than a decade and a half ago, really lives up to the requirements. Part of the problem is the slip-and-slide style of playing, which produces a great deal of out-of-tuneness that is hard to take in this music. The Schumann, also an attractive, not-too-well-known piece of chamber music, fares better. Instead of Mendelssohn's elegant figurations and sparkling inventions, Schumann wrote warm, harmonic counterpoint alternating with a vigorous rhythmic style, both of which suit the Budapest's big-vibrato style much better. The recording is not overwhelming but provides a serviceable mono sound. E.S.

MOUSSORGSKY: *Pictures at an Exhibition.* **PROKOFIEV:** *Visions Fugitives, Op. 22.* Tedd Joselson (piano). RCA ARL1-2158 \$7.98.

Performance: **Imaginative Prokofiev, pallid Moussorgsky**
Recording: **Good**

It is in the poetic and sometimes capricious fancies of the Prokofiev *Visions Fugitives* that Joselson is heard to best advantage here, equaling in sensitive musicianship and fleet pianism his impressive accomplishments in the Prokofiev sonatas issued by RCA some months ago. *Pictures at an Exhibition*, however, does not fare so well—and it is not just a matter of having one's memory cluttered with the resplendent sonorities of the Ravel orchestral transcription. Horowitz, in his edited version, has shown how well the music can work on the piano with his special touch, while in a fine Melodiya/Angel disc Soviet pianist Viktor Yereshko has shown what a commanding sense of style can do for the work. I'm sorry to say that for me Joselson misses on both counts. The RCA sound is good, but it lacks the richness of the Melodiya/Angel recording. D.H.

MOZART: *Symphonies Nos. 22, 24-27, 29, 39, and 40* (see Best of the Month, page 89)

PROKOFIEV: *Visions Fugitives, Op. 22* (see MOUSSORGSKY)

For 14 Years We've Filled Mail Orders The Way Customers Like

Ordering records, tapes, cassettes, blank tapes by mail can be a great convenience, and can save you loads of money. Of course, you have to deal with a company like NATIONAL RECORD PLAN that's established, successful, and that believes pleasing the customer is the only way to keep the customer. That's the way we do business.

We are not a club—we are the leading independent record and tape mail order firm in the U.S. We send fresh, perfect records or tapes, packed so that damage seldom occurs. We double-check to prevent errors. We send CASH refund if (on rare occasions) we can't deliver. So order up, all you want, at these really fantastic discounts. **SALE ENDS JULY 31, 1977.**

RECORDS

UP TO **50% OFF LIST!**

For list prices, see Schwann catalog.

LIST, PER LP	SALE PRICE
\$3.49-3.98	\$2.39
4.98	2.49
5.98	2.99
6.98	3.99
7.98	4.79

**ALL LABELS, ALL ARTISTS
ALL SELECTIONS, NO LIMIT.**

SAVE GAS, SAVE TIME, SAVE MONEY. It's hard to beat these prices in any store, anywhere! NEED CATALOG? Send \$1 for Schwann. If you order catalog, we extend Sale ending date to give you more time to order.

For all other list prices, your discount is 40%

TAPES AMPEX BLANK 7'

REEL-TO-REEL RIOT!

Excellent SHAMROCK 1800 ft.

Incredible	1 to 24	25+
All perfect	\$1.35	\$1.22

20/20 + 1800 ft.	1 to 9	10+
#373 15	\$4.29	\$3.99

— **364-C90 CASSETTE RIOT!** —
Buy 3, get 1 FREE, plus FREE STACKETTE 4 Cassettes (reg. \$2.39 ea.) plus holder ALL FOR \$6.99.

**8-TRACK or CASSETTE
(Prerecorded)**

\$7.95 list. **\$4.99 each**

All other catalog prices, take off 33% discount. NEED CATALOG? See catalog of or above.

ALL LABELS, NO LIMIT

Request our CURRENT TAPE BARGAINS SHEET. Our bargains may strike you as incredible, but everything is guaranteed top quality, splice-free, fresh. No limit on quantity — we serve many studios.



**NATIONAL RECORD
PLAN (not a club)**

Dept. SR4, 44 West 18th St.
New York, N.Y. 10011

OUR GUARANTEE

Cash refund if we can't deliver. Record or tape replaced at no charge, after one play, if defective.

ORDER NOW. SALE ENDS JULY 31, 1977. List items wanted on any sheet of paper. Give.

- ARTIST, TITLE (LABEL and NUMBER, if known), PRICE
- State whether LP, 8-TRACK or CASSETTE
- Type or print YOUR NAME, ADDRESS, ZIP CODE

(If not sure of price, send enough to cover—we will immediately refund any overpayment.)

Handling Charge—85¢ for first LP or tape—20¢ for each additional LP or tape, plus 40¢ insurance for entire order. Add applicable local SALES TAX. Please send check or money order for total (sorry, no COD). American Express, BankAmericard (Visa), Master Charge accepted—give name on card, number, expiration date, and sign order. Minimum credit card order, \$10.

NATIONAL RECORD PLAN, Dept. SR4, 44 West 18th St., New York, N.Y. 10011

CIRCLE NO. 30 ON READER SERVICE CARD

PUCCINI: Arias (see Collections—Sylvia Sass)

PUCCINI: Suor Angelica. Renata Scotto (soprano), Sister Angelica; Marilyn Horne (mezzo-soprano), Princess; Ileana Cotrubas (soprano), Sister Genevieve; Patricia Payne (mezzo-soprano), Abbess; Gillian Knight (mezzo-soprano), Sister Monitor; others. Ambrosian Opera Chorus; New Philharmonia Orchestra, Lorin Maazel cond. COLUMBIA M-34505 \$6.98.

Performance: **Uneven**

Recording: **Good with reservations**

Suor Angelica has been criticized for a kind of excessive sentimentality Puccini exhibited in no other opera. And yet, for all the canny manipulations of his theatrical genius, which is as observable here as it is in *Tosca*, I have never doubted his sincere and compassionate involvement in Angelica's pathetic fate. Lorin Maazel's properly affectionate account of the music is rather expansive in the opening scenes, but it builds to an effective climax.

Renata Scotto is an intense and thoroughly convincing Angelica. Her smoldering emotions are revealed in the early "I desidero i fiori dei vivi" passage, and, as may be expected, her "Senza mamma" is heartrending. Ileana Cotrubas shines in the brief role of Sister Genevieve, but Marilyn Horne is disappointing as Angelica's stern, unforgiving aunt. The character's cruelty is commandingly projected, but the aristocratic bearing is missing, the lines do not flow convincingly, and the tone is burdened by a heavy vibrato.

There are other problems, too. The chorus is good, as are the voices of the individual nuns, but their Italian accents are not convincing. And the side break is placed not at the appearance of the Countess (a logical procedure observed in all previous recordings), but literally in the middle of her first sentence. This kind of misjudgment is inexplicable unless it was dictated by the length of the music (sixty-nine minutes altogether) and the necessity to avoid overloading side two—which may also explain the overall low sound level. In any case, I prefer the earlier London version with Tebaldi and Simonato, Gardelli conducting. G.J.

RECORDING OF SPECIAL MERIT

RACHMANINOFF: Songs. *In the silent night; So many hours, so many fancies; The Soldier's Wife; A Dream; I wait for thee; The Little Island; Midsummer Nights; The world would see thee smile; Believe it not; Spring Waters; Fate; Day to night; Arion; The Raising of Lazarus; So dread a fate; Music.* Elisabeth Söderström (soprano); Vladimir Ashkenazy (piano). LONDON OS 26453 \$7.98.

Performance: **Very good**

Recording: **Excellent**

This disc is a sequel to a volume of Rachmaninoff songs by these two artists released last year (London OS 26428), and, like its companion, it combines earlier songs (1893-1896) with some of later origin, in this instance dating from 1912. This makes for a well-contrasted sequence. Written under Tchaikovsky's influence, the early songs stress passionate melody. Later, as Rachmaninoff's idiom turned harmonically more adventurous, he became more conscious of color and expression at the expense of long-span melodic writing.

Elisabeth Söderström is a remarkably alert

and communicative singer for all these demanding songs, though two of them (*Fate* and *The Raising of Lazarus*), written with Chaliapin in mind, clearly call for his type of voice. Despite occasional vocal blemishes, Söderström projects the essence of each song with clarity and total involvement.

Some of these songs (*Spring Waters* and *Arion*) require virtuosic pianism on Rachmaninoff's own level. Vladimir Ashkenazy is such a pianist, yet his bravura playing is perfectly blended with the vocal line. The engineers deserve special praise for maintaining perfect balance between vocalist and piano. G.J.

RIMSKY-KORSAKOV: May Night (see Best of the Month, page 90)

RECORDING OF SPECIAL MERIT

ROUSSEL: Psalm 80, Op. 37; Bacchus et Ariane, Suite No. 2, Op. 43. John Mitchinson (tenor); Stephen Caillat Chorus; Orchestre de Paris, Serge Baudo cond. CONNOISSEUR SOCIETY CS 2124 \$7.98.

Performance: **Resplendent**

Recording: **Very fine**

Albert Roussel's powerful setting of Psalm 80 ("Give ear, O Shepherd of Israel") was recorded by Pathé Marconi in Paris in the Fifties under Georges Tzipine but never issued by Angel over here. Thanks to Connoisseur Society, we now have a later stereo Pathé Marconi taping, done under Serge Baudo's direction about eight years ago as part of a disc

Soundcraftsmen presents... a NEW CLASS super-power amp,

with fantastic performance because its revolutionary new Patent Pending "VARI-FUNCTIONAL" system uses Analog Logic Circuitry to anticipate, control and supply only the exact amount of power required for most efficient performance... Conventional Class AB amplifiers with 250 watt power ratings, operating at 1/2 power in accordance with FTC test requirements, WILL CONSUME OVER 40% MORE ENERGY than the Soundcraftsmen "NEW CLASS" amplifier... Here are just a few "NEW CLASS" benefits. 1. Greatly reduced average current drain resulting in substantial electrical energy savings. 2. Reduced heat dissipation for cooler operation assuring trouble-free reliability and no need for noisy fans. 3. And perhaps the greatest benefit of all, manufacturing cost savings meaning more power, and more features for fewer dollars... SPECIFICATIONS: 250 watts per channel RMS 20Hz-20KHz both channels driven into 8 ohms, less than 0.1% THD. Noise -105dB Damping factor 100, Slew rate 25, Frequency response 0.25dB 20Hz-20KHz. Size 7" x 19" x 15" deep. Side panels included. Suggested price \$699.00.

PREAMPLIFIERS

The PE2217 offers more flexibility and control than preamps costing twice the price. The 20-band OCTAVE EQUALIZER uniquely coupled with a versatile combination PUSHBUTTON PATCH PANEL and advanced phone preamp section allows you the capability of graphic "EQ" during the playback and recording process. Dual phono and triple tape control with 84 and 106dB S/N specs make the PE2217 an unsurpassed preamp value at \$529.50. And now the PE2217, rated "STATE-OF-THE-ART" and "BEST-BUY" in magazine Test Reports, is also available as the PE2217-R (not shown) in rack-mount silver-black form as a matching mate for our new amplifier, priced at only \$549.00.

