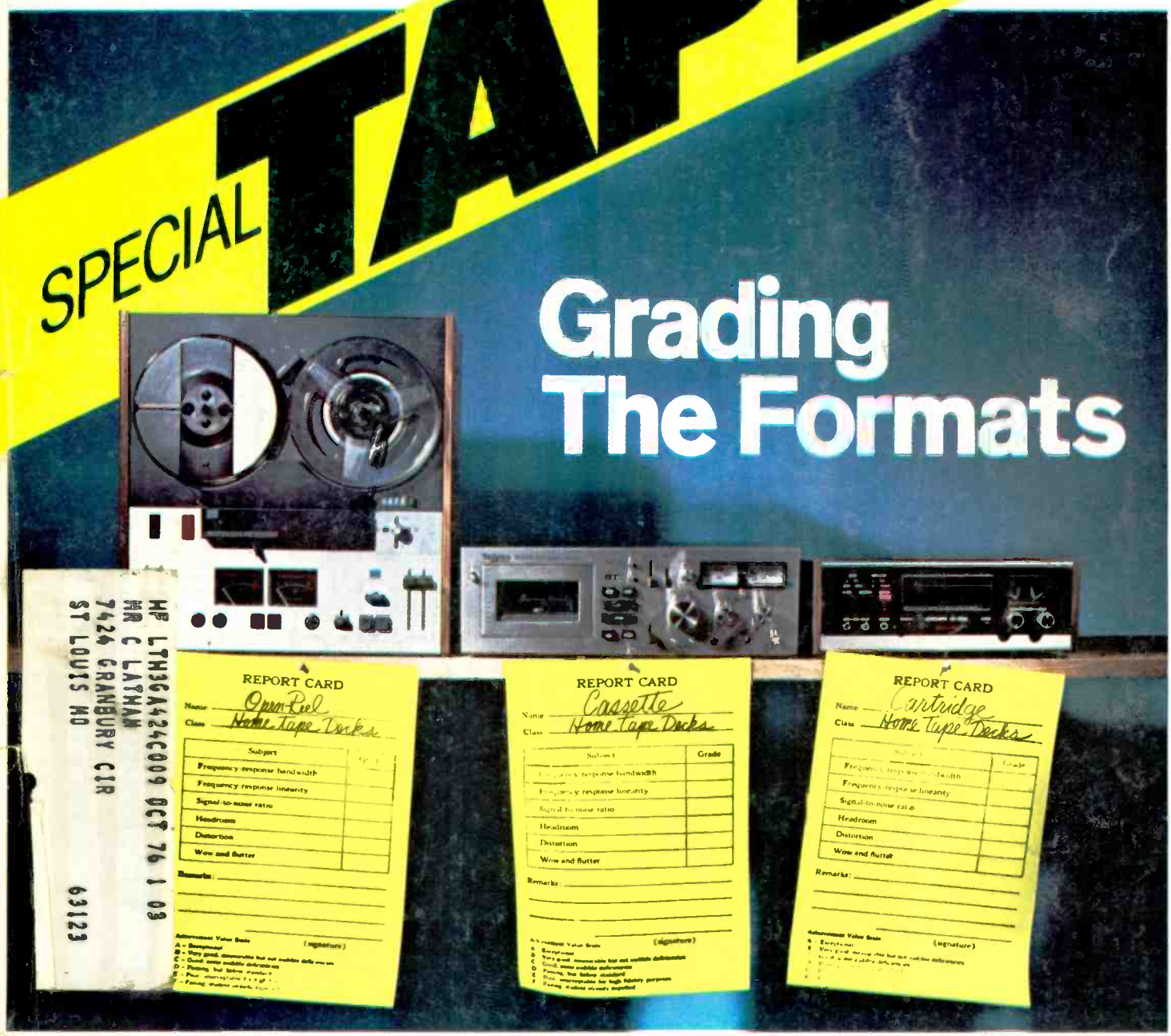
FEBRUARY 1975

HIGH FIDELITY

FEBRUARY 1975 $1.00
08398

SPECIAL TAPE ISSUE



PLUS Why Some Tapes Don't Work with Dolby!

Now on Records: Benjamin Britten's "Death in Venice"

According to Audio Times, a leading publication devoted to audio manufacturing and retailing: "No piece of audio equipment is as eagerly awaited as the 'one four-channel unit that does everything — i.e., the receiver with built-in circuitry for SQ, RM and CD-4 record decoding.' "

It's here!

Pioneer has taken another giant step forward. Our new collection of quadraphonic receivers — QX-949, QX-747, QX-646 — has this total capability. They reproduce CD-4, SQ, RM and discrete four-channel sound without adaptors, add-on decoders or demodulators. And they're specifically designed to fully meet all of the standards established for these matrix and discrete program sources.

Bearing in mind that two-channel is, and will continue to be, a tremendous source of listening pleasure for many years to come, these new units are designed for it, along with their total quadraphonic capabilities. The QX-949 and QX-747 reproduce two-channel with augmented power due to Pioneer's new Power Boosting circuitry.

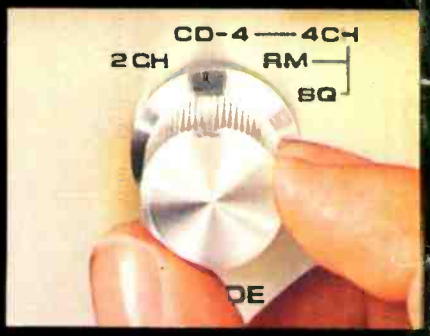
A whole new world of discrete sound with the built-in CD-4 demodulator

While many quadraphonic receivers have limited degrees of four-channel capabilities, Pioneer offers maximum versatility with built-in CD-4. Without it you can't enjoy the increasing number of CD-4 discrete discs (the true four-channel record) from leading recording companies like RCA, Warner, Atlantic, Elektra, and others. CD-4 is a 'must' for optimum quadraphonic listening enjoyment.

Since the CD-4 circuit incorporates FET's and IC's, continuous, stable performance is assured. In addition, it uses a 30KHz subcarrier similar to that used in FM multiplex broadcasting. The subcarrier is demodulated by a Phase Lock Loop (PLL) circuit for each channel. The result is optimum channel separation — absolutely necessary to achieve the full, rich impact of quadraphonic reproduction. Convenient and simple-to-use front/rear left and right separation controls are on the front panels of all three models.

SQ and RM decoding bring to life the hidden ambience of matrixed and stereo records

With built-in RM circuitry, you can experience new brilliance from your present collection of two-channel stereo records and tapes. FM broadcasts, too. Also, new vistas of enjoyment unfold when you play the new four-channel SQ matrix records being released by Columbia, Capitol, Epic and Vanguard, to mention just a few of the prominent SQ record producers. No matter what the quadraphonic program source or the record label, Pioneer's new quadraphonic receivers flawlessly reproduce them all.



Total Capability Mode Switch — Fingertip switching to CD-4, SQ, RM quadraphonic sources, as well as two-channel stereo.

Matchless performance with powerhouse capabilities

As is traditional with all Pioneer receivers, these quadraphonic units have power to spare. For example, the top model, QX-949 has a power output in four-channel operation, of 40 watts per channel, minimum continuous power, 20Hz—20,000Hz, with maximum total harmonic distortion 0.3% at 8 ohms.

Switching to two-channel operation, the Pioneer Power Boosting circuit delivers 60 watts per channel, minimum continuous power, 20Hz—20,000Hz, maximum total harmonic distortion 0.3% at 8 ohms.

By using super-size power transformers in the QX-949, in combination with four 10,000 microfarad electrolytic capacitors, this high power output is obtained at very low frequency. And it's further insured by direct-coupling in the output stage

No overload with speaker protector circuit

Since direct-coupling feeds the signal directly to the speakers, an automatic

Pioneer.
The very best

The best way to find out how well a receiver performs is to listen to it. The next best way is to listen to the opinions of qualified critics who *have* listened to it. Pioneer quadraphonic receivers have earned the unanimous praise of the critics. Visit a Pioneer dealer and listen to these receivers. Once you've heard them yourself, we're confident you'll agree.

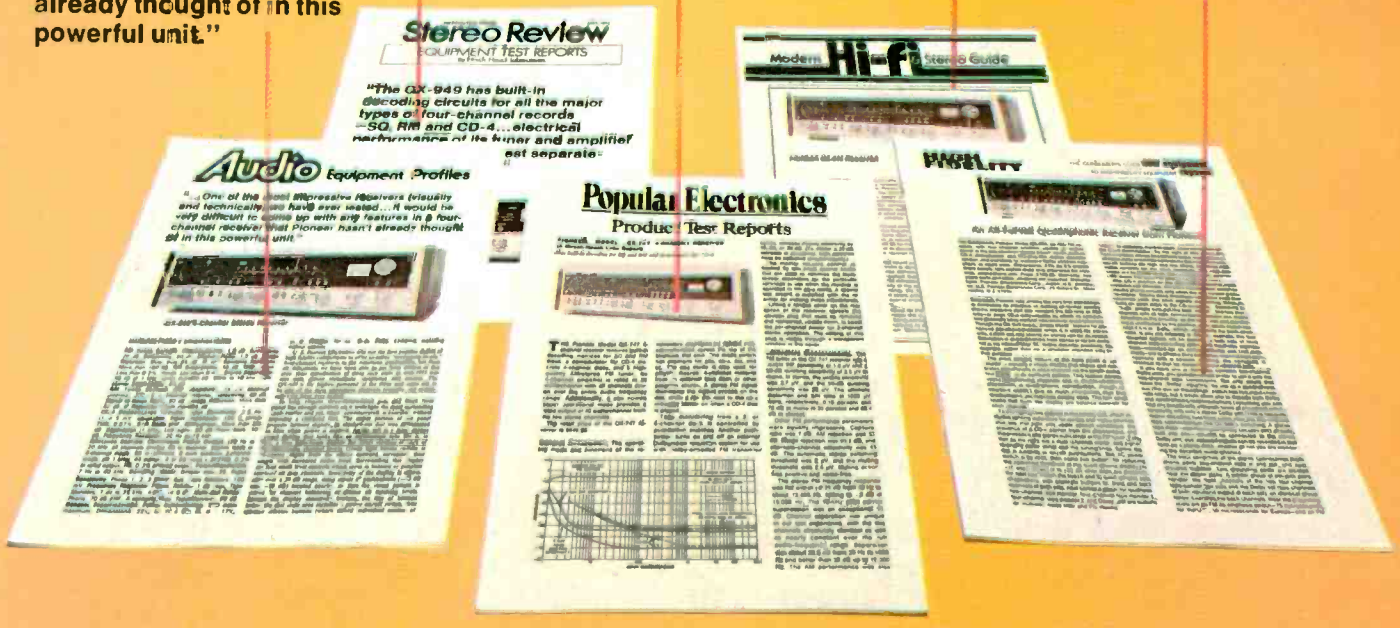
STEREO REVIEW: "The QX-949 has built-in decoding circuits for all the major types of four-channel records — SQ, RM *and* CD-4 . . . electrical performance of its tuner and amplifier rivals some of the finest separate component systems."

AUDIO: "(The QX-949 is) one of the most impressive receivers (visually and technically) we have ever tested . . . It would be very difficult to come up with any features in a four-channel receiver that Pioneer hasn't already thought of in this powerful unit."

POPULAR ELECTRONICS: "The Pioneer Model QX-747 receiver is clearly a superb unit when judged by all normal performance standards. In fact, its power capabilities in the 2-channel mode make it a fine value even as a stereo-only receiver."

MODERN HI-FI & STEREO GUIDE: "The QX-949 is commensurate with all the fine receivers we have learned to expect from Pioneer and it stands as the model for present-day quadraphonic receivers."

HIGH FIDELITY: "The tuner section is one of the best we've seen in a quadriphonic receiver . . . All told, the QX-949 strikes us as typical of Pioneer's relatively uncompromising approach to receiver design."



Complete reprints available upon request.

CIRCLE 40 ON READER-SERVICE CARD

Four-Channel Level Indicator — See what you hear. Make instant adjustments with left/right, front/rear level controls.

electronic trigger relay system is used to protect the speakers from DC leakage or overload.

New and exclusive Power Boosting circuit

When switching from four-channel to two-channel reproduction, power is substantially increased with the new and advanced Power Boosting circuit, as described above. This exclusive circuit is built into both the QX-949 and QX-747 models.

Another plus feature attributable to the Power Boosting circuit is simplified switching from four-channel to two-channel operation. It can be instantly achieved without the usual re-connecting of speaker wires. This, too, is a Pioneer exclusive.

A tuner section the equal of separate components

The FM tuner section of the QX-949 is truly an engineering accomplishment. It incorporates two dual-gate MOS FET's in the front end, plus three ceramic filters and 6-stage limiters in a monolithic IC in the IF stage. The result is superb sensitivity and selectivity, and excellent signal to noise ratio.

Advanced circuitry includes Dolby adaptor input/output and 4-channel broadcasting multiplex output terminal

In anticipation of the future use of discrete quadraphonic broadcasting, the QX-949 and QX-747 include a quadraphonic multiplex output terminal. Depending on the system finally approved, all that ever will be required is a simple adaptor unit. And speaking of adaptor units, both the QX-949 and QX-747 highlight an input/output for a Dolby noise reduction adaptor unit.

Unique 4-channel level indicator

Regardless which quadraphonic source is in operation, the sound level of each channel can be monitored by viewing the large scope-type level indicator on the top two models. Left and right front/rear controls permit instant adjustment. Indicator sensitivity controls allow for a maximum of —30dB adjustments at any sound level. The level indicator may also be used to view CD-4 channel separation adjustments made with the CD-4 separation controls.

Inputs/Outputs for total versatility

Pioneer has endowed these models with terminals for a wide range of program sources. The only limitation is your own listening interests and your capability to experiment with sound.

Convenient features increase listening enjoyment

Along with the total capability of these receivers, Pioneer has incorporated a wide array of additional, meaningful features. All three instruments include: loudness contour, FM muting, an extra wide tuning dial, two sets of bass/treble controls for front and rear channels, function and mode selector with multi-colored indicator lights. Further refinement is offered with the QX-949's multiplex noise and high/low filters, plus signal strength and center tuning meters in one housing.

Admittedly, these new Pioneer quadraphonic receivers, like fine sports cars or cameras are not inexpensive. However, they represent the high fidelity industry's most outstanding value. We have built them with the same quality, precision and performance you've come to expect from Pioneer stereo equipment. We offer them to you with the same pride and conviction that has always compelled you to say — "Pioneer, the very best."

QX-949 — $749.95; QX-747 — $649.95; QX-646 — $499.95. Prices include walnut cabinets.

U.S. Pioneer Electronics Corp., 75 Oxford Drive, Moonachie, New Jersey 07074
West: 13300 S. Estrella, Los Angeles 90248 / Midwest: 1500 Greenleaf, Elk Grove Village, Ill. 60007
Canada: S. H. Parker Co.

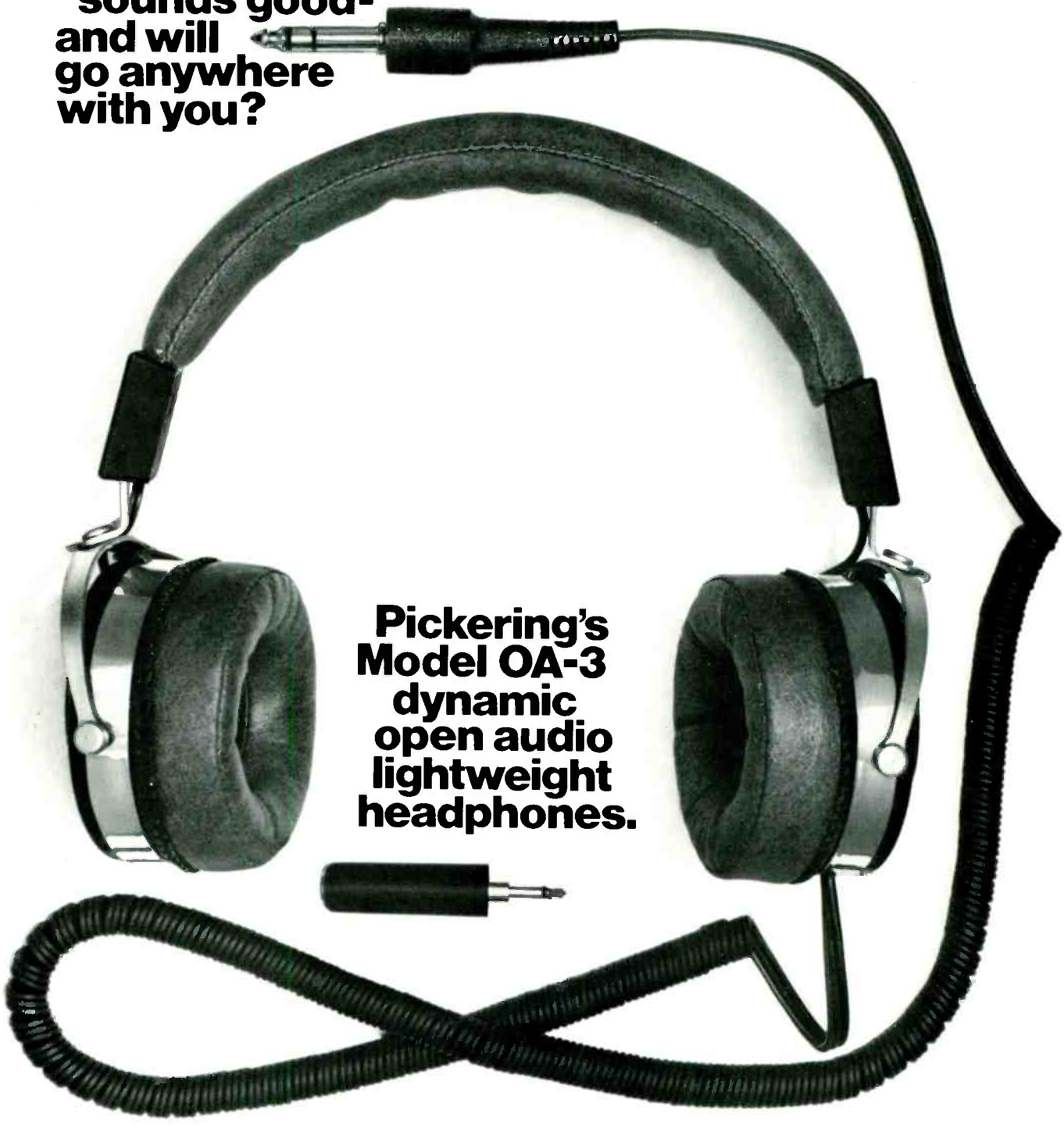
Specifications

Amplifier	QX-949	QX-747	QX-646
*4-ch. minimum continuous power per channel, 8 ohms	40 watts/channel (20Hz-20kHz)	20 watts/channel (20Hz-20kHz)	9 watts/channel (40Hz-20kHz)
*2-ch. minimum continuous power per channel, 8 ohms	60 watts/channel (20Hz-20kHz)	40 watts/channel (20Hz-20kHz)	13 watts/channel (40Hz-20kHz)
*Maximum total harmonic distortion	0.3% (20Hz-20kHz)	0.5% (20Hz-40kHz)	1% (40Hz-20kHz)
FM Tuner			
FM Sensitivity (IHF) (the lower the better)	1.8uV	1.9uV	2.2uV
Selectivity (the higher the better)	80dB	60dB	40dB
Capture Ratio (the lower the better)	1dB	1dB	3dB
S/N Ratio (the higher the better)	70dB	70dB	55dB
Inputs			
Phono	2	1	1
Tape Monitor	2 (4-ch.) 1 (2-ch.)	1 (4-ch.) 1 (2-ch.)	1 (4-ch.) 1 (2-ch.)
Dolby adaptor input	1 (4-ch.)	1 (4-ch.)	—
Auxiliary	1	1	—
Outputs			
Speakers	2 (Front) 2 (Rear)	1 (Front) 2 (Rear)	1 (Front) 2 (Rear)
Headset	1 (Front/Rear)	1 (Front/Rear)	1 (Front)
Dolby adaptor output	1 (4-ch.)	1 (4-ch.)	—
Tape Rec.	2 (4-ch.) 1 (2-ch.)	1 (4-ch.) 1 (2-ch.)	1 (4-ch.) 1 (2-ch.)
4-ch. MPX output	1	1	—

*In accordance with F.T.C. regulations

PIONEER®
when you want something better

What is it that feels good, sounds good- and will go anywhere with you?



Pickering's Model OA-3 dynamic open audio lightweight headphones.

Expanded Listening Enjoyment. Just plug the special adapter into the earphone jack of any Mono Cassette Recorder, Portable Radio or TV Set and plug the OA-3 into the special adapter and enjoy total sound everywhere you go.

Revolutionary. So slender. So light. So comfortable to use over long periods of time.

Sound Perfection. You have to listen to believe.

Open Audio. Enjoy the sound. Yet, be part of what's going on around you. That's the big thing about "open audio".

Prediction. The OA-3 will be your favorite "component" in your hi-fi stereo system. **$39.95**

For further information write to: Pickering & Co. Inc., Dept. HF, 101 Sunnyside Blvd., Plainview, New York 11803

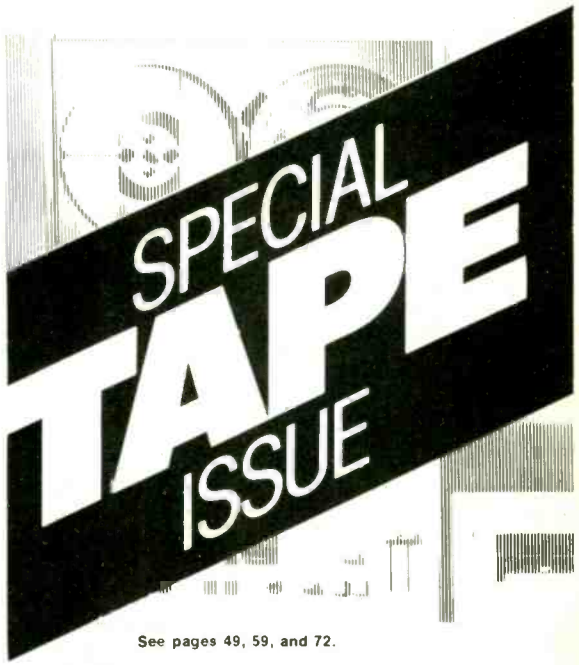
PICKERING

"for those who can hear the difference"

CIRCLE 39 ON READER-SERVICE CARD

HIGH FIDELITY

February 1975
VOL. 25 NO. 2



See pages 49, 59, and 72.

Moses und Aron at last. See page 82.

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Is it live or is it Memorex? Who knows?

In our most recent test, we asked Ella Fitzgerald's old friend and longtime jazz arranger, Nelson Riddle, if he was listening to Ella live, or Ella as recorded on a Memorex cassette.

He couldn't tell.

We believe that's a strong endorsement of our exclusive MRX_2 Oxide formulation.

In fact, since we introduced MRX_2 Oxide, a lot of other ferric tapes have been scrambling to find something to beat it.

Nobody has.

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

CIRCLE 35 ON READER-SERVICE CARD

BELT DRIVE ISN'T NEW.
MULTIPLE PLAY ISN'T NEW.
A TURNTABLE THAT COMBINES BOTH *IS* NEW.
READ ALL ABOUT IT.

Back in monophonic times, turntable motors drove platters through a series of wheels called "idlers".

Many automatics and changers still use this system.

In those days, records and playback systems were still relatively unsophisticated, so the distortions an idler drive system created didn't matter much.

Today, however, distortion is a critical problem. With recordings of increased dynamic range, wow, flutter and rumble must be reduced to inconsequential levels.

A belt-drive system is light years ahead of idler drive in that department.

And here the belt is driven by a unique motor found only in B·I·C turntables. It is a 300 RPM, 24-pole motor and it is inherently freer from noise and vibration than the 1800 RPM units with from 2 to 16 poles, which are standard in even the best of the conventional automatics.

The advantage of Programmed Multiple Play

The 980 and 960 are not record changers.

They are belt-drive Programmed Turntables which are engineered to play as many as 6 records at a time.

They have a 2-point record support system which is far less complicated and far more reliable than any umbrella spindle we've ever seen.

But an even more important advantage is this.

An automatic record handling system like the one on a B·I·C turntable can handle a single record, or 6 at a time, perfectly. No false drops. No bouncing and skating a diamond stylus across the grooves. It eliminates human error, and human error is what damages the sidewalls of your record grooves forever.

The simplicity factor

The 980 and 960 have the visibly lower profile of single-play manual instruments. They've been engineered to be simple machines, so they have fewer parts and fewer potential problems.

They abound in innovations. In the tone arm, the cartridge shell, the program panel, the entire system.

We can send you more detailed information if you write to Dept. 2B British Industries Co., Westbury, L.I. 11590; or better yet, see them at your local audio specialist.

B·I·C™

This is the 980 with solid state speed control and strobe. About $200.* The 960 is identical except for these two features. About $150.*

* Less base and cartridge.

Pablo Casals—*conducting* El Pessebre *at the 1963 United Nations Day concert.*

Subtle Soul Sounds

In her October review of Minnie Riperton's "Perfect Angel," Morgan Ames makes a worthwhile point regarding critics who set up stiff rules that limit black singers to funky roles. However, I was surprised to find it in HIGH FIDELITY, since your group of critics has been especially at fault in this matter.

The problem may be that some of your reviewers are afflicted with an excessive zeal to try to make rock intelligent or poetical (which isn't necessarily the same as intelligent). Of course they rightly recognize (usually) that it is nearly impossible to convey intelligence over a primal beat or rhythm. Thus the harder forms of rock are not normally subject to evaluation according to the intelligence of the lyrics.

So far so good. When it comes to softer rock music, however, some reviewers suffer a critical failing: Since such music doesn't have a prominent beat and isn't overtly funky, they somehow assume that it has to be intelligent. Any rock music presented in ballad form, such as that of black vocal groups and uptown soul singers, is condemned as banal or, even more inexplicably, as being pop in approach. Surely these so-called critics must realize that rock ballads may be ordinary or even silly lyrically, yet still have a vitality that stems from their interpretation.

The feeling of a song is not always conveyed by its lyrics. That some critics still do not recognize these elemental points regarding rock is unbelievable. But this nonsense regarding soul ballads as pop fluff has been going on for more than ten years now, probably because all the folkniks of the early 1960s brought their exceedingly narrow aesthetic sensibilities with them when they decided to give their approval to rock.

How else can one explain that white critics in the 1960s completely overlooked the Chicago Sound in soul music, while praising the incessant beat of Motown and the funky rhythms of Memphis? Apparently too many critics missed out on the subtle sounds of the Impressions, Gene Chandler, Jerry Butler, Billy Butler and the Chanters, Jan Bradley, and Billy Stewart.

It is about time your reviewing staff woke up and started recognizing the tremendous contribution of the Stylistics, Chi-Lites, Manhattans, Intruders, Gladys Knight and the Pips, and many more groups of this genre.

Robert Pruter
Chicago, Ill.

Casals and *El Pessebre*

I was glad to read Alfred Frankenstein's October review of the new Columbia recording of Pablo Casals' peace oratorio *El Pessebre*, and I wish to respond to the questions he raised.

El Pessebre was taped at recording sessions in June 1972, during the Festival Casals in San Juan. Though the review does not say so, the Columbia album cover and notes accurately report that Alexander Schneider served as assistant conductor to Casals for the rehearsals and recording sessions.

Mr. Frankenstein complains that Alfredo Matilla's notes do not tell "the true story" of the performing history of *El Pessebre*. They are reprinted from the program notes that usually are distributed at performances of the oratorio. But Columbia's notes also include Joan Alavedra's essay describing how Casals composed the work, and this is probably as historical an account as is possible only fourteen years after the premiere. Unfortunately Columbia did not include the peace message that Casals wrote for performances of *El Pessebre*.

That *El Pessebre* has been performed seventy-four times since its premiere in 1960 is not "astonishing." Casals was asked to conduct it more often than he was able to do so. Mr. Frankenstein, happily, is not the only important critic who had "an unreservedly good word to say for it in print." Winthrop Sargeant called it a "cool, refreshing drink of pure spring water in the midst of a desert. . . . *El Pessebre* has the innocence and sincerity of true greatness."

Casals composed the oratorio to move people who still possess the capacity to respond, but most critics have been too involved with the politics and polemics of modern music to respond without prejudice. Audiences of music lovers, who may go to concerts for different reasons than critics, have responded much more favorably to Casals' "eloquent *El Pessebre* . . . a beautiful work of breadth and simplicity." Casals probably would have been happy to read Mr. Frankenstein's description of *El Pessebre*—not because it is praise, but because it shows that someone has understood and responded.

Jose D. Alfaro
Flushing, N.Y.

Ellington

I would like both to thank and to congratulate you for the brilliant essays on Duke Ellington's career by Gunther Schuller, the more or less comprehensive survey of Ellington's records by John S. Wilson, and the complete discography [November]. Yours is the first major publication—on this side of the Atlantic, at least—that has seen fit to discuss Ellington's work with the respect that it deserves.

My only complaint about the issue was your decision to preface the Schuller and Wilson articles with the curious and tasteless "Minority Report" of Gene Lees. Apart from the monumental self-importance implied in his comments on why he "chose" not to know Ellington well—perhaps Ellington had some voice in the matter—would it not have been wiser to have found (if a minority report was deemed necessary) someone who could have expressed his nonadmiration in understandable musical terms rather than in vague references to "unnamed composers of real stature . . . who have reservations about his music" or to irrelevant comments on the personal lives of Ellington and his sidemen?

I would like to come back, though, to the admirable contributions of Schuller and Wilson, not to mention the discography and the key to the compositions in each album. I hope I am not being too greedy in expressing the wish that even more space had been devoted to Ellington's career. Perhaps Schuller can be encouraged to expand his remarks to book form to follow up his one on early jazz.

John W. Black
Ridgewood, N.J.

Gunther Schuller is currently at work on a second book on jazz that surely will include Duke Ellington.

Gene Lees's remembrance of Duke Ellington was one of the best pieces of writing I've ever read. Like all things great, you never know where you're going, and when you get there it isn't where you expected to be. A most extraordinary piece of work.

Enoch H. Dolbe III
Sandwich, Mass.

For AM or FM Only

In Leonard Marcus' editorial announcing HF's acquisition by the American Broadcasting Companies [October] he made a big point about your continuing "complete and unquestioned editorial independence" from your new parent corporation. In the same issue, there was an unsigned editorial opposing the "all-channel radio bill" then before Congress [News and Views] that, if passed, could mean a windfall for ABC. Bravo! You certainly proved your point. (Are you still there?)

Arthur Durfee
New York, N. Y.

I heartily agree with your expressed reservations about the contemplated ban on AM- and FM-only radios.

I live only thirty miles east of San Francisco, as the crow flies, but even fifteen miles due east one cannot receive much in the way of quality FM (just a few rock programs). I did buy myself a stereo-FM/cassette player for the car, but after three years I concluded it wasn't worth the money. And our place is hardly in "rural" America.

Paul A. Elias
Clayton, Calif.

AM Broadcasting

Since the introduction of the new "super tuner" for AM radio, the McKay Dymek AM-3, I have seen a revived interest in AM reception among your readers from the letters they write to your magazine. However, there are still a few misconceptions about AM radio in the minds of most high fidelity enthusiasts. I would like to try to clear them up.

One of the most common is that an AM transmitter is inherently incapable of transmitting a high fidelity signal. It is perfectly capable of transmitting a very high-quality signal. Prototype AM transmitters have been known to produce distortion figures well under 1%. Production models regularly produce distortion figures in the region from 1 to 1.5% and, if properly maintained, will retain these figures even after many years of service. At least one design concept, the RCA Amplifphase, regularly turns in distortion figures of 0.5% or so on production models. While most of the distortion figures cannot be considered "super high fidelity," they are not at all bad. Usually more distortion is introduced by receiving equipment than is transmitted by the station.

AM transmitters have an audio frequency response the equal of any FM transmitter, and stations regularly transmit wide-band audio. It has often been said that *all* AM stations use low-pass filters in their audio circuits to filter out all frequencies above 5,000 Hz. This is not the case. Where interference between adjacent-channel stations located geographically close to each other may result from the transmission of frequencies above 5,000 Hz, low-pass filters may be required to prevent this interference. But in most cases, wide-band audio is transmitted. Since the sidebands containing the high audio frequencies are so much weaker than their lower-frequency companions, by the time they reach a distant point where they could cause interference with adjacent-channel stations they are so low in intensity that they cause no problem. Proof-of-performance tests on AM transmitters are run with frequencies up to and including 7,500 Hz anyway.

Noise figures in AM transmitters are as low as in FM transmitters, with signal-to-noise ratios exceeding 60 dB below 100% modulation.

The degradation of the AM signal comes not in transmission, but at the receiving end. By necessity, the IF bandwidth of AM receivers is made fairly narrow. If this were not done, the receiver's selectivity would suffer and only a few local stations could be received well.

However, if one is interested only in reception of strong local stations with good fidelity, then an AM receiver with a broad IF bandwidth would be ideal. Some of the older AM-FM tuners and receivers were equipped with a switch that allowed the user to broaden the bandwidth, thus allowing more of the high-frequency information transmitted by the station to make its way through the receiver. On some of those older receivers, a listener could barely distinguish between AM and FM. But with the decline of interest in high fidelity AM reception, manufacturers simply stopped making broad-band AM receivers, and hence the myth of the inherent low fidelity of AM transmitters became stronger than ever.

Some AM stations themselves added weight to the idea by processing their audio signal to within an inch of its life through various limiters, equalizers, and such. Signal processing is an excellent way to extend the coverage area of a station with a given carrier power. But audio processing, like anything else, can be carried too far. Fortunately there are still AM broadcasters who care about the quality of their transmitted audio in every major city and even in many smaller towns.

Before any readers get the idea that I am a diehard AM-radio fanatic who sees red at the slightest mention of FM, let it be known that I am an avid FM listener who still believes in the worth of AM radio and who therefore is anxious to express a few truths about a still very much alive medium.

Robert I. MacDonald, Chief Engineer
Golden Strand Broadcasting Co.
Myrtle Beach, S.C.

Warranties

I too have a story of service above and beyond the call of warranty, this one by Tandberg of America.

Two and a half years ago I bought a Tand-

Audition free for 10 days Karl Böhm's superb Deutsche Grammophon recording of

Mozart's Six Greatest Symphonies

SPECIAL BONUS: Mozart's Piano Concertos Nos. 12 and 26

All 4 International Award-Winning Records For Less Than The Price Of 1!

Your Introduction To The Unique Program That Offers Free Auditions Of Prize-Winning Recordings By The Leading Concert Artists Of Our Time!

Mozart—music's greatest natural genius!
Wolfgang Amadeus Mozart — divinely gifted beyond any other musician who ever lived! And into his six greatest symphonies he poured a multitude of his most astonishingly beautiful, incredibly moving inspirations!

Symphony No. 41, "Jupiter"
Symphony No. 40 in G-minor
Symphony No. 39 in E-flat
Symphony No. 38, "Prague"
Symphony No. 36, "Linz"
Symphony No. 35, "Haffner"
Extra! Symphony No. 32

Now you are invited to hear these miraculous works in their finest recording . . . interpreted with extraordinary empathy by Karl Böhm . . . played to perfection by the Berlin Philharmonic Orchestra . . . captured in unsurpassed stereo realism by Deutsche Grammophon. So outstanding is this recording that it has won *three* of the music world's most eagerly sought honors: the Grand Prix International du Disque, Edison Award and Deutsche Schallplatten Prize! In addition, you will also receive Mozart's Piano Concertos Nos. 12 and 26, "Coronation," superbly performed by soloist Geza Anda with the Salzburg Camerata Academica—winner of the coveted Grand Prix des Discophiles.