EQUALIZERS

We include all the accessories and features that are a must to make equalizing easy, as well as an amazing rewarding new experience... An Environmental Do-It-Yourself Test Record edited and announced by Soundcraftsmen especially for use with the Soundcraftsmen equalizer... Computer Charts for making a record of, and resetting in seconds, any desired EQ curve... a Full-Channel Frequency Spectrum Level Control on each channel for instant "no distortion" in/out balancing... Light-Emitting Diodes for precise visual signal level balancing... A Graphic Display of each EQ curve... And a minimum 24dB range of adjustment for each octave... Specifications: S/N: better than 106dB at full output... THD: less than .05% @ 1v... Filter type: Toroidal and Ferrite Core. Prices start at \$299.50.

FREE 5 PAGE BROCHURE

• The WHY's and HOW's of EQUALIZATION
• CHECKLIST for your EQUALIZATION-EVALUATION
• 10-point "TOTAL-SYSTEM" EQUALIZATION program
• Instructional Test Record
• Room Equalization Instructions



Manufactured in California, U.S.A. by Soundcraftsmen, 1721 Newport Circle, Santa Ana, CA 92705

CIRCLE NO. 45 ON READER SERVICE CARD

**SPECIAL
ANNOUNCEMENT
FOR READERS OF
Stereo Review
MAGAZINE**

**THE
1978 TAPE
RECORDING &
BUYING GUIDE
IS SCHEDULED TO GO ON
SALE NATIONALLY
AUGUST,
1977.**

This all-new edition will provide information on virtually everything you'll want and need to know about tape recording. It's loaded with helpful hints and tips on how and what to buy, including a directory of equipment complete with photographs, model numbers, specs, descriptions and prices. Features include a Tape Deck Buying Guide • Testing Tape Recorder Performance • Maintaining Tape Recorders • Microphone Buying Tips • Going Mobile With Audio • Tape Deck Test Reports • Creative Recording Tips • plus much more.

**You can
reserve your copy
now at the
pre-publication price
of only \$1.95**

This offer is being made to readers of Stereo Review Magazine only. Regular price is \$2.50; mail order price \$3. Save money and enjoy the convenience of having the 1978 TAPE RECORDING & BUYING GUIDE mailed to you from first-off-the-press copies when published. Complete the Reservation Form and return it promptly with your remittance.

PRE-PUBLICATION RESERVATION FORM

TAPE RECORDING & BUYING GUIDE,
Consumer Service Division,
595 Broadway, New York, N.Y. 10012

Enclosed is \$1.95 (outside U.S.A. \$2.50) for my copy of the 1978 TAPE RECORDING & BUYING GUIDE to be mailed to me in August, 1977 when published.

Residents of CA, CO, FL, IL, MI, MO, NY STATE, DC and TX add applicable sales tax.

Print Name _____

Address _____

City _____

State _____ Zip _____

SR-77

celebrating the centenary of this fine but still under-appreciated French master. Roussel's setting, strange as it may seem, was originally of the King James text, and he only reluctantly acceded to use of the French version recorded here. In any event, the language by no means detracts from the elemental power of the music, which enhances and intensifies the spirit of the Israelites' appeal for relief from the anger of the Lord. The massive opening is worthy of anything by Bloch or Walton, while the later pages, which follow a lyrical episode with tenor solo, display Roussel's polyphonic dynamism in its most compelling vein. The concluding chorale is a stroke of genius and stunningly beautiful.

Far better known is the *Bacchus et Ariane* ballet music on the other side of the disc—the second suite drawn from the last two-thirds of the full score. The music is a far cry in spirit from the sensuousness of, say, Ravel's *Daphnis et Chloé*, stressing as it does sharp contrasts between tender lyricism (the sleep music at the beginning of Suite No. 2) and fiercely athletic polyphony (the opening pages of Suite No. 1 and the last half of Suite No. 2).

Serge Baudo, who has given us a notable Honegger series issued by Supraphon, displays an equal affinity for Roussel in both of the works at hand. The recording is altogether splendid, and I strongly recommend it, along with the Boulez reading of the Third Symphony, as an ideal *entrée* to Roussel's musical universe: *D.H.*

SCHUMANN: *String Quartet in A Minor, Op. 41, No. 1* (see MENDELSSOHN)

RAVI SHANKAR: *Improvisations—West Meets East, Album 3. Tenderness; Twilight Mood; The Enchanted Dawn; Morning Love.* Ravi Shankar (sitar); Yehudi Menuhin (violin); Alla Rakha (tabla); Jean-Pierre Rampal (flute); Martine Géliot (harp); Nodu Mullick, Amiya Dasgupta, Kamala (tanpura). ANGEL □ SFO-37200 \$7.98.

Performance: **Eastern slopes**
Recording: **Nice**

The charm of this record, as with its predecessors, lies in the contrast between Menuhin's gypsy fiddling and the "off" sound of the sitar with its own kinds of slides, twangs, and shakes. The novelty here is the induction of Jean-Pierre Rampal and Martine Géliot into the growing circle of Shankar adepts—with, I think, somewhat less successful results. The fiddle was originally an Indian instrument. Invented in that part of the world, it traveled west and then, transformed, it was brought by the English back to India, where it was successfully redomesticated as one of the principal instruments of Indian music. Unless I'm mistaken, the violin is played in India in somewhat the same way it is played in the American mountains—that is, "sidesaddle," held more like one holds a guitar. Of course, the sound is quite different from that produced by a Western virtuoso. Nevertheless, Menuhin knows, loves, and understands this music, and he gets better and better at integrating himself into its soul. Rampal and Géliot, on the other hand, although excellent musicians in the Western tradition, simply do not swing. The contrast is particularly noticeable in the "light-classical" *Morning Love*, where Rampal's solos sound formal next to Shankar's. This piece and *Enchanted Dawn* for flute and harp are really "compositions" in the Western sense—I would guess that much



Archives Lipnizki

ALBERT ROUSSEL (1869-1937)
A Psalm of elemental power

of the flute and harp music is written out. The result is curiously thin, like a pale imitation of the real thing (Shankar's scoring in his previously recorded Concerto for Sitar and [Western] Orchestra has a similar effect). Menuhin understands that the richness in Indian music lies in the melodic and rhythmic inflection, not in the set patterns per se. My only complaint about the other two pieces, in which the violin is the only Western instrument, is that they are too short. Now that it has been well established that there is a real public for this sort of thing, how about some pieces big enough to convey a bit of the real scope of this music? *E.S.*

RECORDING OF SPECIAL MERIT

SHOSTAKOVICH: *Symphony No. 14, Op. 135.* Galina Vishnevskaya (soprano); Mark Reshetin (bass); Ensemble of Soloists of the Moscow Philharmonic, Mstislav Rostropovich cond. COLUMBIA/MELODIYA M-34507 \$6.98.

Performance: **Intensely moving**
Recording: **Excellent**

I have written at length about this death-haunted song-symphony to poems of Lorca, Apollinaire, Küchelbecker, and Rilke (see STEREO REVIEW, August 1971), and it remains for me a work of the most piercing and painful eloquence. Some months ago I picked up a copy of the Melodiya/Eurodisc pressing of this 1973 recording conducted by Rostropovich with the soloists who participated in the 1969 world première under Rudolf Barshai. Thus I have had a good deal of time to compare it in detail with the two previous recordings—by Barshai with Margarita Miroshnikova and Yevgeny Vladimirov and by Eugene Ormandy with Phyllis Curtin and Simon Estes.

Rostropovich takes a slightly broader approach to the music than does Barshai. With Barshai and his singers, it is the raw bitterness of the work that comes across, together with the grim drama. With Rostropovich and his collaborators, it is, rather, the most deeply tragic compassion that is communicated. These qualities are present in the Ormandy performance, but the intensity of experience conveyed by both Russians is by no means

(Continued on page 124)

MAGAZINES AT DISCOUNT!

You SAVE up to 50%

Here's your chance for a real bargain bonanza on your favorite magazines. You may select as many as five of these titles at the special introductory rates shown below—up to 50% off! To order, indicate the magazines you want by inserting their code numbers in the boxes on the attached order card. Or write to: MAGAZINES AT DISCOUNT, A Division of Ziff-Davis Publishing Co., P.O. Box 2703, Boulder, Colorado 80322.

CODE NOS.

- (21) **APARTMENT LIFE** You pay only \$7.97
Reg. Rate: 24 Issues for \$14.97
- (01) **BOATING** You pay only \$7.97
Reg. Rate: 12 Issues for \$12.00
- (02) **CAR & DRIVER** You pay only \$4.99
Reg. Rate: 12 Issues for \$9.98
- (76) **COUNTRY MUSIC** You pay only \$6.95
Reg. Rate: 12 Issues for \$8.95
- (03) **CYCLE** You pay only \$4.99
Reg. Rate: 12 Issues for \$9.98
- (04) **FLYING** You pay only \$7.99
Reg. Rate: 12 Issues for \$12.00
- (34) **PLAYBOY** You pay only \$12.00
Newsstand Rate: 12 Issues for \$19.00
- (06) **POPULAR ELECTRONICS** You pay only \$6.99
Reg. Rate: 12 Issues for \$12.00
- (07) **POPULAR PHOTOGRAPHY** You pay only \$4.99
Reg. Rate: 12 Issues for \$9.98
- (35) **POPULAR SCIENCE** You pay only \$4.50
Newsstand Rate: 12 Issues for \$9.00
- (08) **PSYCHOLOGY TODAY** You pay only \$6.97
Reg. Rate: 12 Issues for \$12.00
- (56) **ROLLING STONE** You pay only \$7.00
Reg. Rate: 26 Issues for \$14.00
- (05) **SKIING** You pay only \$3.99
Reg. Rate: 7 Issues for \$6.98
- (17) **STEREO REVIEW** You pay only \$3.99
Reg. Rate: 12 Issues for \$7.98
- (40) **TIME** You pay only \$12.50
Newsstand Rate: 25 Issues for \$25.00
- (48) **TV GUIDE** You pay only \$8.35
Lowest Available Sub. Rate for 32 Issues



equaled there. Two particular high spots in the magnificent Rostropovich reading stand out for me: the gorgeously spooky coloration he achieves in the *pizzicato col legno* interlude of Apollinaire's *At the Santé Jail* and the absolutely desolating eloquence of Vishnevskaya in delineating Rilke's *The Death of the Poet*, which opens with the high-string *Dies Irae* theme from the symphony's first pages. Reshetin's bass has a fine black coloration, better controlled in delivery and impact than his counterparts' on the other recordings. Vishnevskaya has never been more eloquent than she is here, and her delivery is under far better control than in many of her other recordings. The Moscow players respond magnificently to the music and to Rostropovich's direction. The recorded sound is altogether superb, using a somewhat closer microphone setup than Barshai had and thereby achieving a more effective projection of timbre and linear detail. I don't know how often I will want to listen to this harrowing music, but when I do, this remarkable realization

of it will have to be my choice. A great recording of a unique masterpiece. D.H.

SIBELIUS: *Sonatina in E Major for Violin and Piano, Op. 80; Devotion, Op. 77, No. 2; Souvenir, Op. 79, No. 1; Berceuse, Op. 79, No. 6* (see DOHNÁNYI)

RECORDING OF SPECIAL MERIT

SIBELIUS: *Symphony No. 1, in E Minor, Op. 39; Finlandia, Op. 26*. Boston Symphony Orchestra, Colin Davis cond. PHILIPS 9500 140 \$7.98, © 7300 517 \$7.95.