Now enjoy and keep these 4 superb albums for less than the price you'd pay for 1!
Because these magnificent recordings have met with almost unprecedented acclaim, they have been chosen to introduce you to The Great Awards Collection, a totally new concept in home listening. You may enjoy all eight masterpieces, on four superb-quality, imported records, for 10 days absolutely free. Then keep all four if you wish, for only $6.98 *(that's less than the price you'd pay for just one record)!* Simply mail the attached card or coupon today.

Collect the world's greatest music—only in award-winning albums!
As a member of The Great Awards Collection you will receive only the finest recordings of prize-winning concert performances by top orchestras, conductors and soloists. Distinguished jurors each year select, from the hundreds of classical releases, the "golden few" that will be offered to members of The Great Awards Collection. Every month you'll enjoy free 10-day audition privileges on each award-winning single LP. Of course, you have the option of keeping or returning each one so you'll never waste a penny on disappointing purchases!

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berg 6000X by mail. Unfortunately its electronics were in complete disarray. Since mail-order dealers do not offer any warranty protection, I tried the authorized service stations in the Chicago area. For one whole year I took my deck from one to another station without getting any reliable or even decent help. Finally, a year and a half after I had bought the deck—that is, six months beyond the warranty period—I decided to write to the general manager of Tandberg asking for help.

To my surprise this help came fully and unconditionally. My machine was completely repaired, and Tandberg paid shipping expenses both ways. I have no doubt that Tandberg of America goes far above and beyond what any serious audiophile might expect.

Marco A. C. Martins
Chicago, Ill.

When I bought my Pioneer SX 626 receiver, I forgot to send in the warranty card. Over a year later, while going through the carton the unit had come in, I found it and mailed it in with an apology asking the company to honor it. Two weeks later I received a reply stating my unit was under full warranty. Like Kenwood, Pioneer went far beyond the call of duty. As for my SX 626, it works and sounds like the champion that it is.

Mark Tibben
Phoenix, Ariz.

By law you are covered by warranties—expressed and implied—even if you don't send in the warranty card. And if you do, you may lose implied warranties. Statements about "validating" the warranty by sending the card back within a specified time may therefore be ignored. (See our feature article on this subject in the May 1973 issue.) So a company isn't necessarily doing you a favor by accepting the warranty card late. The key question—as even Mr. Tibben's letter implies—is the company's willingness to stand behind its product. In this respect, dealers tell us, Pioneer is well above average.

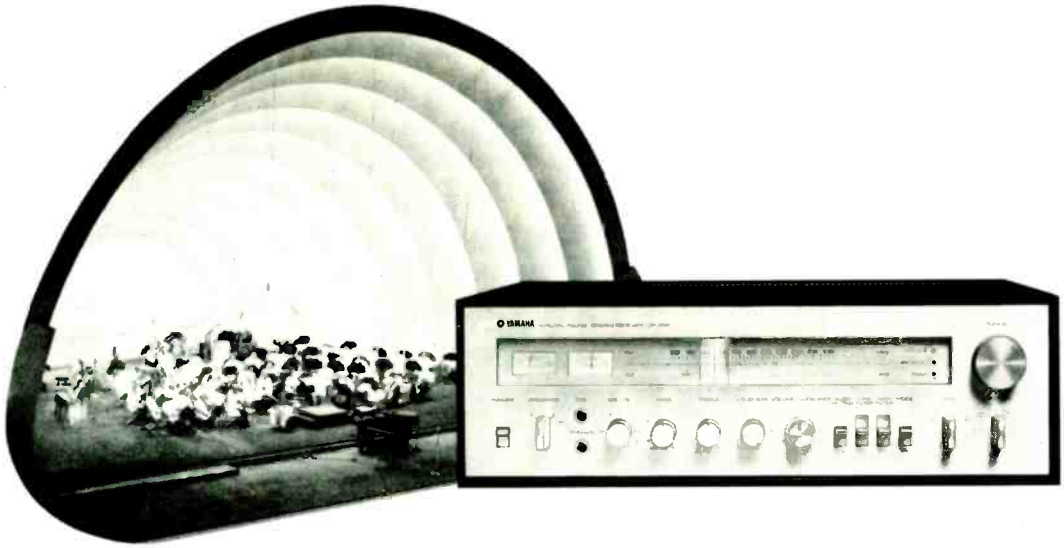
Bach Organ Works on Disc

May I add some details to Clifford F. Gilmore's excellent September survey of Bach organ recordings?

Lionel Rogg's first series is available on single discs in France as well as England, and at a very low price. The second series by Rogg is also available on single discs as well as in the three six-record boxes that Gilmore mentioned. It might be worth mentioning also that Walcha's first recording for Archiv had one or two more works than his second.

Most important, though, is what may be a *sixth* "complete" set of the organ works. In Europe recently Philips began issuing an extensive and excellent series titled "Music and Documents," comparable to DG's Archiv and Telefunken's *Das alte Werk* series. One of the first releases was a two-record set titled "Bach Organ Works I" played by Gustav Leonhardt. There was no indication of how many more sets would be in the series, but the selection suggests that there will be quite a few. As far as I know, Philips does not plan to issue these recordings in this country, but it certainly *should* plan to do so.

Finally, none of the five sets that Gilmore described include some fragments that survive in incomplete or unfinished manuscripts. I don't have the details with me, but I believe



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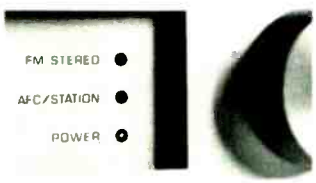

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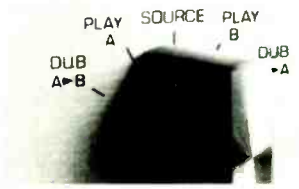

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some of these, with conjectural completions, are recorded on a German disc, Psallite 120/140 672 PET, together with some Handel organ fragments, also conjecturally completed.

Edward Mendelson
New Haven, Conn.

The Schmidt Centenary

In a year of excellent articles bringing to light the works of Max Reger, Arnold Schoenberg, and Charles Ives, one centennial passed without one article or new recording. Franz Schmidt (1874–1939), well known in his native Austria and recognized for the important milestone he is to his period, is almost unknown in the U.S. Schmidt was a student of Bruckner and Wagner and a personal friend of Mahler. As we look back from today, Schmidt brought to an end the Viennese classic-romantic tradition as its final, and possibly its greatest, master. He continued this style in its finest form just as Schoenberg was breaking away for the musical revolution to come.

Of his vocal works, only the opera *Notre Dame* is well known, and only its intermezzo is available domestically. His orchestral works have but one representative in Schwann: Symphony No. 4, in C minor, played excellently by the Vienna Philharmonic under Zubin Mehta, who is well acquainted with the master's work. This is a prime example of Schmidt's exquisite melodious intricacies.

It would be a justified tribute if HIGH FIDELITY followed up its other excellent centennial discographies with one for Schmidt, to help Schmidt-ophiles in the U.S. locate the European issues and import recordings of music by this great but little-known master.

Robert Harris
Sherman Oaks, Calif.

The British Have Already Come

In your November issue Edward Greenfield, in his article on André Previn, states that the London Symphony is the first British orchestra ever to play at Salzburg. I would like to remind him that the Boyd Neel Orchestra was invited to play there in 1937, when it gave the world premiere of Britten's *Variations on a Theme of Frank Bridge* and Leon Goossens played a concerto by Rutland Boughton.

Boyd Neel
Toronto, Ont.

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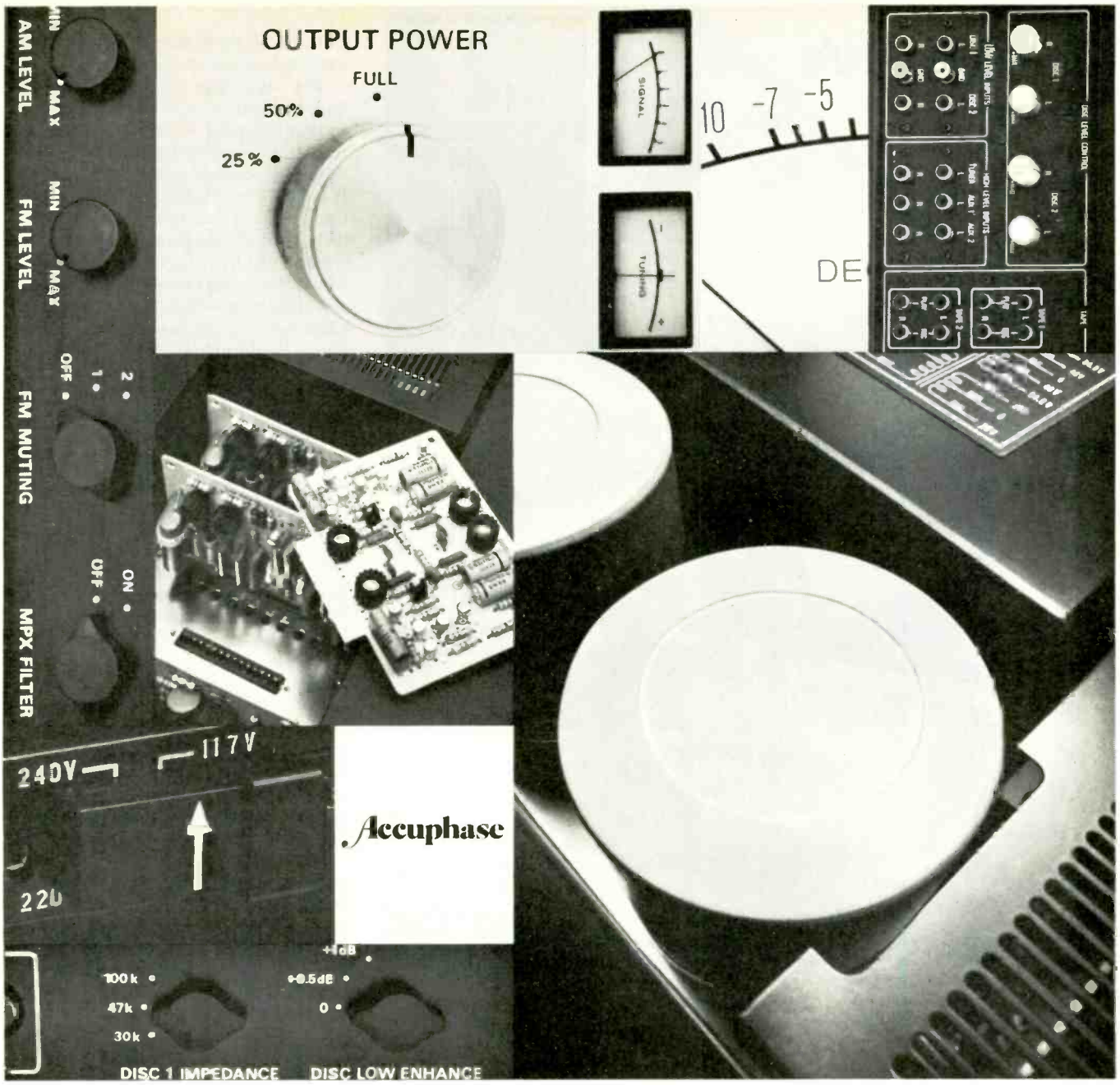

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Oscar Peterson—

The Greatest Pianist in Jazz History?

HE SEEMS NEVER to have squandered a moment of his life's energies on that most tedious of Canadian pastimes, agonizing over one's identity. Perhaps that is because he is black and thus was always a "different" Canadian. On the other hand, when black militancy began dividing the jazz world, he remained apart, once dismissing its first article of faith—that no white man could play "authentic" jazz—as "a lot of junk." He is fully aware that the power of creative drive in jazz has come predominantly from black musicians, but he believes that each man brings to it his own environmental values, and that this makes him unique.

It is probably not coincidence that some doctrinaire leftist commentators have been his most patronizing critics, calling his work mechanical or excessively perfect, whatever that means, or—most condescending of all—eclectic. He *is* eclectic. So was Bach.

Whatever the reasons, he has always been his own separate man. He is an example of what Colin Wilson called "the outsider."

This outsider, Oscar Peterson, originally of Place St. Henri in Montreal and latterly of Paris and London and New York and Sydney and Tokyo, is quite possibly the greatest pianist in the history of jazz. Whatever critics say (and the record must be balanced by pointing out that many of them, including Leonard Feather, are among his deepest admirers), he absolutely freaks out other musicians, particularly pianists.

The Argentine-born film composer Lalo Schifrin is one of the most thoroughly schooled of musicians. He was himself an excellent pianist with Dizzy Gillespie's quintet before settling in Hollywood. "Oscar represents," he said, "a tradition that has been lost in this century—the virtuoso piano improviser, like Chopin, the tradition of bravura playing that started with Beethoven and reached the apotheosis with Liszt. After that, the pianists began playing what was written. Oscar is a true romantic in the nineteenth-century sense, with the addition of the twentieth-century Afro-American jazz tradition. He is a top-class virtuoso."

Schifrin said it less objectively one night in the Hong Kong lounge in Beverly Hills, where Peterson was playing. "Ridiculous," he muttered, shaking his head in wonder. "Ridiculous. Impossible."

This response is common. Peterson has astounding speed. Only Phineas Newborn and the late Art Tatum, one of his idols and mentors, have equaled him. And he has a power of direct swing that Tatum did not equal. His ideas are not always original; on a poor night, he falls back on his own highly identifiable phrases of musical vocabulary and some that he got from others, like a curiously spinning chromatic figure of Dizzy Gillespie's. But these alone can be electrifying—the brilliantly clear and perfectly balanced runs, like streams of sparks, the great chords whacked into perfect place in the swing with a left hand that plays tenths effortlessly and could, I suppose, if he wanted them, encompass twelfths, the dizzying passages in octaves that utilize a left hand as proficient as the right.

Asked for an evaluation of his work, Peterson's long-time close friend, arranger and composer Phil Nimmons (who recently orchestrated Peterson's *Canadiana Suite*), hesitated. "Oh — oh — I don't know what to say. It is overwhelming. The piano is like an extension of his own physical being. I'm amazed at the speed of his creativity. I am not talking about mere technical capabilities, although his are awesome. I'm speaking of the times when you find him under optimum conditions of creativity. His mind can move as quickly as his fingers, and that is what is so astounding. It's all going by so fast that it's almost too much to absorb, which may be why some critics have had trouble with him."

Everyone who has followed Peterson's work closely knows those moments of which Nimmons speaks: sometimes late at night, in a club, when the expense-account people have gone and he is as liable as not to use the quiet for ballads, lovely, soft, and pensive. That is a part of his playing too few people know.

He has always been a virtuoso soloist.

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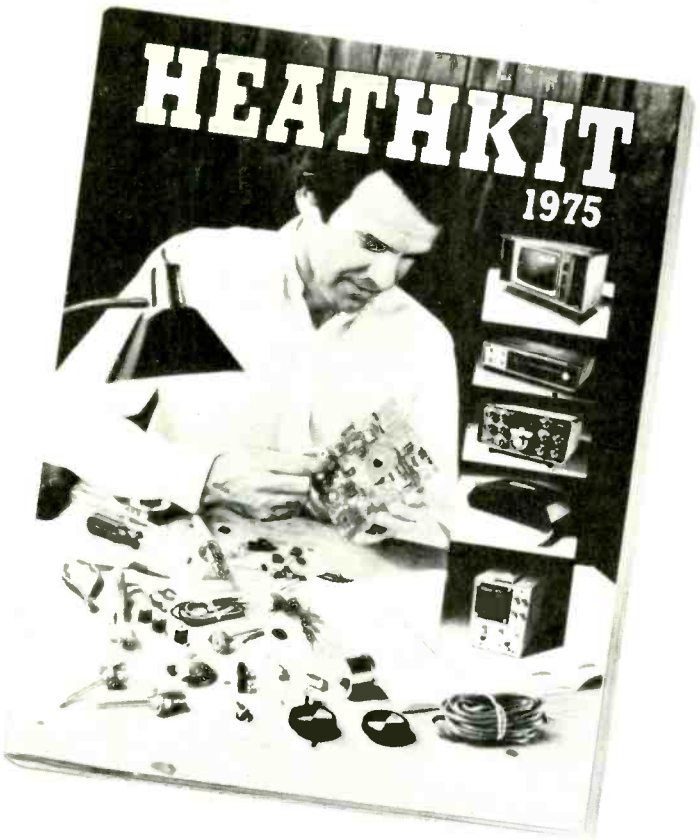

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He began music on the trumpet, but he contracted tuberculosis as a child and had to give it up. Piano was the substitute. Ironically, his brother Charles began as a pianist and, when he was injured in an accident, turned to the trumpet. Both their sisters were pianists, and it was from them that Oscar received his first training.

As a child he practiced up to twelve hours a day—voluntarily. In fact, his mother had to pull him away from the piano in the evenings. Except for a brief period in a band during his adolescence he has always had his own group, at one time a duo with bassist Ray Brown and later various trios, in which he has been the dominant figure.

It was twenty-five years ago that jazz impresario Norman Granz brought him to New York for an appearance with Jazz at the Philharmonic at Carnegie Hall. He has been traveling ever since, all over the world.

He is forty-eight now, and he talks at times of retiring—though it should be noted that he has been saying that for years. He's tired of the road. ("Who isn't?" asked another musician.) He wants to work with aphasic children. He likes to be with his wife, Sandra, at their home in one of the Toronto suburbs, with his own piano and a complex of sophisticated recording equipment that his son Norman (for Norman Granz) seems to know more about than he does. Or he likes to go to their summer home in Northern Ontario and fish. At such times, not even his sister May, who takes care of much of the business of his career, can find him.

Perhaps one of the reasons he's thinking of retiring is the pain that playing brings him. He has arthritis in his hands. "It almost always hurts when I play now," he told me quietly two or three years ago. Yet one would never divine it, hearing him—there is no diminution of the massive energy, no catering to his discomfort. That is part of him: an unrelenting self-discipline.

In the end, there is something larger than life about him. Astrology buffs will be unsurprised to learn he is a Leo. Elegantly articulate, stubborn as hell, thoughtful, gentle, capable of enormous anger that he almost always controls and great laughter that he doesn't, more easily hurt than he will admit, he is a big man, even physically: big in the chest and shoulders, big in the arms, big in the hands. In his case, the passion for music found itself embodied in an absolutely perfect physical tool.

Canada has produced two prodigious pianists, one in classical music, one in jazz, and they both live in Toronto. One is Glenn Gould, the other Oscar Peterson. They have never met. Isn't that odd? Outsiders.

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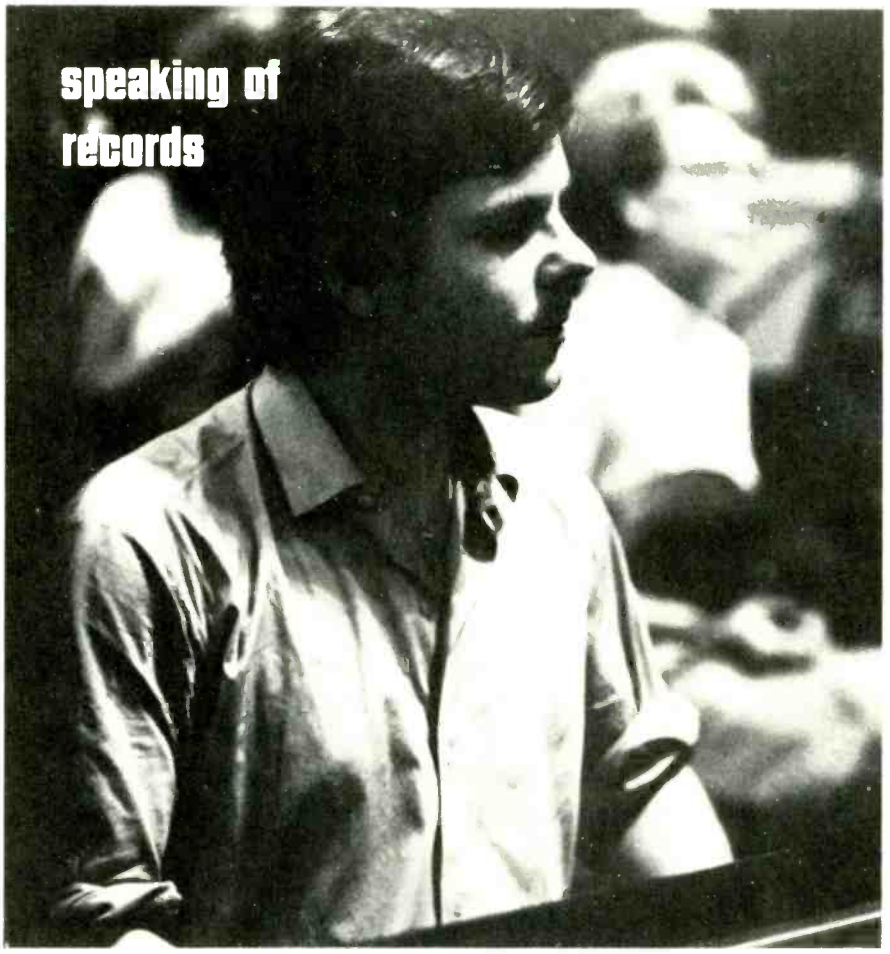


Philips

Competing with Your Own Recordings

by Stephen Bishop

I THINK ARTUR RUBINSTEIN touched a sensitive nerve when he quipped that the younger pianists are nervous because they cannot play as well in public as their recordings lead an audience to expect. But this ironic observation suggests only a single facet of the intricate relationship between concert performance and recording, a relationship that concerns young and old pianists alike.

Every contemporary performer is affected by recordings—those of others as well as his own—but in a positive as well as a negative way. I have found that audiences who know my records have a context within which to appreciate my performance, because they are aware of my musical values and aims. People *have* expressed surprise after a concert that my live performance of a work differed in some respects from the recording. But I believe that if the live performance is good enough, most listeners will be sufficiently involved that they will not be comparing you with yourself.

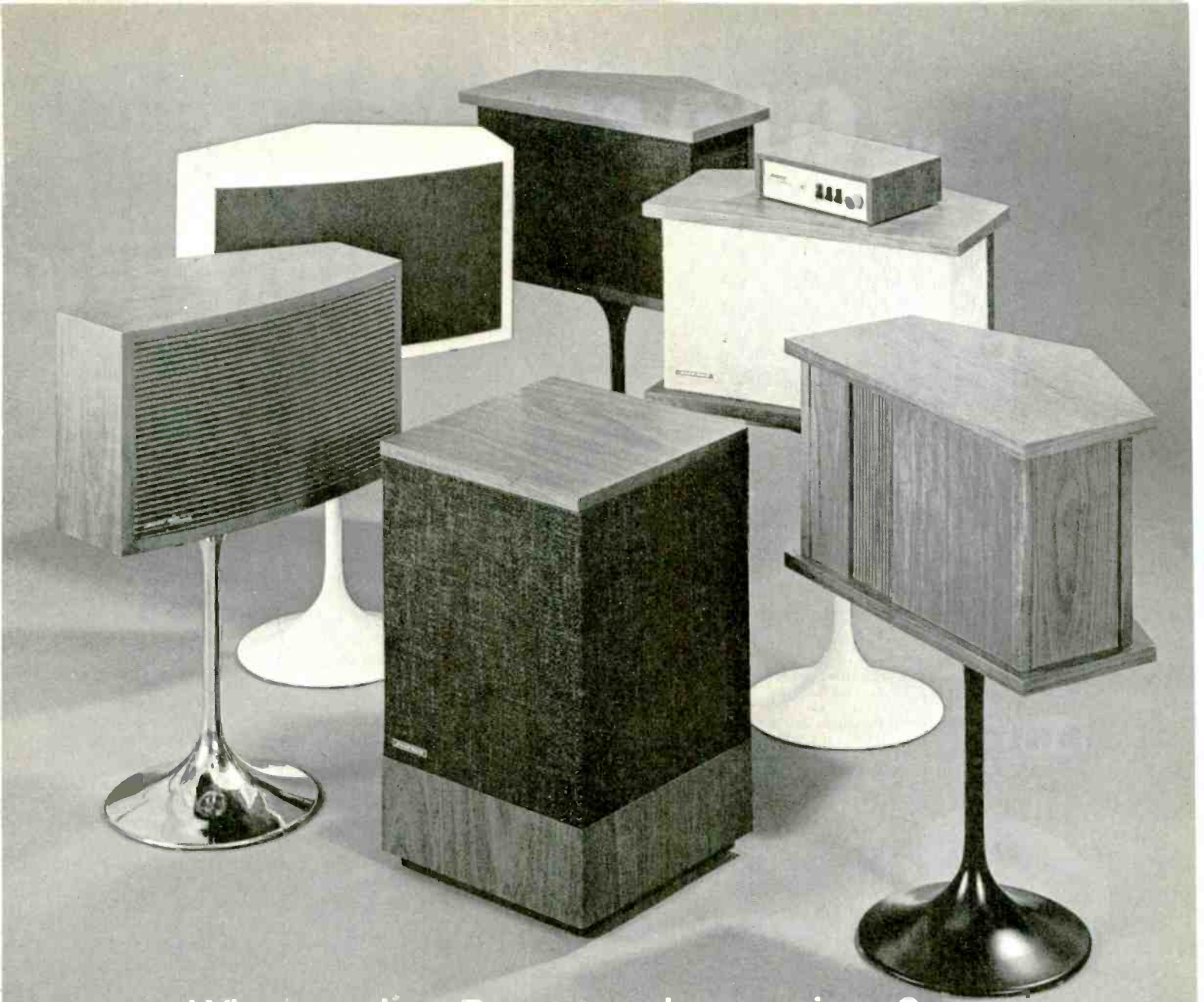
As most sophisticated audiences realize, live performances and recordings represent a musical work in different ways. A recital will of necessity have flaws, but it will often have an in-built continuity, a spanning intellectual arch, that most recordings do not capture. The complexity of recording-studio conditions and the necessity that the score be rendered note-perfect—few listeners will tolerate hearing the same mistake over and over again—usually dictate doing more than one take for a movement or work, and the sense of a long line stretching across the whole piece can rarely be achieved unless the playing continues from beginning to end without stopping. I am not complaining about this, merely stating a fact of life: that in the recording studio the performer is striving for something different from what he achieves on the recital platform.

Recordings generally do little to illuminate over-all structure: that kind of illumination a performer seizes upon almost exclusively in the concert hall. Recordings show us other things. They clarify certain details and musical points that seldom come through in live performance. They also make clear the relationship between technical perfection and total conception—that is, if it *were* possible to play everything perfectly on the stage, and to do so without distracting worry, recordings show the ways in which individual passages should be balanced and contrasted with one another, how they mesh into larger wholes, and so forth.

I hasten to say that I am ashamed of none of my recordings and that they do present a fair picture of my playing at its technical best. A few offer something more, I think: in particular, my Bartók recital (*Mikrokosmos* Vol. 6, the *Out of Doors Suite*, and the sonatina), my Mozart concerto recordings with Colin Davis, and the Schumann concerto with the same conductor. In a couple of cases, I feel I have been lucky enough to achieve a really rare sense of the long line: in the Bartók Second Concerto (again with Davis) and the Beethoven Op. 111 Sonata, in which the final movement especially was done in very long takes.

Of course, some works do not require much structural illumination: the Grieg concerto, for instance. Here all one need do is introduce sufficient contrast among the parts of the piece; there are very few passages of structural elision between disparate elements or passages in which such elements are gathered together and synthesized. Because of this I felt that, in the case of the Grieg, I could make an exception to my generally ironclad rule that I will not record a work until I have played it before an audience. But the Philips Records executives said, "If you want to record the Schumann, you must do the Grieg." And I wanted to record the Schumann very much.

I have never found that working with a conductor in the recording studio has come between me and what I wanted to achieve in a particular work. It is certainly more fun than solo recording, where you are alone with the microphones and voices coming at you from



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*For a description of this research see the article "Sound Recording and Reproduction" published in Technology Review (M.I.T.) Vol. 75, No. 7, June '73. Reprints are available from BOSE for fifty cents.

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Shown above (left to right) new walnut and white 901 Continentals, ebony, white, and walnut 901s; (center) 501. Pedestals optional.

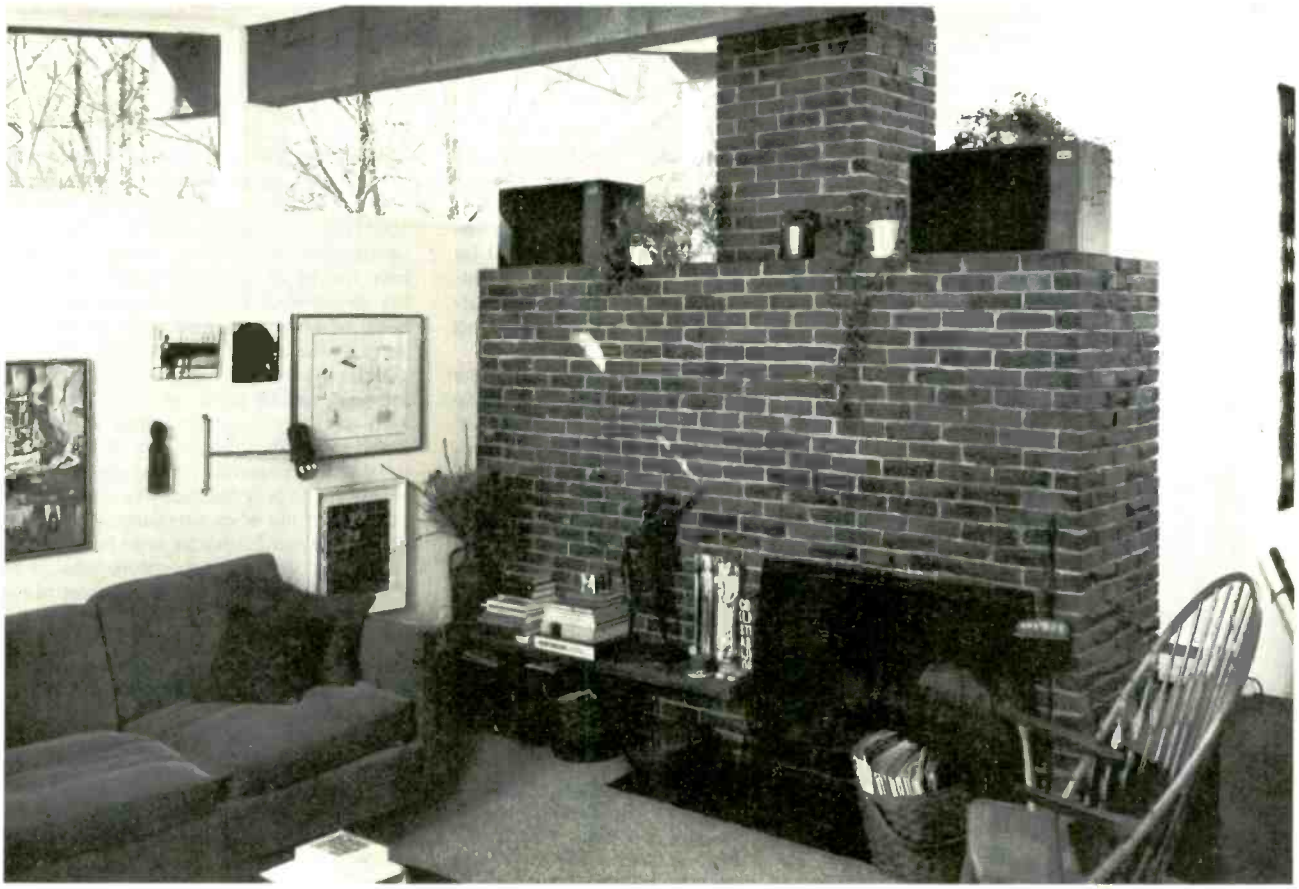
control booths, for you have the give and take with the conductor and other musicians. By this I mean personal give and take; I don't believe in artistic give and take—that is, striking a bargain or compromising. If a conductor disputes a musical point with me, I either stick to my guns or go along with him; I never search for an alternative that will please both of us. Compromise and committee decisions have their place—in the *Yellow River* Concerto.

Solo recording has its pleasures and rewards too. I think specifically of a wonderful Italian producer, Vittorio Negri, with whom I love to work for many reasons but in large part because he has such a sense of humor. In most of the music I play I am accustomed to using a very wide dynamic range. Negri used to get a marvelous crucified look whenever I escaped the dynamic limitations of his machine at either end. "Stephen," he would say after what I thought was a particularly fine pianissimo passage, "all I am getting is *sssssssss*." But this is an area in which innovations in recording technique are making it possible to capture on disc something that once was reserved for a concert audience. In recording my Op. 111, using the newest machinery, Negri was able to let me do anything I wanted at either end of the dynamic scale.

All in all, these were some of my most successful sessions. We had to cancel the first one scheduled because I was sick, and at the second I was still running a 103-degree fever. Negri took one look at me and said, "Go home. I refuse to take the responsibility for your health. You look like hell." But the sessions before these, during which I recorded the Beethoven Op. 110, had gone very well, and I had worked hard at Op. 111 and wanted to try it. He finally agreed. As I have said, the results were very pleasing to me. I think I like recording with a fever.

I love listening to records, both my own and those of others, though for sheer pleasure divorced from study I most often want to hear something other than solo piano music. I do treasure some piano recordings: I think particularly of those of Sergei Rachmaninoff, which RCA has just reissued in abundance—especially the shorter pieces. They are extraordinary examples of pianistic art. Far from being a series of moments spliced together, these recordings time and again capture a sense of occasion. For the performer, these recordings are the elusive ideal. But it would be fatuous to suggest that short pieces alone be recorded, and only by the Rachmaninoffs among us. Recordings—the great and the not so great—are an integral part of our cultural environment; on balance we can only be grateful for them.

The AR-10π
A new standard of musical accuracy and an unprecedented degree of placement flexibility



Musical accuracy
The new AR-10π is the most accurate musical reproducer that Acoustic Research has ever built for use in the home. It has been designed to deliver uniform flat energy response in most listening rooms. This means that the musical balance of the input signal will be accurately transmitted to the listener, and listeners in virtually all listening positions will hear the performance in the same way. A new tweeter and crossover network make this new standard of accuracy possible.

Speaker placement
Speaker placement in the listening room is of critical importance to the musical balance of the system. That's why most speaker manufacturers give explicit instructions on exactly where their speakers must be placed for best results. The AR-10π however has been designed for maximum flexibility in this respect. It can operate in almost any location in your room with no sacrifice in accuracy.

The AR-10π can be positioned against a wall, in a corner, or even in the middle of the room. Simply resetting a single switch will ensure the right amount of bass energy for any position – something that is not possible with conventional loudspeaker designs or equalization techniques.

Acoustic Research has prepared a comprehensive description of the AR-10π speaker system. You can get a free copy by sending us the coupon below.

Acoustic Research
10 American Drive
Norwood
Massachusetts 02062
Telephone: 617 769 4200

Please send me a complete description of the AR-10π HF-2

Name _____

Address _____

CIRCLE 1 ON READER-SERVICE CARD

too hot to handle

My Marantz amplifier runs between 6 and 16 hours a day, usually with my Marantz tuner. Since the amp runs about one-third power, a point where most solid-state devices produce the most heat, would it be advisable to run it instead at, say, three-quarters power and simply lower the output of the tuner to maintain listening level?—Doug Guerette, Nashua, N.H.

I understand that both Dynaco and Phase Linear are fighting the new Federal Trade Commission rule that, when amplifiers' specs are measured, they first be preconditioned for one hour at one-third rated power. Does this mean that some or all of these companies' amplifiers can't hack it in this test?—T. Lindner, Seattle, Wash.

Frankly, we don't know. The question is not so much whose will and whose won't (many manufacturers seem to have been slow to understand this provision of the new FTC power-spec rules and to check out their own products in this respect), as it is whether such preconditioning makes sense in the first place. The amplifier is fed a continuous 1-kHz sine wave (which, of course, is quite unlike normal music or speech signals) at—as Mr. Guerette says—the worst-case heat dissipation point, or very near it. A 45-watt amp, for example, will be preconditioned at 15 watts; raise or lower the output (as music or speech signals force the amplifier to do continuously and over a fairly wide range), and less heat will be produced. Furthermore one-third power is a *very* hefty output: less than 5 dB below rated output and therefore a level to which most users seldom if ever drive their systems even on the loudest passages in normal listening except on the briefest of transient peaks. The argument that some manufacturers have raised, therefore, is that requiring the amp to handle steady signals for an hour at these levels will mean extra-heavy heat sinking that will drive up the price of some designs without any gain whatever in audible quality. The contrary argument (raised by, among others, one Marantz executive) is that the extra provision for heat dissipation will make the amp cooler-running and therefore, theoretically, longer-lived.

But when Mr. Guerette talks of running his Marantz at one-third power, he presumably means with the volume control turned one-third of the way up—a very different thing because of the "audio taper" used in volume controls. One-third power is only about 5 dB below full output and would be much closer to maximum knob rotation. If he really is driving the amplifier so that its average output (which still isn't continuous output, of course) is only some 5 dB below rated output, he must play only music with a relatively limited dynamic range or be overloading the amp shamelessly on the loudest passages—and he presumably either has a very skimpy amp for his speakers' efficiency rating or has irate neighbors. And turning down the output from the tuner and then compensating at the amp's volume control will put him right back where he started from in terms of watts delivered by the amplifier. The real question is: How hot is the amp running? If the heat sinking feels hot to the touch, the amp might profit from better ventilation, aided by a fan, if necessary. But the arbitrary and somewhat unrealistic FTC rule strikes us as only indirectly related to practical problems of overheating, where they do exist; it remains to be seen how the rule will be enforced and therefore what practical impact (if any) it will have on actual product design.

After all that you and other magazines have written about quad, I was shocked to hear a dealer say it will be dead in a couple of years. "Everybody knows it has been a bomb," were his exact words. I didn't know, or I wouldn't have invested in quad equipment and recordings. Does he know what he's talking about?—William G. Norris, Short Hills, N.J.

Dealers have been, perhaps, the least enthusiastic group in the country where quad is concerned. There have been some notable exceptions among equipment dealers but mighty few among record dealers, to our knowledge. And being aware of this, the manufacturers in both fields seem to have done a massive job of overselling, giving the impression that quad would sweep stereo aside at any moment. That simply hasn't happened—nor does it appear likely to happen. The result is that, having bought (or at least been insistently exposed to) the oversell, many dealers now see quad as a dismal failure.

Quadriphonics appears to be in a period of gradual progress. While its measured tread may disappoint those who thought it would turn into a horse race, it has brought more sanity to the subject than we've seen at any time since quad first arrived on the commercial market.

The Han-D-Mag [tape-head] degausser described in your September issue [test reports] had a field strength of 700 gauss. Could such a strong field permanently affect VU meters in the vicinity of the heads being demagnetized? The meters on my Teac are three to four inches from the heads.—William Moy, Montebello, Calif.

Good point! One reason the field from the Han-D-Mag (or any other well-designed head degausser) is as strong as it is is because it is concentrated by the pole pieces

CIRCLE 48 ON READER-SERVICE CARD →

Speakers are a matter of taste.

Yours.

No other component in your high fidelity system will influence your enjoyment of music as much as your choice of speakers. Every speaker design has its own individual characteristics, and actually imposes its own personality on any music you play.

What kind of a sound do you prefer? The tight sound of an acoustic suspension speaker? The open sound and flexibility of an omni-radial speaker? Or the presence and realism of a multi-directional speaker?

No matter which you choose, Sansui makes a speaker to match your taste. And they are all superior in performance, delivering sharp definition, and a smooth, but crystal clear dynamic attack over a wide range.

Yes, speakers are a matter of taste. Only you can decide which one of the seven Sansui speakers is really the best speaker you ever heard. So stop in at your nearest Sansui dealer... and listen.

SANSUI ELECTRONICS CORP.
Woodside, New York 11377 • Gardena, California 90247
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Sansui

CIRCLE 48 ON READER-SERVICE CARD

that form the "probe." We have no doubt that you *could* damage a meter by degaussing its magnet if you were to bring the Han-D-Mag's probe close to the pivot of the needle. But the stray field is low enough on the Han-D-Mag that we see no cause for worry about the meters if the degausser is used carefully—as any degausser should be if it is to do its job efficiently. But this subject raises one good reason why bulk-erasing units should never be used to degauss a tape head: They have not only much higher field strengths than typical head degaussers, but far more stray field as well.

What ever happened to video tape for the home? I thought that it was supposed to be the coming thing in electronic home entertainment and that Sony had won the "battle of the formats" with its U-Matic system. How come you never talk about the subject any more? Were you perhaps a little overeager in what you were saying a few years back?—V.G. McGinn, Brooklyn, N.Y.

Perhaps, though we have been far less overeager than many publications. The subject of home video recording—or, at least, recordings—has considerable appeal and always did. It's all a question of how you get there from here. Each time the technological and format questions seemed to have been settled so that the business of reducing costs to affordable levels could go forward, the subject has taken a new twist. Despite the wide acceptance (albeit outside the home market) of Sony's ¾-inch U-Matic cassette system, the company is now said to be at work on yet another, ½-inch, tape system. (In fairness to Sony we should point out that the U-Matic system was not pushed as a home system, but rather for the very industrial and educational markets in which it has been widely accepted.) At the same time, much activity continues in the various video disc formats—which perhaps have more appeal to manufacturers at present because of the failure of the Cartrivision home tape format.

Basically, however, the matter continues much as it has—wearyingly—for most of the last decade. Introduction dates, technical advances, and selling prices are bandied about, but (Cartrivision aside) nothing comes of them. When the product can be bought at a reasonable price and appears to work satisfactorily with good prospects of staying power, our flagging interest doubtless will get its second wind.

I hear that the Tate logic-SQ decoder will make all present-day quad decoders obsolete. What do you think, and when are you going to test it?—E. W. Meiers, Allentown, Pa.

When it's a real product. Only prototypes have been demonstrated so far, and there were what we consider to be shortcomings in the demonstrations we heard. Specifically, we were disturbed by a certain instability of placement—something we have heard in other demos of super-logic prototypes. If this property is inherent in the sound produced by the production model (and neither Tate nor other prototype demonstrators have been able to reassure us effectively on this point) unqualified enthusiasm would be out of the question.

Load up with blanks

Buy two. Get one free.

Here's a sure-fire way to save on the music tape BY CAPITOL premium quality blank cassettes and cartridges. Buy two and get a third one free. You'll find these special three-packs of cassettes (60 and 90 minutes) and cartridges (45 and 100 minutes) at participating stores while supply lasts. If you record music, quit horsing around with ordinary tapes. the music tape has greater sound sensitivity at both high and low frequencies, a better signal-to-noise ratio and less audible noise. It is also mechanically superior. Cassettes and cartridges are jamproof. The cassette tape has our exclusive cushion-aire™ backcoating to prevent static, jamming and dropouts. The cartridge tape is lubricated for smooth, even winding over hundreds of passes. We make more blank cartridges than any other manufacturer. In fact, every major music company uses our tape for prerecorded cartridges. There's no better time to try the music tape than now, when you can load up with blanks without shooting your budget.

If you record ordinary things, use an ordinary tape. But if you record music, record on

the music tape™ BY CAPITOL

cassette • cartridge • open reel

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CIRCLE 12 ON READER-SERVICE CARD

news and views

A Grand Old Name Revived

To new readers the name Acoustech may mean very little; to many of us it brings pangs of memory. A decade ago the Acoustech line (the company had been known as Acoustic Technology, Inc.) was important in solid-state electronics, venturing into areas that had been strongholds of the vacuum tube and offering some very fancy-spec units in both kit and wired form. And Acoustech was among the few companies to offer a full-range electrostatic speaker.

A child of the transistor boom and bred in Cambridge, Massachusetts (that incubator of audio ideas), it grew to a financially troubled maturity somewhat ahead of its time. Its designs were ambitious and, perhaps for that reason, sometimes seemed particularly plagued by the problems that infected even more cautious ventures working in the still-new transistor technology. In the end its boldness didn't pay off.

The Koss Corporation acquired what remained of the company and moved it to Milwaukee. For a time some models remained on the market, but manufacturing had ceased and eventually so did availability. The only project that remained (more or less) alive was the electrostatic speaker, which Koss has been working with in the intervening years. A new model was announced in 1973, but its introduction then was postponed.

Recently a new Milwaukee group acquired the Acoustech, Inc., name (it's still a Massachusetts corporation) from Koss and reactivated it. So far it doesn't plan to go back into any of the projects with which the name originally was associated—even the electrostatic speaker design, which Koss has retained. Instead specialty audio accessories of various sorts will be offered.

A plastics and molding operation is among the assets, and the first two products to come to our attention stem from that operation. One is a wood-grain base for turntables (any turntables, apparently; custom inserts are used to tailor the unit for specific models). It is made of high-density polyurethane and, with its "carved" detailing along the upper edge, is among the more attractive models we've seen.

The other product is a wall-hanging extension speaker designed to resemble one end of a Schlitz beer barrel. It's intended for use in recreation rooms and the like, costs $49.95, measures 19½ inches in diameter, has a built-in level control, and uses a coaxial driver (8-inch woofer, 2-inch tweeter). Obviously it's not for everybody, but it is an amusing variant on the dreary little boxes that so often are sold as extension speakers.

A New/Old Idea in Pickups

Win Laboratories, which has been represented in high fidelity so far by a single product—the Lab 10 turntable—has gone into cartridge manufacture with a design that bears a good deal of resemblance to the Euphonics pickup of the Sixties. Some audiophiles still talk wistfully of the Euphonics, believing it to have been an excellent design that failed largely through poor timing and sales promotion. They doubtless will be intrigued to know that the Win Semiconductor Disc Transducer is based directly on the Euphonics (whose design and patents Win has acquired) but has been re-engineered in a number of significant respects.

The Euphonics pickup abandoned the conventional coil-and-magnet "generators" in favor of strain-gauge elements that would respond to the minute forces transmitted through the stylus cantilever by varying its resistance to an externally applied voltage—and therefore by varying the current it would pass to the associated electronics as a result of the applied voltage and the stylus motion. (This idea no longer is unique, of course, since brands like Panasonic and Toshiba have been offering cartridges based on the same operating principle, though not the same design.) The cartridge therefore is an amplitude-sensitive device (standard magnetics are velocity-sensitive) that requires an external power supply, which also can include all the electronics necessary to compensate for the RIAA recording characteristic and deliver equalized, line-level signals to aux or similar (as opposed to "phono") control-preamp inputs.

Much change has taken place in phono pickups since Euphonics' days. Elliptical (or biradial) styli have put a premium on light tracking forces; and Win says that by redesigning the strain-gauge elements it has sharply reduced the required operating forces by contrast to the Euphonics design. Tubed electronics have given way to all-solid-state circuitry; and Win says that its redesign of the associated electronics prevents peak-overload problems that seem to have compromised the Euphonics' performance with transistor (though not tubed) components. And of course quad is a reality; Win has made its pickup compatible with quad (i.e., CD-4).

The initial form in which the SDT pickup should be available by the time you read this includes the pickup cartridge itself, with a biradial (0.2 by 0.9 mils) diamond stylus, and the power-supply unit for $139. The pickup is designed to track at between 0.5 and 1.5 grams and respond to 50 kHz. It thus can be used for CD-4 Quadradiscs as well as stereo and quad-matrixed discs. By spring Win expects to add a second SDT with a CD-4 demodulator built into its power-supply unit and fitted with a stylus that is especially contoured (Shibata or similar geometry) for playing Quadradiscs. The company is at work on microcircuitry so that it can achieve the cost and uniformity advantages of ICs in its more elaborate electronics units. Plans also are afoot to offer a total Win turntable/pickup/power-supply/demodulator package.

Advance specifications and other data look impressive. We plan to keep an eye on the SDT systems as they develop.

CIRCLE 147 ON READER-SERVICE CARD

Washington: Your Hi-Fi Is Showing!

On the weekend of February 7 to 9 Teresa and Robert Rogers will present the 1975 Washington (D.C.) High Fidelity Music Show at the Hotel Washington. According to advance statistics, the show will occupy about eighty rooms on four floors of the hotel, which is across Treasury Square from the White House.

It has been twenty-one years since the first Rogers-produced Washington show (at the Hotel Harrington), which drew an astonishing 40,000 visitors. Over the intervening years, during which the couple have been producing shows in several other cities as well, a door charge has been imposed to weed out the idly curious and to keep crowds to manageable numbers. This year it will be $2.00 per person—the admission price established ten years ago.

The Specification Guarantee.* Perhaps someday everyone will have it.

You're looking at the new Technics 600 Series, two of the finest cassette decks we've ever made. But equally important, they're also our first examples of "the Specification Guarantee." The only kind of a specification we feel is worth serious consideration.

That's because "the Specification Guarantee" isn't merely a collection of overly impressive numbers achieved under ideal conditions. It's five meaningful performance specifications that *every* Technics RS-676US and RS-610US cassette deck, including yours, is guaranteed to meet or surpass*. And if by some unlikely chance it doesn't, we will make sure it does. After all, that's what we feel a guarantee is all about.

But the guarantee isn't the only impressive thing about these specs. The numbers are equally impressive. Even when you compare them with the "unguaranteed" performance figures you usually see. Yet our figures are conservative, understated. Figures that your unit is likely to surpass rather than just meet. And that makes them even more impressive.

	RS-676US	RS-610US
Wow & Flutter (JIS WRMS)	0.08% or better	0.15% or better
Frequency Response: Normal Tape Position	40Hz – 12kHz (+2/–4dB) (+2/–3dB)	50Hz – 10kHz ±3dB
CrO_2 Tape Position	40Hz – 13kHz (+2/–4dB) (+2/–3dB)	50Hz – 12Hz ±3dB
S/N Ratio (Weighted, Signal level 250 pWb/mm): Without Dolby†	50dB or better	49dB or better
With Dolby (Above 5 kHz)	58dB or better	57dB or better
THD (0 VU at 1 kHz) Normal Tape Position	2.0% or better	2.3% or better
Speed Accuracy	Within ±1.5%	Within ±2.0%

†Dolby is a trademark of Dolby Laboratories Inc

The RS-676US. The RS-610US. And "the Specification Guarantee."

The concept is simple. The execution is precise. The performance is outstanding. The name is Technics.

*Specification Guarantee will be honored for a period of ninety days from the date of original purchase. Void if the product is damaged, altered, or abused following original sale, or if repaired by other than authorized Panasonic personnel, or if the product is not purchased and retained within the U.S.A. or Puerto Rico. Test procedures are available in detailed description on request from Technics by Panasonic, 200 Park Avenue, New York, N.Y. 10017. Specification Guarantee is in addition to the usual parts and labor warranty.

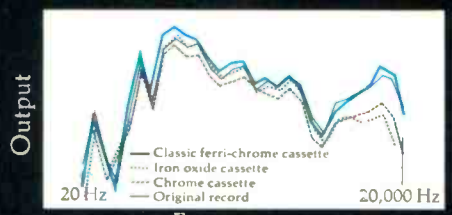
200 PARK AVE., NEW YORK, N.Y. 10017. FOR YOUR NEAREST AUTHORIZED TECHNICS DEALER, CALL TOLL FREE 800 447-4700. IN ILLINOIS, 800 322-4400.

Technics
by Panasonic

The Classic Cassette with ferri-chrome. Truer than chrome. Truer than iron oxide.

In these Classic cassettes, advanced 3M technology brings you ferri-chrome, a truly superior cassette tape with not one, but two distinct layers of oxide. Directly on the backing is a coating of gamma ferric oxide designed for rich low and middle frequencies and low noise levels. Above it is a layer of chromium dioxide coating for brilliant high output at high frequencies. Together, they combine to give you full-range performance never before possible from any single-oxide cassette tape.

To prove ferri-chrome's remarkable fidelity, we taped a broad spectrum piece of music from a disc recording with our Classic cassette, our iron oxide cassette and our chrome cassette. Then we compared the output of all three with the original source on a precise Brüel and Kjaer sound spectrum analyzer. Our graph shows you the results.



Along with superior fidelity, ferri-chrome also offers you full compatibility. These Classic cassettes will deliver optimum performance on any high quality cassette machine you may own.

But there's even more from Scotch brand. Outstanding Classic 8-track cartridges and Classic open-reel tape. Both with their own improved oxide. Both super quiet. Beautifully responsive. More brilliant than even the best previous Scotch home recording tapes.

The Classics — cassette, cartridge and reel tape — are quite simply and clearly the best we've ever made for you.

3M COMPANY

Scotch The Master Tape.

"Scotch" is a registered trademark of 3M Company.

equipment in the news

B&O builds a cassette deck

B&O, which long has been making quality open-reel decks (though they have not been offered here for some years), has turned its attention to the cassette format with the Beocord 2200. It is sleekly styled (like all B&O products) and is available with rosewood, oak, or teak trim. Features include Dolby noise reduction, a chrome/ferric bias/equalization switch, stereo/mono input switching, and memory rewind. The 2200 sells for $460.

CIRCLE 148 ON READER-SERVICE CARD

New tweeter array in Micro-Acoustics speaker

The newest loudspeaker from Micro-Acoustics Corp. is the Model FRM-2, a two-way system with a 10-inch woofer and a "trihedron array" of tweeters for which a 160-degree dispersion pattern is claimed in both horizontal and vertical planes. It is designed for higher efficiency than typical bookshelf systems, and the company says it can be used with amplifiers rated as low as 10 watts per channel. The FRM-2 costs $129.

CIRCLE 149 ON READER-SERVICE CARD

Automatic features on Technics single-player

The latest of Technics' direct-drive turntables, the SL-1300, includes automatic-operation features that are new to the series. Once record size and speed (33 or 45 rpm, each independently variable and strobe-tunable) are selected, a touch of the start lever will start the platter and will trigger arm liftoff and cueing; arm return at the end of the disc is automatic. Automatic repeat can be dialed for up to five plays before shutoff or for unlimited repeat of the disc. The turntable lists for $299.95 with die-cast base and acrylic dust cover.

CIRCLE 150 ON READER-SERVICE CARD

Pan pots and multisync on Sony NAB quad deck

Superscope is offering Sony's latest stereo/quad open-reel deck, the TC-788-4, with dual capstan servodrive, automatic timed recording option, reel capacities to 10½ inches, dual-position bias and equalization tape-matching switches, line/mike mixing in all four channels, a pan-pot system that allows back inputs to be mixed into those for the front at any position (that is, anywhere in the two-channel stereo image), and Synchro-Trak (which uses the recording head for playback of previously recorded material for perfect syncing of new material being added in other tracks). It is a quarter-track unit with three motors, three heads, and two speeds (15 and 7½ ips). It costs $1,399.95.

CIRCLE 154 ON READER-SERVICE CARD

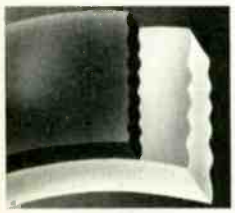
An AC-powered record-cleaning device

It's called The Whisker, and it's made by RPM Industries. Place your record on its "turntable," apply a few drops of the supplied antistatic, antibacterial solution, place the brush element over the spindle, and—according to RPM—the thousands of camel's hair bristles will gently scrub the grooves clean in 15 seconds. Planetary gears in the coupling between spindle and brush drive the bristles in the opposite direction from the record, "creating a 15-mile-an-hour surface wind" that helps in the cleaning. The Whisker costs $60 prepaid by mail order, which is an "introductory price," the manufacturer says.

CIRCLE 152 ON READER-SERVICE CARD

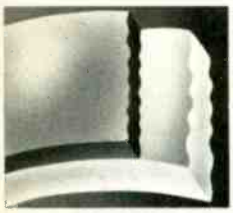
Up to now you've only been getting half the cassette tape performance you need.

You may not have realized it, but it's true. For instance, when you record music with a lot of high frequencies you use chromium oxide tape. Right? But when you do that you sacrifice dynamic range at the lower frequencies.



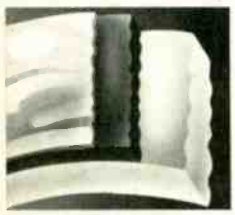
FERRIC OXIDE

And with ferric oxide tape it's just the reverse; you sacrifice dynamic range at the highs.



CHROMIUM OXIDE

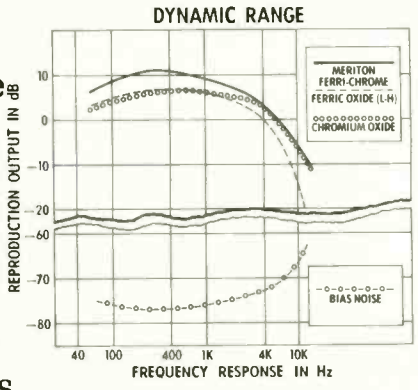
Either way, you're losing half the music. Extended frequency response without wide dynamic range is not, in itself, good sound. Well, at Meriton we don't like doing things by halves. So we put the lows and the highs together on one tape.



MERITON FERRI-CHROME

Notice how it's made. First, we have a polyester base. On that we put a layer of ferric oxide five microns thick for low frequency response. On top of that we put a layer of chromium oxide one micron thick, mirror polished for superior high frequency response. Of course, without our advanced coating technology that crucial one-micron layer might not have been possible.

You can get an idea of the way it reproduces sound from this chart. The top line is Meriton's Ferri-Chrome Tape. As you can see, it performs as well for high frequencies as it does for lows. Note its wide dynamic range as well as its low noise characteristics. At all frequencies its dynamic range is far superior to plain ferric oxide (L-H) tape, and it is better than chrome oxide at low and middle frequencies.



So you no longer have to sacrifice the bassoons for the violins, or vice versa. Instead, you can enjoy 62 minutes of the finest music you've ever recorded.

meriton® ferri-chrome

Trust your ears.

Meriton Electronics, Inc. 35 Oxford Drive, Moonachie, N.J. 07074 / 1611 Anderson Avenue, Compton, Calif. 90220

CIRCLE 36 ON READER-SERVICE CARD

Technics Offers a Uniquely Interesting Cassette Deck

The Equipment: Technics Model RS-676US, a stereo cassette deck with Dolby B noise reduction, in metal case. Dimensions: 16⅛ by 5 1/16 inches (front panel); 11¾ inches deep plus allowance for controls and connections. Price: $459.95. Warranty: one year parts and labor. Manufacturer: Matsushita Electric Corp., Japan; U.S. distributor: Matsushita Electric Corp. of America (Panasonic), 200 Park Ave., New York, N.Y. 10017.

Comment: First, let's say it again: Front loading, in our opinion, is a feature that hardly justifies all the fuss that's being made over it. If you want a cassette deck that will be convenient for eye-level use, you want front loading; but there is a price to be paid. In the RS-676US, that price consists primarily of reduced accessibility to the heads for cleaning, a small loss in convenience in inserting or removing cassettes, and somewhat reduced visibility of the cassette while it is in use. And that said, we can get to the real point: The RS-676US is above all a fine unit whose operating "feel" and control scheme—for metering, mixing, and "Dolby FM" in particular—are among the most attractive we've encountered.

To insert a cassette you press the eject button next to the transport compartment door, which opens a crack but must be manually swung down the rest of the way, like a see-through oven door. An angled mirror at the back (plus a small light in the "ceiling") allows you to see a cassette in play/record position at the bottom of the compartment. The transport mechanism that holds the cassette is similar to that of typical top-loading decks, with the heads at the near side of the cassette, just inside and below the bottom edge of the door.

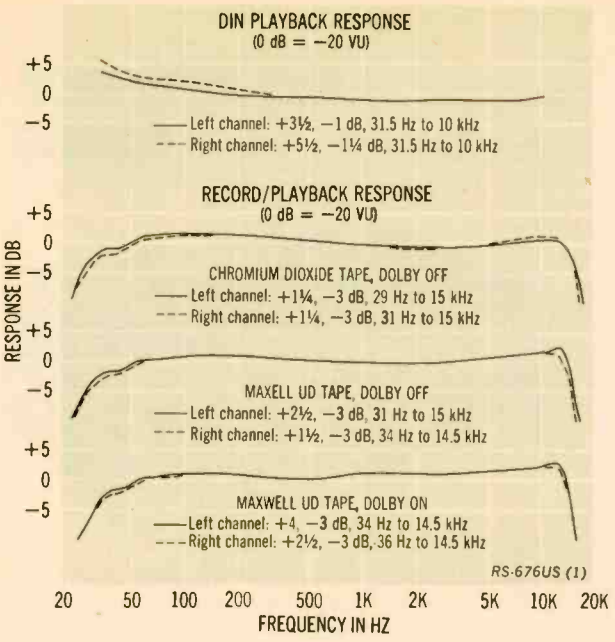
The controls to the right of the door are the solenoid type that—presumably because they reproduce much of the "feel" of expensive open-reel equipment—contribute materially to the sense of luxury in using the RS-676. There are large bars for play and stop, smaller ones for the two fast-wind modes, the recording interlock, and pause. Pilot lights are built into the faces of the play, record, and pause bars; you must examine the counter to make sure which fast-wind mode is in use.

When you press the recording button the meters immediately read the source signal, but the heads are not brought into contact with the tape. When levels have been set and you want to begin recording, a press on the play button starts tape motion. The lack of an interlock requiring you to press the recording button simultaneously at first seemed to threaten accidental tape erasure, though in practical terms we found it difficult to dream up situations in which accidental erasure would logically take place. There is interlock to prevent going directly from play to record without pressing stop, and one between the fast-wind modes and normal transport speed so that you can't go from the former to the latter without first stopping the transport.

There are a tape counter and "memory rewind" switch just above the solenoid controls. Though they look familiar, their operation is unconventional. Set the counter to 000, turn on the memory switch, and the tape will return to the 000 point when you rewind; but instead of merely stopping, it automatically goes into the play mode. You can easily study a given passage on the tape by playing it over and over, or you can achieve instant playback of what you've just recorded by simply pressing rewind. If you want to stop the tape at 000 in the usual way, you can switch to pause during the rewind cycle and then press the stop button before releasing the pause.

To the right of the solenoid controls are three lever switches. The bottom one chooses either ferric ("normal") bias and equalization or that for chrome tapes. The lab tested the chrome position with TDK (though brand is not particularly critical) and, on Technics' recommendation, used Maxell UD with the ferric setting. UD is not among the tapes listed in the manual, however (BASF LH, Scotch High Density, TDK SD, and Sony HF are shown), and we judged TDK SD to be possibly a slightly better match on the basis of both listening and lab tests. When chrome cassettes with the extra key well for automatic chrome sensing are used, the RS-676 will override the front-panel switch, adjusting itself for chrome even if the switch is in the ferric position.

The other two lever switches, next to the counter, are for Dolby functions. One has positions for off, Dolby with FM-pilot filter, and Dolby without the filter; the other is an on/off switch for the "Dolby FM" mode. In this mode



the input signal is fed directly (without decoding) to the recording head and through the Dolby circuit (for decoding) to the output jacks. The mode thus can be used to make Dolby-encoded cassettes from either Dolby broadcasts or other Dolby tapes while listening to the decoded output, or it can be used simply as a decoder for listening to Dolby-encoded signals derived from other, non-Dolby equipment. A pair of screwdriver adjustments for aligning Dolby-FM reference levels in each channel are on the front panel just below the large recording-level knob. Other wrinkles in this unusually comprehensive system will be described in due course.

The recording-level knob is, in effect, a master gain control that works in conjunction with several other controls. To its right is a smaller knob for channel balance. Thus balance can be preset and level adjustments or fades made with a single control—an easier route to good results, in our opinion, than the conventional paired sliders or dual-element knobs. Still farther to the right is a similar knob for input mode selection: mike only, line/mike mixing, and "tuner"/mike mixing. The mike level control is above the master level control and has a separate knob element for each channel.

The mike inputs are phone jacks below the balance control. A stereo headphone jack next to them is intended for low-impedance headsets. Nearby is the main power on/off switch.

The meters are calibrated with two scales. At the top is a conventional VU scale running up to +6 VU; the lower one has calibrations at 50% (−6 VU), 100% (0 VU), and Dolby reference level (+3 VU). The latter is used—with test signals broadcast by a Dolby-FM station or with a Dolby reference cassette in dubbing—to align the Dolby-FM screwdriver controls. The lab data show the calibration to be less than ideally exact. The meters' 0 VU measures approximately 3 dB below DIN reference 0 VU. Since Dolby reference level is about 2 dB below DIN 0 VU, it should be at about +1 (rather than +3) on the meters according to these measurements. The difference, though surprising, is not enough to cause serious audible mistracking of the Dolby circuit.

Below the meters is a peak/normal switch. In the normal position the meters have the characteristics of "true" VU meters, reading average signal values; the peak position will read all but the briefest of transients with a quick-rise, slow-decay characteristic in the needle ballistics. Technics recommends that with preprocessed material (broadcasts and most disc recordings) the normal mode be used and the highest readings held to the 0-VU indication; with live recordings or others that may contain the kind of spiky transients usually removed in audio processing, the peak-reading mode is recommended, holding highest values to the +6 VU indication. This strikes us as an interesting, flexible, and eminently useful approach that, in our experience so far, is unique to the RS-676 among consumer units.

The back panel has three pairs of pin jacks. One is for the line outputs and has screwdriver level controls that can be set to match tape levels to other sources in your stereo system. The other two are marked "tuner" and "line" inputs. When the deck is switched to the Dolby FM mode, however, the tuner input automatically is selected no matter what position the front-panel selector switch is set to. For this reason, the tuner input (not line) is the normal one, and line is the equivalent of an aux for subsidiary use (perhaps non-Dolby tape dubbing, for example).

Next to the tuner input jacks is a 25/75-microsecond FM de-emphasis switch. This switch operates only in

Technics RS-676US Additional Data

Speed accuracy	0.1% fast at 105 VAC exact at 120 VAC 0.1% slow at 127 VAC	
Wow and flutter	playback: 0.04% record/play: 0.06%	
Rewind time (C-60 cassette)		66 sec.
Fast-forward time (same cassette)		66 sec.
S/N ratio (re 0 VU, Dolby off)		
playback	L ch: 55 dB	R ch: 53 dB
record/play	L ch: 52 dB	R ch: 51 dB
Erasure (333 Hz at normal level)		67 dB
Crosstalk (at 333 Hz)		
record left, play right		39 dB
record right, play left		37 dB
Sensitivity (re DIN 0 VU)		
tuner input	L ch: 118 mV	R ch: 103 mV
line input	L ch: 95 mV	R ch: 85 mV
mike input	L ch: 0.4 mV	R ch: 0.4 mV
Meter action (re DIN 0 VU)	L ch: 3¼ dB high	R ch: 2½ dB high
Total harmonic distortion (at −10 VU)		
L ch	<1.3%, 50 Hz to 10 kHz	
R ch	<1.4%, 50 Hz to 10 kHz	
IM distortion (record/play, −10 VU)	L ch: 6.0%	R ch: 5.5%
Maximum output (re DIN 0 VU)	L ch: 0.90 V	R ch: 0.82 V

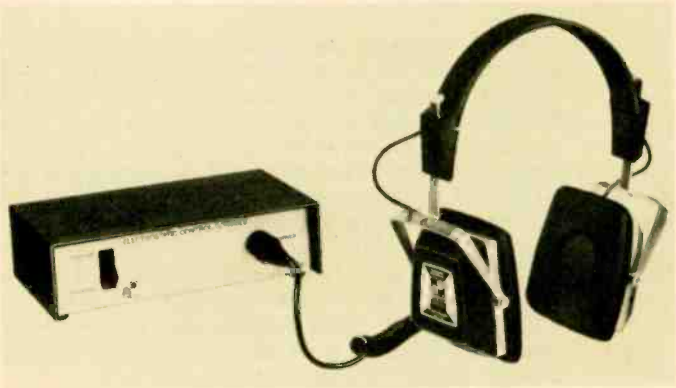
the Dolby-FM mode and should be set to the time-constant supplied by your tuner. A conventional tuner would require the 75-microsecond setting, which would then compensate at the recorder for the difference between the Dolby broadcast's 25-microsecond pre-emphasis and the tuner's 75-microsecond de-emphasis. Since the 25-microsecond position is for tuners that already provide the correct time constant, it makes no change in the incoming signal and therefore must be used in copying Dolby cassettes via the Dolby-FM mode (that is without decoding and re-encoding). These points are badly covered in the manual, which is hardly up to the quality standards of the unit itself.

The back panel also has a multipin jack for a remote-control unit (Model RP-9275, $34.95, which is not included with the unit and which we did not test) with a 17-foot cord and buttons for recording, play, and pause. In addition, there is a grounding connection that accepts bared wires or spade lugs. There are no user-accessible Dolby alignment controls other than those for Dolby FM on the front panel.

The lab measurements suggest what in-use tests confirm: The RS-676 is an excellent unit that need make apologies to no competing model. Speed accuracy is exceptional; wow and flutter are extremely low. Distortion and noise are about average for a really fine deck, as are the response figures. The response curves do suggest that Dolby alignment is slightly off for the UD tape with which they were made; but, with a rise of less than 2 dB by comparison to the non-Dolby curves, the "shelving" attributable to the misalignment certainly is not serious.

The fine performance, the unusual and highly functional treatment of the recording controls, and the unusually comprehensive working-out of the Dolby FM mode make this an unusually interesting deck. If you want front loading and are ready for the $460 price bracket, we know of no more exciting model you could consider.

CIRCLE 144 ON READER-SERVICE CARD



Superex Adds a Superb Electrostatic Headset

The Equipment: Superex Model PEP-79E, an electrostatic stereo headphone system consisting of PEP-74 headset and CC-79 control/energizer box. Dimensions of box: 7 by 2⅛ inches (front), 4 inches deep. Price: $90. Warranty: one year parts and labor. Manufacturer: Superex Electronics Corp., 151 Ludlow St., Yonkers, N.Y. 10705.

Comment: Although it is by now commonplace to find headphones that sound as good as—or perhaps even better than—many speaker systems, it still is something of a discovery to unpack a new model, hook it up, put on some favorite tapes or records, and hear stereo sound that can be described only in superlatives. So it is with the new Superex PEP-79E, an electrostatic stereo headset that is sold together with a small junction-and-control box.

The box must be connected to the speaker terminals of the power amplifier in your stereo system. Ordinary zip cord (the kind used for AC extensions) is appropriate. The lines to the speakers then are reconnected to appropriate terminals on the box. The headset is plugged into the box via a special connector on its coiled cord. A switch on the box lets you select either headphones or speakers.

Note that this particular headset—like most other electrostatics—cannot be connected into the familiar front-panel headphone jack found on receivers and tape decks. It must be driven from a power-amp output stage capable of supplying at least 5 watts. The control box has no AC power cord. A portion of the audio signal, stepped up by circuitry inside the box, is used as the energizing voltage needed by the electrostatic elements.

All of the "electronics" is in the control box; the headset itself, which has extremely lightweight metallized Mylar diaphragms, weighs just under 10 ounces (less cord). This light weight, combined with the cushioned adjustable headband and soft surround earpieces, makes for a very comfortable headset. The cord itself may be uncoiled to a length of over 14 feet without strain. Since the length of the lines from amplifier to control box is not critical, the distance you care to put between yourself and your components while wearing the headphones can be considerably greater than with conventional models.

The control box, finished in wood-grain vinyl over metal, is neat and unobtrusive. The back contains the terminal strips for leads from the amplifier and to the speakers (screw connectors that accept stripped leads or spade lugs); the front has only the headset-cord socket and speaker/phones selector switch. Control of volume, tone, and so on are made at the stereo system, as they would be for speaker listening.

The headphones themselves are a modified rectangle in shape with rounded corners. They are, in a manner of speaking, rather stylish. They do not provide complete acoustic isolation, yet with a signal present at normal listening level they block out all but the shrillest of environmental sounds. More important, in our view,

the lack of a conventionally tight seal has no deleterious effect on bass response, which is full, clean, and very solid.