Performance: **Superb**
Recording: **Lucid**

It was the last year of the nineteenth century when Sibelius conducted the premiere of his First Symphony in Helsinki, and it was hailed at once as an expression of nationalist fervor. Today it seems to have one foot in the Russia of Tchaikovsky and the other in the austere world of twentieth-century design—Finnish

modern glass displayed in an ornately carved antique cabinet. When this soaring symphony, with its abundant Slavic melodies, propulsive rhythms, and rich orchestration is played in too Romantic a style, the sound is fleshy and conceals the sinews; when severity is stressed too much and the climaxes are muted, the color drains out and the work sounds empty. Only a few conductors seem to have successfully straddled the two approaches on discs, and, though there are spectacularly played, heart-on-sleeve versions of the piece by Bernstein and Ormandy and a hectic one by Maazel, there really is no competition for this new reading by Colin Davis. The line is serene and noble; the themes are allowed to germinate like things of nature. The orchestral texture is as transparent as the ice through which Sibelian fires glow; the scherzo for once explodes and surges as it should; and the finale expands into an anthem of ever-growing ardor.

Davis and the BSO accord equally superb handling to the almost too-well-known *Finlandia*, that impassioned nationalistic tone poem dating from the same year as the symphony, which it well complements. The recording is an exceptionally lucid one, if a bit heavy on the bass, and the Philips surfaces are almost uncannily flawless. P.K.

All Out for Uplift



The Granger Collection

lachrymose little item in which a dying child demands a drop of water on his burning cheek and the preservation of his shoes for his baby brother while he himself goes off to wear golden wings in a better realm, the songs in "Angels' Visits" go all out for uplift. The composers had such names as Joseph Philbrick Webster, Augustus Montague Toplady, and Mary Stanley Bruce Dana, and when it came to setting a sentimental topic to a plaintive tune there was no melancholy musical stop they didn't know how to pull. In these songs there is no separation between church and state—or, for that matter, journalism—so that what starts out to be a ballad mourning some disaster like the sinking of a ship ends evangelically with lines about the safe landing of the passengers on shores under benign celestial rule.

All is piety, and yet there is a good deal of musical substance in this collection. High praise must be accorded the soloists, the Harmonieon Singers under Neely Bruce, and Lawrence Skrobacs, whose nimble fingers can coax mournful chords from piano and harmonium with equal adroitness. And the recorded sound is excellent. You don't have to be in love with easeful death to savor "Angels' Visits." —Paul Kresh

ANGELS' VISITS. Webster: *Sweet By and By*; Willie's Grave. Woodbury: *We Are Happy Now, Dear Mother*. Lowry: *Shall We Know Each Other There?* White: *Trusting*. Buck: *Rock of Ages*. Melnotte: *Angels' Visits*. Pratt: *Put My Little Shoes Away*. Fischer: *I Love to Tell the Story*. Hicks: *The Last Hymn*. Dadmun: *The Babe of Bethlehem*. Anon.: *Oh, You Must Be a Lover of the Lord*; *Flee as a Bird*. Kathleen Battle (soprano); Raymond Murcell (baritone); Rose Taylor (mezzo-soprano); Lawrence Skrobacs (piano and harmonium); Harmonieon Singers, Neely Bruce cond. NEW WORLD NW 220 \$8.98.

LISTENING to "Angels' Visits," a stunning if somber new album from New World Records, is like walking through a well-preserved Victorian cemetery. As Richard Jackson explains in his notes, our forebears in Victorian America were rather preoccupied with death and their chances in the life hereafter—and no wonder, since the death rate was certainly very high. There were 630,000 casualties in the Civil War, infant mortality took a heavy toll, and a man who died in his fifties was considered to have attained a ripe old age. Death was much on the popular mind, and the songs of the period inevitably reflect concern with the subject.

Some of the songs in this collection are as ornate as the elaborate hearses, coffins, and tombstones of the funeral business that flourished at the time. From *Sweet By and By*, with its promise of a mass reunion on heavenly shores, to *Put My Little Shoes Away*, a

RECORDINGS OF SPECIAL MERIT

TCHAIKOVSKY: *Serenade in C Major for String Orchestra, Op. 48*. DVORÁK: *Serenade in E Major for Strings, Op. 22*. Academy of St. Martin-in-the-Fields, Neville Marriner cond. ARGO ZRG-848 \$7.98, © KZRC-848 \$7.95.

TCHAIKOVSKY: *Serenade in C Major for String Orchestra, Op. 48*. DVORÁK: *Serenade in E Major for Strings, Op. 22*. English Chamber Orchestra, Raymond Leppard cond. PHILIPS 9500 105 \$7.98, © 7300 532 \$7.95.

Performance: **Leppard more robust, Marriner more refined**
Recording: **Philips richer, Argo more detailed**

This combination of works is so sensible and attractive that Argo has recoupled Marriner's recordings of them from other discs issued seven or eight years ago and still current (the Tchaikovsky with a cut version of the *Souvenir de Florence* on ZRG-584, the Dvořák with Grieg's *Holberg Suite* on ZRG-670), while Leppard's is the third such coupling by the English Chamber Orchestra in the last three years (preceded by one under Barenboim on Angel S-37045 and one under Enrique Garcia Asencio on Musical Heritage Society 1623). The two new discs are by all odds the most satisfying of all such packages and probably represent the finest current versions of the respective works individually, too, except perhaps Karajan's aristocratic one of the Tchaikovsky (Deutsche Grammophon 139 040) and Stokowski's radiant treatment of that work (Philips 6500 921).

Tchaikovsky said, "The larger the string orchestra . . . the better" for his serenade; neither the Academy nor the ECO is as large a body as a full orchestral string section, but neither seems at any disadvantage on that account, and the refinement of the Academy's playing is, as always, a great source of pleasure in itself. Because of that extraordinary refinement, and because Marriner's reading

(Continued on page 126)

I can't taste numbers. I can taste Winston Lights.

I was looking for a cigarette with low tar. But the low tar cigarettes I tried had no taste. Now I smoke Winston Lights. I get the low tar I want. But more important, Winston Lights are all taste. Winston Lights are for real.

Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.

13 mg. "tar", 0.9 mg. nicotine av. per cigarette. FTC Report DEC. '76.

NEVILLE MARRINER:
a cohesive, refined
Tchaikovsky serenade



Argo Records

has a more cohesive flow, I find his the more interesting of the two discs, even though Leppard's well-chosen tempos and general straightforwardness tend to make Marriner seem rather fussy by comparison. By way of oversimplifying: Leppard is more outgoing and robust, Marriner more reflective and expressive; Philips' close-up recording has a richer character, while Argo's has a crisp refinement of detail to match that of the Academy's playing. Those who might feel Marriner veers too near the world of *Verklärte Nacht* in his handling of Tchaikovsky's *Élégie* (the third movement) or lacks buoyancy in the second theme of the adorable finale will prefer Leppard's greater heartiness, but they will also have to accept a bit of gear-shifting, which never obtrudes in Marriner's subtly shaped reading, and far less clarity in the inner voices. Differences are less marked in the two Dvořák performances, but Marriner, no less animated than Leppard in this case, still has the edge in refinement. While my own preference is clear, I can't imagine anyone's being unhappy with either disc. R.F.

TCHAIKOVSKY: *Symphony No. 4, in F Minor, Op. 36.* Vienna Philharmonic Orchestra, Claudio Abbado cond. DEUTSCHE GRAMMOPHON 2530 651 \$7.98, © 3300 651 \$7.98.

Performance: **Brilliant**
Recording: **Rather thin in spots**

TCHAIKOVSKY: *Symphony No. 4, in F Minor, Op. 36.* London Symphony Orchestra, George Szell cond. LONDON CS 6987 \$6.98.

Performance: **Vintage Szell**
Recording: **Good 1962 stereo**

If you find Leonard Bernstein's treatment of the Tchaikovsky Fourth a little too wild and woolly, here are two excellent alternatives, both equally convincing and exciting in their respective fashions. Abbado maintains the same classical dramatic "Verdian" manner in the Fourth Symphony that he employed with such brilliant success in his Vienna DG disc of the *Pathétique*. His reading of the Fourth is especially noteworthy for the wealth of detailed nuance he brings, without fussiness, to the slow movement, which more often than not is passed over as comparatively lacking in interest. I'm a bit bothered by the sound, which seems to lack bass presence. A comparison of the opening of the last movement of the Fourth with the reprise of the scherzo of the Sixth will illustrate what I mean.

The Szell recording dates from 1962, but it was not allowed release during Szell's lifetime because of minor performance imperfections (far worse ones are allowed to pass nowa-

days). The reading and the playing are marvelously disciplined and solid, and, if Szell's opening movement is not as viscerally exciting as some, he builds up to a finale that is a real gut-buster. The orchestra is fairly close-miked, but the overall sound is quite decent by any standards. Incidentally, the 1972 British release of this recording (on Decca SPA 206) was and is priced at £1.89, which at the present exchange rate is considerably below the price of this London issue. D.H.

VERDI: *Arias* (see Collections—Sylvia Sass)

COLLECTIONS

THE CLASSICAL MANDOLIN. Hasse: *Concerto in G Major for Mandolin and Orchestra.* Giannone: *Suite Argentine for Mandolin and Orchestra.* Beethoven: *Four Pieces for Mandolin and Cembalo.* Jacob Thomas (mandolin); Gunter Krieger (harpsichord); Heidelberg Chamber Orchestra. CMS/ORX EXP 40 \$6.98.

Performance: **Fun**
Recording: **Prickly**

The mandolin has a surprisingly rich repertoire for such a humble little instrument and can draw from music by such composers as Mozart, Schubert, and Hummel as well as the works listed above. None of this music is great, but the wiry sound of the instrument is fresh, and it is amusing to hear the "greats" handle it. And so it is with this record: the music is nicely performed, the repertoire light and easy, and the sound will cheer the heart. It also makes a chic conversation piece. S.L.

COMPOSERS STRING QUARTET. Schuller: *String Quartet No. 1.* Cowell: *Quartet Euphometric.* Stravinsky: *Double Canon.* Swift: *String Quartet IV.* Carter: *Elegy for String Quartet.* Composers String Quartet. GOLDEN CREST/NEW ENGLAND CONSERVATORY NEC-115 \$6.98.