Indeed the response of this headphone system strikes us as excellent from top to bottom of the audible range. We checked the PEP-79E with discrete frequency test tones and with sweep tones and found it to be remarkably smooth and linear from below 30 Hz to beyond 15 kHz. There were no significant peaks or dips and very few insignificant ones. We could not get the phones to rasp, buzz, or commit other forms of sonic mayhem even when driving them at ridiculously loud levels. The treble range has a wonderfully smooth and open quality; the low end holds up firmly with no audible doubling effects. White noise response is smooth and uncolored, transient response superbly crisp and well defined.

The headset's dynamic range covers at least a 60-dB span, which is about the limit found on modern recordings, and everything is reproduced so cleanly that there is no loss of musical information from thundering crescendos to whispered pianissimos. Stereo imaging is excellent; voices sound utterly natural; ensemble balance and internal detailing are unimpeachable. The headset also is quite efficient by contrast to speakers, producing what psychoacoustically could be termed "room-filling sound" with only modest amplifier gain.

We cannot remember testing any headphones that sounded better.

CIRCLE 143 ON READER-SERVICE CARD

Top-of-the-Line Manual from Pioneer

The Equipment: Pioneer PL-71, a two-speed (33 and 45 rpm) turntable with integral arm, supplied on wooden base with hinged cover. Dimensions: 18⅞ by 16⅜ inches; 7¼ inches high with cover closed, about 17½ inches fully open. Price: $299.95. Warranty: one year parts and labor. Manufacturer: Pioneer Electronic Corp., Japan; U.S. distributor: U.S. Pioneer Electronics Corp. (Pioneer High Fidelity), 75 Oxford Dr., Moonachie, N.J. 07074.

Comment: The PL-71, Pioneer's top-of-the-line turntable, ranks among the very best of any HF has yet tested. A two-speed (33 and 45 rpm) single-play manual, it is a direct-drive type with an electronically controlled DC servo motor. Virtues claimed—and verified in lab tests—for this system include low wow and flutter, low rumble, and excellent speed accuracy and stability (independent, actually, of changes in supply voltage). The turntable is fitted with an integral tone arm and has a handsome walnut base and a sturdy hinged dust cover. The low-capacitance signal cables could be used satisfactorily for CD-4 pickups if desired.

The impression one gets from just looking at the PL-71, and then handling its adjustments and controls, is one of all-out, no-compromise professionalism in design and workmanship. CBS Labs' test data and our use of the unit reinforce this impression. Speed accuracy is absolute, with no variations measured at either speed setting regardless of changes in line voltage. Once the fine-speed adjustment has been set, it stays set. There is a separate adjustment for each speed to be used in conjunction with the strobe markings along the turntable's rim, which are illuminated by a built-in lamp at the front left corner of the base. The lab reported the actual range of variation as +4.2 to −3.2% at 45 rpm, +3.7 to −3.0% at 33 rpm. Weighted (ANSI/IEEE) peak flutter readings at 33 rpm were 0.06% average and 0.10% maximum. Total audible rumble (ARLL) was −63.5 dB. These are of course excellent figures—among the best measured on any turntable.

The platter itself, covered with a ridged rubber mat, weighs a little over 3 lbs. and has very fast startup time. To start rotation you press the 33 or the 45 button, either of which will turn on the AC power; to stop it you press the "power off" button.

The manual cueing is aided by an ample-size finger lift and a built-in cueing system, which works smoothly and with no side-drift.

The S-shape tubular arm carries a removable lightweight head. Adjustments are provided for stylus overhang, arm height, longitudinal balance, lateral balance (via an ingenious outrigger device) VTF, and, of course, antiskating—via a convenient knob whose scale is coordinated with the VTF scale. The latter proves extremely accurate, showing on-the-nose values when checked against a laboratory gauge for settings of 0.5, 1.0, 1.5, and 2.0 grams. It measured a minute 0.1 gram low for the 2.5-gram setting. Tested with our standard Shure V-15 (Type II Improved) pickup, the arm showed a 4-dB rise at 7.5 Hz, a very low resonance indeed. Arm friction, laterally and vertically, was too low to be measured.

The silence and precision with which the PL-71 handles records are due not only to its sophisticated motor and drive system and its beautifully designed and crafted tone arm, but also in part to the shock absorbers built into the four sturdy feet under the base. Another plus is the fact that the PL-71 will operate on either 50- or 60-Hz supply line frequencies. All told, this is a turntable for use in the finest of playback systems—stereo or four-channel—and by the fussiest of record collectors.

CIRCLE 142 ON READER-SERVICE CARD

A Super-Preamp from Accuphase

The Equipment: Accuphase Model C-200, a stereo control preamp in metal case. Dimensions: 17½ by 6 inches (front panel); 14 inches deep plus allowance for controls and connections. Price: $600; accessory walnut case, Model AWC-1, $45. Warranty: five years parts and service, shipping paid one way. Manufacturer: Kensonic Laboratory, Inc., Japan; U.S. distributor: Teac Corp. of America, 7733 Telegraph Rd., Montebello, Calif. 90640.

Comment: Last month we reviewed the P-300 basic amplifier, the companion-piece to the C-200. (There also is a matching FM/AM tuner, the Model T-100, $650.) We said then that in reviewing the preamp we would comment in more detail on Teac's claim that the two units are so good that each can be heard at its best only in conjunction with the other.

This is a difficult contention to prove—or to disprove. If you move in audiophile circles, you've no doubt heard its like before. To the novice, struggling to determine unequivocally why one speaker is considered better than another, the claim is meaningless since the quantitative difference between one fine piece of electronics and another is minute by comparison to that between competing loudspeakers. So to say that you *can* hear the difference between the C-200 and other fine preamps would, in our opinion, be misleading to the majority of our readers—though we have no doubt that some *will* hear it.

The C-200's sound is utterly open and clean. We could find no sonic grounds on which to fault the unit; it is, in a word, superb. It also is expensive and complex. If these factors leave you undaunted and you're after great sound, we don't see how you could do better than this preamp—either singly or in combination with the P-300.

Let's begin our description with the back panel, which must be understood before the front-panel controls will make much sense. Each pin-jack pair for the two phono inputs has a grounding post and a pair (left and right channels) of sensitivity controls. High-level inputs include pin-jack pairs for tuner, aux 1, and aux 2; and there are input and output pairs for tape 1 and tape 2. Outputs—also pin jacks—are provided for left, right, and mono, the last appropriate for a center-fill speaker, if you want one, or for a remote mono system (with its own amplifier) in, say, the kitchen.

There are seven convenience AC outlets, one unswitched. Another, intended for the power amplifier, has its own front-panel switch but also is switched by the C-200's own AC button; that is, the amp will turn off when you switch off the C-200 but can also be turned off independently from the preamp's front panel. The remaining five receptacles, switched only by the C-200's main AC control, are marked for turntables 1 and 2, tape decks 1 and 2, and tuner. Some users may prefer nonswitched outlets for turntables and even, unless they are solenoid-operated, tape decks; but there's no reason you *must* use these outlets as marked of course.

There also is a special "speaker control" jack on the back panel. It is designed to accept a relay system (available on special order) that can be wired into the speaker leads from the power amp and that will interrupt the power feed on command from the C-200's front panel.

At the bottom of the front panel is a black trim strip that hinges down to give access to the more esoteric features. As in the P-300 power amp, the main AC switch protrudes through an opening so that it is accessible whether the strip is open or shut. Next to it is the switch for the back-panel power-amp AC outlet. There is a stereo headphone jack, followed by pin jacks for an accessory output (which parallel the left- and right-channel outputs on the back panel), tape input and output (which are, in effect, a tape-3 set of connections since they don't parallel the two sets on the back panel), and an aux input (again, in effect, aux 3). To the right of these inputs are a disc-1 impedance switch and a "low-enhance" switch for discs. The impedances offered are 30,000 ohms (appropriate for matching transformers used with some moving-coil cartridges), 47,000 ohms (standard for stereo magnetic cartridges), and 100,000 ohms (for CD-4 cartridges). The "enhance" switch gives a *very* subtle lift to the bass response with either disc input; measured values are close to the ratings (at 100 Hz) of 1 dB and ½ dB for the two boost positions, while the "0" position yields a very flat RIAA curve indeed. At the extreme right of the hidden panel are phone jacks for left and right mike inputs.

At the left of the main (upper) portion of the front panel are four tone-control knobs: separate bass and treble for each channel. Among the switches at the lower-center portion of this panel is one for tone defeat, one to switch bass turnover between 200 and 400 Hz, and one to switch treble turnover between 5 and 2.5 kHz. As measured at CBS Labs these frequencies represent (for maximum tone-control rotation) the ±3-dB points in the bass and the +2, -3-dB points in the treble. There are three filter buttons as well—subsonic, low, and high—and one for loudness compensation.

The volume and balance knobs are above the push-button array. The volume control becomes a loudness control when the compensation switch is pushed, of course, and the actual degree of compensation bears a fixed relationship to volume-control rotation (as it does in almost all receivers). When the preamp is used with the P-300 amp, however, the level controls on the amp can be set to give somewhat more level than you ever will want with full preamp gain, and the loudness action will then be tailored to the actual operation of your sys-

tem. If you're using only a portion of the available power (say, with fairly efficient speakers) this way of adjusting the system will prevent the common anomaly of conventional loudness controls: excessive "compensation" at high volume settings.

Also in the pushbutton array are two for use with the speaker relay box mentioned earlier; one controls the main speakers, the other the remote units.

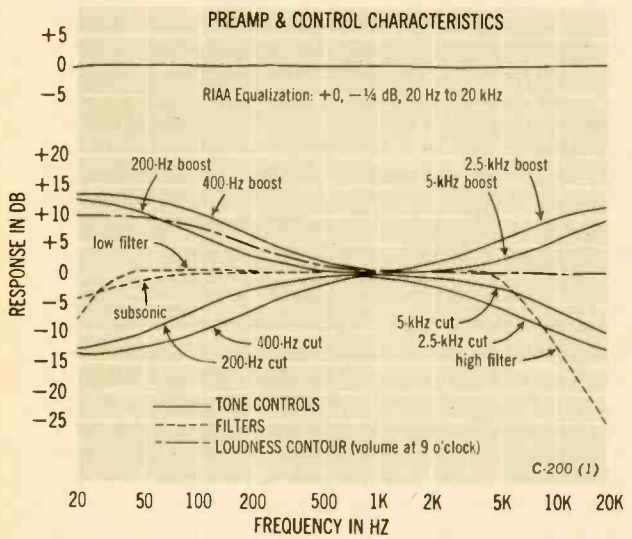
The remaining four knobs control inputs and modes. The main mode switch has positions for stereo, reverse stereo, and three mono modes (L, R, and L + R) each feeding both output channels identically from the selected input(s). The main selector knob has five positions for back-panel inputs (disc 1 and 2, tuner, aux 1 and 2) and two for front-panel inputs (mike and the extra aux). The tape monitor switch has positions for source, tape 1, tape 2, and the front-panel tape input. And the tape-copy knob will select tape 1 to tape 2, tape 2 to tape 1, and off.

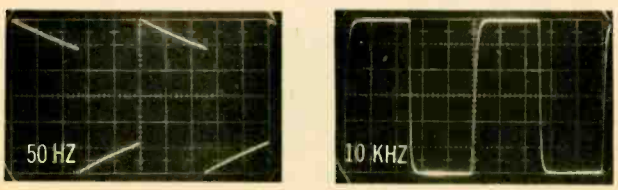
Actually, however, the inputs and outputs of up to four tape units can be used with the C-200, and the capabilities of each will depend on the connections used. In addition to the back-panel jacks there are the front-panel tape jacks plus the front-panel output and aux input. The decks connected at the back panel will be able to record from any input and will permit dubbing from one to the other (even while you are listening to a different program via the "source" selector) and will permit simultaneous playback monitoring from either deck (as long as it has the feature) in any of these uses. The front-panel tape jacks will allow dubbing *from* any of the other three, with simultaneous monitoring, but not dubbing to the others from the front-connected deck. Using the output/aux connections you can record from any source or dub to or from any of the other decks, using the tone controls and filters, if you wish, to equalize the signal you are recording—though of course none of this can be done while you are listening to another source and you cannot monitor from the tape as you record it. (This is not the only use for the front-panel output connections. The owner's manual suggests their use to A/B power amplifiers, but we consider the tape-recording-with-equalization option to have broader practical application.)

The preamp, in short, offers an extremely broad range of possibilities. It also performs superbly, as CBS Labs' test data show. The clipping point is above 12 volts—far more than any normal signal source will ever feed to the unit—and the distortion is at or below 0.02% in every measurement that the lab made. Note that the *least* impressive noise measurements (about 65 dB for the disc inputs or the mike) are measured for a sensitivity of 2 millivolts (for 2 volts' output); with heftier input signals even these good S/N measurements will be improved in practice, because the signal is increased while the noise is not. While there are a few units with better S/N measurements, those of the C-200 exceed the dynamic range to be expected in any input signal. And of course linearity is excellent; the RIAA response varies from flat by only about ¼ dB, while over-all response shows a departure of only about ⅛ dB between 20 Hz and 20 kHz.

In sum, the C-200 is an altogether fitting companion for the P-300 and is, in fact, a top-notch preamp for any stereo system. And when its performance and control flexibility are added to the five-year warranty and Teac's guaranteed specifications, the total picture is seductive indeed.

CIRCLE 146 ON READER-SERVICE CARD





Square-wave response

Accuphase C-200 Preamp Additional Data

Output at clipping, channels individually

L ch	12.2 volts for 0.014% THD
R ch	12.9 volts for 0.020% THD

Output at clipping, channels simultaneously

L ch	12.2 volts for 0.014% THD
R ch	12.9 volts for 0.020% THD

Input characteristics (for 2 volts' output)

	Sensitivity	S/N ratio
disc 1, 2	2.0 to 6.5 mV*	65 to 72 dB*
mike	2.08 mV	64½ dB
tuner	200 mV	86 dB
aux 1, 2	200 mV	86 dB
aux, front	200 mV	86 dB
tape 1, 2	203 mV	85½ dB
tape, front	203 mV	85½ dB

Harmonic distortion (2 V output)

L ch	<0.019%, 20 Hz to 20 kHz
R ch	<0.020%, 20 Hz to 20 kHz

IM distortion (2 V output) 0.002%

Frequency response
+0, −⅛ dB, 20 Hz to 20 kHz
+0, −½ dB, 10 Hz to 40 kHz
+0, −3 dB, below 10 Hz to above 100 kHz

RIAA equalization accuracy
+0, −¼ dB, 20 Hz to 20 kHz

*First figure measured with input-level control at maximum, second with control at minimum.

A "Budget" Tandberg—With Dolby

The Equipment: Tandberg Model 3641XD, a three-speed (7½, 3¾, and 1⅞ ips) stereo open-reel deck with Dolby B noise reduction, in metal case with wood ends. Dimensions: 15¾ by 16⅛ inches (front), 5⅜ inches deep plus allowance for feet, connecting cables, and controls; can be used vertically or horizontally. Price: $599.50. Warranty: two years parts and labor. Manufacturer: Tandbergs Radiofabrikk, Norway; U.S. distributor: Tandberg of America, Inc., Labriola Ct., Armonk, N.Y. 10504.

Comment: The "Tandberg 3600XD" specifies a series of recorders, all of which have crossfield bias head (X) and Dolby (D). There are several models; we chose the quarter-track stereo-deck version (Model 3641XD) as the one of overriding interest to American readers—who doubtless will refer to it as we generally do, by the series number, just as they have on past Tandbergs.

It is a "budget" model in the sense that, in Tandberg's words, it "is the only stereo tape deck in its price range to combine [the] Cross-Field recording technique [with] Dolby B." It also includes a number of other important features from Tandberg's more expensive decks: the peak-reading metering system about which we have waxed enthusiastic in the past, the automatic mixing of left and right inputs for mono recording (a big flexibility plus, assuming you *do* mono recording), and the excellent performance—even at the "low-fi" speed (for open-reel decks, though not in cassette equipment) of 1⅞ ips. Thus $600, while by no means cheap, is a modest price for all that the model offers.

The transport system is not the solenoid type, like that in the Model 9000X (HF test reports, October 1973), but is completely mechanical and built around the joystick control that has been used by Tandberg for a generation. The center position is "off"; it applies the reel brakes and releases the capstan drive. The up position ("free"), with the deck sitting vertically, releases the reel brakes as well for easy threading. The left and right positions are, respectively, for rewind and fast forward. The down position engages the tape with the heads and capstan for playback or recording. In addition there is a start/stop lever switch protruding from the lower head cover. It is used in recording or playback as a pause control; its "stop" position retracts the pinch roller slightly from the capstan without otherwise altering head switching or tape alignment.

With both head covers removed the relatively complex tape path can be studied. After passing the left-hand guide and a photoelectric tape sensor it goes through what looks like a pressure-pad assembly—actually a tape-backing cleaning pad to prevent debris on the tape from fouling the crossfield bias head. Then it passes the erase head and a second guide before coming to the recording-head assembly, consisting of the recording head proper (which carries only the signal to be recorded) above the tape and the crossfield head (which carries AC bias only) below it. Following another guide and an idler is the playback head, with a hum shield opposite it, below the tape; then another guide and the capstan/pinch-roller assembly and a final guide.

The photoelectric system (whose lamp, incidentally, doubles as the on/off pilot) will stop the motor whenever light reaches the sensor—because of a mis-threaded tape, because the tape has broken or run through, or because clear leader has been used—but it will not disengage the drive system. The hum shield near the playback head complicates but does not prevent marking the tape for physical editing; the pause control allows "rocking" the tape to find a precise cue. Physical editing thus is possible on the 3600, though it isn't as easy as the owner's manual implies.

The reel spindles have twist-to-lock finials that hold the reels in place even in the vertical operation. Between the reels is a speed-selector lever; to their right is a four-digit counter. The remaining controls are similar to those on the 9000X series: paired sliders for input and output levels, separate push-push recording-interlock and tape/source buttons in each channel, and a three-position switch for sound-on-sound or (mono) tape-echo operation. The input sliders control *both* mike and line signals; if you want only one source, you must make sure that the other is disconnected or, at least, that it carries no signal. The mike inputs are front-panel phone jacks. There is a stereo headphone jack on the front panel and a choice of pin or DIN line connections on the back.

The Dolby control on the front panel has positions for off, normal, filter, and Dolby FM. The latter position turns off the Dolby circuit in the recording amp while retaining that in the playback side and allows you to listen to the decoded broadcast while (if you wish) recording it without decoding. For this purpose the station's Dolby alignment tone is set to the 50% modulation mark (–6 VU) on the 3600's meters. The normal and filter positions both switch in the Dolby circuitry of recording and playback (encoding and decoding) modes, the filter being, of course, a 19-kHz pilot suppressor for use in taping (non-Dolby) broadcasts from FM. All positions but "off" light a pilot near the switch. There are no user-accessible Dolby alignment controls on the deck.

Since Tandberg uses its peak-reading meters in the 3600, their calibration is totally different from that of conventional metering systems. The "meter action" figures (see Additional Data) of 14½ and 12 dB low therefore represent the way in which Tandberg uses the tape's available headroom. "Standard" (NAB) 0 VU is well below overload, leaving a "pad" to absorb transients too brief to register on the meters; Tandberg's 0 VU calibration is near the overload point, since even very brief transients are displayed by the meters and can be "positioned" (via the recording level controls) at

or below this point, making maximum use of the tape's total dynamic range.

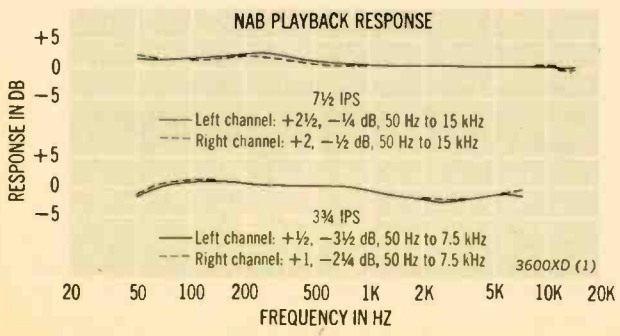
Unlike the meters in the 9000, these do not read playback values; they light up and display signal values only for source signals and only when the transport is in the recording mode (achieved by pressing a red recording button at the left of the head cover and putting the transport control at the right into the record/play position). If the recording selector buttons for either or both channels are then switched off, the meter for the appropriate channel(s) will stop functioning, though recording can be reactivated in either or both by pressing these buttons once again, as long as the transport has not been turned off in the meantime. Thus to preset levels you must press the appropriate channel selector(s), put the pause lever to "stop," and engage the drive in the recording mode. To begin recording, you release the pause lever.

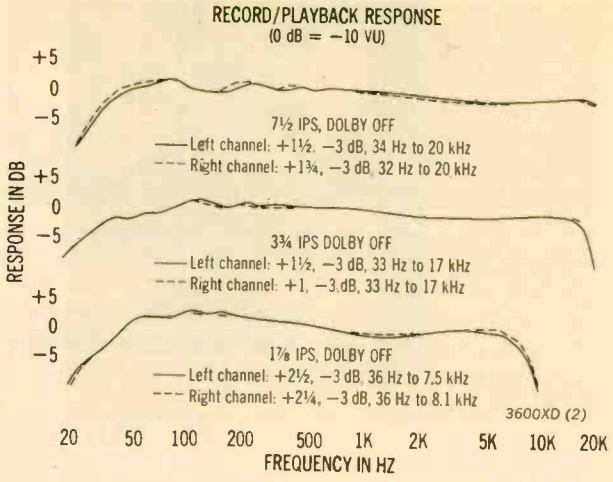
The lab data and the listening tests were all made with Maxell UD tape, though Tandberg says Scotch Classic and TDK Audua will give similar results. However, the manual warns that, if you should use other low-noise high-output tapes, it is best to keep peak levels about 2½ dB below the meters' 0 VU indication because these tapes may not provide as much headroom as the three already mentioned. For a fuller explanation of the meters and their influence on both S/N ratios (which can, in practice, be better than those shown—with respect to NAB 0 VU—under Additional Data) and harmonic distortion (which are influenced by noise to some extent at -10 VU), see the October 1973 report on the 9000X.

Both on the bench and in the listening room we found the performance to be very fine indeed. Even at 1⅞ ips we were able to record from a reasonably good FM signal (using the Dolby circuitry) with no audible increase in noise and only the barest loss in "bloom" at the high end. It took better signals than we could find on FM to demonstrate the superiority of 7½ ips over 3¾ as captured and reproduced by the Tandberg. The excellence of the lab's response and distortion data at these speeds readily demonstrates why this was so.

We did miss the "feel" and mechanical adroitness of the Model 9000X (which, even without Dolby, is a more expensive deck), but for home purposes we could find nothing in the 3600's technical performance to complain of. This is not to be wondered at since its audio electronics (as opposed to the 9000's transport-logic electronics) seem to be based on the earlier model. So if you can live without remote controls, automatic recording (with a timer), and the like, the 3600XD will give you much of the 9000's quality at a considerable saving.

CIRCLE 145 ON READER-SERVICE CARD





Tandberg 3600XD Additional Data

Speed accuracy		
7½ ips	1.8% slow at 105 VAC	
	0.9% slow at 120 VAC	
	0.7% slow at 127 VAC	
3¾ ips	0.9% slow at 105 VAC	
	0.3% slow at 120 VAC	
	0.07% slow at 127 VAC	
1⅞ ips	0.9% slow at 105 VAC	
	0.5% slow at 120 VAC	
	0.3% slow at 127 VAC	
Wow and flutter (ANSI weighted)		
7½ ips	playback: 0.03%	
	record/play: 0.04%	
3¾ ips	playback: 0.05%	
	record/play: 0.06%	
1⅞ ips	record/play: 0.10%	
Rewind time, 7-in., 1,800-ft. reel	109 sec.	
Fast-forward time, same reel	112 sec.	
S/N ratio (re NAB 0 VU; Dolby off)		
playback	L ch: 57½ dB	R ch: 57½ dB
record/play	L ch: 54½ dB	R ch: 55 dB
Erasure (400 Hz at normal level)	73 dB	
Crosstalk (at 400 Hz)		
record left, play right	48 dB	
record right, play left	58 dB	
Sensitivity (re NAB 0 VU)		
line input	L ch: 29 mV	R ch: 37 mV
mike input	L ch: 0.12 mV	R ch: 0.13 mV
Meter action (re NAB 0 VU)		
	L ch: 14½ dB low	R ch: 12 dB low
Total harmonic distortion (at -10 VU)		
7½ ips	<1.6%, 50 Hz to 10 kHz	
3¾ ips	<1.8%, 50 Hz to 10 kHz	
1⅞ ips	<2.4%, 50 Hz to 5 kHz	
IM distortion (record/play, -10 VU)		
7½ ips	L ch: 1.6%	R ch: 2.2%
3¾ ips	L ch: 2.4%	R ch: 3.5%
1⅞ ips	L ch: 3.8%	R ch: 5.5%
Maximum output (line, 0 VU)		
	L ch: 580 mV	R ch: 620 mV

Why you should select your turntable more carefully than any other component.

Every component is important to the total performance of an audio system, but the turntable is critical. It is the only component that physically handles your biggest investment in musical enjoyment: your record collection.

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Not so the turntable. A tonearm that does not allow the stylus to track the grooves lightly, accurately and with perfect balance can turn the stylus into a destructive instrument easily capable of lopping off the sharp contours which carry the high frequencies. When that happens, the clean high notes become fuzzy memories. Permanently. There's just no way to restore a damaged record. Even the best equipment can't replace notes once they're gone.

After considering what your records require for longevity, you should consider what you require of operating convenience and flexibility. For example, if you don't relish risking your stylus and records by handling the tonearm each time you play a record, you will want an automatic turntable. And if you desire to play two or more records in sequence, you will want a turntable with record changing ability.

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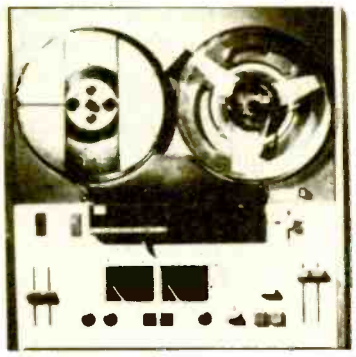
CIRCLE 44 ON READER-SERVICE CARD

by Robert Angus



Which Tape Format for You?

Open-Reel, Cartridge, Cassette—or Unisette?

ONLY A FEW years ago it seemed that every fourth or fifth letter to the editor of any magazine like HIGH FIDELITY started off, "I'm planning to buy my first tape recorder. Should I buy a cartridge, cassette, or open-reel machine?" Those of us who are paid to observe the goings-on in the tape industry wondered just how long it would be before one tape medium managed to bury the other two and which one would emerge the winner.

Now it appears that all three are managing to coexist. It's not uncommon these days to see stereo systems that have an open-reel deck and a cartridge or cassette unit. Each format seems to have found favor for particular purposes, and each accomplishes those purposes better than its rivals. As a result, a growing number of manufacturers are offering all three. There's a fourth system waiting in the wings (more about it later on), and backers of the first three aren't in the least concerned.

The three available systems became what they are, with their respective strengths and weaknesses, as a result of both heredity and upbringing, in a sense. Each has a heritage that determined the basic design concepts involved; each has been deeply influenced by the high fidelity environment in which it has grown to its present maturity. The degree to which each has learned to meet the technical needs of high fidelity use is tabulated in the series of "report cards" accompanying this article.

The Recorder and the Oxide Hatchery

Actually, ever since 1935, when BASF and AEG teamed up to produce the first magnetic tape and tape recorder, the relationship between software (the tape) and hardware (the recorder) has been that of chicken and egg. So before considering the equipment formats, let's have a look at the tape.

From the earliest days of tape making in the U.S. to fairly recently, the manufacturers had been content to buy raw iron oxide (actually rust) from giant chemical producers, then mill and refine it to their own tolerances. But a few years ago, E. I. du Pont introduced Crolyn tape, with a magnetic coating made from chromium dioxide, a laboratory substance that promised much better signal-to-noise ratios and better high-frequency response than iron oxides, particularly at low tape speeds. From the industry's point of view, chromium dioxide had two disadvantages: It cost more than iron oxide, and it

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required special biasing—which meant it couldn't be used to optimum effect on existing recorders.

From the point of view of the chemical suppliers, it had another disadvantage: If it caught on, it would cut into their sales. So Charles Pfizer, Hercules Powder, and other suppliers in the U.S. (plus those overseas) turned their research departments loose; they wanted an iron oxide that could do everything chromium dioxide does, but for less money and with no need for special biasing. The result was a new round of iron oxide formulations bearing mystical names like MRX_2, XHE, XHO^2, UD, SD, ED, and LH.

Those research efforts are continuing, and this year should see some oxides that are even better than the already improved formulations of 1973 and 1974. As tape makers narrowed the performance gap between chromium dioxide and the new ferric oxides, some who had introduced chromium dioxide tapes with great fanfare quietly phased them out of their lines. The same thing seems to be happening with cobalt, another "mystery" ingredient added to ferric oxides several years ago in order to boost performance. Scotch is the latest brand to drop it in favor of an improved iron oxide.

Other approaches have been talked about. Pure cobalt was suggested (by Graham Magnetics, a Texas company that announced plans to produce the raw powder—see "News and Views", HF, September 1972). Another coating is pure iron in the form of finely divided metal particles. Philips of the Netherlands has worked with it in the lab and claims it will outperform the signal-to-noise ratios of anything now on the market—by about 12 dB! But when (or indeed whether) the laboratory work might lead to a marketable product remains to be seen.

One new development has reached the market, however: ferrichrome. It contains two oxides—a lower layer of ferric oxide designed to capture bass and midrange frequencies, and a thin upper layer of chromium dioxide designed to improve high-frequency response and cut down on tape hiss by increasing tape output.

Ferrichrome, like chromium dioxide, benefits from special equalization and bias during recording and playback. The ideal equalization curve falls somewhere between that recommended for the better ferric oxide tapes and that recommended for Crolyn. For this reason there was, at the beginning of 1974, no tape deck on the American market capable of utilizing ferrichrome to the full. At least, that was the position of the Sony engineers who developed Ferri-chrome and of some independent testers.

At the 3M Company too, researchers had experimented with a layered ferrichrome tape and liked what they heard. They decided to introduce it in the new Scotch Classic series of premium tapes—but only in cassette format. And they felt that, while special biasing and equalization did improve performance, the improvement wasn't great enough to deter its use with a deck adjusted for conventional ferric tapes.

Meanwhile, Sony had incorporated a special Ferri-chrome switch position on its 1975 cassette decks. It then set about persuading other manufacturers to do likewise. Among those who did were Yamaha, Superscope, and Uher. (Sony and 3M aren't the only potential sources of ferrichrome tapes; Fuji Film in Japan has announced one, and European manufacturers are said to be experimenting with it.)

All of this work on oxide formulations, while it has resulted in performance improvements in all recorder formats, has affected each in different ways. And in spite of the "exotic" substances that have been used in tape manufacture, regular iron oxide remains the basic ingredient of magnetic coatings.

The "Reel" Professional

Open-reel recorders are, of course, the direct descendants of the professional quarter-inch mono tape equipment of the 1940s. Performance, operation, and features of the open-reel decks currently available to the consumer are closer to professional standards and practices than those of any other home format. Such specific features as 10½-inch NAB reels, large "true" VU meters, synchronous multitrack recording, and simultaneous playback monitoring during recording—all fairly common in today's models—are often called "professional" features.

Because of the inherent quality of open-reel recordings, particularly at the higher transport speeds, many experts have felt that the medium already was so good that the added bias and equalization switching necessary for the more "advanced" tape types would increase cost more than performance. Du Pont's Crolyn has never been made available on open reels, nor do there appear to be plans for offering ferrichrome in this form. The low-noise, high-density iron oxide formulations, however, have consistently found their way into the open-reel market—contributing to the steady improvement in performance standards, particularly at the slower transport speeds, for open-reel equipment.

TDK, for example, has offered its SD tape in open-reel format for several years. Audua, TDK's newest open-reel tape, takes advantage of the latest developments in ferric oxide research. Maxell and BASF market reels featuring their (respective) UD and LH formulations. Most of these tapes, like the premium formulations of other manufacturers, have found their way up "through the ranks" from experimentation originally aimed at improving

cassette performance. One exception—in addition to TDK's Audua—is the 3M Company's Scotch formulations; the company believes the demands on each system are sufficiently different to warrant individual approaches.

It is only within the last few years that manufacturers of open-reel decks have begun to allow for the proliferation of tape types by providing a significant degree of user adjustability in recording equalization and bias. Some (Ferrograph and Dokorder, for example) have offered continuously adjustable bias controls for some time. But most decks were factory-optimized for a single tape and could be adjusted only by a qualified technician until the advent of simple "tape switches" like those that already have been accepted in cassette equipment. Manufacturers as diverse as Akai, Sony, JVC, Pioneer, Revox, Teac, Technics, and Toshiba now offer open-reel models that can be user-adjusted.

Another feature brought over from cassette equipment is Dolby noise reduction—though, curiously, it made its first appearance in consumer tape equipment via KLH open-reel decks about a decade ago. From there it migrated to the cassette format, where it found its first significant role in home equipment. Though it seems to have found a cordial welcome among some users on its return to open-reel decks, its major stronghold remains the over-$200 cassette deck.

Most decks continue to use professional (or "true") VU meters as opposed to the cheap imitations, which once were the bane of inexpensive consumer equipment. But many now use "peak reading" indicators or meters, which on the one hand offer a simpler route toward precise setting of recording levels for the nonprofessional user, and on the other provide even the professional with additional important information, and hence they are showing up on an ever wider variety of professional gear.

And of course the three-motor transport of professional decks is commonplace in today's home equipment. Three motors are virtually indispensable for handling a full 10½-inch reel of tape. Capstan motors on current equipment may be quite sophisticated. Hysteresis-synchronous motors are fairly common; a growing number of manufacturers are turning to DC servo-controlled motors for their better models. Akai, Nagra, Revox, and Sony are among those that have done so. A number of companies use dual-capstan drive for extra stability in tape motion, adapting the idea from professional and instrumentation equipment. More often, however, double capstans are used to accomplish bidirectional operation, normally with an automatic-reverse feature.

Automatic reverse can imply an unusually elaborate complement of heads. As many as six have been used to allow stereo recording in both directions; some models allow stereo or quad recording in one direction and stereo playback in both. Since there are no limitations placed on the equipment designer in choosing the number and type of heads he will use, a wide variety of head complements are available. Some models (the Revox A-700, for example) offer interchangeable plug-in head assemblies, usually so the deck can be used for either quarter-track or half-track operation.

Which Tape Format for You?

The heads themselves may be of the newer ferrite or glass-and-ferrite types, though here again manufacturers haven't made as big a deal over open-reel heads as over their cassette counterparts, because open-reel performance already was so good. There are some head configurations available in the reel format that, because of physical limitations, have not been adapted to the others: the crossfield biasing head (which is intended to improve high-frequency response, particularly important at lower tape speeds), synching heads, and the like. And of course the large, open, accessible head assemblies of open-reel equipment contribute to its being the first choice hands down where physical tape editing (splicing—as opposed to "electronic editing" via a pause control) will be required.

The "professional" format thus remains the one that will appeal most to users who want at least a close approach to truly professional equipment in performance standards and functional flexibility. It also is the most expensive—in terms of initial investment, in tape consumption, and in storage-space requirements. But for the user who wants to have the best that tape can offer (particularly in terms of *recording* capabilities) it remains the format of choice.

Eight Tracks and Four Wheels

The tape cartridge has come a long way in overcoming the limitations of its heredity. Originally a mono endless-loop system, it was adapted first to the four-track format for stereo and later (by the Lear Jet people) to the eight-track version, which would hold double the recording time of its predecessor on the same loop length. At its introduction in 1965, the eight-track cartridge was intended simply as a music playback system for cars. Today it may incorporate many high fidelity characteristics and has been further adapted (as Q-8 cartridges) for quad.

Its inherent limitations are less a result of its relatively low transport speed (3¾ ips) or even its nar-

row track width (0.021 inch—like that of stereo cassettes) than they are of the mechanical construction of the cartridge and the player. The endless loop of tape within the cartridge must twist and slide across itself in use. Moreover, the only drive is from the capstan, which turns the "pancake" of tape within the cartridge by pulling the free loop of tape past the heads. Therefore there is less opportunity to isolate the tape at the head from motional irregularities caused by the friction of the tape itself than there is with reel and cassette mechanisms.

At the point where the tape loop is joined together, a metallic foil strip triggers a mechanical system that repositions the head in line with the upcoming set of tracks. Conceivably a fixed eight-gap head might be used for the purpose, but the cost of building such heads makes them prohibitive for regular consumer use. Hence the mechanical stability of the head, as well as that of the tape, is necessarily compromised to some extent by the design of the cartridge.

Because of these limitations, and because the cartridge originally was not intended for home use as such, most designers have felt that cartridge users weren't really interested in high fidelity performance and that the increased cost of adding the sort of refinements being applied to the cassette would not be justified in the eight-track medium. Research intended to produce better tapes for cassettes did result in some benefits for the cartridge, but (again, 3M aside) the oxides by which blank cartridges were improved generally made their appearance first in the cassette format.

For the same reason, Dolby noise reduction and the newer head materials have been slower to come to cartridges than even to open reels. So far no cartridge-equipment manufacturer has utilized either ferrite or glass-ferrite heads. But several manufacturers are offering Dolby cartridge decks or models with the similar ANRS system of noise reduction. And the growing application of improved oxides to blank-cartridge manufacture finally has resulted in the use of tape-matching switches. Wollensak currently is the only brand to offer both Dolby and tape switching, the latter with one position for 3M's Classic cartridges, which were specifically formulated for the eight-track medium.

While the other two available formats have profited from ever greater sophistication in motor and transport design, two factors have worked against this in cartridge equipment. First, there is no option for separating drive function and designing separately for each. Aside from the capstan, the timer or counter is the only other driven element; multiple motors therefore cannot be applied to the format. Second, the relatively low levels at which prices are considered "high" in cartridge equipment would appear to rule out—at least for the present—such sophisticated but costly developments as electronically servo-controlled drive motors.

The physical design of the cartridge also limits the head configurations that can be used with it. The tape can move only in one direction. (Among other things, this puts severe restrictions on the ease with which a given selection on the tape can be located. Some manufacturers offer "fast forward" features—which generally aren't very fast because of the tape's involuted path—but reverse is impossible.) Since the tape's entire contents will be reproduced, in sequence, when played in one direction, automatic reversing obviously is unnecessary. But simultaneous playback monitoring during recording might have some value for the serious recordist. There are two head openings in the cartridge, each with its own pressure pad. One normally is used for the erase head, the other for a combined record/play head. Combined erase/record heads have been built (both for open-reel and cassette equipment) to allow simultaneous monitoring with only two heads, but they have not been applied to cartridge decks, presumably because, again, "the cartridge user is not interested in the finer points of high fidelity."

These attitudes, and the physical limitations of the cartridge, actually have had side benefits for the medium. Cartridge equipment has perforce remained relatively simple and convenient to use. Such complexities as are found in cartridge recorders, in fact, usually consist of added switching to enhance the convenience values of the equipment: automatic-eject functions and the like. As a result, this format generally is considered the most convenient of the three, and confirmed cartridge users may think today's better cassette and open-reel equipment appallingly complex. They also may find it discouragingly expensive, though a cassette deck of similar performance capability will cost about the same as a record/play cartridge deck.

Cassettes: Up from Dictation

The first cassette machines, brought here by North American Philips in 1964, were mono only and intended for dictation. Some mono music cassettes were introduced (in Europe), but it took about three years before the advent of stereo cassette heads, as the growing success of the then-new eight-track cartridge format (with the same track width) began to convince recording companies that the cassette, too, might be taken seriously for music reproduction.

As an index of the development that has taken place recently in the cassette format, remember that until about two years ago the best cassette decks cost no more than $300, and supporters of this format were pointing out that the cassette was "nearly as good as a record." Today few self-respecting audiophiles consider spending less than $300 for a cassette deck; and any of the better units,

playing one of Advent's Dolby-encoded chromium dioxide prerecorded cassettes, is likely to give the disc version serious competition. And, of course, the cassette medium has been the primary beneficiary of literally millions of dollars' worth of research on oxide technology during the last five years.

The development of special features for matching recording characteristics to Crolyn and other new tape formulations is a fascinating history in itself. The earliest chromium dioxide switch position on cassette decks altered only the bias; today's switching alters playback, as well as recording equalization to make better use of chrome tape's potential. Most home cassette decks today have a two-position switch offering options for chromium dioxide or standard ferrics. Many—particularly in the higher price brackets—offer a third position: either that for ferrichrome or one for the extremely "hot" ferric oxides (like Maxell UD) that require some increase in bias but no change in recording or playback equalization. In some, bias and equalization may be handled by separate switches, allowing a somewhat greater range of options.

What's new this year on a number of cassette decks—including models from Dual, Uher, Teac, Technics, Yamaha, Kenwood—is automatic bias adjustment. These decks contain a finger that searches for a coating indentation or key well on the back of chromium dioxide cassettes. If the search is successful, the deck automatically adjusts for chromium dioxide. If not, it equalizes and biases for ferric oxide tape. These systems presuppose, of course, the use of chrome cassettes with the key well molded into the case, and an increasing number of tape manufacturers are obliging.

Some sort of noise reduction (usually Dolby B) has become virtually a must on cassette hardware with pretensions of high fidelity. The available Dolby models are legion; one alternative is the ANRS system, developed by JVC and now licensed to other manufacturers. (Technics was the first brand other than JVC to offer it.) In contrast to these compress/expand systems that must be used in *both* recording and playback, Philips introduced the playback-only DNL system some years ago. Although it will help reduce audible noise in any cassette, it is rarely offered today. (One notable exception is the Nakamichi 1000, which includes Dolby B.)

If noise reduction has successfully overcome one inherent weakness imposed by the cassette's low transport speed and narrow track width (the audibility of its tape hiss), several means are employed against another: the limited overload margins, particularly at high frequencies. The two together put a premium on the exactitude with which the signal is "placed" between overload (at the top of the dynamic range) and noise (at the bottom).

To this end, meters have been improved from the

"toys" of early cassette recorders to carefully designed "true VU meters" with or without overload indicators of various sorts. Some meters read in peak values (or, in one Technics model, are switchable for either peak or average values) to show maximum instantaneous demands being made on the tape; others are calibrated for a 0 VU several dB below the original reference standard to restore the missing headroom above average-reading values.

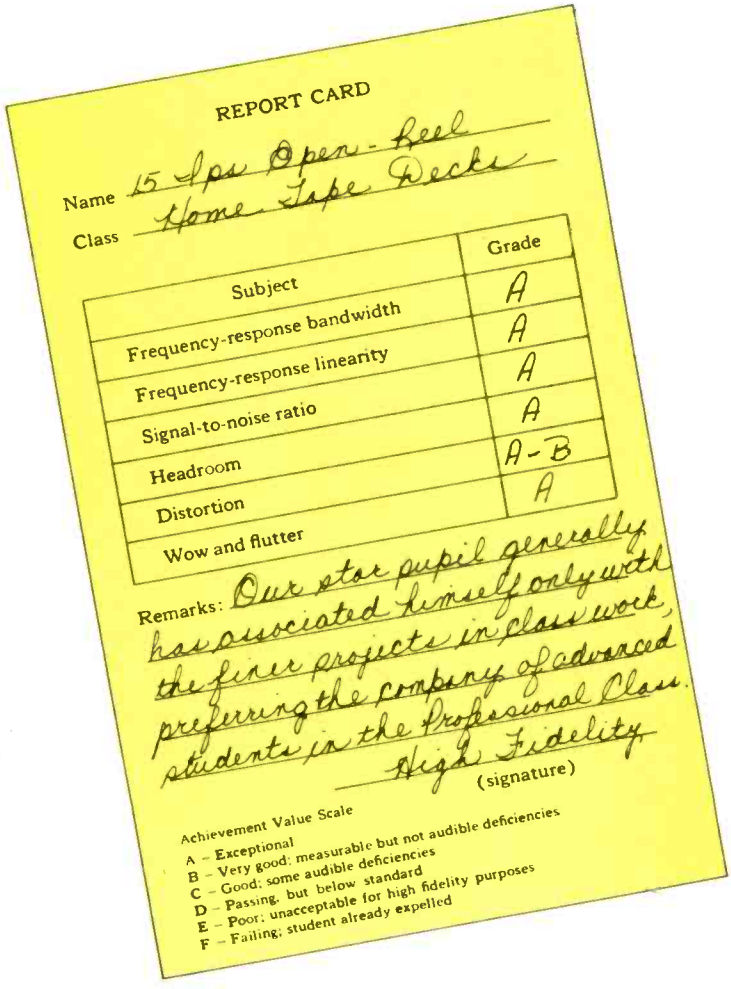
Akai offers its Automatic Distortion Reduction System (a feedback-type limiting technique to prevent tape overload) on some models. And many manufacturers have automatic level controls of one sort or another. This last has been upgraded in a most dramatic manner. If you still think of ALC as something that no music lover ever would use, you're behind the times. Akai's Compute-o-Matic control is similar to ALC, but it holds whatever recording level the highest previous peak has set it to and hence, unlike ALCs, involves no compression at all once it is set. These devices often will provide optimum levels with little or no audible side effects—certainly preferable to bungled home recordings with all-too-audible noise or distortion or both.

Ferrite heads are, of course, more common in cassette equipment than in any other format—though argument remains about their performance vs. that of conventional heads. There is no argument, however, about their ability to withstand tape wear and hence preserve like-new performance longer. Perhaps a more challenging development (since it brings new and readily apparent capabilities to cassettes) is the use of multiple heads. Sometimes they are used for improved high-frequency playback performance; the Advent 202 is a playback-only deck that has a narrow-gap playback head where the conventional (and necessarily broader-gap) record/play head normally goes, while such decks as the top Nakamichis and the Teac 850 use such a head for playback monitoring during recording as well. Other models (notably the Technics RS-279US) use the extra head for monitoring but a conventional record/play head for regular playback.

And an extra head is used in some bidirectional-recording decks, such as the Toshiba PT-490 [see

Grading the Tape Formats

After midterm examinations, we have graded home tape decks as a class on the basis of performance. The deck class is, of course, limited to tape units that might be used as one component in a stereo or quad system and excludes hybrids (radio/cassette portables, eight-track/phono compacts, and the like) and professional equipment. Since there's a wide variety of designs available in any given format, most of the grades represent a spread from the finest performance to the poorest that a purchaser can regularly expect in each format. The accompanying article discusses some of the factors that influence the grades a particular deck might earn if it were to be rated individually—as our test reports do. And of course the way you use the deck and the kind of program material you record will further influence the performance you achieve in your chosen format.



REPORT CARD

Name 15 ips Open-Reel

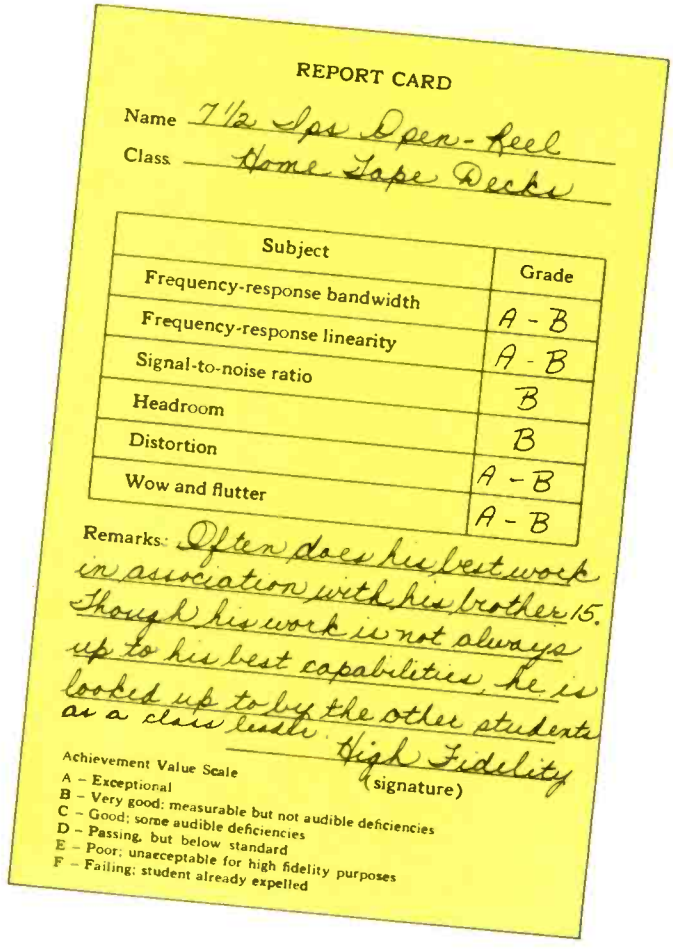
Class Home Tape Decks

Subject	Grade
Frequency-response bandwidth	A
Frequency-response linearity	A
Signal-to-noise ratio	A
Headroom	A
Distortion	A-B
Wow and flutter	A

Remarks: Our star pupil generally has associated himself only with the finer projects in class work, preferring the company of advanced students in the Professional Class.

High Fidelity
(signature)

Achievement Value Scale
A – Exceptional
B – Very good: measurable but not audible deficiencies
C – Good; some audible deficiencies
D – Passing, but below standard
E – Poor; unacceptable for high fidelity purposes
F – Failing; student already expelled



REPORT CARD

Name 7½ ips Open-Reel

Class Home Tape Decks

Subject	Grade
Frequency-response bandwidth	A-B
Frequency-response linearity	A-B
Signal-to-noise ratio	B
Headroom	B
Distortion	A-B
Wow and flutter	A-B

Remarks: Often does his best work in association with his brother 15. Though his work is not always up to his best capabilities, he is looked up to by the other students as a class leader.

High Fidelity
(signature)

Achievement Value Scale
A – Exceptional
B – Very good: measurable but not audible deficiencies
C – Good; some audible deficiencies
D – Passing, but below standard
E – Poor; unacceptable for high fidelity purposes
F – Failing; student already expelled

REPORT CARD

Name 8-Track Cartridge

Class Home Tape Decks

Subject	Grade
Frequency-response bandwidth	B-D
Frequency-response linearity	B-E
Signal-to-noise ratio	C-E
Headroom	C
Distortion	C-D
Wow and flutter	C-E

Remarks: Except in a few projects Curt has demonstrated little capacity for improvement. He seems poorly motivated for performance goals.

High Fidelity
(signature)

Achievement Value Scale
A – Exceptional
B – Very good; measurable but not audible deficiencies
C – Good; some audible deficiencies
D – Passing, but below standard
E – Poor; unacceptable for high fidelity purposes
F – Failing; student already expelled

REPORT CARD

Name Cassette

Class Home Tape Decks

Subject	Grade
Frequency-response bandwidth	B-D
Frequency-response linearity	A-D
Signal-to-noise ratio	B-D
Headroom	B-D
Distortion	B-D
Wow and flutter	B-D

Remarks: A highly motivated pupil, Cass is doing a fine job of rising above his own limitations, though the limitations show very clearly in some projects.

High Fidelity
(signature)

Achievement Value Scale
A – Exceptional
B – Very good; measurable but not audible deficiencies
C – Good; some audible deficiencies
D – Passing, but below standard
E – Poor; unacceptable for high fidelity purposes
F – Failing; student already expelled

REPORT CARD

Name 3 3/4 Ips Open-Reel

Class Home Tape Decks

Subject	Grade
Frequency-response bandwidth	B-C
Frequency-response linearity	A-C
Signal-to-noise ratio	B-C
Headroom	B-C
Distortion	B-C
Wow and flutter	A-C

Remarks: All present work is done in association with brother 7½, though work does not meet 7½'s generally high standards.

High Fidelity
(signature)

Achievement Value Scale
A – Exceptional
B – Very good; measurable but not audible deficiencies
C – Good; some audible deficiencies
D – Passing, but below standard
E – Poor; unacceptable for high fidelity purposes
F – Failing; student already expelled

REPORT CARD

Name 17/8 Ips Open-Reel

Class Home Tape Decks

Subject	Grade
Frequency-response bandwidth	C-E
Frequency-response linearity	B-D
Signal-to-noise ratio	C-E
Headroom	C-D
Distortion	B-D
Wow and flutter	B-D

Remarks: 17/8 has been close to flunking out and has a growing record of absenteeism. But some work, particularly with crossfield leads, is surprisingly good.

High Fidelity
(signature)

Achievement Value Scale
A – Exceptional
B – Very good; measurable but not audible deficiencies
C – Good; some audible deficiencies
D – Passing, but below standard
E – Poor; unacceptable for high fidelity purposes
F – Failing; student already expelled

HF test reports, January]. Here, however, the extra head is for erasing in the second direction of tape travel, while recording and playback in both directions are handled by a single head. Bidirectional machines normally are equipped with dual capstans (one for each direction), though this feature originally was introduced into cassette decks (by Sony and others) to increase stability and precision in (unidirectional) tape motion past the heads.

The cassette medium puts no limitation on the type of motor—or motors—used. Some decks (the Tandberg TCD-310, for example) have a servo-controlled motor system for the capstan and a separate motor (or motors, though there is some argument over the desirability of a three-motor cassette deck) for tape tensioning and fast-wind functions. More conventional hysteresis-synchronous motors have become almost commonplace as a route to speed accuracy.

There are other recent developments that have been vigorously advertised, though one might question the importance of their contributions to the cassette medium. One is front loading, an approach that can be helpful if you must put your deck on a shelf at or near eye level but that tends to interfere with visibility of the cassette during use and sometimes makes for relatively complex mechanical design. Another is "memory rewind"—a feature that stops the rewind automatically at a spot predetermined by the counter setting and, in at least one model, automatically reverts to playback when the tape stops. Closely related are the various "search" modes introduced by several manufacturers as an aid to finding an exact spot on a cassette. Their utility (which can be considerable) will depend both on the operation of the specific design and on the use you expect to put it to.

The cassette obviously is unmatched for compact storage. Convenience is, for most purposes (other than background music), at least as great as that of any other tape medium. Costs are reasonable for any given performance level, and the range in both decks and tapes today is extremely wide. It's no wonder, then, that the cassette has achieved immense popularity among recordists in less than a decade.

BASF's New Super-Hybrid

Finally, there's that new format, the Unisette. Developed by BASF initially for instrumentation and professional use, the Unisette is an oversized cassette designed to overcome professional complaints about the conventional cassette. For example, it uses standard quarter-inch tape in a shell about half again as large as a conventional cassette (and therefore curiously reminiscent of an old—and unsuccessful—RCA design from precassette days). Thanks to a magnetic stripe on the label, it's possible to encode indexing, equalization, or other information magnetically, so the Unisette can be stored in an automatic retrieval system or used with a minimum of manual adjustments.

The first models come in 30-, 40-, and 60-minute lengths when recorded at 3¾ ips using both directions of tape travel. Actually, the Unisette can be recorded at any speed and might be used in a single direction only—say, for quad. These cassettes feature a large symmetrical opening for virtually any head configuration instead of the three small (and two tiny) openings on the Philips cassette that have been the bane of engineers wanting to introduce separate recording and playback heads.

There's a locking system that holds the tape firmly in place when the cassette is not in use. The tape guidance system is built into the playback unit, not the Unisette itself. The locking retracts when the Unisette is used, leaving the tape "floating" within the shell. The results are claimed to be much lower wow and flutter, increased fidelity, and greater flexibility in use.

For example, a super-slow-speed Unisette with multiple mono tracks might hold an entire talking book for the blind. A higher speed (perhaps 7½ ips) might be used for high fidelity music reproduction or for field recording. And the mechanism should be more reliable in language laboratories than are conventional cassette decks. Like the cassette, the Unisette has a notch with a removable pin that prevents accidental erasure.

On paper, the system is intriguing. What has some observers wondering about its viability, however, is the tremendous head start of the other systems and the fact that the Unisette's advantages over both the open reel and the standard cassette seem to be marginal for home music purposes. That is, it seems to offer no improvement in fidelity over open-reel tape and little improvement in tape handling over the more compact conventional cassette.

Be that as it may, Aiwa has produced prototype players for home use, and Willi Studer (the company that makes Revox equipment) intends to market a professional Unisette deck. Other manufacturers (including Ferrograph) have been mentioned as possible producers of home audio equipment.

So far, manufacturers of cassette, cartridge, and open-reel equipment haven't greeted Unisette with the hostility they once displayed to tape formats other than their own. The detente that has developed among backers of the various systems—to say nothing of the hobbyists who use tape—has made it possible for each system to benefit from development of the others. ●

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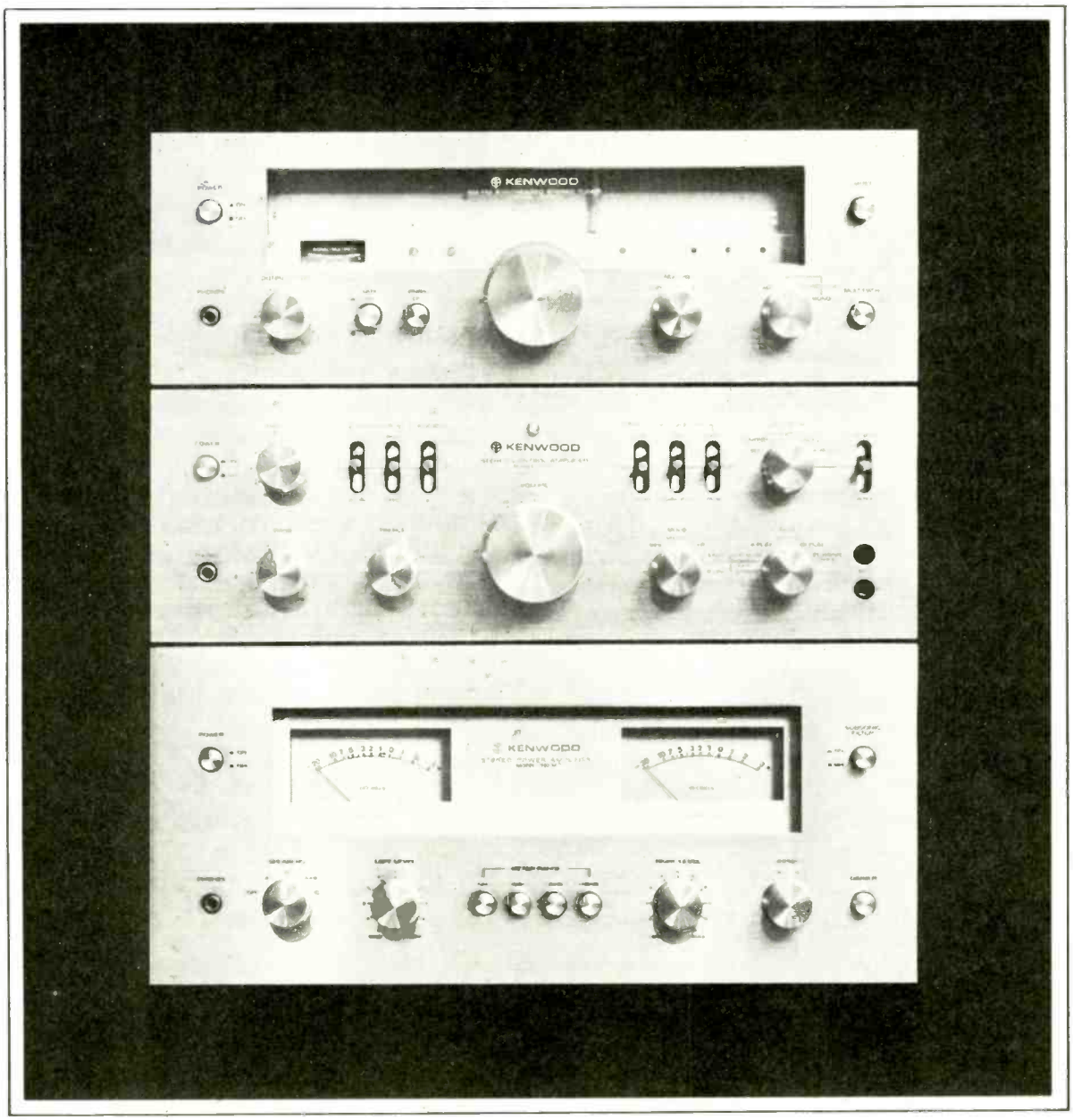

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CIRCLE 31 ON READER-SERVICE CARD

How to Interpret Our Tape Recorder Tests

You don't have to be an engineer, but you should understand these basics.

by Edward J. Foster

WHEN YOU OPEN the pages of HIGH FIDELITY to the equipment review section, you are greeted with an abundance of technical data describing the performance of the newest audiophile equipment—receivers, amplifiers, loudspeakers, turntables, pickups, and, to an increasing extent, tape recorders. Tape equipment is significantly more complex than it was even five or ten years ago, and the tests required to document its capabilities naturally have become more complex too.

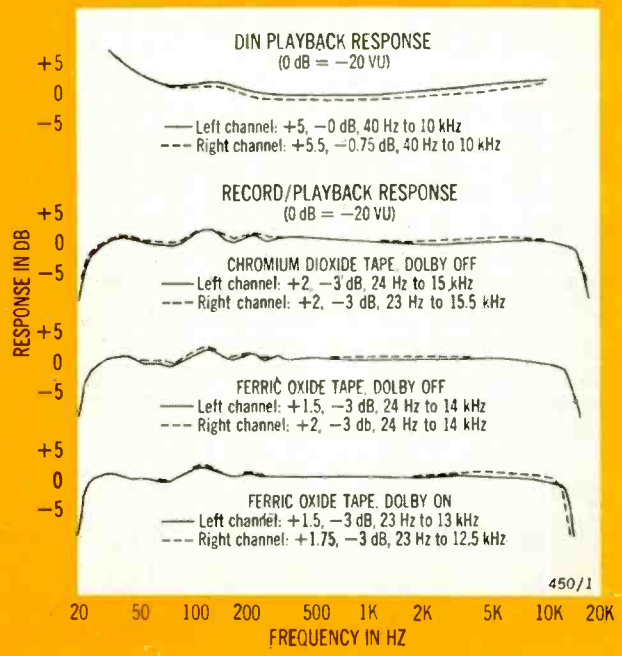
The HF reports are essentially based on two types of testing. There is a description of the deck, commenting on its physical and functional properties, on the uses to which they may be put in the home, and on the results of in-use listening tests. And there are technical data that tell you about the performance of the equipment. Both are important. The commentary provides the information you need in order to sift through the available equipment that suits your budget and to eliminate those machines lacking the features you will use. The technical data then let you select the unit with the best performance within the remaining group. Technical data are not, in and of themselves, quite the absolute index of performance that they might appear to be; they require interpretation. This article is intended to help you in that interpretation. It is less concerned with the "how" of the tests than with the "why" and the "so what."

Being an electromechanical device, a tape recorder is tested in two categories. There are mechanical tests of speed accuracy, wow and flutter, and rewind and fast-forward times; and there are electrical tests of response, distortion, signal-to-noise ratio, erasure, crosstalk, sensitivity, output level, and meter action. Let's take the electrical tests first.

Electrical Tests

Before we discuss individual tests, one basic reference must be clearly understood: the "0 VU" against which so many factors are measured. HIGH FIDELITY's tests use a single, separate reference standard for each of the three tape formats: an NAB test tape for open-reel units, a standard test cartridge (produced by RCA) for eight-track decks, and a DIN test cassette for all cassette units. These standards are well defined for each area—particularly NAB standards for the higher open-reel speeds and the DIN standard (actually based on the original Philips cassette specifications) for cassettes.

All data derived from these references therefore represent absolute performance, readily comparable from one unit of a given type to another, in the sense that all share the same basis of reference—the nominal maximum recording level of the format represented by the "standard 0 VU." Thus when HF says a measurement is made at "–10 VU," the specified level is 10 dB below the 0 VU *of the reference test tape.* The manufacturer may set his meters against a different 0-VU "standard," however. If he does so, this will influence the *actual* performance (as opposed to the absolute performance of the test data) achieved in using the recorder; so will the way in which any given metering system is used by the deck's owner. Whenever unconventional metering systems make actual (in-



The top (playback) curve of this group, taken from an actual report on a cassette deck, shows the rising characteristic at the bass end that is (at least in part) attributable to the "fringing effect" when measurements are made with standard, full-track test tapes. "Contour effect," here readily visible as the bumps or wiggles in the record/playback curves, shows in the play-only curves as a slight rise above 100 Hz; in some equipment it cannot be seen in the playback curve at all, though it is a playback phenomenon, for reasons explained in the accompanying article. The lowest and highest frequencies plotted for playback response are limited by the test tape; beyond these points response (which is exceptionally good in this example) can be judged only from the record/playback curves. Note the excellent similarity between ferric non-Dolby and ferric Dolby curves; the slight loss at the top end with Dolby is partly attributable to the 19-kHz filter that is switched in along with the Dolby circuit itself.

use) performance significantly different from that to be expected from more conventional metering, the fact is commented on in the report.

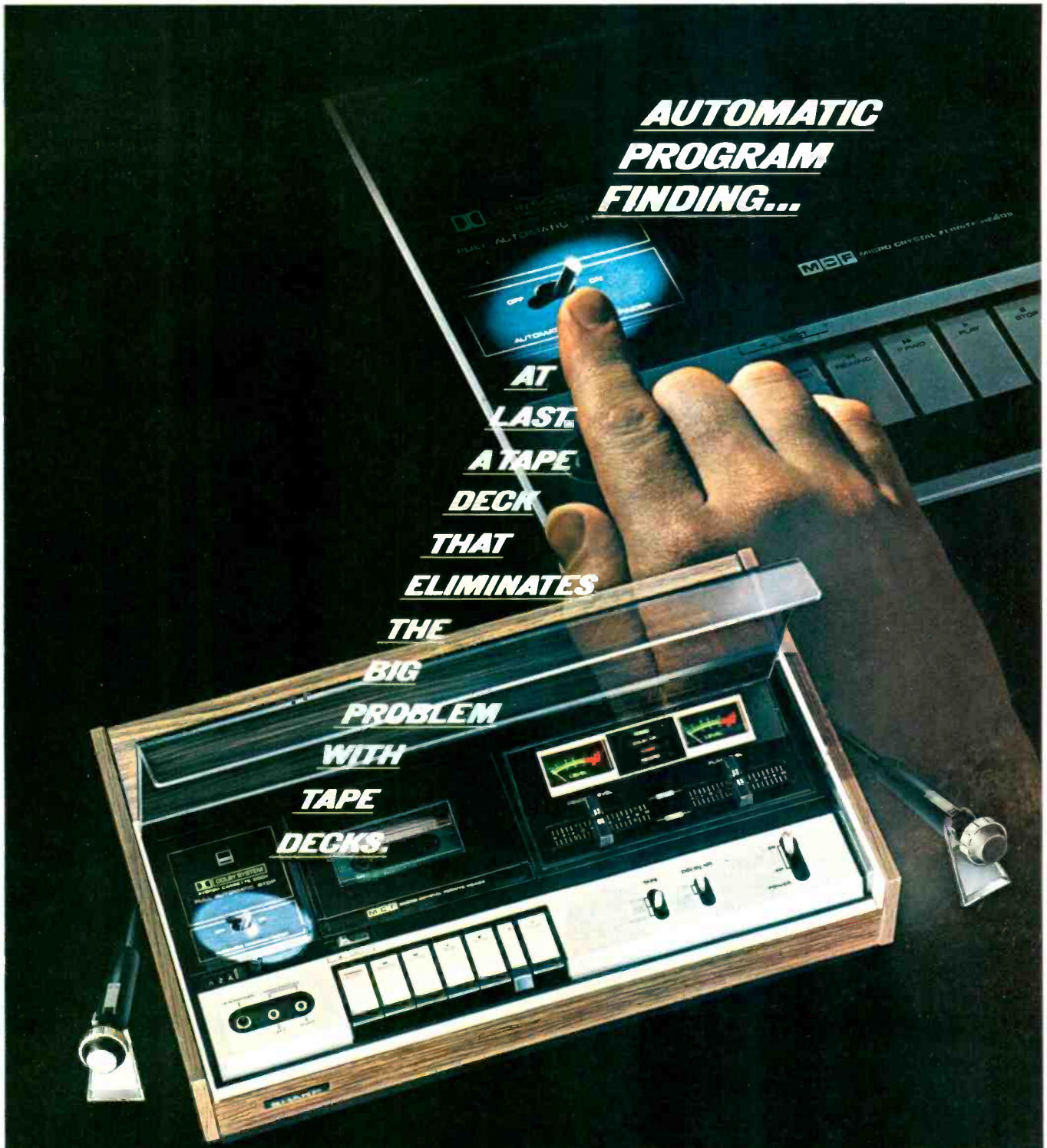
Obviously the intent here is to reduce the number of potential variables in testing competing units so that the reader can get from the data a clear idea of relative performance. In one respect, however, a variable is intentionally included: the tape with which the recorder is tested in measurements that require recording as well as playback. Every attempt is made to determine what tape (or, particularly in cassette decks, tapes) the recorder is optimized for and use that tape for all testing—including at least some of the listening tests. The reports state what tapes were used, and normally the tapes mentioned in the reports are the ones that should be expected to produce optimum results if you have a tested deck. (See "The Dolby Problem" following this article.)

Response. Two types of response curves are published in HF's reports: playback-only response and record/playback (R/P) response. The response curves are measured on each track of the recorder and at each tape speed at which the recorder was designed to operate. In addition, R/P curves may be drawn for several different tape types and with built-in Dolby switched in and out.

The playback-only curves are measured using the standard test tapes and indicate the deck's performance when playing *prerecorded* tapes. Standard test tapes, however, have certain limitations that you must understand to interpret the data correctly. Their frequency response is limited to 15 kHz at 7½ ips, 7.5 kHz at 3¾ ips, and 10 kHz on cassette. The fact that the curves do not extend beyond that point, therefore, does *not* mean that the player will not perform at higher frequencies. It simply means that this is the limit of the current standards. If the recorder's response is flat to the highest frequency on the test tape, it probably extends somewhat beyond—most likely in a manner similar to that shown in the R/P graphs.

The standard test tapes used are also recorded only at discrete frequencies; that is, they do not contain *every* frequency within the range they cover, but have only representative ones spotted across that range. The graph you see is a convenient and generally accepted way of displaying the data. But you should be aware that it is, in reality, a smooth curve drawn through the measured points. There *could* be eccentricities in the response between the measurement points that the graph does not accurately represent.

For example, there is the phenomenon called "contour effect," which causes irregularities in the low-frequency response of a tape player. At low frequencies the playback head is shorter than the recorded wavelength. Depending on the particular wavelength (frequency) and on the head design, the head gathers a different percentage of the magnetic flux on the tape as the frequency changes; at some wavelengths it gathers more flux and produces a higher output than at others. This results in a "bumpy" response curve. Since the standard tape is recorded only at specific frequencies, the bumps generally do not appear; and there is no way of



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being sure—from this curve alone—whether individual measurements lie at the peak of the bump, in the trough, or anywhere in between.

Depending upon the size and shape of the head and the shielding, the bumps may be major, minor, or practically nonexistent. In general, the smaller the head, the more severe the bumps. Thus the effect is most noticeable on cassette players where the head must be small enough to fit into the cassette housing. Again, therefore, contour-effect irregularities must be assessed from the R/P curves, rather than from the playback curves, even though it is essentially a playback phenomenon.

Another drawback of test tapes is that they frequently are "full track" (the entire width of the tape is recorded by the tape producer). When a full-track tape is reproduced by a head scanning only a portion of the tape, there often is a gentle rise in low-frequency response as the narrow track "sees" more and more of the width of the tape as the wavelength gets longer and longer. The phenomenon, called the "fringing effect," is similar to the one described above except that instead of "seeing" longitudinally along the tape (as it does in the contour effect), the head sees transversely across the tape width. To this extent, then, the use of standard test tapes imposes some inaccuracy on the test data; some rise (say, 3 to 5 dB) in the bass end of playback curves may simply be overlooked as caused by fringing.