Performance: **The best**
Recording: **On the dull side**

The Composers String Quartet is, as its name suggests, an organization devoted to new music. The principal works represented here are two very modern-music-type quartets: one is an early, strong, severe work of Gunther Schuller, president of the New England Conservatory (and sometime conductor of Scott Joplin!); the other is by Richard Swift, the winner of a competition jointly sponsored by the quartet and the conservatory. Although I found it difficult to sit still through Swift's

(Continued on page 128)

FOR MORE INFORMATION ON WHERE TO FIND THE NEW GENERATION OF RECORDING INSTRUMENTS, CALL A TEAC REPRESENTATIVE FOR THE NAME OF THE DEALER NEAREST YOU:

SO. CALIFORNIA, NEVADA, ARIZONA

Daymark Industries
213 786-9300

NO. CALIFORNIA, RENO, NEVADA
Paul Seaman Co.
415 352-7860

WASHINGTON, OREGON, IDAHO,
WEST MONTANA, ALASKA
W.K. Wood Co.
206 623-9950

E. MONTANA, WYOMING, UTAH,
COLORADO, NEBRASKA, Panhandle,
NEW MEXICO, EL PASO, TEXAS
J. A. Gedney Co.
303 572-1900

W. WISCONSIN, MINNESOTA,
NORTH DAKOTA, SOUTH DAKOTA
Lowell M. Fisher
612 881-0944

MISSOURI, IOWA, KANSAS, NEBRASKA
excluding Panhandle, SOUTHERN
ILLINOIS
Carmine A. Vignola Assoc.
314 893-3205

TEXAS excluding El Paso, OKLAHOMA,
LOUISIANA, ARKANSAS
Marketing Assoc.
713 771-3666

EAST WISCONSIN, NORTHERN ILLINOIS,
NORTHERN INDIANA (Lake and
Porter Counties)
Irving Rose Assoc.
312 674-6790

INDIANA (excluding Lake and Porter
Counties) KENTUCKY (excluding Cov-
ington) OHIO
Mc Fadden
614 221-3363

MICHIGAN
Phillip G. Flora Assoc.
313 478-4020

WEST PENNSYLVANIA, WEST VIRGINIA,
Covington, KENTUCKY, EAST
PENNSYLVANIA, SOUTH NEW JERSEY,
MARYLAND, DELAWARE, VIRGINIA,
WASHINGTON D.C.
Lienau Assoc.
301 654-8444

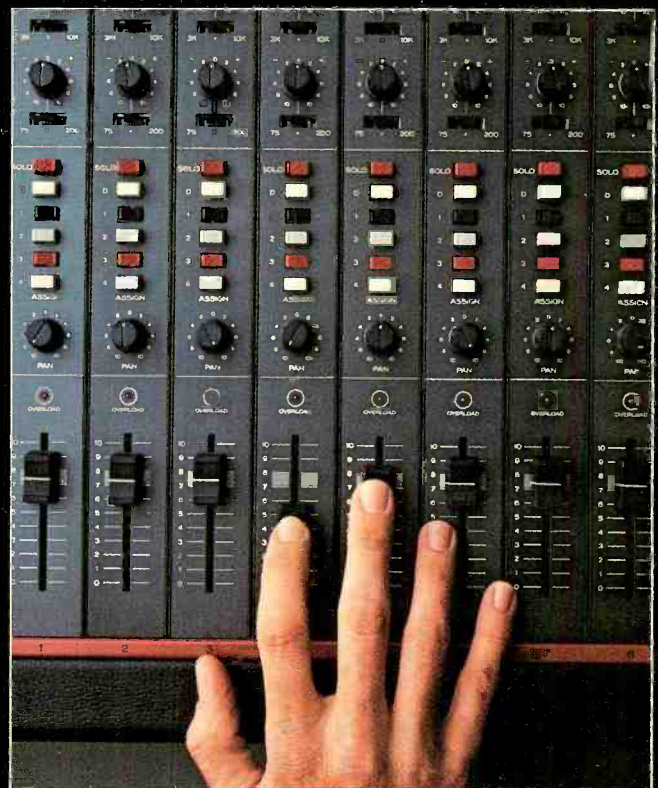
UPSTATE NEW YORK
Kramerson-Randall Sales
315 458-4285

NEW ENGLAND, MASSACHUSETTS,
VERMONT, CONNECTICUT, RHODE
ISLAND
Richard Dean Assoc.
617 738-1611

LONG ISLAND, NEW YORK, NORTH
NEW JERSEY, NEW YORK METRO
Steindler and Co.
516 759-0850

NORTH CAROLINA, SOUTH CAROLINA,
TENNESSEE, GEORGIA, ALABAMA,
MISSISSIPPI
Elrep Sales Co.
404 938-7108

FLORIDA
Raulson and Co.
305 264-6003



THIS IS WHERE TOMORROW'S GREAT MUSIC IS COMING FROM.

We think musical styles change because musical talents change.

There is hardly a musician making money today who doesn't know as much about recording music as he does about playing it. And recordists know as much about playing music as they do about recording it.

Because both know the equipment that captures music can also be used to improve it.

So while musical styles may change, the interdependence of musician, recordist, and the instruments they use will not. And that is the reason for the TASCAM Series by TEAC.

For not very much money TASCAM lets both musician and recordist get their hands on mixers and recorder/reproducers that let both tailor their music their way.

The Model 5-EX shown with four Model 201 input modules. Model 5 shown with Model 204 talk back/slate modules.

For every kind of music, for every kind of need, at home and on the road, by price and application, everything we make

has the same goal as everything you make—be the best.

Because it still takes great talent to make great music.

TASCAM SERIES BY TEAC®

A new generation of recording instruments for a new generation of recording artists.

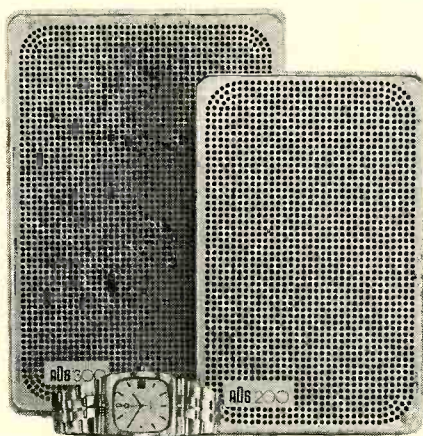
TEAC Corporation of America
7733 Telegraph Road
Montebello, California 90640
In Canada TEAC is distributed by White
Electronic Development Corporation
(1966) Ltd.



INVISIBLE SOUND INVISIBLE SOUND INVISIBLE SOUND INVISIBLE SOUND

"... as a result of the pioneering work by ADS' scientists, these mighty miniatures can be used with almost any sound source, including the smallest amplifiers on the market.

However, their real purpose is to bring genuine high fidelity sound to places where a large box isn't practical or necessary — and they suit this purpose admirably."



THE INVISIBLE ADS 200 and ADS 300.

ADS manufactures a complete line of loudspeaker systems, active and passive, for home, mobile and studio applications, priced between \$100 and \$700 (approximately). For catalogs and a dealer list send this coupon to:

ADS, ANALOG & DIGITAL SYSTEMS, 64 INDUSTRIAL WAY, WILMINGTON, MASSACHUSETTS 01887

300C-771V	SR7
NAME _____	
STREET _____	
CITY & STATE _____	ZIP _____

quartet, I must admit that it is a very impressive piece of its kind and very impressively performed.

The album includes some short works of special interest. The Henry Cowell Quartet *Euphometric* is a rather early experiment (1916-1919!) that derives rhythm from the vibrations of the harmonies. This might sound as if it were a mathematical process, but the results are actually very rich and full of expression. The Elliott Carter *Elegy*, the composer's own arrangement of an early duet for cello and piano, is a warmly tonal piece that preceded his First String Quartet, a work that took his music on quite another tack. And the Stravinsky *Double Canon*, written in 1959 in memory of Raoul Dufy, is an odd little twelve-tone exercise in a dry, Baroque tradition. Everything is exceedingly well played, but the recording quality is a bit on the dull-room side.

E.S.

RECORDING OF SPECIAL MERIT

ILEANA COTRUBAS: Arias. Donizetti: Don Pasquale: So anch'io la virtù magica. Mozart: Le Nozze di Figaro: Deh vieni, non tardar. The Magic Flute: Ach, ich fühl's. Die Entführung aus dem Serail: Ach, ich liebte. Puccini: Turandot: Tu, che di gel sei cinta. La Rondine: Chi il bel sogno di Doretta. La Bohème: Mi chiamano Mimi. Verdi: Rigoletto: Caro nome. La Forza del Destino: Pace, pace, mio Dio. Ileana Cotrubas (soprano); New Philharmonia Orchestra, John Pritchard cond. COLUMBIA M-34519 \$6.98.

Performance: **Exquisite singing**
Recording: **Excellent**

The recording industry has been rather tardy in according suitable representation on discs to Roumanian soprano Ileana Cotrubas, who has been receiving enthusiastic notices in European centers for the past several years. But now, with Charpentier's *Louise* (Columbia) already released and new recordings of *La Traviata* (DG) and *L'Elisir d'Amore* (Columbia) soon to follow, matters seem to be moving in the right direction at last.

Meanwhile, we can enjoy Cotrubas' delightful singing in an almost entirely congenial repertoire in her first aria recital. Miss Cotrubas is a lyric soprano with impeccable schooling, whose tones are freely produced, pure, and perfectly placed, reminiscent of the young Hilde Gueden and Lisa della Casa. Her firm intonation and solid musicianship make for exquisite Mozart singing, further enriched by a relatively easy command of the florid writing in the aria "*Ach, ich liebte*." She is an engaging vocal actress, too, one who knows how to impart a mock-serious tone to Norina's reading of the letter, thereby making the transition into the playful "*So anch'io la virtù magica*" more effective.

The Puccini-Verdi side is equally pleasing in terms of vocalism, and, surely, her Mimi and Magda (*La Rondine*) cannot be faulted. I prefer more emotional stops pulled for the death of Liù, however, and, though it is interesting to hear an intimately scaled "*Pace, pace*" as an experiment, this is not a role for Ileana Cotrubas and the aria's inclusion seems puzzling.

In the Donizetti and Mozart arias conductor Pritchard gets beautiful orchestral playing and neat details in the woodwind writing. The orchestra sounds no less beautiful in Verdi and Puccini, but the pacing for the *Rigoletto* and *La Bohème* arias is too slow.

G.J.

RECORDING OF SPECIAL MERIT

SYLVIA SASS: Puccini and Verdi Arias. Puccini: Turandot: In questa Reggia. Tosca: Vissi d'arte. Manon Lescaut: In quelle trine morbide; Sola, perduta, abbandonata. Madama Butterfly: Un bel di vedremo. Verdi: Aida: Ritorna vincitor. Macbeth: Sleepwalking Scene. I Lombardi: O madre, dal cielo . . . Se vano, se vano . . . No! No! Giusta causa. Sylvia Sass (soprano); London Symphony Orchestra, Lamberto Gardelli cond. LONDON OS 26524 \$7.98.

Performance: **Individual**
Recording: **Very good**

Still short of her twenty-seventh year, Sylvia Sass finds herself at the top of her profession, solidly booked for years ahead in the world's most prominent theaters. She is, without a doubt, an extraordinarily gifted artist, but the danger of "too much, too soon" definitely threatens. The storm signals were evident in the three Toscas she sang at the Metropolitan last March, though assuming that demanding role without the benefit of a single orchestral rehearsal (a fact never revealed in the press) did not make things any easier for her. She does seem to take on extraordinary challenges with some regularity, and this recorded recital is one of them. But the challenges are not forced on an unwilling victim. "The difficulties of Turandot are exaggerated," she told me in New York between Toscas. "There is no acting to speak of, just standing still and getting the notes out. Now Butterfly—that's a difficult, indeed a searing part. I may wait for ten more years before doing it on stage."