Since R/P curves are made with the deck's own heads, the fringing caused by full-track tapes will not affect them. Nor, necessarily, will irregularities of playback equalization, which may be counteracted by reciprocal recording equalization adjustments. But with proper interpretation, the combination of both sets of curves gives you the information you need.

HIGH FIDELITY's R/P curves are measured with a sweep-frequency technique. An oscillator is slowly tuned across the entire band, and *all* frequencies are measured. Any low-frequency bumps from the contour effect are recorded in the R/P graphs, and the low-frequency playback response will show up more clearly in R/P curves than in the playback-only curves. And, if the deck has response beyond either limit of the standard tapes, only the R/P curves will display it.

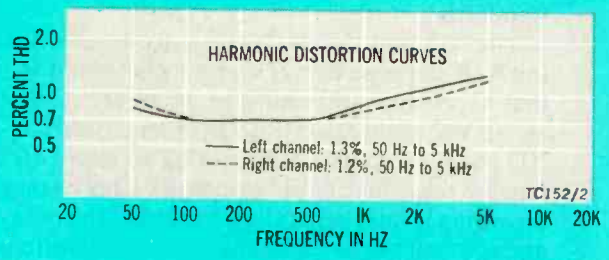
So what use do the playback-only curves have? They tell you how well the deck adheres to standards. A manufacturer *could* produce an excellent R/P curve by using nonstandard recording *and* play equalization. Such a deck would not reproduce prerecorded tapes correctly, nor would tapes made on it be reproduced correctly on other decks. You can spot this by comparing the playback-only response with the R/P response. If both are reasonably flat and similar through most of the range, you can assume that the manufacturer is adhering to standards and that the playback response at the extremes is quite similar to that of the R/P graph. But if the R/P graph is flat and the playback-only curve is tilted, the manufacturer has deviated from the standards.

You will find that HF's reference level for making R/P response curves varies from format to format. Open-reel and cartridge decks are measured at –10 VU while cassette decks are measured at –20 VU (each, of course, representing so many dB below the respective 0-VU standard). This change in recording level is generally accepted in the industry and is a tacit acknowledgement of the limitations of cassette tape, which has approximately 10 dB less headroom with respect to its standard 0 VU than the other formats do with respect to theirs. If the decks were measured at a level higher than those generally accepted, one would see the high-end response drop off as the limitations of the tape (saturation) started to show, and the curves would reflect the capability of the deck/tape combination only in loud passages that are loaded with highs. Conversely, some manufacturers spec their decks at –30 VU in an attempt to get the tape "out of the picture," and the curves show the capability only with moderate levels or moderate high-frequency content. At higher levels you will *not* get equivalent high-end response. That's the main reason why a 7½-ips open-reel deck has a cleaner, crisper high end to your ears than a cassette deck with a similar frequency response. It maintains its high-end response to a greater recording level than the cassette deck does.

Two points should be made. Much music—especially in the classics—does not have a flat energy distribution; there is less high-frequency energy than midrange energy. Much synthetic music, however, does have high-level, high-frequency signals. When HF measures decks at reduced level it essentially is indicating the capability of the deck itself. To achieve this response *on tape* you may have to record well below 0 VU or, if the deck has "tape switching," choose the type with the best high-end response for which the deck is set up. HF repeats the R/P measurements with different tape types so you can see the response with the more potent tapes.

HF also measures the R/P response of Dolby-equipped decks with the Dolby circuit both on and off. For low-level, high-frequency signals, the Dolby playback circuit is essentially an expander. Thus it emphasizes response irregularities (as explained in "The Dolby Problem"). Furthermore, any mistracking between the encoding and decoding sections of the Dolby—that is, any miscalibration of the Dolby levels—will result in anomalies of high-end response that are not apparent with the Dolby switched off. If the R/P response with Dolby looks like the R/P response without it, you know that Dolby calibration and tracking are correct.

Distortion. Both harmonic and intermodulation



A number of factors explained in the text influence tape response curves. This graph, from a cassette-deck report, shows typical THD rise at bass frequencies and is not carried above 5 kHz because measurements at the next point (10 kHz) did not provide useful results. THD figures this low (0.7% at some frequencies) seldom can be measured; noise 50 dB below 0 VU will register as 1% distortion in tones recorded at –10 VU.

distortion are measured on tape recorders. They are record/play figures only. Standard test tapes are not used, because distortion enters the picture mainly in the *recording* process. A well-designed recording amplifier does not introduce significant distortion, which results mostly from nonlinearities in the tape itself, augmented or ameliorated, as the case may be, by the bias level for which the recorder was designed. Extended (though not necessarily "flat") high-frequency response can be achieved by cutting back the bias level somewhat, but this increases the distortion.

By amplifier or receiver standards, the distortion level of tape recorders may seem excessive—frequently in the region between 1 and 2% for harmonic distortion and 3 to 5% for IM. Fortunately, most of the harmonics generated are of low order (mainly the third harmonic) and therefore are not too noticeable in practice. HF's reports show harmonic distortion numerically (as a percentage of THD for a specified frequency range) and usually provide the same information in graph form as well. The recording level at which harmonic distortion is measured is –10 VU.

You may be surprised to see the distortion curves end at 5 kHz on most cassette players and 10 kHz on open-reel decks. The reason is that the *measured* performance generally is meaningless above those frequencies since the playback head and electronics do not respond above about 15 kHz on cassette decks and 20 or 30 kHz on open-reel machines. Thus the harmonics generated simply don't show up in the output. Typical harmonic-distortion curves tilt up at low frequencies, reflecting the boost in recording equalization below 50 to 100 Hz and also the fact that bias high enough to achieve minimum distortion at low frequencies would be excessive for optimum performance at higher frequencies. Minimum distortion with normal bias generally occurs in the region between 400 Hz and 1 kHz and rises thereafter due to the reduced capability of the recording tape when faced with the rising high-frequency recording pre-emphasis. At still higher frequencies the measured harmonic distortion appears to drop as explained above.

IM distortion is measured at –10 VU by recording two tones simultaneously and measuring the difference frequency or "beat." Generally the IM distortion will be higher than the harmonic distortion.

In selecting a tape deck, the lower the distortion figures the better, but it is difficult to give firm guidelines. Again, tape distortion tends to be "soft"—that is, much less noticeable than corresponding amounts in strictly electronic componentry.

Signal-to-Noise Ratio. All S/N ratios published by HF are referenced to the standard 0-VU recording level for that format. All the measurements are limited to the audio bandwidth; any subsonic or supersonic noise is eliminated but no "weighting" is done. Such weighting is useful if you want figures that will more closely approximate audibility factors, though results can be equivocal unless you know precisely what *kind* of weighting is involved. Some manufacturers do weight their measurements, which improves the specified S/N ratios. Also, a manufacturer may use a higher-than-standard 0-VU recording level as a reference, which again improves the reported figure. By reporting unweighted noise referenced to the test tape's 0-VU level, HF publishes "conservative" figures that are measured in the same way for all units of a given format.

Two sets of measurements are made. One is the playback-only S/N ratio. This tells you the noise level of the playback head and electronics only and corresponds to what you can expect from an ideally recorded tape. In practice, however, you won't achieve as good a figure since most prerecorded tapes are not as quiet as a good deck is in the playback mode.

The second measurement is of the R/P signal-to-noise. This includes the effect of bias noise, tape noise, and recording amplifier noise. Furthermore, the HF measurements are made with the recording level control set wide open, giving you "worst case" figures, since any noise at the input stage will be amplified to maximum. Some manufacturers spec S/N with the level control at minimum, for a "best

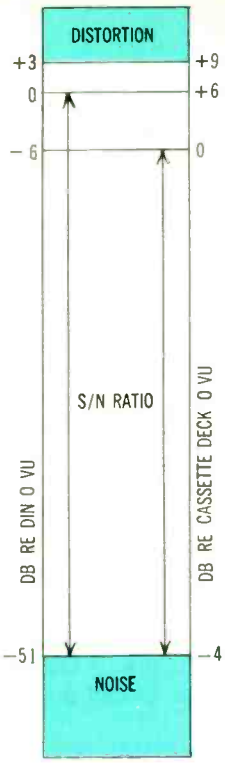
case" figure. You normally will be using the equipment somewhere between the two extremes. The precise setting of the recording controls will depend on the levels delivered by ancillary equipment, the nature of the signals, and the way you "read" the level indicators on the deck. But the S/N ratio you achieve will be at least as good as that printed in the report—though not necessarily as good as the manufacturer's specs.

All published S/N-ratio measurements are made with the Dolby circuit (if the deck has one) switched off. Unweighted S/N measurements through Dolby B would be misleading; since the circuit reduces noise only in the range where it is most audible (the upper portion of the frequency range), audibility-weighted measurements are necessary to document the subjective improvement that it achieves. (Depending on the weighting curve used, such measurements can be made to show that the 10 dB of improvement claimed for Dolby B actually is achieved within narrow margins in home equipment.)

Sensitivity and Maximum Output. These two figures are given so that you can check the compatibility of the deck's signal levels with the rest of your equipment. The sensitivity figures tell you how many volts (or millivolts) you need at the input to reach a 0-VU recording level *with the recording control set at maximum*. If there is more than one input, the sensitivity of each is given. You should make sure that your signal source—i.e., preamp, microphone, etc.—delivers at least that much signal at normal levels. Otherwise you will not be able to get a full-level recording. Actually you're better off if your source produces from 3 to 10 times that level so you can operate with the recording-level control turned up only part way. (Again, with inputs of *very* high sensitivity, noise from the input stage may be unduly amplified if the level controls are set too high.)

The maximum output measurement tells you how many volts you will get out of a deck from a 0-VU tape with the playback level fully advanced. The figure should be at least equal to (preferably about 3 to 10 times as great as) the sensitivity spec of the tape-monitor input of your receiver or amplifier. An output level control, if the deck has one, can be used to give you the exact level you want as long as the maximum shown is above this level.

Erasure and Crosstalk. These two specs deal with "unwanted" signals. The erasure spec tells you how "cleanly" the tape is erased of previous signals when rerecording. It is measured by recording a 0-VU signal, backing up and rerecording with no signal, and then replaying to see how much of the original is left. The test signal is 400 Hz for open-reel decks and 333 Hz for cassettes—a reflection of the difference between the U.S. NAB standards for open-reel tapes and the German DIN standards for cassettes. The difference is not significant. A rather



Choice of 0-VU reference influences both headroom and S/N measurements. If tape and recorder provide 3 dB of headroom above cassette-standard (DIN) 0 VU (left scale) before onset of serious distortion (top), and S/N is measured as 51 dB, the total dynamic range from undistorted peak values to noise (bottom) is 54 dB. To prevent distortion of peaks manufacturer may set meters to read 6 dB high, choosing a 0 VU 6 dB below "standard" (right scale). This provides a total of 9 dB of headroom, but S/N measured with respect to meters' 0 VU will be only 45 dB.

low frequency is chosen since the lows are harder to erase than the highs. The larger the figure, the cleaner and better the erasure.

Crosstalk is measured by recording a 400-Hz (333-Hz for cassette) signal at 0 VU on one track and playing another to determine how much signal "leaks" between them. The crosstalk will be worse for low frequencies than for the midrange because the head "sees" more of the tape width at long wavelengths. (See the "Response" section.) Sometimes the high-frequency crosstalk will also be a little worse than midrange if the two track elements in the head are not well shielded from each other. The tests keep both tracks energized with bias during recording (this is how they are used in practice), and the results generally yield a poorer crosstalk figure—i.e., a more conservative measurement—than they would with the second track unbiased. You can expect crosstalk in cassette decks to be significantly poorer than in open-reel machines, reflecting the adjacent location of the two stereo tracks in the cassette format.

In these two formats, in fact, the "crosstalk" figure actually represents channel separation. When it comes to the eight-track format, however, HF measures the crosstalk between adjacent "programs." That is, the measurements are made between two side-by-side *tracks* on the tape, rather than between *channels* of a stereo pair. This is because the mechanical head-shifting necessary to change programs on eight-track decks must be well designed if it is not to result in poor head alignment—measurable as leakage between adjacent tracks. The other two formats normally present no comparable problem. But no matter which format we are talking about, the higher the dB figure, the lower the crosstalk or the better the channel separation.

Meter Action. HF used to call this section "meter accuracy" and reported therein the level you would see on the meter when recording a standard 0-VU tone. That is, if the meter read +2 VU when a standard-level tape was being made, the report would say the meter read "2 dB high." This no longer is termed "accuracy," because the standard DIN cassette 0-VU recording level is *very* high—satisfactory, perhaps, for voice recordings but leaving no headroom for music. Manufacturers realized that if they set their meters "accurately" (i.e., to the DIN standard) the user would over-record the tape, with muddled results. Owner's-manual warnings about this phenomenon aren't necessarily read; a better plan would be to set the meters so that they read high with respect to the standard, thus reducing the recording level for a 0-VU indication and producing cleaner tapes. Since this is all to your benefit and really is the outcome of a poorly chosen standard, HF felt it was not correct to call meters set this way "inaccurate."

Lest there be any confusion, all of HF's tests—response, distortion, S/N, etc.—*are* referenced to the accepted standards. The "meter action" section tells you what the meters will read when producing the standard level. You should look for the two meters to read *correspondingly* high and realize that, while an open-reel deck should have meters that are close to "exact," there frequently is an advantage to having cassette meters read "high."

Again, this measurement also has importance in evaluating the others. If the meters read 6 dB high (the meter's 0 VU is 6 dB lower than standard), recordings made so that the meter never goes beyond the 0-VU point will have 6 dB more headroom than "standard" and 6 dB less S/N. The actual values you obtain in your own recordings, therefore, will depend on the way you use your meters; and the "meter action" figure will tell you what sort of leeway you have in the use of the meters, relative to other units of the same type.

Mechanical Tests

Though you may look at the electrical measurements (particularly response) first, some of the mechanical parameters are no less important to fine musical reproduction. Fortunately for those who tend to overlook such things in favor of the more "famous" specs, mechanical performance of the better decks today (particularly in cassette and open-reel equipment) generally is very good indeed in the sense that performance seldom is audibly substandard in any respect.

Speed Accuracy. Unless you have a perfect ear or wish to "play along" with a tape recording, absolute speed accuracy is not very important. There are few people who can tell if the pitch of a note is true within 0.5% without a reference—providing the pitch is stable. What is of more interest is how the speed varies with line voltage. You're better off with a deck that is consistently high or low, especially if you wish to edit the tape or lay down additional, synchronized recording tracks later, than you are with one that varies on either side of absolute accuracy, depending on the AC voltage supply. Such a machine can be "out of tune" with itself if the voltage changes between recordings.

Wow and Flutter. Wow and flutter, other forms of speed inaccuracy, are much more noticeable than the voltage-dependent type. Because of eccentricities in the capstan, variations in tension, and similar factors, the instantaneous speed of the tape varies somewhat on all machines. These "warbles" in tape speed result in corresponding pitch warbles. They can be heard most easily in piano and woodwind music. Wow refers to slow speed variations while flutter refers to more rapid variations. HF reports the combined average percentage of wow and flutter, weighted by the standard (ANSI/IEEE) curve representing the audibility of the disturbance.

Wow-and-flutter measurements are made both in playback only, measured from a standard test tape, and in record/playback, where the signal is recorded and then reproduced on the same deck. Usually the R/P figure is higher than the play-only figure. On exceptionally good decks, however, you may not see much difference. This is an indication that the deck is able to produce tapes whose speed variation is comparable to that in the test tapes.

Fast-Wind Times. This measurement is really given for your convenience. While the time it takes to transport tape in the fast modes is not an indication of quality, it can be of some importance to you if you do a lot of fast shuttling. The figures given are based on the time it takes to transport a standard length of tape completely. They have most importance in the few eight-track decks offering the fast-wind option, since winding speeds generally are extremely slow. If, for example, a 60-minute cartridge (15 minutes per "program") takes 8 minutes to wind once around (that is, back to the starting point), you will save only 7 minutes maximum each time you use the feature with this cartridge length.

Summary

HIGH FIDELITY's tape-deck reports are based on many hours of testing. The results of those tests are distilled into the graphs and tables you see, and this article is meant to help you to interpret the data reliably. But the data are by no means the whole report. For a valid understanding of the unit's potential and operation you must study the writeups as well, since it is only through verbal explanation that a report can convey a true picture of the way a tape deck fits into the scheme of things. ●

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"The Dolby Problem"

Why does the best-known noise reduction system work better with some tapes than others?

by Robert Long

HIGH FIDELITY magazine recently published an inquiry from a reader and an answer from the editor that reflect the confusion created among users of tape recorders when manufacturers fail to specify the brand of tape for which the recorders have been set up at the factory. It is obvious to those who know something about the subject that incorrect bias settings can lead to considerable difficulty. However, the wide variety of cassette tapes currently being offered to consumers and the dependence of Dolby noise reduction on uniform frequency response have increased the importance of providing a clear and accurate specification of the tape the manufacturer has used in setting bias and equalization. I am sure you agree it is pointless for manufacturers of cassette recorders, or manufacturers of tape for that matter, to advertise frequency response specifications that sound impressive and exotic but that apply only under bias and equalization conditions unknown to the user.

Although I know the subject has been mentioned in various articles in your magazine, it remains one of the most important, and neglected, areas of user ignorance in the field of tape recording. The matter is especially important, because the typical user will not be able to make these adjustments himself. If you are looking for a good reason to stir things up, I think this is one.

ROBERT BERKOVITZ
Head of Advertising and Information
Dolby Laboratories, Inc.

WE AGREE WITH Mr. Berkovitz that this subject seems to be misunderstood—both by some of our readers and by some manufacturers. When we test any recorder, in any format, the first question we ask the manufacturer is: What kind of tape is it optimized for? (See the separate article on interpreting recorder test results in this issue.) Often the answer is not easy to come by. Though the manufacturer obviously must have set *some* standard against which bias, Dolby reference level, and similar factors can be adjusted, the company and its instruction manuals are not always very communicative on the point.

This is, on the face of it, surprising. If the machine is adjusted for a given tape, it presumably will perform best with that tape. Switch tapes on a well-adjusted machine, and one can expect changes in the linearity of response (usually for the worse), distortion (often for the worse), and breadth of response (sometimes for the worse). For correct results we would test the machine using the tape for which it has been adjusted, and the purchaser

should consider that tape his "quality standard"—to be departed from only at the risk of losses somewhere in the unit's performance pattern.

Sometimes the manufacturer recommends a tape that we suspect is not the one for which the machine has actually been adjusted. Let's say that we are told to test it with Maxell UD, which has a particularly hot high end, and that we discover a peak at the top end of the record/playback response curves. This suggests the unit is to some extent underbiased for UD.

Is that because the manufacturer hasn't checked the bias carefully enough, or because the machine actually is adjusted for a "less hot" tape—perhaps a brand that is more readily available in discount stores and pharmacies across the country, simplifying supply problems for the user? There's no way to tell for sure. But we're left with the nagging suspicion that the manufacturer wants to have its cake (by adjusting for a more "average" tape so that several readily available brands will work reasonably well) and eat it too (by specifying that we test with a tape the company believes will yield more dramatic response figures—even though other performance measurements may thereby be compromised).

Emphasizing the Positive—and Negative

Dolby B noise-reduction circuits tend to emphasize some of these compromises. The Dolby compression/expansion action will restore exact signal relationships (that is, its input will look identical to its output) as long as nothing happens to the signal between the two passes through the Dolby circuit. But if the tape or the recorder (or both) should alter properties of the signal within the Dolby's operating range, it will "misinform" the Dolby decoder about the nature of the encoded signal. And since the decoder is basically an expander, it will tend to exaggerate whatever changes have taken place after encoding.

There are three areas in which these changes can be spotted easily in record/playback response curves and even heard (though much less easily) in the reproduced sound: high-frequency saturation effects, incorrect biasing effects, and misadjustment for tape sensitivity. When you substitute one tape for another you can affect all three performance areas, and they are to that extent interrelated though they are easier to grasp when considered individually.

Saturation is related to wavelength on the tape and hence is a function of both signal frequency and tape speed. This means that on open-reel decks at 15 ips and often at 7½ ips saturation (and even misbiasing effects) can occur above the limit of the audible range, i.e., beyond 20 kHz, and therefore is of no practical importance. Saturation is also a function of recorded level. If response curves are carried high enough at any transport speed and at any recording level (and assuming, of course, that the electronics pass everything that's on the tape), you eventually will see the effects of tape (or head) saturation. The lower the transport speed and the higher the recording level, the lower the frequency at which they will show up on record/play curves. When this point is reached, the tape system simply can no longer handle all the signal being fed into it (remember that recording equalization progressively boosts high frequencies), and the curve will drop off dramatically.

Add Dolby processing, and the effect will be exaggerated at normal recording levels not only because Dolby compression is boosting the highs still further during recording, but also because the saturation misinforms the Dolby decoder and causes it to further reduce playback levels at these frequencies. Hence in a typical cassette deck that, with the Dolby switched off, can reach 15 kHz at −20-VU levels before saturation forces response down by more than 3 dB below midrange values, the Dolby circuit may reduce the −3-dB point to perhaps 14 kHz or even 13 kHz. On paper this looks like a surprising compromise of frequency response, but the difference is difficult or impossible to hear unless the signal is selected specifically to demonstrate it. Certainly the Dolby's 10 dB of effective noise reduction is far more important to most listeners than the loss of two or three notes in the overtone range.

Incorrect biasing and/or equalization (and the two often occur in tandem) can have far more audible results. Underbiasing for the tape in use produces a peak in high-frequency response; overbiasing drives down high-frequency response with a much more gradual rolloff than saturation effects. The greater the misadjustment, the greater the departure from "flat" response and the lower the minimum affected frequencies. Misadjustment of recording equalization *may* "compensate" for bias misadjustment to the extent that, for example, a tape with too much bias and too much high-frequency boost can look reasonably flat in a record/play curve. But under these circumstances distortion will not be at optimum, and the reverse condition (low bias and insufficient high-frequency boost) still can exhibit a peak toward the top of a curve that is otherwise "bent" downward in the treble region.

Dolby processing, again, exaggerates these effects by small amounts (say, no more than 1 dB or so unless the misadjustment is very severe indeed). The effects themselves often can be heard as a sibilance (low bias or high equalization) or a dullness (the reverse) in the sound. In other words, choosing the wrong tape can easily turn a fine recorder into a mediocre one, and the application of Dolby processing then will make it poorer.

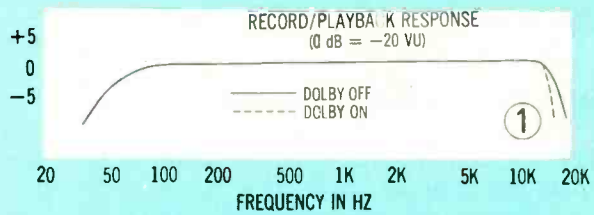
If the "wrong" tape has a difference only in sensi-

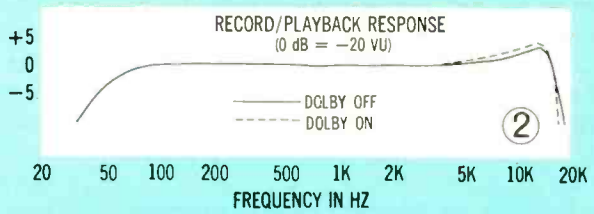
tivity—that is, if it will produce a different output level for a given input level without otherwise altering the sound—the tonal balance won't be affected unless you're using Dolby processing. So-called high-output tapes obviously are designed to deliver more signal for a given recording level than garden-variety tapes. If Dolby reference levels in your equipment are set for the garden variety, the higher output will "fool" the Dolby decoder into thinking they were fed in at a higher level and hence need less downward expansion during playback.

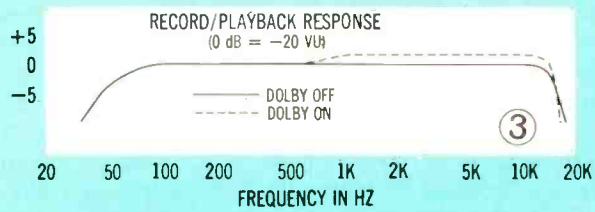
The Dolby B circuit affects only the higher frequencies (say, approximately 1 kHz and up), and a significant change in tape output level (perhaps 3 dB or more—which is a fairly large difference as tape sensitivities go) will begin to make a slight change in the output level through the Dolby circuit at normal music levels. (Peaks at or near the Dolby reference level will remain unchanged because the Dolby circuit has no effect at these signal levels.) A record/play response curve at -20 VU, for example, will show a slight "shelving" with the upper range a little higher or lower than the bass portion of the curve. But the chances of your ever being able to hear this type of nonlinearity are very slight indeed.

What Happens When You Turn on "The Dolby"?

These three graphs demonstrate points made in the accompanying article and are based, roughly, on the sort of curves that might be expected with top-grade cassette equipment. Graph 1 shows the effect of tape saturation (in the 15-kHz region) and how it is exaggerated to some extent by the application of Dolby B processing. Graph 2 represents the type of high-frequency peak often encountered in switching from the "correct" tape (the one for which the deck has been adjusted) to the one that ideally would require greater bias. Graph 3 illustrates the "shelving" that occurs—with Dolby only—when a tape with higher output (that is, with greater sensitivity) is substituted for the one for which the deck was adjusted.







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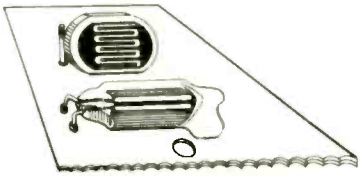
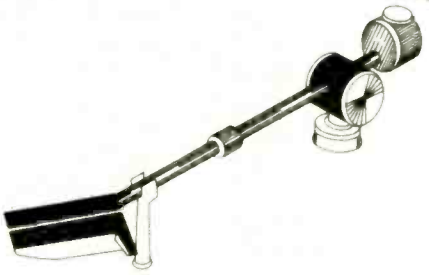
It's designing an electro-optical system that automatically shuts off the turntable at the end of the record and gently lifts off the tonearm. This is achieved through the use of a light detector resistor



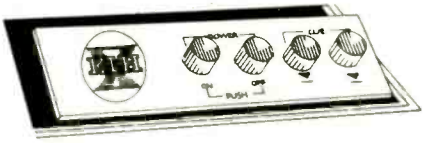
(shown here) rather than a mechanical device which would have to be tripped by the side force of the tonearm. Since our system requires no side force, it virtually eliminates all potential distortion and side thrust problems.

Human engineering is designing a special low mass aluminum tonearm and unique low friction pivot block and post assembly to such exacting standards that



usage deterioration and performance deviation is all but eliminated.

Human engineering is designing all of the electronic controls into an upright module for incredibly simple and convenient operation. It's also making the controls *feel* as good as they look.



(Just one touch and you know there's something substantial here.)

In short, human engineering is finding out what people want and need in a product and putting it there. That's why the Model Sixty also features push-button electronic cueing, anti-skating control, a discrete suspension system that minimizes rumble, acoustic feedback and vibrations, one piece dynamically balanced platter, 24-pole synchronous motor and every other important feature you could want in a precision turntable.

All for $150.

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The Model Sixty. Another superb new product from KLH Research X—a new era in audio.

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Specifications

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300 RPM Motor: Precision polyphase synchronous low speed motor for minimal vibrations and optimum instantaneous speed accuracy and freedom from counter-rotation.
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Record Sizes: 7", 10", 12"
Operates on: 105-125 volts, 60Hz only, pilot light indicates power "ON"
Dimensions: 17" (W) 13⅜" (D) 6¼" (H) with dust cover.

KLH Research X Division
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CIRCLE 30 ON READER-SERVICE CARD

So What Became of the Controls?

You can compensate for sensitivity mismatches if your tape deck has Dolby adjustments in its output circuits. But judging from the parade of new Dolby cassette equipment, such controls seem to be a thing of the past. Why? Because Dolby Laboratories (of all people) wants it that way. From what tape-equipment manufacturers tell us, Dolby Labs has been quite insistent that its licensees hide the Dolby adjustments inside (or at least on the back of) its consumer equipment.

The argument runs like this. Dolby "mistracking" due to a mismatch in sensitivity between the tape for which the recorder was designed and the tape in use is, at the very worst, barely audible. Mistracking effects due to gross misadjustment of readily accessible Dolby controls can be disastrous in high fidelity terms. So it's better, the Dolby people apparently figure, to prevent disaster than to plan for perfectionism.

This attitude has caused a relatively small group of perfectionists to cry "Big-Brotherism!" Initially I felt this way too; but on seeing how rapidly Dolby cassette decks were finding their way into the hands of readers who had never before been turned on by tape and who could easily be confused by complex Dolby-adjustment instructions, I've begun to see the wisdom of the approach.

To me, the usual Dolby alignment controls are less important in terms of sonic quality than the bias and equalization controls—whatever one may think of the "necessity" of adjusting for tape sensitivity. And most true high fidelity tape decks today have some sort of "tape" switching that will adjust bias or equalization or both. The correct use of *these* controls is at least as important to Dolby tracking as the "Dolby" adjustments that now linger on only in older decks or in models with professional pretensions.

Tape switches, however, are proving just as problematic. It's all very well to say they will match the properties of the deck to those of the tape; but *what* tape? The "high" position may be for a high-output, low-noise tape; but *whose*? Without adequate answers, the deck owner may never get the performance he has paid for—the performance implied by the specifications.

Toward a Solution

One reason answers are hard to come by is that manufacturers don't want to be locked into the use of one tape. As better tapes come along, they may change production policy on some models and optimize for a formulation that wasn't even on the market when these models first appeared.

Some months ago, for example, we were testing an NAB-reel model that had been optimized, according to the manufacturer, for BASF LH. One day we were informed that, because of the fine performance the manufacturer had found in testing Scotch 212 and because it figured that tape to be more readily available on NAB reels to its customers in this country, its entire stock of the model we were testing was being readjusted for Scotch 212. Hence by the time our report appeared and our readers would be able to buy the deck, our BASF data would be out of date. We had to start all over with a new sample.

I don't say this by way of complaint. Particularly if a manufacturer finds it can improve its product simply by adjusting for a different tape (which wasn't necessarily the case in the aforementioned example), we'd like to see users benefit from the change. But they can't if they don't know what tape the unit has been set up for. And knowing that a tape change might occur, some manufacturers are loathe to include in their owners' manuals (which must be printed in quantity to keep costs down) an unequivocal statement about recommended tapes.

All right, why don't manufacturers print information about tape types on a separate sheet, to be inserted into the owner's manual at checkout? When a change is made on the production line, the old tape sheet (not the entire manual) could be discarded and an updated one substituted.

Ideally this sheet should show the exact type for which each switch position is optimized. Since there will be other brands and types that the manufacturer will know to give a reasonably good match because of their similarities to the "reference" tape or tapes, a table of suggested switch positions for other appropriate tapes would be in order. If you like one of these brands better than the "reference" brand, you'll know it should give similar (though not identical and presumably not quite as good) results. An unlisted tape would be presumed a try-at-your-own-risk proposition.

Let's say a manufacturer adopts such a policy. As the newer tapes come along it'll be trying them to see whether they will yield still better results and whether they will produce satisfactory results even without a unit realignment. This is information of considerable importance to the owner of a fine deck. Why not make it available to him? It seems to me that if the manufacturer kept everybody on its warranty-registration lists posted on such things, that would be just one more reason for buying its products.

But, as a bare minimum, any recordist who plunks down his inflated dollars for a deck should be told how to make the most of it; he should know what specific tape the manufacturer had in mind in setting up its checkout procedure. ●

New Koss Phase/2 + 2 Quadrafone

If you're ready to take a bold new step into the world of music listening, here it is. Because the new Koss Phase/2+2 is the culmination of years and years of research and design experience into the way we hear and perceive music. That makes it the first real breakthrough in the psycho-acoustical aspects of both 2-channel and 4-channel stereo.

From the moment you slip on a pair of Koss Phase/2+2 Quadrafones and hold the unique Programmer in your hands, you'll become your own recording engineer. Not just in control of the 2-channels or 4-channels of music you're used to hearing from your music source, but in control of a whole panorama of musical perspectives you never even knew existed in your tapes or records.

The intricacies of the new Koss Phase/2+2 are really too vast to cover here. You really have to hear them and try them at your Audio Specialist's. But there are a number of things about Phase/2+2 that we can discuss to introduce you to a new phase in music listening.

First, if you're into 2-channel stereo, simply insert the black plug into your equipment. Or if you're into 4-channel, insert both plugs. In either mode, the eight controls on the Programmer will lead you into an exciting journey thru the world of psycho-acoustics.

Second, as you flip each of the four Ambience Expander switches to the "E" position, you'll alter the ambience of each channel relative to the other channels. Thus each switch will dramatically change your position within the sound sphere, drawing you closer to one sound than another.

Third, by flipping the unique Koss Binauralators™ to the "On" position, you'll find yourself totally surrounded by the performing group. Indeed, with either 2-channel or 4-channel source material, you'll feel completely immersed in a new experience of musical presence, and intimacy.

Fourth, with the Koss Quad Field™ switch in the "4π" position, you'll recreate the full spherical environment of a live performance. And even with the switch in the "2π" position, the sounds will seem to spread out in front of you in a hemispherical perspective.

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And finally, when you buy the new Koss Phase/2+2 Quadrafone, you'll also receive a free record album designed and engineered by Koss to enhance the enjoyment of your journey thru a whole new phase in music listening. And that makes Phase/2+2 worth hearing no matter what stereo mode you're into.

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Introducing the new Phase/2+2™ Quadrafone that's so advanced it multiplies your listening perspectives 127 ways.

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What would the ideal "Das Lied Von Der Erde" be like?

It would have to be conducted by *the* Mahler conductor, Leonard Bernstein.

Only a handful of soloists would be acceptable. And *nobody* could perform a more heartwrenching "Abschied" than Christa Ludwig.

As for the tenor, an obvious choice would be Rene Kollo.

Further, this ideal performance should be recorded in a concert hall, with all the warm and realistic sound of a live performance.

Presenting the Bernstein/Ludwig/Kollo "Das Lied Von Der Erde." Recorded with the Israel Philharmonic at the Mann Auditorium in Tel Aviv.

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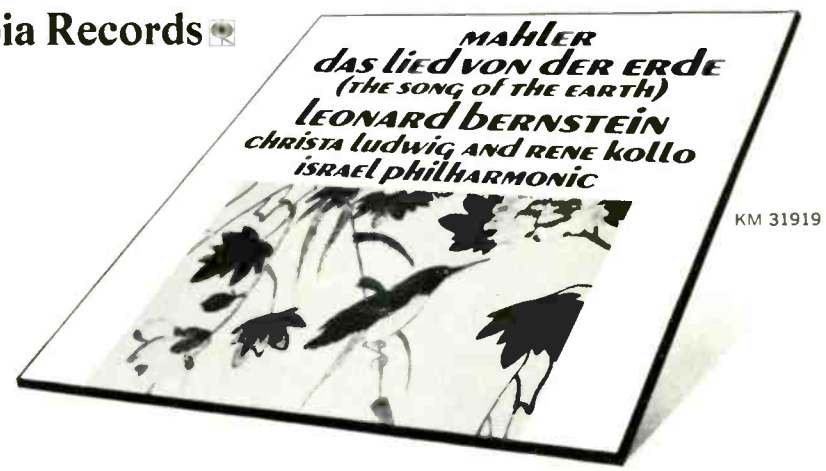
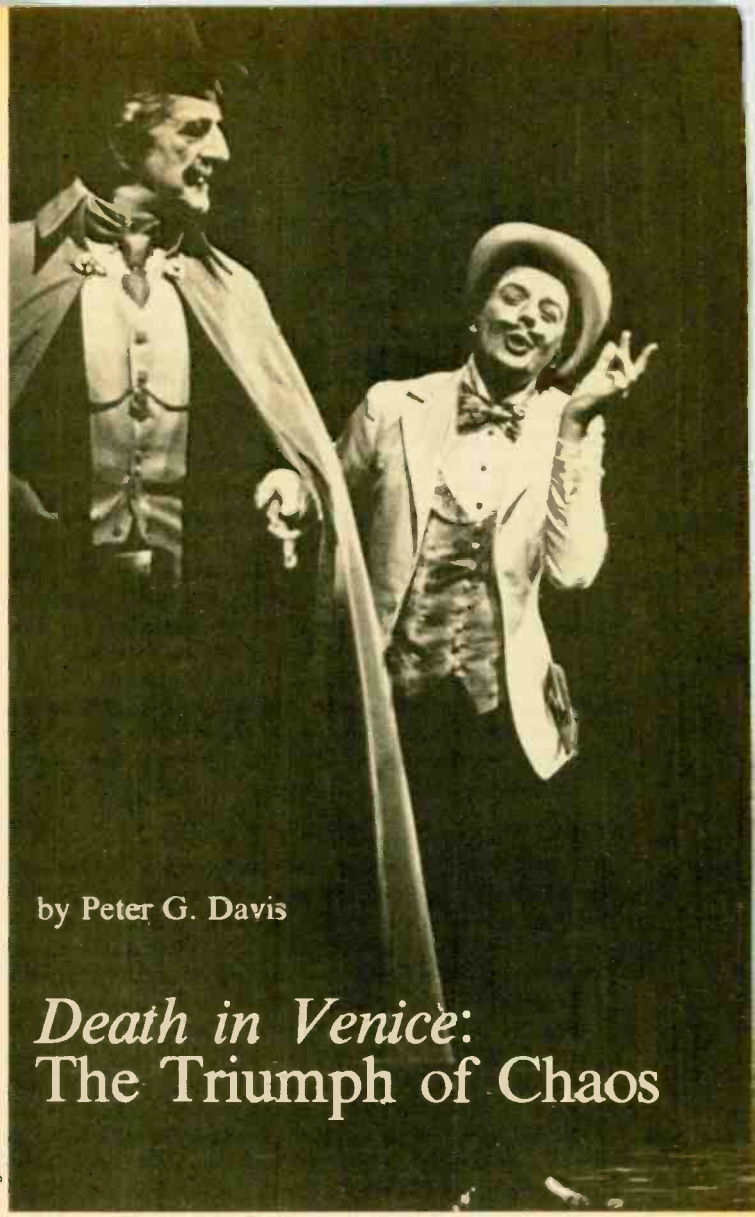


Also available on tape



Peter Pears as Gustav von Aschenbach and John Shirley-Quirk as the Elderly Fop in the Metropolitan Opera production of *Death in Venice*.

Nigel Luckhurst

Death in Venice: The Triumph of Chaos

by Peter G. Davis

Britten's fascinating transformation of the Mann novella is eloquently realized in London's original-cast recording

FEW CONFRONTATIONS between subject and composer have ever seemed quite so inevitable as *Death in Venice* and Benjamin Britten. Perhaps it did not appear so at first when Britten announced early in 1971 that he was writing an opera based on Thomas Mann's 1911 novella—how, one wondered, could anyone fashion a workable piece of musical theater from such interior, dramatically low-keyed, intensely literary material? But now that the work has become familiar, from the Metropolitan performances last fall and from London's new recording, *Death in Venice* clearly represents a rare sort of artistic testament, an opera that draws on and synthesizes many of the musical and dramatic themes that have occupied the composer throughout his creative life. Whether or not this musical translation works, whether the verbal perfection of Mann's tale should ever have been disturbed at all, is quite another question and one that begs a straightforward answer. Here, at any rate, is what Britten and librettist Myfanwy Piper have done.

The basic progress of the action adheres faithfully to Mann. Gustav von Aschenbach, a famous novelist honored for the stylistic purity of his prose, widowed, past fifty, his creative energies spent, weary of spirit, travels to Venice. At his hotel he encounters Tadzio, a fourteen-year-old boy vacationing with his family. Aschenbach is struck by the boy's physical beauty, a fascination that soon develops into an obsession, and a symbolic struggle arises between the intellect and the senses, between Apollonian rationality and Dionysian sensuality. Aschenbach ignores the warnings of an incipient cholera plague in the city, feverishly shadows Tadzio (to whom he never speaks), wrestles with the unfamiliar passions that possess him, and ultimately dies of the sickness, his last vision being that of a beckoning Tadzio who disappears into the ocean.

In Mrs. Piper's skillfully structured libretto we follow the plot through the observations of Aschenbach himself. Tadzio, his mother, sisters, and friends are dancers; the only other major roles are intended to be sung by one baritone, who portrays seven nemesis characters, each of which acts as a catalyst that edges Aschenbach closer toward death: a mysterious traveler, an elderly fop, an old gondolier, the hotel manager, a barber, the leader of the players, and finally the voice of Dionysus. Here is the major deviation from Mann, who allows Aschenbach very few words of his own and relates the tale in discreet, detached, sophisticated anonymity. In the opera we are constantly brought face to face with an individual and invited to empathize with his dilemma. This was far from Mann's intention but very important to Britten, who has in a sense re-created Aschenbach to reflect a composite image of Peter Grimes, Albert Herring, Billy Budd, Captain Vere, Queen Elizabeth, Owen Wingrave—all the questing, isolated, spiritually flawed protagonists that populate the composer's earlier operas.

Although the emphasis in Britten's *Death in Venice* is wholly different from the original novella, the layers of meaning are just as ambiguous. It is possible to view the opera autobiographically. Critics unfavorably disposed to Britten's economical late style may draw parallels between two greatly honored creative artists who feel the well of inspiration running dry. There's no denying, too, the homosexual leitmotif in Britten's work. The "beautiful boy" has been a central image in his *oeuvre* from the early song cycle *Les Illuminations* right up to *Death in Venice*—in fact, all of his operas save one (*The Rape of Lucretia*) contain boys' roles, many of them crucial to the drama. The suppressed homosexual motives lurking behind the actions of Peter Grimes, Albert Herring, Claggart, Captain Vere, and Peter Quint become explicit in the character of Aschenbach.

Yet to view the opera as a tragic study of a "closet

case" is to miss more important general issues raised by Aschenbach's emotional and intellectual crisis. Britten has not written *Death in Venice* solely to work out his personal preoccupations any more than Mann did: The invasion of order by chaos, the proportionate balance of the senses and reason in human behavior, the ongoing dialogue between Apollo and Dionysus in all of us are universal, basic problems that must be dealt with in every area of experience. Mann, Britten, and Aschenbach are perhaps more intensely sensitized to these opposing forces, for the creator must come face to face with them every time he puts pen to paper. Mann has articulated the debate in a short book with incomparable verbal virtuosity; Britten has attempted to match the author's achievement by replacing words with the even more ambiguous language of music. And on a sheerly technical level he has succeeded, for this score is as subtle and cunningly organized as anything he has ever written.

One's immediate impression of the opera is that of a constantly flowing, almost cinematic unfolding of events as we follow Aschenbach from Munich to Venice, from hotel to beach, from the Lido to the Piazza San Marco. Controlling the musical progress is a complex web of thematic motifs that develop, combine, and redefine each step of his journey.

The novelist himself is characterized by several themes, the first being a proud set of declamatory octaves in the brass that tell us of his secure position as an artist ("I, Gustav von Aschenbach, famous as a master writer . . ."). Yet the octaves instantly slip into grindingly dissonant ninths, suggesting his dissatisfaction with such official and wholly meaningless recognition (Britten used a similar method thirty years ago to establish Peter Grimes's detachment from the community). An ascending E major scale set in four-part string harmony accompanies Aschenbach's decision to travel to the south—an innocent phrase at first, but a figure that becomes more and more insistent throughout the first act until it ultimately reveals itself as a surging Dionysian invitation that wrings the confession "I love you" from Aschenbach's lips at the conclusion of Act I.

Tadzio's music is always heard, unaltered and expressionless, on the marimba, vibraphone, and high percussion—an ingenious idea, for these pure, passionless tones instantly set him apart as an object of unreal, abstract beauty. The seven nemesis figures are related through a common wheedling vocal phrase, but Britten has attempted to give each one a separate musical identity: The gruffly laconic gondolier, the smooth-talking hotel manager, the comic-opera barber, the mercurial strolling player, and the others are clearly characterized.

The plague, the sun-drenched beach, the ocean, the gondola journeys, Venice itself—all the elements that conspire to carry Aschenbach to his destiny are depicted in the score and provide an infinite source of combinatorial possibilities that Britten explores with his customary sensitivity for sonority and harmonic color. One could spend hours analyzing and parsing the implications of the instrumental fabric right up to the final curtain, where Tadzio's immutable theme magnetically draws Aschenbach's Act I Hymn to Apollo ("When thought becomes feeling, feeling thought") higher and higher until the two worlds finally meet and merge on an altissimo A.

An opera of supreme craftsmanship, yet something does seem to be missing. Objections have been voiced against *Death in Venice* for its lack of melody, "crabbed" vocal lines, and over-all hothouse atmosphere—familiar complaints about Britten's music and not entirely without justification. His style, never especially robust or overtly theatrical, has become sparer, drier, and even more withdrawn since the experience of the three church parables and their self-imposed economies of instrumentation and expressive dimensions.

And it is hard at times not to feel that Britten has protected himself too carefully, turning from the fiery Dionysus to the comforting cool arms of Apollo. When Tadzio passes Aschenbach and innocently smiles at him, the novelist stammers out, "Don't smile like that . . . No one should be smiled at like that." This should be a tremendously moving instant, but I for one am not really touched, simply because Britten appears to have backed away, as frightened of the moment as Aschenbach himself. It may be that, in time, even doubters can come to view the polished serenity of the music as a strength and a source of beauty in itself, and that Britten, who has gathered up so much of his musical past here and refashioned it into something unique, has indeed achieved a Socratic perfection of form and expression. For now, however, too much of the score has a flat neutrality that compositional ingenuity cannot disguise.

One important germinating aspect of this opera remains to be mentioned: Peter Pears, the tenor for whom so much of Britten's music has been written over the past thirty-five years. The composer has provided his longtime friend and associate with a tour de force that Pears, now sixty-four, performs with astonishing vocal virtuosity. Although the role of Aschenbach is a long one—in fact, the entire opera might be regarded as a monologue for him—he never flags or fails to project the full musical weight of the vocal line. Of course, Britten knows precisely what this voice can and cannot do, and he has centered all the intense outbursts, the floating pianissimo cantilena, the rhythmically free recitatives in a tessitura that cleverly exploits the unusual timbre and flexibility of what has always been a very special instrument. As with so many Britten operas, it becomes difficult to separate the music from Pears's performance of it, and future interpreters of Aschenbach will doubtlessly find themselves in the unenviable position of being compared to Pears for years to come.

John Shirley-Quirk is a model of efficiency in his seven roles, James Bowman's pure-toned countertenor fits the voice of Apollo to perfection, and all the many small roles are deftly handled by the original Aldeburgh cast. Britten, who is still recuperating from heart surgery performed just before the world premiere in June of 1973, could not of course conduct, but Steuart Bedford gives an eloquent account of the score—the precision, rhythmic vitality, and warm sonority of the orchestra have all the virtues of Britten's own work on the podium. London's engineering is sonically plush and beautifully proportioned to mirror the opera's constantly shifting perspectives. The recording is, in short, a superb realization of a fascinating opera that one wishes to know better and, hopefully, learn to love.

BRITTEN: Death in Venice, Op. 88.
The Traveler; Elderly Fop; Old Gondolier; Hotel Manager; Hotel Barber; Leader of the Players; Voice of Dionysus — John Shirley-Quirk (b)
Gustav von Aschenbach — Peter Pears (t)
Voice of Apollo — James Bowman (ct)
Members of the English Opera Group; English Chamber Orchestra, Steuart Bedford, cond. [Ray Minshull, prod.] LONDON OSA 13109, $20.94 (three discs, automatic sequence).

by Paul Henry Lang

The Evolution of the Classical Symphony

Neville Marriner's set of the early Mozart symphonies traces the development of the form as well as the composer.

TO MANY LOVERS of music, Philips' new eight-disc set of early Mozart symphonies may seem a pleasant oddity, yet it is the equivalent of a small wing of eighteenth-century paintings in a good museum. If we arrange these thirty-one symphonies in proper sequence, we gain a fascinating panorama not only of the extraordinary development of a young genius, but also of the formation of the classical symphony, the transformation of the Italian sinfonia into the German *Symphonie*.

But our homework is not so simple. Köchel's great catalogue of Mozart's works has been revised several times, numbers, dates, and places changed, some ten symphonies added to the forty-one until recently listed, and there has been considerable traffic from the supplement to the body of the catalogue and vice versa. The old numbering, which unfortunately is still used, is now askew. There are instances of groups of symphonies separated by several numbers though they were composed together, and so forth.

Mozart's musical mind had the sensitivity of a seismograph. He was no innovator, like Haydn, but a fulfiller; whatever he picked up he assimilated in short order and, after a few trials, made his own. These symphonies reflect the many travels of the young Mozart, who at the age of eight saw Paris and London but whose most important and lasting impressions were gained in the three trips to Italy.

At the end of 1769 he went with his father, Leopold, to Italy, where they stayed for fifteen months and met many musicians, and Wolfgang took some lessons from the famous Padre Martini, the Nadia Boulanger of the age. When they returned in March 1771, the fourteen-year-old was a seasoned composer. The second trip was undertaken at the end of the same year, and a third at the end of 1772. But Mozart was exposed to Italian music even before his first trip; we know, from the much-maligned Hanslick, who was a good historian, that Italian composers were known and played in Salzburg. As a child in London he personally encountered Christian Bach, the maverick son of Johann Sebastian who was more Italian than the Italians. Mozart simply adored him. Though there were many more influences—Mysliveček and Schobert come to mind—it was the Italian *suavità* that made a lifelong impression, even after the encounter with Haydn.

The symphonies K. 16 to K. 133 recorded here cover a period in Mozart's life from 1764 to 1772. The earliest among them show a composer shy and timid as a butterfly in winter. Without question, Leopold, an experienced composer and teacher, lent a hand in these first essays; they are in his handwriting. But by K. 43, the eleven-year-old writes his own score from beginning to end, and pretty soon Leopold is completely left behind.

We do not see as yet the profusion of counterthemes and accompaniment figures that are so attractive in the later symphonies, nor the wonderfully mobile inner parts, only a total immersion in undisturbed homophony. But Mozart's infallible sense for euphony is present right at the inception of his creative career. The sonata forms follow the Italian scheme; development, if there should be a few measures of it, is included in part two. Where the Germanic element makes itself felt is in the evolving third part, the development section based on thematic elaboration.

The Italian sinfonia was indeed different from the symphonies being composed in Vienna and Mannheim, and it did not take Mozart long to realize that a reconciliation is needed to proceed beyond the pleasant surface of the *sinfonia avanti l'opera*. The Italian sinfonia is purely opera-descended—aria style and buffo patter transferred to instrumental music. This caused subtle idiomatic changes and developments, because the breathing spells required by the singers do not apply to the instruments, notably to the strings, which formed the standard Italian opera orchestra by 1730. Later the sinfonia often added trumpets and drums, but on the whole the concert sinfonia preferred the basic preclassic orchestra of two oboes, two horns, and strings.

By the time Stamitz died in 1757, the German symphony was ready in its main features, two years before Mozart made his first tentative steps in this area. Now there commences a rapprochement between north and south. We notice that whenever Mozart returns from Italy and composes in Salzburg, the symphonies begin to admit this Germanic element; he experiments, at times seeming uncertain about what to do.

There are abrupt changes from one symphony to the next, as for instance in K. 129 and K. 130, both composed in Salzburg. The first of this pair is an Italian sinfonia pure and simple, while the second has a fourth movement, a minuet, and shows a hint at cyclic construction. As a matter of fact, a number of the four-movement symphonies clearly show that the minuet was added at a later date to make them conform to "German usage," as Leopold says in one of his letters. This is often apparent at first glance, because in these minuets Mozart falls back on the French tone and style.

The great change, however, not only in these symphonies, but in the history of the symphony itself, comes with the rise of the string quartet. For a long time historians failed to see that the quartet was the catalyst and that the old orchestral suite had very little to do with the true symphony. Even the minuet was not taken over from the dance suite, but *added* to the three-movement Italian sinfonia to provide a transition from the aria-style slow movement to the fast finale, which in turn came from the divertimento and the *opera buffa* finale. This interaction between quartet and symphony (as well

as divertimento and symphony) has not yet been fully explored, a failure that accounts for the absence of a comprehensive history of the symphony. Any good historian can do a nice piece of work from Haydn onward—but how do we get to Haydn?

Mozart begins to compose quartets in 1770, divertimentos in 1772, and there is an almost immediate change in his symphonic writing. In a string quartet there are no lazy parts, there is no place to hide, all four parts are at all times fully exposed, so the composers had to learn how to manipulate them imaginatively. We begin to see those wonderfully agile inner parts we know from Mozart's mature symphonies. The texture is both loosened (reduced cadencing) and tightened (thematic play distributed among all four parts).

But now a new and pervasive influence appears in Mozart's life and work: Haydn. In K. 130 and K. 133, Mozart abandons the truncated sonata form and for the first time feels the need for a coda. With these two impressive works the sixteen-year-old composer reaches a milestone in his career; he is before us as a full-fledged symphonist.

This absorbingly interesting and affecting "picture gallery" of the early classical symphony receives its second modern stereo recording at the hands of Neville Marriner and his fine little orchestra. (One disc was released separately and reviewed by R.C.M. in October 1974.) In 1970, Karl Böhm recorded practically the same batch with the Berlin Philharmonic Orchestra, and it was a uniformly excellent achievement [HIGH FIDELITY, July 1970]. While it is somewhat difficult to make a choice, Marriner's playing is just a shade more crisp and high-strung (in a superbly disciplined way) than Böhm's, which suits the festive overture style. But in the slow movements the English orchestra sings equally as well as the somewhat more mellow Berliners. The sound, though first-class in the DG recordings, is also a little more brilliant in the Philips release.

Both conductors know the style intimately, their tempos are always right, and they do not tamper with the grace notes. However, unlike Böhm, Marriner takes all the repeats, which at this stage of the history of the symphony is mandatory. If one cannot afford both large sets, I would vote for the present recording.

MOZART: Early Symphonies. Academy of St. Martin-in-the-Fields, Neville Marriner, cond. PHILIPS 6747 099, $63.84 (eight discs, manual sequence).

Symphonies: No. 1, in E flat, K. 16; No. 4, in D, K. 19; No. 5, in B flat, K. 22; in F, K. 42a; No. 6, in F, K. 43; No. 7, in D, K. 45; in G, K. 45a (*Alte Lambacher*); in G (*Neue Lambacher*); in B flat, K. 45b; No. 8, in D, K. 48; No. 9, in C, K. 73; No. 10, in G, K. 74; in F, K. 75; in D, K. 81; No. 11, in D, K. 84; in D, K. 95; in C, K. 96; in D, K. 97; No. 12, in G, K. 110; No. 13, in F, K. 112; No. 14, in A, K. 114; No. 15, in D, K. 124; No. 16, in C, K. 128; No. 17, in G, K. 129; No. 18, in F, K. 130; No. 19, in E flat, K. 132; No. 20, in D, K. 133. Overtures: Il Sogno di Sciplone (three versions); Il Rè pastore (two versions); Ascanio in Alba (three versions); La Finta giardiniera.

Comparison:
Böhm/Berlin Philharmonic — DG 2721 013

The Richness and Profundity of *Moses und Aron*

Philips restores Schoenberg's extraordinary opera to the catalogue in a "fully worthy" performance under Michael Gielen.

by David Hamilton

ANYONE WHO HAS ALREADY HEARD Schoenberg's *Moses und Aron*, whether in the old Columbia recording stemming from the 1954 world premiere in Hamburg or in one of the numerous performances—notably Zurich, Berlin, London, Düsseldorf/Duisburg abroad, Sarah Caldwell's remarkable Boston staging, or Solti's extraordinary concert version in Chicago and New York—will not, I think, need much urging to attend to this new recording. It can be stated right away that Michael Gielen has led the Austrian Radio ensemble in a reading fully worthy of this great score, and Philips has registered it with fitting clarity and impact. For others, this may be a first opportunity to hear the opera (although not the last, for by the time these words appear in print Pierre Boulez will have conducted yet another recording, in London, for Columbia) and it is to them that these words are primarily addressed.

We are all more fortunate than Schoenberg, who never heard his opera. Only one scene had received a concert performance, a few days before his death. His libretto comprises three acts, but only two of these were set to music, between July 1930 and March 1932. The composer agreed before he died that the (relatively brief) third act could simply be spoken, and this has sometimes been done: In the Berlin production under Scherchen, taped music from the first scene was played behind the speech, while the Düsseldorf/Duisburg performances used the *Genesis Prelude* as accompaniment. Mostly, however, only the first two acts are played, and they have generally been found to constitute a satisfactory whole. (The old Columbia set and the new Philips both include the text of Act III in the libretto booklet, but it is not recorded.)

Schoenberg drew his text from the Old Testament (particularly Exodus 3, 4, and 32), but with many modifications of that repetitive, often muddled narrative. The "unique, eternal, omnipresent, invisible, and inconceivable God" who calls to Moses in the opera's first scene is a far cry from the vain deity of Exodus 14 ("I will make Pharaoh obstinate, and he will pursue them, so that I may win glory for myself at the expense of Pharaoh and all his army . . ."). Schoenberg makes the Lord speak as six solo singers from the orchestra pit, each doubled by an instrument, and the echoing Voice from the Burning Bush is a speaking chorus. The musical texture of this scene is formed around these choruses, sometimes reinforced by a sparse, glassy orchestral texture that also underlines the words of Moses—spoken, so as to make corporeal, in the opera's musical cosmos, his lack of eloquence ("I am slow and hesitant of speech," says the Biblical prophet). The voices tell him that his brother Aron will be his mouth, to convince the people of Israel

Eugene Cook

Richard Lewis was the Aron in the Boston Opera Company's remarkable staging of Schoenberg's *Moses und Aron* in 1966.

that they can be free of Pharaoh's yoke.

In the second scene we meet Aron, the glib, self-confident, silver-tongued orator—a tenor, naturally. The two brothers talk without actually engaging; as Schoenberg described it in his manuscript notes about the production of the opera, this scene "is to be staged in such a way that the two characters ostentatiously talk 'past' each other instead of *to* each other (to put it trivially). For instance, Aaron might stand left front and Moses right centre; they should not look at each other." The cool scherzando flute solo over dancing accompaniment figures that opens the scene gives way to more flowing lines as Aron warms to his own eloquence; Moses' abstract thoughts remain rooted in speech, except for three lines of commandment near the end, which—uniquely in Moses' part—are permitted to be sung (and are sung on both recordings).

The people of Israel now learn, in the third scene, of Moses' new God; many, led by a Priest, are unconvinced and wish to be left alone. When Moses and Aron arrive, they begin together their speaking-singing duet, but Moses soon yields the floor to Aron, who eventually wins over the people with the visible miracles of the rod-into-serpent, the leprous hand, and the Nile-water-into-blood. The people rejoice in their elected status and prepare to depart for the Promised Land. Throughout this scene, the choral writing is of enormous impact and variety, while Aron's cantilena grows ever freer and more fluent. The miracles are vividly depicted—the hissing sibilants of the whispered German word "*Aussatz*" (leprosy) exploited to marvelous effect; violin harmonics and trills in piccolo and celesta to depict the Nile water—and the enthusiasm of the people is channeled into a rousing march and then into a full version of the music with which the voices had, in the first scene, announced the election of the people of Israel as the Chosen of the Lord. At the end, the march tune returns to build a mighty climax.

Act II is preceded by a brief and breathtaking Interlude, for small chorus, *sotto voce*, in canon, expressing the people's bewilderment and fear at Moses' long absence. (It will be noted that Schoenberg abjures the lengthy persuasion of Pharaoh—all the plagues that make up such a memorable part of Handel's *Israel in Egypt*—as not germane to his subject, which is the relation of the Chosen to the Lord.) Now, before Mount Sinai, the Elders of Israel plead with Aron; after forty days, the people are restless. Indeed they are. They storm in, demanding the return of their old gods. Aron grants them their wish, and the golden calf is built. An elaborate, and almost unstageable, scene ensues: Animals are slaughtered for sacrifice, an invalid woman is cured, some old men kill themselves in homage to the new god, a protesting youth is slain, gifts are given, wine is drunk, four naked virgins are sacrificed, and all culminates in orgies of destruction and lust. There is nothing quite like this in all of the literature, for Schoenberg's music is of an inventiveness, variety, and scope available only to the greatest composers, and there are enough "tricks" of orchestral scoring and color here to fill a hundred Hollywood film scores.

As the last sounds of the orgy wind themselves into sensuous repose, a shout is heard: "Moses has returned from the mountain!" The crowd and the golden calf disappear, and an epic confrontation takes place between the two protagonists. Moses insists that Aron has distorted his idea with images and words, but Aron points to the Tables of the Law, which Moses has brought down from Mount Sinai: "They, too, are only images, a part of the idea." In despair, Moses smashes the Tables. In the background the chorus moves past, singing as at the end of the first act, led by the pillar of fire and the pillar of cloud. Moses, alone, laments that his idea cannot be made articulate. This uniquely downbeat conclusion—Moses speaking against a wide-arching line in the violins, suddenly plunging in despair to the lowest notes of the orchestra, then slowly reaching up again—is one of the most moving in the operatic literature.

Like Aron, the reviewer can string together a lot of words, but he cannot convey the richness and profundity of a work such as this. Its various resonances are readily apparent: religious, political, artistic; some of them are explored in an interesting interview with Michael Gielen included in the libretto booklet. Gielen is one of our best conductors, as Schoenberg connoisseurs have known ever since the old Brendel/Marschner recording of Schoenberg's concertos (now on Turnabout TV 34051, electronic stereo), and he marshals his considerable forces here with a master's hand. The late Hans Rosbaud, who conducted that 1954 Hamburg concert performance of the opera on a few days' notice, was a very great conductor, and his achievement was a remarkable one—but we all know the opera a great deal better now, Gielen is able to characterize more precisely, to change tempos more securely, to judge climaxes more accurately.

In one respect, however, the old disc remains superior: The Aron, Helmut Krebs, had a more beautiful voice, a more supple feeling for the vocal line, than does Louis Devos, a fervent and accurate singer whose top range is not quite reliable in production. Günter Reich, on the other hand, is a powerful Moses (he was announced to take the role in Boulez' December 1974 concert performance, so we may hear from him again—but I wish Hans Hotter could have a chance to record this role, of which he is an eloquent exponent). The smaller parts are generally well taken.

If I have a slight reservation about the new recording, it concerns the size of the chorus, a well-schooled and accurate group that lacks ultimate impact at the climaxes. Particularly in the shouted exchanges at the end of Act I, Scene 3, we become aware that these people are not very numerous—doubtless an aid to good ensemble, but at a tangible cost in effectiveness. Most of the time, however,

we do not notice this, nor are we often made aware that the orchestra is not quite a first-line band. I noted a few burbles, but nothing significant is missed (in the old recording, several quite significant matters were missing altogether), despite the enormous difficulty of much of the writing.

Austria did not do well by Schoenberg during his first hundred years, but this recording of his greatest work is a noble beginning to the second century. Boulez' version is yet to come, and I await it with impatience. But while I wait I shall be listening avidly to Gielen's.

SCHOENBERG: Moses und Aron.

Moses	Günter Reich (spkr)	Four Naked Virgins	Eva Csapó (s)
Aron	Louis Devos (t)		Maria Mühlbacher (ms)
A Young Girl	Eva Csapó (s)		Elisabeth Wagner (s)
An Invalid Woman			Helga Chlup (a)
	Elfriede Obrowsky (a)	Six Solo Voices	Elisabeth Brommel (s)
A Young Man; A Naked Youth			Maria Mühlbacher (ms)
	Roger Lucas (t)		Elfriede Obrowsky (a)
Another Man	Richard Salter (b)		Alfred Winkler (t)
Ephraimite	Ladislav Illavský (b)		Ladislav Illavsky (b)
Priest	Werner Mann (bs)		Franz Handlos (bs)

Austrian Radio Chorus and Symphony Orchestra, Michael Gielen, cond. PHILIPS 6700 084, $15.96 (two discs, manual sequence).

by Susan T. Sommer

Monteverdi: from Fable to Fleshpot

Jürgen Jürgens' new *Orfeo* enters a crowded field, but Nikolaus Harnoncourt's imaginative, full-length *Poppea* sets a new standard.

MONTEVERDI'S MASTERPIECE, *L'Incoronazione di Poppea*, has recently been dusted off after three centuries of neglect and is now practically a repertory piece in music festivals. It has even appeared as a regular-season staple in several opera houses here and abroad. Despite this popularity, *Poppea* does not seem particularly at home in the expanses of the twentieth-century operatic stage. Musically and dramatically this is a chamber work of great subtlety, a quality that is often lost in terrain designed to exploit the broad gestures of Verdi or Puccini.

The libretto for *The Coronation of Poppea* is a splendid story, even if at first it seems to glorify the triumph of evil. The evil Nero needs no introduction. Poppea herself will be familiar to readers of Jacqueline Susann as the girl who sleeps her way to the top. Many of the key scenes—Nero's cajoling by Poppea, her rejection of Ottone, the disposal of Seneca, and Poppea's final triumph—revolve around this fascinating character. Yet there is a second skillfully wrought plot of crucial importance often overlooked or pushed aside in production, to the detriment of the opera as a whole. Ottone, Poppea's rejected lover who is blackmailed into an attempted assassination, is a key figure whose internal conflicts make him potentially as interesting as the title character.

Unfortunately the role for male alto is not easy to fill, yet given a strong performance Ottone's saga makes a perfectly good story all by itself. Cast off repeatedly and rather cruelly by Poppea, he turns to the willing and starstruck Drusilla. But still torn by love and resentment, Ottone is easy prey for the jealous queen Octavia, who first begs, then forces him to agree to kill his former mistress. He turns again to Drusilla, a touchingly smitten Patty Hearst who will do anything for her lover, and borrows a disguise to attempt the assassination. Thus he and Poppea are set on a collision course that reaches its climax at the end of the second act as, dagger in hand, Ottone approaches the sleeping Poppea. At the last minute Love stays his hand, a neat allegorical manifestation of a psychological condition, and Ottone is apprehended.

Seen from this direction, the often cut trial scene in the last act, where Drusilla is first confused, then anxious to sacrifice herself, becomes both dramatic and exciting. Ottone's confession to save Drusilla is the sign of a strong character, not a weak one, and Nero's pardon seems suitable in the triumph of love. Ottone and Drusilla are united; Octavia, who like Seneca is basically unloving, is banished; and Nero and Poppea are free to enjoy the raptures of their final duet alone together.

This view of the opera is not realized in most productions. Raymond Leppard's score, which is the basis for most staged versions, rearranges scenes in such a way as to confuse the Ottone plot considerably. The recorded version makes such drastic cuts (about half the opera is excised) that only the outlines of the story are clear. Alan Curtis sticks close to Monteverdi's original form, although he makes some cuts in the trial scene, but his use of an almost inaudible countertenor in the role of Ottone on his recording robs the character of any believability.

Two major difficulties have beset recorded versions of *Poppea*. First is the problem of accompaniment to the vocal parts, for, as most knowledgeable listeners know, Monteverdi has supplied only the bass part and a few string ritornellos, leaving the conductor with a variety of decisions as to how much accompaniment to add and what form it should take. Then there is the problem of voice parts. *Poppea*, like most seventeenth- and eighteenth-century opera, is scored almost entirely for high voices. The part of Nero, especially, is intended for a male castrato, mercifully unavailable today.

The previous recordings have chosen different solutions to these problems, none entirely satisfactory. Leppard's Glyndebourne performance, now on Seraphim, is lushly orchestrated to the point of suffocation. Many of the roles are transposed into lower registers, bringing the sound into familiar territory for us, if not for Monteverdi. Curtis has chosen the opposite path, clinging to the composer's notes with scholarly reticence and leaving vast portions of the score, aria and recitative alike, punctuated only by the dry sound of the harpsichord. But even Curtis in his quest for authenticity has not dared to bring us a soprano Nero.

Nikolaus Harnoncourt has, to my mind, provided the best solution to date. His accompaniment finds a middle

ground, closer to Curtis than Leppard yet tasteful and discreet. Arias and ariosos are enhanced by restrained support from a variety of authentic instruments, which seldom interfere with Monteverdi's original vocal line. In the matter of vocal range, Harnoncourt goes whole hog. Everything is at original pitch, to marvelous effect.

There are set arias in *L'Incoronazione di Poppea*, but for the most part these are reserved for minor characters. Arnalta, Valletto the page, the lady-in-waiting, the nurse, Amore, and all the mythologic-allegorical characters have neat, enclosed, often strophic solos. The more important figures employ a more flexible kind of speech, moving freely from recitative to melodically controlled arioso and thence to full-blown aria.

As he did in his recording of *Il Ritorno d'Ulisse in patria*, Harnoncourt brings a variety of continuo instruments—harpsichord, virginals, chitarrone, lute, harp, and chamber organ—to accompany most of the speech, subtly varying the color of the sound to fit the character and the situation. A small string ensemble reinforces the arias and arialike sections. To this Harnoncourt occasionally adds a pair of obbligato wind instruments: recorders, oboes, or trumpets. In some sections—the coronation itself, for example, which wants a grand effect—these work quite well; at other points—for instance, in duet passages that are already busy enough—I felt the additional parts crowded the texture unduly. Arioso passages are supported by a melodic bass line.

The cast is a strong one; with a few exceptions the singing is excellent. Choosing a soprano Nero could have been a disaster, given a weaker singer. The castrato voice, which combined male chest capacity with short vocal chords, was famous for its brilliance (competitions between castratos and trumpets were popular), and it is especially hard for a woman to match that sound in a middle register. Relying heavily on bright masque resonance, Elisabeth Söderström produces a diamondlike tone that she can temper to glowing gold for the love scenes with Poppea. These duets with their entwining soprano voices are utterly ravishing and make their soprano/tenor counterparts in other versions sound strangely incomplete. By the same token, Nero's drunken celebratory duet with the soldier Lucano, a baritone, ought to suffer. Instead a superb performance makes it one of the high spots in the opera.

Versatile artist that she is, Söderström still does not have the power of a Nilsson, and the rest of the cast is wisely scaled down so as not to overpower her. Thus Helen Donath's Poppea, while exquisitely seductive, is not as voluptuous as some singers have made her. Rotraud Hansmann, who is familiar from Harnoncourt's earlier Monteverdi recordings, is an excellent Drusilla, romantically willing to sacrifice herself for love. Paul Esswood sings the difficult role of Ottone with the beautiful clear tone that makes his Bach such a joy, but I found myself wishing he would sacrifice some of that purity for dramatic contrast and excitement.

Seneca and Octavia are interesting characters. In the Leppard version they appear as tragic victims, yet the other figures in the opera view them with something less than admiration. Seneca is an old bore, according to Nero and his friends, and unfortunately Giancarlo Luccardi sings him like one. His heavy plodding voice, which despite its weight lacks the requisite low Cs and Ds, makes Seneca's scenes drag on interminably. For these parts of the opera I far prefer the Cambridge recording with Herbert Beattie. Cathy Berberian's shrewish and vindictive Octavia will come as a surprise to admirers of Frances Bible's noble queen. Her bitter and resigned reading of the final monologue, "*Addio, Roma*," is a fascinating example of the latitude Monteverdi's setting affords different interpreters.

By and large the small roles are well filled. Carlo Gaifa, a comic tenor, sings a funny and flexible Arnalta. Except for the lullaby, which he sings in falsetto, Gaifa's tone is surprisingly like his contralto counterparts on the other recordings. Jane Gartner is disappointing in all her roles. Perhaps it is no crime that her Damigella doesn't, for once, steal the show but her thin, shrill Fortuna certainly gets the opera off to a poor start. In fact, except for Hansmann's Virtù, the gods are poorly represented.

The instrumentalists, as one has come to expect from Harnoncourt, are excellent, aside from a few slips by the recorders. The production is generally sumptuous.