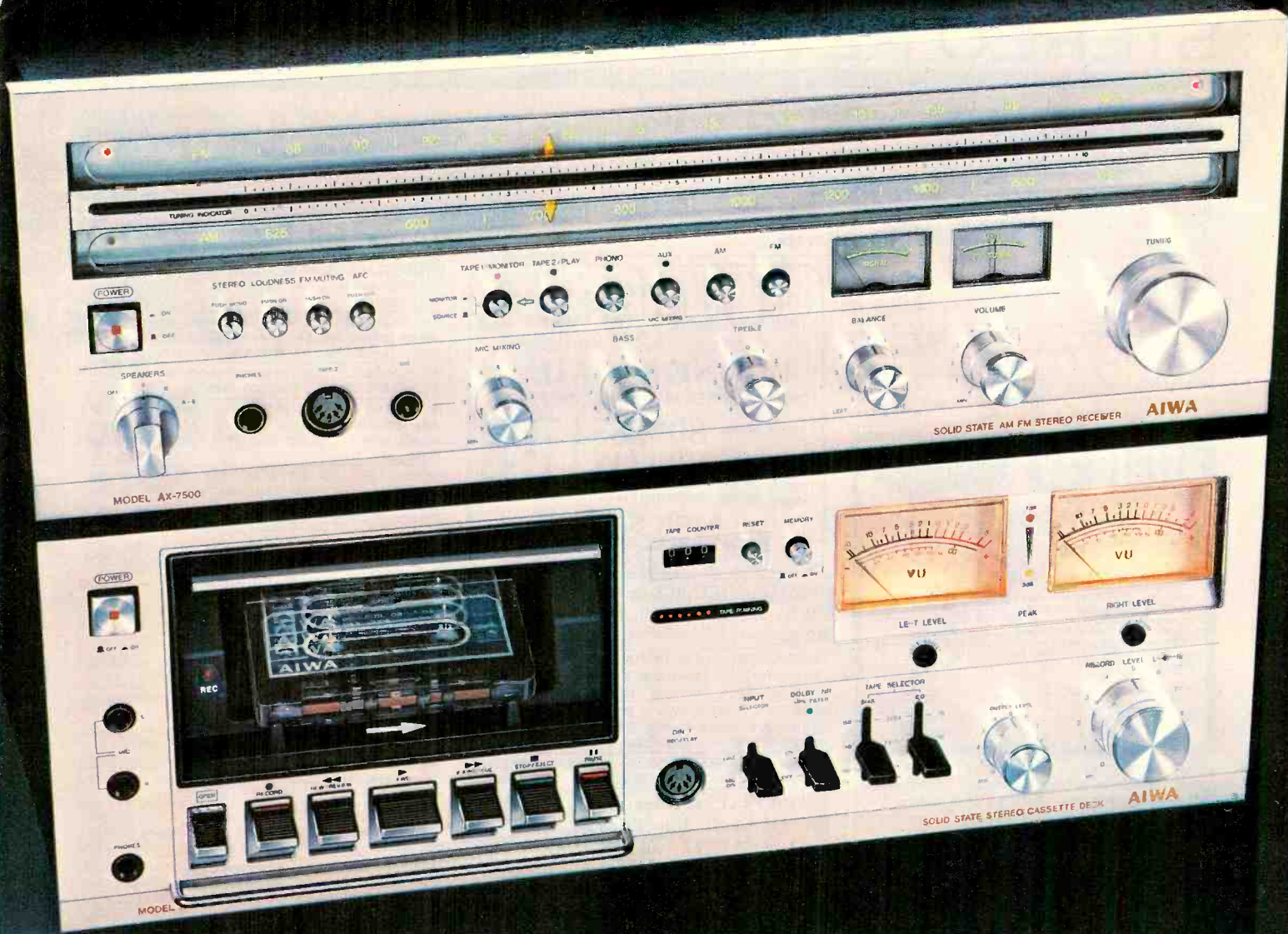
On record Miss Sass gets the notes out commendably in *Turandot*; those in mid-range are sensitively phrased, but the top ones show some strain. Butterfly's "*Un bel di*," on the other hand, gets a beautiful performance, thoughtfully phrased, with exquisitely colored tones, particularly lovely in soft dynamics. This is pretty much characteristic of her singing throughout the recital. She is a very musical artist and an intensely dramatic one in the Callas mold—an influence she readily acknowledges. She is no carbon copy, however, but quite an individual interpreter, and this individuality is, at this time, perhaps her most striking characteristic. Everything here commands interest, but not everything is sung with consistent smoothness or tonal beauty. At *forte* levels, the top register is precarious, which is a troublesome development in such a young singer. Time will tell if we are now in the presence of another Callas—or another Suliotis.

Gardelli provides exceptionally fine accompaniments. The recorded sound is opulent, but reverberation detracts from the clarity of the singer's enunciation.

G.J.

PHOTO QUIZ (pages 78 and 79)

- (1) Vaughan Williams, (2) Chaliapin, (3) Solti, (4) Horowitz, (5) Willcocks—that's okay—I missed it too, (6) Mahler, (7) Toscanini, (8) Walter, (9) Stravinsky, (10) Maazel, (11) Shostakovich, (12) Vishnevskaya, (13) Rostropovich, (14) Bjoerling, (15) Beecham, (16) Kipnis, (17) Heifetz, (18) Bernstein, (19) Tourel, (20) Moore, (21) Karajan. —Ed.



Meant for each other.

From the beginning it was a love match, each bringing out the best in the other. The AIWA AD-6500 cassette deck and the powerful AIWA AX-7500 receiver.

The AD-6500 cassette deck with its exclusive automatic front loading has been the belle of the ball since coming out. The separate transport system automatically loads the cassette into place. Added to this exclusive feature are those famous AIWA specs that impress even the most discriminating audiophile. The built-in Dolby* N. R. allows the S/N ratio of 62dB (Fe-Cr tape); the wow and flutter is kept to 0.07% (WRMS); the frequency response from 30 to 17,000Hz; the 2 step peak level indicator (+3dB, +7dB); the quick

cue and review; the Ferrite guard head and the 3 step bias and equalizer tape selector insures that the AD-6500 will always be out front.

The AX-7500 is a high powered, low distortion AM/FM stereo receiver that can hold its own with the best. Even the toughest engineers have nodded their approval. It boasts 30 watts per channel minimum RMS at 8 ohms from 20 to 20,000Hz with no more than 0.2% total harmonic distortion. The advanced 3-stage direct coupled OCL and differential amplifier circuitry equalizer assures stability and excellent transient response.

The AIWA AD-6500 and the AIWA AX-7500.

The perfect sound relationship.

AIWA®

*Dolby is a Trademark of Dolby Laboratories, Inc.

Distributed in the U.S. by: **MERITON ELECTRONICS, INC.**, 35 Oxford Drive, Moonachie, N.J. 07074
 Distributed in Canada by: **SHRIRO (CANADA) LTD.**, Montreal 256, P.C. Canada

CIRCLE NO. 3 ON READER SERVICE CARD

STEREO REVIEW MARKET PLACE


REGULAR CLASSIFIED: COMMERCIAL RATES: For firms or individuals offering commercial products or services, \$2.10 per word. Minimum order \$31.50. **EXPAND-AD CLASSIFIED RATE:** \$3.15 per word. Minimum \$47.25. Frequency discount: 5% for 6 months; 10% for 12 months paid in advance. **READER RATE:** For individuals with a personal item to buy or sell. \$1.25 per word. No minimum! **DISPLAY CLASSIFIED:** One inch by one column, \$265.00. Two inches by one column, \$530.00. Column width 2-1/4". Advertiser to supply film positives. Please write or phone for frequency rates. **GENERAL INFORMATION:** Payment must accompany copy except when ads are placed by accredited advertising agencies. First word in all ads set in caps. All copy subject to publisher's approval. All advertisers using Post Office Boxes in their addresses MUST supply publisher with permanent address and telephone number before ad can be run. Ads are not acknowledged. They will appear in the first issue to go to press after closing date. Closing Date: 5th of the 2nd month preceding cover date (for example, March issue closes January 5th). Send order and remittance to: Classified Advertising, STEREO REVIEW, One Park Avenue, New York, New York 10016, Attn: Hal Cymes.

EQUIPMENT

WRITE for quotation on any Hi-Fi components: Sound Re-production Inc., 460 Central Avenue, East Orange, N.J. 07018. 201-673-0600.

NO fair trade laws in D.C. Write for discount prices on your choice of components. District Sound, Inc., 2316 R.I. Ave, N.E., Wash., D.C. 20018. (202) 832-1900.

STEREO TV



The TE-200 TELEDAPTER EASILY CONNECTS TO ANY TV & STEREO SYSTEM. Using our coupling and matrix circuit, teledapter takes a low impedance output from the television and delivers two HIGH IMPEDANCE CHANNELS OF SIMULATED STEREO, to drive any amplifier. Frequency response is maintained so you can hear the tinkle of bells or booming bass sounds as it happens on TV. With service warranty and hookup instructions \$19.95 ppd. Guaranteed to make your TV 100% more enjoyable.

OUR NEW TE-300 VHF-UHF TELEVISION High Fidelity AUDIO TUNER is now available. Completely solid-state Recording and amp output jacks. Anodized Aluminum front panel and simulated Walnut Cabinet. 110 volt operation. \$169.95 ppd.

SEND CHECK, M.O., MASTERCHARGE, or BANKAMERICARD NO. and Expiration date TO: RHOADES NATIONAL CORP. DEPT NO. 5F BOX 817, HENDERSVILLE, TENNESSEE 37075.

NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____
SEND COMPLETE CATALOG

DIAMOND NEEDLES and STEREO CARTRIDGES at DISCOUNT PRICES for SHURE, PICKERING, STANTON, EMPIRE, GRADO and ADC. Send for free catalog. LYLE CARTRIDGES, Dept. S, Box 69, Kensington Station, Brooklyn, New York 11218.

CANADIAN Discount Catalog. Name brand stereo and 4-channel gear. Etco-3, 521 5th Ave, NYC 10017.

LOWEST PRICES on many brands of stereo components — 4 day delivery, write for same day quotes. University Stereo Cooperative, 57 E. Ridgewood Avenue, Ridgewood, N.J. 07450.

SAVE UP TO 69% on over 100 top brand audio components from Carston Studios, New England's Audio Supermarket, one of the oldest mail order firms (Est. 1952) and certainly one of the most reliable. All orders shipped from stocked warehouse. Send for price quote and price list. Carston Studios, Old Brookfield Rd., Danbury, Conn. 06810.

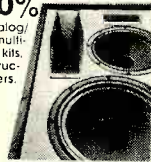
PROFESSIONAL HI-FI COURSE—Instructors include Len Feldman, Julian Hirsch, Larry Klein, and Larry Zide. Home study course also available. Send \$2.00 for full color AUDIO PRIMER and full information on joining Society Audio Consultants (SAC), 49 E 34th St., Dept. SR, New York, New York 10016.

PERFECTIONISTS PREFER DYNAKITS. Before Purchase You Owe Yourself Our Quote. Mainline IIr, 971 Fronheiser, Johnston, PA 15902.

BUILD YOUR OWN SPEAKERS AND SAVE UP TO 50%

Send for our free, fact-packed 44-page catalog/manual and learn how to assemble your own multi-element stereo speakers from scratch or from kits. Our catalog includes chapters on design, construction, covers enclosure changes, woofers, tweeters and horns. Write us today.

SPEAKERLAB
Dept. SR-A, 5500 35th N.E.
Seattle, Washington 98105



DYNAKITS, SHURE, SME—lowest prices. FRIED LOUD-SPEAKERS (not discounted). Perfectionist modifications. Underground HiFi Sales, 324a Broadway Road, Arnold, MD 21012. (301) 647-0919.

STEREO CO-OP — We're back, now purchase Pioneer, B.I.C. and E.P.I. directly from a manufacturer's co-op and realize substantial savings. Guaranteed lowest prices and full service. Write for specific price quotes. 5631 Balto. Nat'l. Pike, Balto., MD 21208.

TASCAM, Sound Workshop, dbx, MXR, Otari, Eventide, etc. Send for price quotes. ZIMET PRO AUDIO, Dept. SR, 1038 Northern Blvd., Roslyn, N.Y. 11576.

STEREO TIMER ELECTRONIC DIGITAL CLOCK PCB, \$9.95. Kit \$99.95. Complete \$149.95. Cosmos Electronics, P.O. Box 33278, Seattle, WA 98133.

BUY HI-FI COMPONENTS THE MODERN WAY: PHONE & MAIL

Call TOLL FREE or write for LOW PRICES

Nationwide **800/854-7769**
California **800/472-1783**

Approved by Phone

MCK SALES
250 N THOMAS, PO BOX 2100
POMONA CA 91766

SUBSTANTIAL SAVINGS on most High-End lines. The Sound Affair, 364 Mission Court, St. Louis, MO 63130.

AUDIO STEREO COMPONENTS and SONY TV's at rock bottom prices. Why pay up to 40% more? Arkay Audio, 68-A Watertown Street, (Route 16), Watertown, Mass. 02172.

SAVE ON SACRED COWS — Bose, SAE, JBL, Thorens, Philips. Over 50 top brands. Write for quotes. SOUTHBOUND SOUND, P.O. Box 52508, Atlanta, Georgia 30355.

SANSUI and PICKERING! BELOW mail order prices! Send to: GSH Super Savings, P.O. Box 86, Eden, N.C. 27288.

LOWEST PRICES on stereo-esoteric components!!! Over 150 brands. Audio Unlimited, 3386B Golf, San Jose, CA 95127. (408) 251-8776.

The Comfortable Alternative to Headphones

YEAPLE
Stereopillow™

Model 900—reviewed in
High Fidelity, \$79.95
Stereo Review
Model 400—New \$34.95
compact version!



FREE reviews and dealer list from:
Yeaple Corp., Dept. SR, 1255 University Ave., Rochester, NY 14607

RECOGNIZE YOUR SPEAKER? Send SASE Speaker Clinic, 84-860 D Farrington Hwy., Waianae, HI 96792.

NEEDLE IN A HAYSTACK specializes in stereo styli and cartridges, accessories, special albums. All major brands and many hard-to-find replacements available. Free catalog. Dept. S, P.O. Box 17436, Washington, D.C. 20041.

MAYWARE Formula 4 PLS4/DII The best sounding universal tone arm, at U.S. Audio Dealers. Literature \$1 (bill). Mayware Ltd., 15 Heather Walk, Edgeware, Middlesex, England.

SPEAKERKITS. Free Catalog of professional quality stereo speakers built from kits. SOUNDMOVE, P.O. Box 236, Jericho, N.Y. 11753.

A SINGER'S DREAM!



We actually invented a device that almost completely removes the main vocal from most stereo recordings & leaves background music intact! It's called the T V E. Not an equalizer! A dream come true for singers & musicians. We can prove it works over the phone! Write for brochure & demo record. Incl. \$1.00 for materials & mailing (refundable with order). List \$149.95. Write to: L T SOUND, Dept. S2, 1833 Second Ave., Decatur, GA 30032. (404) 377-9595.

TAPE AND RECORDERS

THRIFTIEST "Live"—Operatic, Symphonic—Open Reels! P.O. Box 1101, Woodhaven, New York 11421.

GOLDEN AGE RADIO—your best source for radio tapes. Box 25215-T, Portland, Oregon 97225.

OPERA CLASSICAL MUSIC Open Reels. Rare mostly live free catalogue. K. Lohan Tapes, P.O. 298, Mastic Beach, N.Y. 11951.

TDK, BASF, Memorex, Maxell, cassettes, reels, 8-tracks. Lowest prices, new guaranteed. S&S Audio, P. O. Box 56039, Harwood Heights, Ill. 60656.

SCOTCH RECORDING TAPE, exclusively, all new, lowest prices. TAPE CENTER, Box 4305, Washington, D.C. 20012. 3600' FRESH Low Noise, High Output Ampex tape. 10-1/2" metal reel, 6 for \$35.00 plus \$3.50 UPS. Other tapes also on special, write for catalog. S.I.C., P.O. 88338, Atlanta, GA 30338.

RADIO'S GOLDEN DAYS on tape. Reel, Cassette, Cartridge catalog. Radio Memories, Box 2297, Newport News, VA 23602.

EVERYTHING ON OPEN REEL! Classical, Popular, Dolby, Quadrasonic. Latest releases. For "Reel News," send \$1.00. Barclay-Crocker, Room 857 S, 11 Broadway, New York 10004.

1930-1962 RADIO PROGRAMS. Tapes \$1.00 Hour! Established esteemed dealer. Informative 175 page catalog, \$1.25. AM Treasures, Box 192SR, Babylon, N.Y. 11702.

WE WILL BEAT any price sheet in America. Featuring TDK, MAXELL, and others. Tape World International, 220 Spring Street, Butler, PA 16001.

SONAR'S OPEN REEL TAPES. Duped one-to-one from master. All Formats. Highest quality anywhere! Send \$1.00 for catalog and mini stereo sample tape. Sonar Records, P.O. Box 4555, Kingsbridge Sta., Bronx, N.Y. 10463.

RADIO RERUNS best source for radio shows, remotes, chronologies, jazz, personalities. Box 724-SR, Redmond, WA 98052.

MAXELL, AMPEX, CAPITOL — Low Prices — excellent service. Write for complete tape & supplies catalog. Omega, Box 39253, Redford, MI 48239.

THRILLING Live Opera Tapes. Personal attention. Guaranteed! Incredible Variety. Enormous Free Catalogue. Live Opera, Box 3141, Steinway Station, L.I.C., N.Y. 11103.

TDK SUPER AVILYN C-90 CASSETTES \$3.19 Ea. 10 or more \$3.06 each. Shipping & Handling — add 10% under \$20.00 7% over \$20.00. Free Catalog. SAXITONE TAPE SALES, 1776 COLUMBIA RD., N.W., DEPT. S, WASHINGTON, D.C. 20009.

BLANK TAPE BONANZA. TDK: 10 SAC-90 \$30.57, 10 SAC-60 \$21.57. MAXELL: 12 UDC-90 \$35.03, 10 UD35-90 \$49.74, 12 UDXL-C90 (I or II) \$41.15. All prices include shipping. (PA add 6% sales tax). Give us a try! Tape World International, 220 Spring St., Butler, PA 16001.

FIVE EXCITING NEW TITLES FROM ADVENT. New Process CR/70 cassette recordings include New World Symphony—Orchestre de Paris; Brahms Piano Concerti—Gelber; more. Write for free catalog and dealer list. Advent Corporation, Dept. CSR, 195 Albany Street, Cambridge, MA 02139.

HISTORICAL OPERA DISC & TAPE — Magnificent quality, speedy service. Greatest live performances of past 50 years. Reel, cassette, disc. Free catalog. Historical Recording Enterprises, Box 12, Kew Gardens, N.Y. 11415.

OLDTIME RADIO — original broadcasts on quality tapes. Free catalogue. Carl R. Froelich, Route One, New Freedom, Pennsylvania 17349.

LIVE OPERA TAPES. Reels — CASSETTES. Unbelievable treasure since 1926. Over 2,500 selections. Free DELUXE Catalog. Mr. Tape, Box 138, Murray Hill Station, N.Y. 10016.

BASF TAPE: All widths 40-55% off. All tapes quaranteed. INTERGALACTIC, 1043 Kirts, Troy, Michigan 48084.

RARE OPERA, symphonic music on open reel tape. Historic performances. European, domestic broadcasts, live. Free Catalogue. Underhill, Bellport, N.Y. 11713.

FANTASTIC SAVINGS! 5,000 Albums — Tapes only \$1.99-\$2.99. Send stamp. RightPrice, Box 4783SJN, Des Moines, Iowa 50306.

WANTED

GOLD, silver, platinum, mercury wanted. Highest prices paid by refinery. Ores assayed. Free circular. Mercury Terminal, Norwood, MA 02062.

RECORDS

SHOW ALBUMS, Rare, Out-of-Print LP's. 64 pg. list. \$1.00. ROBBER BRIDEGROOM 7" Stereo 33-1/3, 4 songs — Jerry Orbach; Virginia Vestoff \$3.95; La Strada, Mata Hari EP \$3.95; Bakers Wife cast LP \$9.95. Broadway/Hollywood Recordings, Georgetown, Conn. 06829.

PROTECT your LP's—Poly sleeves for jackets 8 cents; Round Bottom Poly Inner sleeves 7 cents; Poly lined paper 15 cents; white jackets 35 cents. Postage \$1.50. Record House, Hillburn, N.Y. 10931.

COLLECTORS' Soundtracks. Mint. List 50 cents (refundable). Jemm's, P.O. Box 157, Glenview, Ill. 60025.

OLDIES oldies, 45rpm. Also current hits. Free Catalog. Corry's Record Shop, Box 166HD, Mason, Ohio 45404.

RARE RECORDS, 45's, 78's, 33's, Soundtracks, Original, Cast Personalities, all kinds, mostly mint, 5,000 record lists, \$2.00. Refundable. Dealers Welcomed. Gurley, Box A72, Princeton, N.C. 27569.

CLASSICAL RECORDINGS for collectors. Bi-monthly lists. Collections bought. ARS MUSICA, 13 Dante St., Larchmont, N.Y. 10538.

JAPANESE JAZZ IMPORTS. Send for free catalogue self addressed stamped to Rob Records, 1540 Broadway, N.Y.C. 10036.

QUASI-RATIONAL PRODUCTS has everything in record protection; Liners, jackets for less — Discwasher, Maxell, Watts, Nortronics, Jensen, etc. Free catalog. QUASI-RATIONAL PRODUCTS, P.O. Box 171, Prospect Heights, Illinois 60070.

QUADRAPHONIC RECORDS AND TAPES—World's largest selection — all labels, over 1000 titles — at discount prices! For your free illustrated quad catalog, write: SOUND CONCEPTS, Box 654-A, Peoria, IL 61601.

PROTECT YOUR ALBUMS. White cardboard replacement jackets 35 cents. Plastic lined sleeves 15 cents. Postage \$1.25. Opera Boxes, 78 Sleeves. Free Catalog. CABCO 400-1, Box 8212, Columbus, Ohio 43201.

DIREKT TO DISK Laboratory Series classical records. Albums No. 1 and No. 2 available. Sample disk \$1.00. Free brochure. Manber Company, 830-A Magellan Lane, Foster City, Calif. 94404.

THOUSANDS of like new LPs and prerecorded tapes catalogue \$1.50. Records, Hillburn, New York 10931.

SEARCHING? LP's! DISContinued Records, 216 North Rose, Burbank, California 91505.



LIST COMMUNICATIONS
"BRINGING BACK THE GOOD OLD DAYS"
P.O. BOX 916-X, N.Y.C. 10023

GIVE US YOUR EARS!

We'll give you the greatest in hard-to-come-by domestic, nostalgia, and imported records anywhere around! Your favorite personalities, soundtracks, shows, jazz - you name it. Send for catalog today \$1 (refundable).

STEREO LP's at low wholesale prices. FREE DETAILS, G.L. Wholesaling Enterprises, P.O. Box 12, Depew, N.Y. 14043.

BUSINESS OPPORTUNITIES

I MADE \$40,000.00 Year by mailorder! Helped others make money! Free Proof. Torrey, Box 318-NN, Ypsilanti, Michigan 48197.

MAILORDER MILLIONAIRE helps beginners make \$500 weekly. Free report reveals secret plan! Executive (1K7), 333 North Michigan, Chicago 60601.

GET RICH with Secret Law that smashes debts and brings you \$500 to \$5 Million cash. Free report! Credit 4K7, 333 North Michigan, Chicago 60601.

STEREO REPRESENTATIVES NEEDED!!! Sell 100 brands!! Lowest Possible Prices!! Krasco, 998 Orange Ave., West Haven, Conn. 06516.

CAMPUS REPRESENTATIVES — Double your profits! Contact Tokyo Audio, Ltd., Box 3241, Los Angeles, Calif. 90028.

NEW LUXURY Car without cost. Free Details! Codex-ZZ, Box 6073, Toledo, Ohio 43614.

MAKE BIG MONEY in spare time selling: Tubes, Antennas, Speakers, Test Equipment, Lite Bulbs, Hi-Fi, etc. No investment. Free information: Allied Sales, Pimento, IN 47866. (812) 495-6555.

HI-FI ENTHUSIASTS WANTED!! Earn more than just spare money in your spare time. We need campus representatives to sell name brand stereo components at discount prices in your area. High commission, no investment required. Serious inquiries only, please. Contact: Alan Weisberg, K&L Sound Services Co., 75 No. Beacon St., Watertown, Mass. 02172. (617) 926-6100.

HOW TO BORROW \$25,000 interest-free — indefinitely! Free Report: Executive-SR7, Box 368, Buford, Georgia 30518.

\$500.00 WEEKLY! IMMEDIATE, GUARANTEED Income Stuffing Envelopes. FREE Supplies! Interested? Send 25 cents, stamp. Profits, B725-SR7, Belen, N.M. 87002.

FREE REPORT: Big Money in Mail! Transworld-9K, Box 6226, Toledo, Ohio 43614.

RUBBER STAMPS

RUBBER STAMPS, BUSINESS CARDS. Many new products. Catalog, Jackson's, Dept. K, Brownsville Rd., Mt. Vernon, Ill. 62864.

TUBES

TV and Radio Tubes 36 cents. Free 48 page color catalog. Cornell, 4215-H University, San Diego, California 92105.

SERVICES

NO ONE listens to your recordings? Can't get recordings on radio? Jalawa will help get recordings to discotheques, radio. Send recordings, \$5.00 for application, information to: Jalawa Record Promoting Agency, 2734 Catherine Street, Shreveport, Louisiana 71109.

INSTRUCTION

LEARN Electronics Organ Servicing at home. All makes, including transistors. Experimental kit—trouble-shooting. Accredited NHSC, Free Booklet. Niles Bryant School, 3631 Stockton, Dept. A, Sacramento, Calif. 95820.

MUSICAL INSTRUMENTS

UP TO 60% DISCOUNT. Name brand instruments Catalog. Freeport Music, 114 Q. Mahan St., W. Babylon, N.Y. 11704.

FOR SALE

CB RADIOS — Police Scanners. Wholesale only!! Send letterhead for lowest prices anywhere. Four Wheeler, 10SR New Scotland, Albany, N.Y. 12208.

JBL 4350WX Studio Monitors w/UREI-521P Electronic Crossover \$2,500. Yamaha 7000T \$800. Steve Callahan, 5880 Torca Court, San Diego, CA 92124. (714) 560-1050.

HYPNOTISM

FREE Hypnotism, Self-Hypnosis, Sleep Learning Catalog! Drawer H400, Ruidoso, New Mexico 88345.

SLEEP LEARNING. Hypnotic Method. 82% effective. Details free. ASR Foundation, Box 23429 EG, Fort Lauderdale, Florida 33307.

AMAZING self-hypnosis record releases fantastic mental power. Instant results! Free trial. Write: Forum (AA7), 333 North Michigan, Chicago 60601.

PERSONALS

MAKE FRIENDS WORLDWIDE through international correspondence. Illustrated brochure free. Hermes-Verlag, Box 110660/Z, D-1000 Berlin 11, Germany.

PENFRIENDS. ENGLAND, USA. Send age, interests. Free reply. Harmony (SR2), Box 1, Brooklyn, New York 11223.

MOVIE FILMS

16mm SOUND Features, Shorts, New, Used for Sale. Free Catalog. National Cinema, 333 W. 57th St., N.Y., N.Y. 10019.

EDUCATIONAL OPPORTUNITIES

LEARN WHILE ASLEEP. Hypnotize! Astonishing details, strange catalog free! Autosuggestion, Box 24-ZD, Olympia, Washington 98597.

DO-IT-YOURSELF

BUILD ELECTRONIC DEVICES in your home. Get started in your spare time. Big Profits — Experience not necessary. Write for free literature telling how. Electronic Develop Lab., Dept D, Box 1535, Pinellas Park, FL 33565.

EMPLOYMENT INFORMATION

ROCKY MOUNTAIN JOBS!! Colorado — Idaho — Montana — Wyoming! Free details ... Intermountain-W7, 300 Dundee, Boise, Idaho 83706.

PUBLICATIONS

BACK ISSUE MAGAZINES. 1890 to 1976. Free list. Send stamped envelope to Everybody's Bookshelf, Dept. ST, 317 West 6th, Los Angeles, CA 90014.

MISCELLANEOUS

WINEMAKERS. Free illustrated catalog of yeasts, equipment. Semplex, Box 12276Q, Minneapolis, Minn. 55412.

NOTICE: RECORD RATERS WANTED

(No experience required) Each month you will receive nationally released albums to rate. THERE IS NO EXTRA CHARGE for the LP's you receive. You pay a small membership fee which covers all costs of the LP's. We pay postage. In return for your opinion, build your LP collection. "First come basis." For application write: EARS, INC. DEPT. SR Box 10245, 5521 Center St., Milwaukee, WI 53210.

JULY SPECIALS: Capricorn, Chrysalis, Pablo LP — Tape Set; Oldie 45's Catalog \$2; Cutout, Current Catalogs \$1. NERT, Box 268-SR, Lawrence, Mass. 01842.

ESTATE RECORD COLLECTION For Sale. 78's — Mainly Big Bands. Free Bid List. Jett, 4916 Star Mount Drive, Greensboro, N.C. 27410.

OLDER JAZZ, Swing, LP's — lowest prices. Monthly lists. Soundtracks, Auctions! Records, Box 1138SR, Whittier, Calif. 90609.

CLASSIFIED ADVERTISING ORDER FORM

1	2	3
4	5	6
7	8	9
10	11	12
13	14	15
16	17	18
19	20	21
22	23	24
25	26	27
28	29	30

Please refer to heading on first page of this section for complete data concerning terms, frequency discounts, closing dates, etc. WORD COUNT: 15 WORD MINIMUM. Include name and address.

Words

\$2.10 (Commercial Rate)
\$1.25 (Reader Rate)
\$3.15 (Expand-Ad Rate)

Payment of \$ _____ enclosed for _____ insertions.

AmEx BAC

MC Diners

CHARGE: for _____ insertions.

You will be billed monthly.

Account # _____

Expiration Date _____

Master Charge Interbank # (4 digits above name) _____

SIGNATURE MUST BE PROVIDED BELOW.

PRINT NAME _____

ADDRESS _____

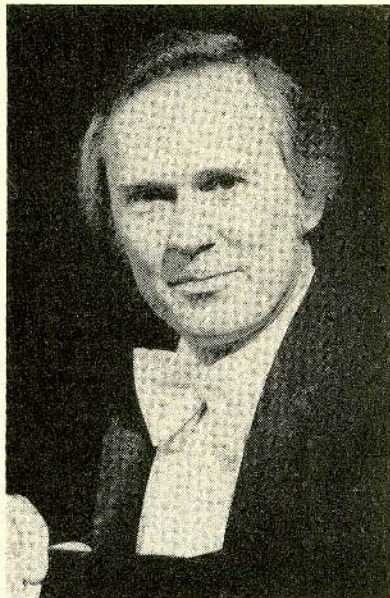
CITY _____

STATE _____

ZIP _____

SIGNATURE _____

SR-777



Bob Kaimbach

CONDUCTOR H. ROBERT REYNOLDS:
carrying on a tradition in fine style

“Terrific” Modern Music For Wind Band

IN spite of the long history of the band as a popular medium and the tremendous diffusion and high quality of wind playing in this country, band music is a relatively neglected medium today. Notwithstanding the efforts of the famous Goldman Band and the many excellent university ensembles, the “low-brow” band only occasionally sneaks through the back door in the more respectable, high-class-sounding guise of “wind ensemble.” Case in point: neither of two excellent recently released wind-music recordings comes to us out of the mainstream of the recording industry, but from somewhat out-of-the-way places.

One of the great pioneers of modern wind music was Paul Hindemith. Although his own instrument was the viola, Hindemith could play at least a scale on most of the winds. Much of his best music for these instruments dates from the Twenties, when he first made a conscious attempt to extend his “music for use” (*Gebrauchsmusik*) outside of the standard classical ensembles. Although his is “art” music for winds, it remains in touch with popular traditions. The *Concert Music for Wind Orchestra*, for instance, has a nice “band” sound and employs an Austrian folk song as a subject for some genial variations. The *Geschwindmarsch* paraphrases a wind march by Beethoven that is itself in a “popular” vein. The *Symphony for Band*, although written for a real band (it was commissioned in 1951 by the U.S. Army Band), is more serious and uncompromising in manner. But all three pieces, the heavier and the lighter, have the composer’s characteristic fingerprints every-

where, and since Hindemith’s four-square German-modern style is so well suited to the wind band, they come out sounding terrific in the excellent recorded performances by the University of Michigan Band.

With the possible exception of the professional Goldman Band, the University of Michigan has probably the most famous band in the country, and conductor H. Robert Reynolds is carrying on its tradition in fine style. And it isn’t just a matter of the band’s sheer power and sonority—for an example of real finesse, try the slow movement of the Hindemith symphony.

American symphony orchestras are among the principal beneficiaries of the excellence in wind playing fostered by the activities of schools such as Michigan. The Louisville Orchestra, for instance, long known for its performances and recordings of specially commissioned new music, has always been strongest in its wind department. The Louisville woodwind and brass sections get a chance to shine (along with the percussion section) in a new record of music by Ernst Křenek and Peter Maxwell Davies.

Křenek’s *Three Merry Marches* and *Kleine Blasmusik* date from 1929 and 1931, respectively—that is, after his sensational 1927 opera, *Jonny Spielt Auf*, but before he turned to twelve-tone composition. The “Little Wind Music” is a quiet piece in the Hindemithian “music for use” genre (it was in fact arranged from a four-hand piano work written for Křenek and a friend). The marches are hilarious parodies of German and Austrian beer-barrel marches. There was a streak of wit and an attunement to popular idiom in Křenek’s music in those days, which, alas, he abandoned in his later work.

THE alternation of popular idioms and severely abstract modes is a major feature of twentieth-century music that applies equally to younger composers like Peter Maxwell Davies. The *Saint Michael Sonata*, written in 1957, long predates Maxwell Davies’ recent interest in pop elements, instead combining serialism with Renaissance brass music traditions in a skillful post-Webern manner. Křenek went from *Jonny Spielt Auf* and the *Merry Marches* to super-serialism; Maxwell Davies has gone in the other direction, from the elegant neo-Renaissance pointillism heard here to pop collages and theatrical works. The wind band—a more “modern”-sounding ensemble than the orchestra with strings—serves well either way. —Eric Salzman

HINDEMITH: Concert Music for Wind Orchestra, Op. 41; Geschwindmarsch; Symphony in B-flat Major for Band. University of Michigan School of Music Wind Ensemble and Symphony Band, H. Robert Reynolds cond. UNIVERSITY OF MICHIGAN SM 0003 \$7.95 (from the University of Michigan School of Music, Ann Arbor, Mich. 48109).

KŘENEK: Kleine Blasmusik, Op. 70a; Three Merry Marches, Op. 44. DAVIES: Saint Michael Sonata. Louisville Orchestra (wind, brass, and percussion sections), Jorge Mester cond. LOUISVILLE FIRST EDITION LS 756 \$6.98 (from Louisville Orchestra First Edition Records, 333 West Broadway, Louisville, Ky. 40402).

STEREO REVIEW ADVERTISERS' INDEX JULY 1976

READER SERVICE NO.	ADVERTISER	PAGE NUMBER
1	Accuphase, division Teac Corporation	8
	ADS	128
	Advent Corporation	55
2	AFS Systems	9
3	Anwa	129
4	American Monitor Corp.	108
5	Angel	114
6	Audio Discount	105
	Audio Technica, U.S., Inc.	48
	BASF Systems	45
	Rose	12
7	BSR	49
8	Crown International	13
	Design Acoustics	109
9	Discount Music Club	14
10	Discount Sound	97
35	Discwasher, Inc.	35
	Dixie Hi-Fi	105
	Dolby Laboratories, Inc.	53
50	Dual	40, 41
12	Eastman Kodak	95
21	Empire Scientific Corp.	2
13	Gallo Winery, E & J	23
14	Hi-Fi Buys	99
22	Hitachi	31
15	Illinois Audio	105
16	International Hi-Fi Distributors	105
19	J & R Music World	109
17	Jensen Sound Laboratories	7
18	JVC America	11
	Kenwood Electronics	39
20	Klipsch & Associates	107
23	Koss Electronics	Cover 4
24	3M Company	25
25	Maxwell Corp. of America	86
26	McIntosh Laboratory, Inc.	117
27	Memorex Corporation	10
28	Milda	115
29	Nakamichi Research (U.S.A.), Inc.	100, 101
30	National Record Plan	118
31	Nertronics Research & Development	109
32	Ohm Acoustics Corp.	47
33	Olympus Corp. of America	96
34	Ortofon	133
11	Phase Linear	111
41	Pickering & Company	85
36	Pioneer Electronics of America	60, 61
37	Radio Shack	75
	Reynolds, R. J./Real Cigarettes	32, 33
	Reynolds, R. J./Winston Lights	125
	Rolet of America	97
39	S.A.E.	98
40	Sansui Electronics Corp.	29
42	Setton International	91
43	Shure Brothers	80
44	Sony Corporation of America	50, 51
	Sony Superscope	134, Cover 3
45	Soundcraftsmen, Inc.	119
46	Sound Reproduction	99
47	Stereo Corporation of America	99
	Studer/Revox America	17
49	Synergistics	19
51	Tascam Series by Teac	126, 127
52	TDK Electronics	21
53	Teac Corporation of America	5
54	Teac Corporation of America	36, 37
55	Teac Corporation of America	66, 67
56	Technical Sound Industries, Inc.	102
57	Technics by Panasonic	43
58	Top Discount Audio	117
50	United Audio	40, 41
59	U.S. National Guard	57, 58, 59
60	U.S. Pioneer	Cover 2, 1
61	Wisconsin Discount Audio	117
	Yamaha International	15

We made the first Ortofon cartridge for us.

As far back as 1945, Ortofon was making the cutterheads used throughout the world to cut the grooves in master phonograph records. But the phono playback cartridges then available could not put our cutterheads to the test for sensitivity and capacity.

So we made our first phono cartridge. For us.



The Ortofon cutterhead.

Since then our cutterheads have moved ahead—with a quality we couldn't even imagine in 1945. So have our phono cartridges.

The new MC20 moving coil phono cartridge is the best we've ever made. We believe it is the finest available for professional or home use.

The MC20 has the lowest stylus tip mass ever attained on a phono cartridge. A flawless, fine line diamond stylus is fixed directly (without the usual sleeve) to a stepped, low mass cantilever. Beryllium filling enables the cantilever to attain rigidity despite its minute dimensions. The moving coils are wound with wire one-fifth the thickness of a human hair.

The moving coil principle, with its low inertial mass, wider frequency response, low distortion as well as low tracking force, has clearly established its sonic superiority over any other phono cartridge system. Our new pre-amplifier, the MCA-76, is also available to process the signal of the MC20 or any other moving coil cartridge. The MCA-76 features low-noise circuitry, a subsonic filter and a by-pass switch which accommodates all magnetic cartridges.

We'll be pleased to forward data on the entire Ortofon line. We suggest that you write to us directly. Ortofon, Dept. A, 122 Dupont Street, Plainview, New York 11803.

ortofon

The Revolutionary

Wow & flutter: .04%*. Signal/noise ratio: 62 dB.**

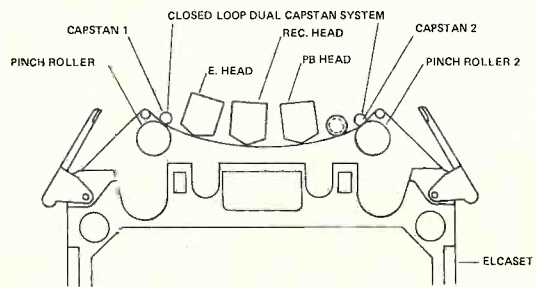
Introducing the incredible Elcaset system. Developed by Sony to bring you unsurpassed cassette sound.

1. The Elcaset tape is as wide as reel-to-reel tape: 1/4"
2. Tape moves twice as fast: 3 3/4 ips. Result: the widest dynamic range, the widest frequency response, the cleanest sound ever offered in a cassette format. Unlike the standard cassette, the Sony Elcaset sound is not compressed, constrained. It's expansive and full. It "breathes." It's true high fidelity.
3. The tape is lifted out from the cassette and guided across the heads by a stabilizing pin in the deck

itself — just as in reel-to-reel.

Result: lowest wow and flutter, superior tape/head alignment, even better frequency response. (See diagram).

4. All-new tape formulation with thicker oxide coating and thicker polyester for highest quality sound.
5. Automatic tape formulation adjustment. Small holes encoded on the cassette case "tell" the Elcaset deck what type of tape is being used (SLH, FeCr). The Elcaset then automatically adjusts both bias and EQ for optimum performance.



Tape (Actual Size)



Sony Elcaset System

Frequency response: 25 Hz-22 kHz, ± 3 dB***

An engineering triumph, the Sony EL-7 Stereo Elcaset Deck was designed exclusively for the new Elcaset tape.

1. Closed-loop dual capstan tape drive. One of the most advanced tape drive systems now available, it assures constant tape-to-head contact pressure, low wow and flutter and virtually nonexistent modulation noise.

2. The 3-motor system starts with a DC servo motor for utmost reliability. A sophisticated feedback circuit corrects for line voltage fluctuations, and other speed-altering factors. This is the finest tape recorder motor system money can buy. Proof? Wow and flutter of only .04%.

3. Sony's 3-head system offers the most precise tape/head alignment possible. All three heads are made of ferrite and ferrite—a super-strong formulation that lasts up to 200 times longer than standard perm-alloy. Head surfaces are mirror-smooth for friction-free tape travel and optimum tape/head contact. Incredibly close tolerances in the head gap assure widest frequency response.

4. Direct coupling of playback head with the FET first-stage reproduction amplifier significantly reduces distortion, improves signal/noise ratio and frequency response linearity.

Also available: The Sony EL-5 Stereo Elcaset Deck. Includes many of the same high performance features of the Sony EL-7, at a lower price.

Deck

Brought to you by

SUPERSCOPE®



Memory tape counter provides automatic sequential rewind and playback immediately after recording from a specific spot on the tape.

Timer activating capability, in conjunction with an external timer, turns on/off playback or record mode unattended.

Illuminated "feather-touch" solenoid operation. Logic-controlled system allows instantaneous mode change, bypassing stop.

Air-cushion eject slowly, softly opens tape compartment door, thus minimizing wear on eject system.

Dolby Noise Reduction System includes 25 μ S de-emphasis circuit for Dolby FM, as well as controls for standard Dolby applications.

*WRMS. **FeCr tape, Dolby***out. ****FeCr tape. *****TM Dolby Labs, Inc. (Source: Sony Corp.)

© 1977 Superscope, Inc., 20525 Nordhoff St., Chatsworth, CA 91311. Prices and models subject to change without notice. Consult the Yellow Pages for your nearest Superscope dealer.

Gather the world of sound around you.



When the country key in your soul yearns for the down home refrains of banjos, fiddles, and the sweet voice of a country girl, the best place to go is the world of sound between a pair of Koss K/145 Stereophones. Because every foot stomp'n', hand clapp'n', tamborine slappin' beat comes rollin' into your head with such crystal clarity you can almost see the cowboy hats,

calico dresses, and rhinestone studded suits flashing in the spotlights. All the country stars you love shine brighter than ever before. Because the Koss K/145's wide frequency response range mixes all the pickin' and strummin' inside your mind. While the volume/balance controls on each earcup let you zero right in on the stage. And the super comfortable, glove soft vinyl

headband lets you visit your country cousins for hours.

So visit your audio specialist, and try a pair of Koss K/145's—or write us for a free, full-color catalog of all our products.

Because whether your brand of music comes from deep in the heart of Texas, the Louisiana bayou, high atop the Rocky Mountains, or straight from the stage of the

Grand Ole Opry—there's no sound like the Sound of Koss. And there's no country road that'll take you home like the one that winds between a pair of Koss K/145's.

© Koss Corporation



Koss K/145 Stereophones

 **KOSS** stereophones
from the people who invented Stereophones.

KOSS CORPORATION, 4127 N. Port Washington Ave., Milwaukee, Wisconsin 53212 • Koss International/London, Milan, Dublin, Paris, Frankfurt • Amsterdam • Koss Limited/Burlington, Ontario

CIRCLE NO. 23 ON READER SERVICE CARD