Monteverdi wrote *L'Orfeo* thirty-five years before *L'Incoronazione di Poppea* and in so doing virtually created opera single-handed. The 1607 *favola in musica*, as it was called, is quite different from the dramatic richness and musical subtlety of *Poppea*. First, *L'Orfeo* is cast in the form of a pastoral play, which means there is comparatively little action. What does happen involves one character, Orpheus, who loses his bride Euridice in an accident, descends to hell to rescue her, fails when he disobeys Pluto's command not to look back, and finally is restored to happiness and heaven by the intervention of Apollo. As was common in contemporary court entertainments, spectacle, dancing, and choruses play a large part in the proceedings.

Musically the opera relies on set numbers and expressive recitative. Besides the numerous choruses, which are often extended by internal solos and duets, there are several big strophic arias for Orfeo himself and major declamatory scenes, notably the prologue sung by La Musica, the messenger's tale of Euridice's death, and Orfeo's own laments. Monteverdi's orchestra, too, financed by the court festival expenses, differed greatly from the later ensemble designed for the public theater. A great variety of instruments were assembled, winds and continuo instruments predominating, and the composer chose among them for special effects. The buzzing sound of the regal, for example, heralds the appearance of Charon, and Orfeo's elaborate song to him is decorated with flourishes successively from two cornetti, two harps, and two violins.

There have been several good complete recordings of *Orfeo*: the mono Archiv release conducted by August Wenzinger with Helmut Krebs in the title role, Musical Heritage Society's version conducted by Michel Corboz with a generally weaker cast but featuring a breathtaking performance by Eric Tappy as Orfeo, and the strong over-all entry from Telefunken under Harnoncourt.

Perhaps it was the presence of so many choruses in the opera that appealed to Jürgen Jürgens. He is best known as conductor of the Hamburg Monteverdi Choir, an ensemble that has been performing for many years in the German choral tradition. I confess that I have often found the choir's big, soggy sound inappropriate, and I cannot hear it without envisioning the singers in maroon robes, serried on risers obediently holding up their black music folders. Imagine, then, my surprise when they appeared to my ear en masse in the first act of *Orfeo* like some celestial throng rebuking the nymphs and shep-

herds frolicking in a Florentine meadow. They seem to be a bit more at home as infernal spirits in the third and fourth acts, but all in all they are an intrusion.

Possibly conditioned by the soft choral sound, Jürgens' tempos tend to be on the slow side in instrumental sections as well. One lugubrious set of ritornellos at the end of the first act, which should be in recognizably cheerful triplet meter, is particularly offensive.

Nigel Rogers is a magnificent Orfeo. This fine tenor has done years of service in relatively minor roles, in this repertoire and others, and it is high time he got star billing for a change. The part of Orfeo does not call for ringing high notes, but it requires a firmly masculine tone, a strong sense of rhythm, dramatic subtlety of expression, and an extraordinary coloratura. When Monteverdi wrote out "*Possente spirto*," the aria where Orfeo charms Charon to sleep, he included a version ornamented with staggeringly difficult embellishments for the star singer who was to take the part, and a simplified version, presumably for lesser mortals. Rogers' performance is astonishing. He has a natural voice for coloratura and is so at home in the style that for the first time it is possible to get some idea of how seventeenth-century singers amazed a knowing and demanding audience.

The role of the messenger, here called by her proper name, Silvia, is sung with beauty and expression by Anna Reynolds, who later lightens her warm mezzo to fill the role of Proserpina. Another stalwart of early baroque music, Ian Partridge, fills the roles of Apollo and the first shepherd admirably.

After this high level, the quality of performance falls off rather sharply. The low bass roles of Pluto and Charon are admittedly difficult, but the singers on both the Telefunken and the old Archiv recordings reach resonant depths impossible for the pinched tones of Stafford Dean and Alexander Malta. James Bowman hits all the notes in the mezzo role of Speranza, but his performance is otherwise undistinguished. Both John Elwes and Emilia Petrescu suffer from wobbly voices.

The instrumentalists are all competent enough; a nice feature in the notes is an elaborate chart showing exactly what groupings were chosen to accompany precisely which sections of the score. The sound is good but not as exciting as that of the Telefunken release.

MONTEVERDI: L'Incoronazione di Poppea.

Fortuna; Damigella; Pallade	Jane Gartner (s)	Octavia	Cathy Berberian (ms)
Virtù; Drusilla	Rotraud Hansmann (s)	Seneca	Giancarlo Luccardi (bs)
Amore	soprano from the Vienna Choir Boys	Nurse	Marla Minetto (ms)
Poppea	Helen Donath (s)	Arnalta	Carlo Gaifa (t)
Nerone	Elisabeth Söderström (s)	Littore; Mercury	Enrico Fissore (b)
Ottone	Paul Esswood (ct)	Liberto	Kurt Equiluz (t)
		Valletto	Margaret Baker (ms)

Vienna Concentus Musicus, Nikolaus Harnoncourt, cond. TELEFUNKEN HS 635247, $34.90 (five discs, manual sequence).

MONTEVERDI: Orfeo.

Orfeo	Nigel Rogers (t)	Pastore II; Speranza	James Bowman (ct)
Euridice; La Musica	Emilia Petrescu (s)	Pastore III; Spirito I	John Elwes (b)
Silvia; Prosperpina	Anna Reynolds (ms)	Pastore IV; Plutone	Stafford Dean (bs)
Pastore I; Apollo	Ian Partridge (t)	Caronte; Spirito II	Alexander Malta (bs)

Hamburg Monteverdi Choir; soloists of the Hamburg Camerata Accademica; Hamburger Bläserkreis für alte Musik, Jürgen Jürgens, cond. [Werner Mayer, prod.] ARCHIV 2710 015, $23.94 (three discs, manual sequence).

Comparisons—Poppea:

László, Lewis, Leppard/Glyndebourne	Sera. SIB 6073
Bogard, Bressler, Curtis/ensemble	Cam. CRS B1901

Comparisons—Orfeo:

Tappy, Corboz/Lausanne	Mus. Her. MHS 939/41
Kozma, Harnoncourt/Concentus Musicus	Tel. SKH 21

classical

reviewed by
ROYAL S. BROWN
ABRAM CHIPMAN
R. D. DARRELL
PETER G. DAVIS
SHIRLEY FLEMING
ALFRED FRANKENSTEIN
KENNETH FURIE
CLIFFORD F. GILMORE
HARRIS GOLDSMITH
DAVID HAMILTON
DALE S. HARRIS
PHILIP HART
PAUL HENRY LANG
ROBERT C. MARSH
ROBERT P. MORGAN
ANDREW PORTER
H. C. ROBBINS LANDON
JOHN ROCKWELL
SUSAN THIEMANN SOMMER

H **BACH:** Sonata for Solo Violin, No. 2, in A minor, S. 1003. **DEBUSSY:** Sonata, No. 3 for Violin and Piano, in G minor. **MOZART:** Divertimento in B flat, K. 287. Joseph Szigeti, violin; Andor Foldes, piano (in the Debussy); chamber orchestra, Max Goberman, cond. (in the Mozart). Rococo 2062, $6.95 (mono) [from various COLUMBIA 78-rpm originals, recorded in the '30–'40s] (Rococo Records, Box 175, Station K, Toronto 12, Ont.).

All Szigeti devotees will want to know about this Rococo reissue of some of his most cherished vintage work.

The Bach, a companion to the G minor Sonata reissued in Columbia's great six-disc tribute (M6X 31513) honoring the violinist on his eightieth and last birthday, is if anything even more fiery and eloquent. The finely tapered line, the imperial poise, and—most of all—the impassioned asymmetrical stress of this unforgettable delivery ought to clarify Szigeti's place in virtuoso annals for those who knew his work only in its quavery, waning years. I would go so far as to call this the greatest recorded performance of unaccompanied Bach known to me—with all due respect to Casals, etc.

Szigeti's way with the Mozart divertimento is sharp, witty, and, when appropriate, celestially pure. He spins a gossamer line in the slow movement but at the same time is cognizant of such details of phrasing as the impetus-giving fortes and subito pianos. One follows the carefully traced line with never-ceasing interest and attention. Few understood—or, for that matter, understand—classical music as Szigeti did. He captures both the refinement and robust character.

The strangely elusive, very late Debussy sonata (his last completed composition) was always a Szigeti specialty. If this newly restored version proves the least interesting item on the Rococo disc, it is simply because we have had ready access to two other Szigeti performances of the work: one on Vanguard Everyman (SRV 304/5) from a live 1940 concert at the Library of Congress with Béla Bartók at the piano, and the other a recently discontinued Mercury disc with the American pianist Roy Bogas.

For once, Rococo's transfers are rather clear and vivid. Nobody seems to have paid any heed to joining the side breaks, however, and as a consequence you hear everything—even chords that are repeated on the new 78 side! It doesn't bother me particularly, but still.... H.G.

BACH: Well-Tempered Clavier, Book II, S. 870–93. Anthony Newman, harpsichord, clavichord, and organ. [Jay David Saks, prod.] COLUMBIA M2 32875, $13.98 (two discs, automatic sequence).
BACH: Well-Tempered Clavier, Book II, S. 870–93. Sviatoslav Richter, piano. MELODIYA/ANGEL SRC 4120, $20.98 (three discs, automatic sequence).

There is an old Stan Freberg takeoff on "Banana Boat" in which a supercool, hypersensitive bongo-drummer keeps complaining to the Calypso singer that his "Day-os" are "too piercing, man, too piercing." Well, man, that's what the little rinky-dink, six-stop organ used by Anthony Newman in some of the *WTC* numbers is—too piercing. I won't even argue about the taste involved in playing musical chairs among harpsichord, clavichord, and organ, as Newman does in this album, several times performing a prelude on one instrument and the fugue on another. But if an organ is to be used, why in the world dig up a little portable that has all the tone of a well-tuned calliope?

For the most part, Newman does not even take advantage of the six stops he has at his disposal, but opts for one in which the coupling brings in a high-pitched, shrill tone that is all but unbearable to listen to at full volume. Even worse, he often employs registration an octave or so higher than what is written, effectively destroying the exceptional linear cohesion that is such an essential part of Bach's style. It is, of course, lots of fun to doodle around with Bach and other composers when you have such an instrument at hand; but the preservation of such amusement on vinyl is yet another indication, it seems to me, of a growing proclivity to immortalize amateurism.

All of this is a shame. For if Newman could be persuaded away from his "let's-sell-the-product" gimmickry; if he would avoid rewriting certain pieces with jazzy dotted rhythms; if he could refrain from tinkering with the note configurations, particularly in certain repeats in the preludes (and where did that G flat come from at the end of the F minor Prelude?); and if he would only not speed up impetuously at certain points like a grade-schooler still in the early stages of learning the keyboard, then he would be eminently listenable. Particularly when he sticks to the harpsichord, Newman comes up with some excellent, energetic, and—perish the thought—even sensitive performances here and there. And his harpsichord has been captured in spectacularly realistic, bright sound.

But on to more important things. Unfortunately, Newman got the recorded sound that Richter deserved. Or maybe Columbia got the artist Angel deserved. Although the reproduction for Richter's *WTC* II is not as cavernous as that for Book I, a marked lack of sharpness, an inordinate amount of hiss, and a strange tendency of certain notes around an octave and a half above middle C to ring out unnaturally all get in the way of the pianist's efforts, which are much more consistently rewarding here than in Book I.

Richter especially excels in re-creating the lilting, *grazioso* feeling that seems to have been written into many more of the Book II preludes and fugues than of those in Book I, which often have a more *marcato* quality. The B flat major Prelude, written in a typical 12/16 meter, and the F major Fugue, in 6/16, offer excellent examples of Richter's rhythmic and tonal subtlety. Furthermore, the smoothness of his execution of many of the faster pieces, such as the C minor Prelude, produces a feeling of exhilarating momentum. But he also, at least in a number of instances, follows the line of the sometimes mysterious lyricism of the slower works, such as the E major Fugue, with an apparent perfect understanding of the musical meaning. Indeed, his approach to that fugue would make the ludicrous march tempo used by Glenn Gould (Columbia D3M 31525) seem all the more asinine if Gould himself, in an earlier recording tacked onto the end of the single issue of the Bach Fifth and Sixth Partitas, had not already given us an even more broad and expansive interpretation of this exceptionally haunting fugue than Richter's.

In the Richter Book II, there are still things I don't like: some excessive pedaling here and there; a somewhat glib approach to certain pieces, such as the C sharp major Prelude (ever so reminiscent of the famous C major Prelude of Book I) and the F minor Fugue; a rather romantic use of trills in places (such as the F sharp minor Fugue); some uncalled for loudness; a tendency to parcel out legato, nonlegato, and staccato playing into somewhat cut-and-dried divisions. But Richter's pianism, which in this case seems to do more justice to Bach than in Book I, is an utter pleasure to hear, and it would be more so had it been reproduced with greater fidelity. R.S.B.

BARTÓK: Concerto for Orchestra. Berlin Philharmonic Orchestra, Herbert von Kara-

Explanation of symbols
Classical:
B Budget
H Historical
R Reissue
Recorded tape:
●● Open Reel
8-Track Cartridge
Cassette

Yehudi Menuhin and Henryk Szeryng—*fiddle playing with an individual point of view.*

jan, cond. [Michel Glotz, prod.] ANGEL S 37059, $6.98.

Karajan's first *Concerto for Orchestra* (with the Philharmonia Orchestra), the first made-for-LP version, helped usher the Angel label onto the American market in 1953. His first remake, the 1965 Berlin Philharmonic rendition for DG (139 003), is now superseded by this new Angel recording.

The three readings are not all that different. They are on the slowish, dour side, stressing graying sonorities and acrid harmonic clashes rather than crisp timbres or peasant rhythmic fervor. The new disc differs from its predecessors primarily in the more close-up attention paid winds and brass and the greater extroversion of the phrasing—a more expressive *dolce* in the violins here, a more suave pointing of a woodwind nuance there. Part of this is traceable to the sound, for DG's reproduction is more blended and reticent.

Closer scrutiny of the new version reveals many an inconsistency and insensitivity of style. From the tenth measure of the Elegia (where the lake of tears episode from *Bluebeard's Castle* is quoted), the clarinets play their arpeggios as ghostly slides, whereas the *indicated* glissandos for low brass in bars 90–92 of the Intermezzo are ignored. Much of measures 40–80 of the central slow movement is overbearing and heavy-handed, while the finale's *tranquillo* episode (bar 449ff.) is, contrastingly, hurried over insensitively.

The actual execution is occasionally slipshod, too, and especially in the second movement there are damagingly faulty instrumental balances. Having been absolutely bowled over by Karajan and the Berliners on their recent U.S. tour, I know they can play spectacularly when they want to. On all too many discs, unfortunately, they seem not to care enough to do their very best.

The problem in looking for a more virtuosic alternative is that conductors and orchestras have too often been mismatched. On the one hand, the virtuosity may be inherent in the orchestra but unexploited by an unsympathetic or perhaps temporarily uninspired conductor—Ozawa/Chicago, Haitink/Concertgebouw, Leinsdorf/Boston. On the other hand, orchestral limitations may be almost compensated for by the temperament or insight on the podium—Stokowski/Houston, Ansermet/Suisse Romande, Solti/LSO. Most frustrating is Szell/Cleveland: Maestro and players are uniformly up to their task, but the whole thing is sabotaged by an absurd cut in the finale.

That leaves the aging and rather hard-bitten Reiner/Chicago (Victrola VICS 1110), the slightly glossy Ormandy/Philadelphia (Columbia MS 6626), the pungent but thick Bernstein/New York (Columbia MS 6140), and the later Boulez/New York (Columbia M 32132), which holds a slight (and admittedly subjective) edge, at least until we discover what DG's forthcoming Kubelik/Boston collaboration portends. A.C.

BEETHOVEN: Concerto for Piano and Orchestra, No. 5, in E flat, Op. 73 (*Emperor*). Alexis Weissenberg, piano; Berlin Philharmonic Orchestra, Herbert von Karajan, cond. [Michel Glotz, prod.] ANGEL S 37062, $6.98.

BRAHMS: Concerto for Piano and Orchestra, No. 1, in D minor, Op. 15. Alexis Weissenberg, piano; London Symphony Orchestra, Carlo Maria Giulini, cond. [Michel Glotz, prod.] ANGEL S 36967, $6.98.

Alexis Weissenberg, for all his obvious temperament and technical ability, lacks two important facets: artistry and sensitivity. What good is it to know about every inner voice if one can't project any of them in a meaningful way? What's the use of having strong, incisively brilliant fingers if at least half of the filigree detail is smeared and unclear through blustery impatience? Weissenberg appears never to have gained the ability to listen to himself with a critical ear. Rarely does he produce a beautiful sound: Fortissimos are usually hard, flinty, and ugly assaults on the listener's sensibilities; pianos, conversely, are more often than not pallid.

This tonal deficiency, though serious, is not necessarily fatal; Rudolf Serkin, never particularly noted for sensual sonority, has played both of these concertos memorably. What does damage Weissenberg's playing—seriously in the Beethoven, irreparably in the Brahms—is his crassness of spirit and his deadpan, inept way of making transitions. In the second theme of the Brahms first movement, for example, the pianist understandably wants to increase the feeling of motion at one point but does so only by taking off in a spurt of feverish, fitful, unconvincing rubato.

The tempos in the Brahms are depressingly slow, and Giulini's direction is surprisingly lackluster. There are many passages of loose chording that surely ought to have been remade, and the LSO strings sound decidedly seedy. I don't know of a less attractive extant Brahms D minor.

The Beethoven, thanks to Karajan's firm leadership and a more conventional approach from the pianist, is on an altogether higher level. But even so, there are sloppy ensemble details and an over-all superficiality in the soloist's work that prevent this otherwise large-scaled, massively forthright reading from challenging those of Fleisher, Schnabel, Arrau/Galliera, and Ashkenazy. H.G.

BEETHOVEN: Concerto for Violin and Orchestra, in D, Op. 61. Henryk Szeryng, violin; Concertgebouw Orchestra, Bernard Haitink, cond. PHILIPS 6500 531, $7.98.

Szeryng's third recording of the Beethoven concerto—and, everything considered, his best—is a slow performance that gives the impression of militancy. That impression is the conductor's doing: From the opening drum taps, Haitink is careful to delineate the structural and rhythmic aspects of the orchestral framework, with salutary effect. As a result, the *pacing* may be the same as in some of the overtly "Romantic" interpretations, but the *feeling* is akin to the strict classical approach of, say, Fritz Busch (with Adolf Busch) or Toscanini (with Heifetz, still available in RCA VCM 7067), both of whom set a secure pulse and maintain it.

Szeryng plays with his well-known purity of tone and line, but also with his equally well-known lack of involvement. As always, his suave technique and intellectual phrasing are to be admired, but there is a point at which objectivity must yield to the emotions. Szeryng rarely loses himself in this radiant music—there are few rapturous nuances, no silvery pianissimos to take the breath away. Even his choice of the Joachim cadenzas rather than the more often heard Kreisler ones is completely characteristic of this analytical, rather cool point of view.

Philips' engineering is brilliant and impactive. The Concertgebouw ensemble's dark strings are aptly caught, but again the emphasis is more on clarity than on sonorous sensuality. H.G.

BIZET: Carmen (sung in German).

Carmen	Emmy Destinn (s)
Micaela	Minnie Nast (s)
Frasquita	Marie Dietrich (s)
Mercédès	Grete Parbs (ms)
Don José	Karl Jörn (t)
Remendado	Rudolf Krasa (t)
Escamillo	Hermann Bachmann (b)
Dancaire	Julius Lieban (b)
Morales; Zuniga	Felix Dahn (bs)

Chorus and orchestra, Bruno Seidler-Winkler, cond. DISCOPHILIA KS 1/3, $23.94 (three discs, mono, manual sequence) [recorded in Berlin, 1908] (distributed by German News Co., 218 E. 86th St., New York, N.Y. 10028).

This is a historical document to satisfy curiosity about early complete recordings of opera, but not a set that even the most avid admirers of Emmy Destinn, I imagine, will want to play very often.

The G&T *Carmen*, recorded in Berlin in 1908, was originally released on thirty-six 78-rpm sides (so we call them for convenience, though speed in those days could vary), some of them 12-inch and some of them 10-inch. The opera is far more nearly complete than I expected it to be (there are even a few bars added to the score: the bugle call of the relief guard and a reprise of the first subject form a new close to the prelude, after the fate motif). The sound quality varies from side to side and is at its best surprisingly good. The voices come through clearly, and so do most of the (German) words. Those of Morales and Micaëla (Felix Dahn and Minnie Nast) are especially easy to follow. Destinn's are occasionally difficult to catch. No libretto is provided with the set.

There is nothing about Destinn's familiar records, excellent though some of them are, to suggest she would be a remarkable Carmen. (She sang the role in London only twice, in the 1905 season; before her, Emma Calvé was the usual heroine, and, after her, Maria Gay). German dramatic sopranos often tackled the part; Olive Fremstad deemed it one of her best. But it was in Wagner, Verdi, and Puccini that Destinn made her greatest impression. As Bizet's heroine she is very secure, but there is very little character and almost no seductiveness or charm. All the big numbers tend to be a shade rapid and somewhat commonplace in interpretation.

It would, of course, be hazardous to try to deduce what her theater performance was like from something so special, so novel at the time, as a complete recording. But it can fairly be said that here she is a straightforward, no-nonsense Carmen, agreeably definite in her singing, if one without Calvé's vividness or Gay's passion or—to move later into the century—Conchita Supervia's allure and musical, dramatic finesse. Often, but not always, she takes the soprano alternatives of the Bizet-Guiraud score.

Minnie Nast (Richard Strauss' first Sophie in *Der Rosenkavalier*) is a delightful Micaëla—pure, clear, and precise. The bright, starry tone is always pleasing. But in the aria (Side 2 of which seems to have been transcribed from a somewhat worn copy) she lets go of several notes too early and does not unfailingly join notes into one smooth line. Although Hermann Bachmann's Escamillo is not always dead in tune, he sings the "Toreador Song" with great panache and makes a good deal more of it than most baritones do today. Karl Jörn (best known internationally as a Walther) is an able Don José, but one who hurries the passages in the "Flower Song" where a slight increase of speed is indicated.

In general, there seems to be a slight feeling of rush to get the numbers onto the sides before the wax runs out. On the other hand, the conductor (anonymous on the Discophilia reissue, identified elsewhere as Bruno Seidler-Winkler) does encourage some freedoms not practiced now, but enlivening to the flow of the music. The ebb and flow of tempos in the prattle of the two girls, during the first section of the Card Scene, is very prettily managed.

The orchestral playing employs portamento more amply than we are accustomed to, and that is welcome. The higher winds are well recorded; the male choruses sound rather tubby, and the urchins are evidently German matrons. The strengths and limitations of 1908 recording technique are well demonstrated by the start of Act III: All goes well until the chorus enters, but then the orchestra turns into a harmonium-drone.

Pitch is not always happy in the transfer. It seems to climb in the quintet (this number, and the "*Quant au douanier*" ensemble, evidently defeated the recorders). The first finale, I believe, has been sharpened, which gives Destinn's voice a pinched quality. Her "*En vain pour éviter*" (in the Card Scene) does not match with the recitative at the close of the preceding side; and Side 1 of the final duet is also, I believe, sharp—something odd happens between the sides. I suspect that, in addition to variations of turntable speed between sessions, some of the traditional transpositions were made and that the Discophilia engineer had difficulty in joining the various sides together convincingly.

Questions of speed apart, the sound quality of the transfers—so far as one may judge without access to fine originals—is first-rate. This is not an "old scratchy," but a smooth recording of *Carmen*, limited only in range and capacity.

If the set were of appeal to more than a few specialists and historians, I would complain about the lack of discographic and biographical information; but those who want to acquire a 1908 *Carmen* are likely to have those details on their shelves already. Discophilia, by the way, promises to release the contemporaneous *Faust*, also with Destinn and Jörn, with Paul Knüpfer as Méphisto. A.P.

BRAHMS: Concerto for Piano and Orchestra, No. 1—See Beethoven: Piano Concerto No. 5.

BRAHMS: Concerto for Piano and Orchestra, No. 2, in B flat, Op. 83. Alfred Brendel, piano; Concertgebouw Orchestra, Bernard Haitink, cond. PHILIPS 6500 767, $7.98.

Haitink gives a truly heaven-storming account of the orchestral score that, even more than Szell's with Serkin, brings to mind Toscanini's magnificent statement with Horowitz. But even accepting the celebrated characterization of this work as a "symphony with piano obbligato," Brendel's contribution proved a constant impediment to my enjoyment.

I realize that many listen to Brendel's every note with cultish admiration, but his recent playing disturbs me terribly. Again and again, he indulges in contrived, arbitrary-sounding accelerations and ritards (e.g., the first-movement introduction, particularly the final phrases). Often he disrupts the logical progress of a musical line with a coy *Luftpause* or simpering pianissimo. Nor are Brahms's rich, massive, bass-oriented textures well served by Brendel's sonority—brittle fortissimos alternating with insubstantial soft playing without vibrancy or definition.

Brendel does his least unsatisfactory work here in the decidedly less heroic writing of the third and fourth movements, heightening the impression of a small-scaled recitalist trying to prove his worth in the blockbuster concerto repertory. Despite Haitink's contribution, this version is outclassed by the Arrau/Haitink (with a less forceful orchestral statement), Ashkenazy/Mehta, Backhaus/Böhm, Fleisher/Szell, Gilels/Jochum, Gilels/Reiner, Rubinstein/Ormandy, and Serkin/Szell. Several of these are, of course, budget-priced, and I should note that for the same price as the new Philips disc one can have Columbia's "twofer" of the splendid Serkin/Szell accounts of *both* concertos. H.G.

BRAHMS: Concerto for Violin and Orchestra, in D, Op. 77. **BEETHOVEN:** Romance for Violin and Orchestra, No. 2, in F, Op. 50. Yehudi Menuhin, violin; Lucerne Festival Orchestra (in the Brahms) and Philharmonia Orchestra (in the Beethoven), Wilhelm Furtwängler, cond. SERAPHIM 60232, $3.98 (mono) [from HMV/VICTOR originals, recorded 1949 (Brahms) and 1953 (Beethoven)].

Furtwängler's performance style, frowned upon by a generation of Americans, is back in favor. Better mind-expanding performances than mind-expanding drugs!

In many ways, the analogy holds up: Opium, say, will soften the hard lines of conscious reality and enable one to draw greater attention to incidental beauties that might ordinarily be overlooked. Similarly, this performance of the Brahms concerto loosens the work's over-all structure, eases the basic flow of tempo, dissolves fundamental rhythmic details (the celebrated Brahmsian twos-against-threes, for example, are often quite imprecise in this freely generative reading), and lets the willing listener indulge himself to the utmost, freed temporarily of puristic responsibilities.

Furtwängler admirers often claim that he brought insight and structural clarity to the music he interpreted so freely. (The Seraphim liner includes a typically flowery tribute by Menuhin.) To my hearing, though, the often ravishing interpretations on this disc are inspired distortions of the music. For all their eloquence, they are quite without structure—even, at times, downright undisciplined. What I hear is an unrelievedly somber, mournful aura, even when the music plainly cries out for accent, drama, impassioned gaiety. Why must the finale be so stodgy? Why must Menuhin persist in disrupting the principal theme of that movement with those awful *Luftpausen*? Why must the music grind—or rather moan—to a halt before the three final chords?

Menuhin writes fulsomely of Furtwängler as "the boatman, the oarsman, borne along by the continuous flow and skillfully riding the torrents." In plainer English, he follows where the orchestra leads him. The orchestral ensemble is, in fact, disturbingly ragged.

Listeners unfamiliar with these works will get only a garbled impression of their sym-

metry and content from these willful accounts. As a supplementary edition, however, the disc can be recommended. Menuhin was in especially good form for both works, and the Brahms is of further interest for his use of the Kreisler cadenza rather than the more frequently encountered Joachim.

The sonics—brightly detailed and cleanly resonant in the Beethoven, a bit more diffuse but still warmly agreeable in the Brahms—are completely serviceable. H.G.

BRITTEN: Death in Venice. For a feature review, see page 79.

BRUCKNER: Symphony No. 8, in C minor (ed. Nowak). Los Angeles Philharmonic Orchestra, Zubin Mehta, cond. [Christopher Raeburn, prod.] LONDON CSA 2237, $13.96 (two discs, automatic sequence).

Mehta has given us a quite respectable Bruckner Fourth and, with the Vienna Philharmonic, a massive Ninth that is my favorite of its type. This wayward Eighth, however, has nothing going for it: The opening movement lingers from note to note without pulse; the scherzo is almost bereft of accentuation; the Adagio is pulled in every direction tempowise; the finale somnambulates. The Los Angeles Philharmonic is no amateur ensemble, but it is swamped by this exhausting and knotty score. The sound is thick and muddy, with swishy surfaces.

My recommendations remain the monumental but incisive Szell/Cleveland (Columbia M2 30070) of the Nowak edition (essentially Bruckner's final version) and the spacious, translucent Haitink/Concertgebouw (Philips 6700 020) of the Haas edition (a hybrid of Bruckner's various editions). A.C.

CHOPIN: Piano Works. Vladimir Horowitz, piano. [Richard Killough, prod.] COLUMBIA M 32932, $6.98. Tape: ●● MT 32932, $7.98; ● MA 32932, $7.98.

Etudes, Op. 10, No. 3, in E; No. 4, in C sharp minor; No. 12, in C minor (*Revolutionary*). Mazurkas: No. 7, in F minor, Op. 7, No. 3; No. 20, in D flat, Op. 30, No. 3; No. 23, In D, Op. 33, No. 2; No. 27, In E minor, Op. 41, No. 2; No. 32, In C sharp minor, Op. 50, No. 3; No. 38, in F sharp minor, Op. 59, No. 3. Polonaise In A, Op. 40, No. 1 (*Military*). Prelude in B minor, Op. 28, No. 6. Waltz In C sharp minor, Op. 64, No. 2.

The dichotomy of Horowitz the concert pianist and Horowitz the ivory-tower recording artist is again highlighted by this new anthology. The latter gentleman is responsible for most of this undeniably engaging recording, but the C sharp minor Waltz, from a Boston concert in 1968, and the F minor Mazurka, from a Chicago recital the same year, show how much more alluring Horowitz becomes when he has an audience of people as well as microphones. Oddly enough, the *sound* is also better on the "on location" items: rounder, fuller, warmer. The others, 1972–73 studio recordings, are rather bloodless and metallic, though never so much so as to preclude enjoyment.

The mazurkas have always been *spécialités de maison*, and Horowitz continues to play them with highly individual voicing and little caprices of rubato, but over the years his approach has become milder, more reflective. Take the D flat, for instance: On his 1950 RCA recording (formerly on LM 1109), his fortissimos had such violent savagery that I recall cringing even during the pianissimos in anticipation of the next onslaught! In the new version, the sonority is still impressive but altogether less sadistic. Horowitz is obviously much more relaxed, but he also sometimes seems a little out of touch—a victim of his own painstaking contrivance.

Vladimir Horowitz
Still the firebrand.

There has of late been a myth that Horowitz is no longer the firebrand he once was. The A major Polonaise and two of the three etudes ought to put that to rest: The polonaise goes at a relentless clip, with machine-gun precision and steely brilliance. The C sharp minor Etude, although broadly inflected, has awesome clarity and detail. I have heard more precipitate accounts of the *Revolutionary*, but never one with such tightly reined-in control. The lyrical E major Etude goes rather briskly, with a few theatrical gestures (never offensive) at midpoint. H.G.

DEBUSSY: Sonata No. 3, for Violin and Piano —See Bach: Sonata for Solo Violin, No. 2.

DELIUS: Sonatas for Violin and Piano, Nos. 1–3. Ralph Holmes, violin; Eric Fenby, piano. [Gavin Barrett, prod.] UNICORN RHS 310, $7.98 (with spoken introduction by Eric Fenby; distributed by H.N.H. Distributors, Box 222, Evanston, Ill. 60204).

DELIUS: Sonatas for Violin and Piano, Nos. 1–3. Wanda Wilkomirska, violin; David Garvey, piano. [E. Alan Silver, prod.] CONNOISSEUR SOCIETY CSQ 2069, $6.98 (SQ-encoded disc).

Delius' three violin sonatas are less diverse than, say, the Brahms and Grieg trilogies. Yet it would be a mistake to assume that hearing one is hearing them all. (Actually the composer wrote two other works for this combination: the unpublished and unrecorded 1892 sonata, and the *Legend* of the following year, which is played occasionally and exists alternately in a version with orchestral accompaniment.)

The official Sonata No. 1, composed between 1905 and 1915, is the most extended of the group and the most typically Delian in its long-breathed musings. The bulk of the piece is a dreamy rhapsody on a wispy, mournful motif made up of five descending notes. Sonata No. 2, written in 1924 shortly before paralysis was to render Delius helpless to compose on his own, is more assertive. Its lushness and declamatory style are Straussian to some degree. Sonata No. 3, from 1930, was dictated to the blind composer's amanuensis, Eric Fenby. Its three-movement structure is the most classical of the series, and the tersely melancholy mood is particularly French in character.

In 78 days, some important English performers dealt with this literature in recordings of presumably authentic style, including Albert Sammons' readings of the last two sonatas and, even more beautifully done, Henry Holst and Gerald Moore's English Columbia disc of the *Legend*. May Harrison and no less a pianist than Sir Arnold Bax recorded a voluptuous (if dim-sounding) First Sonata for HMV, while Lionel Tertis made a stunning viola version of No. 2 (now on HMV HLM 7055). The early LP era brought workmanlike renditions of these pieces, but nothing like the romantic glow and conviction of the aforementioned shellacs, which have long since achieved collector's-item status.

It remained for the undeclared Delius revival of the Seventies to bring these works back into their own for the record buyer. The Unicorn disc appeared in England about two years ago and was naturally assured an *urtext* aura by Fenby's own presence at the piano. (He even reminisces about the Delius he knew in a brief talk at the beginning of Side 1.) It was followed shortly by a pairing of Sonatas Nos. 2 and 3 with the *Legend*, played by David Stone and Alan Schiller, on a label with the quaint name of Saydisc Amon Ra (SAR 2). And now we have the Connoisseur Society issue in compatible SQ, the first microgroove version by a violinist of international repute.

The Stone/Schiller edition is the closest to the unbuttoned ardor of the old-fashioned Delians of the first half of the century. The violinist plays with a "heart throb" vibrato that calls to mind Menuhin, although he is also inclined often to nose in under the pitch. Yet the Saydisc is acoustically the livest and most vivid of the three recent collections, and since the *Legend* is otherwise unavailable one is reluctant to dismiss this record simply because it is not readily obtainable in the U.S. and because the First Sonata is more music for the money than the *Legend*.

Ralph Holmes is an assured and accurate fiddler who dovetails adroitly with Fenby in readings that are controlled, reserved, trim, and even a bit cool. Fenby is as close to Delius tradition as anyone could be; yet instead of the tonal juice, marked rubato, and sentimental dawdling one would expect, he favors a pointed classicism that serves well the larger contours of the music and allows the fantasy to speak for itself without meandering or italicization.

Wanda Wilkomirska, by contrast, pursues the passion of the works with her typical intensity. All that tigerish energy and bravura manner is effective enough in small doses, but the over-all line goes a bit limp in this treatment. Rather than indulging in the all-out glissandos and portamentos of the old-school string players documented on the above-cited 78s, she tends to slither on and off attacks and releases with coy, quarter-tone slides, which can only lend aid and comfort to the anti-Delians who

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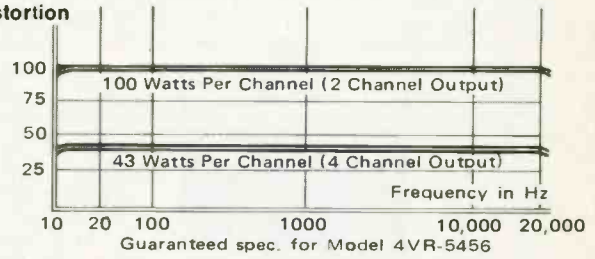

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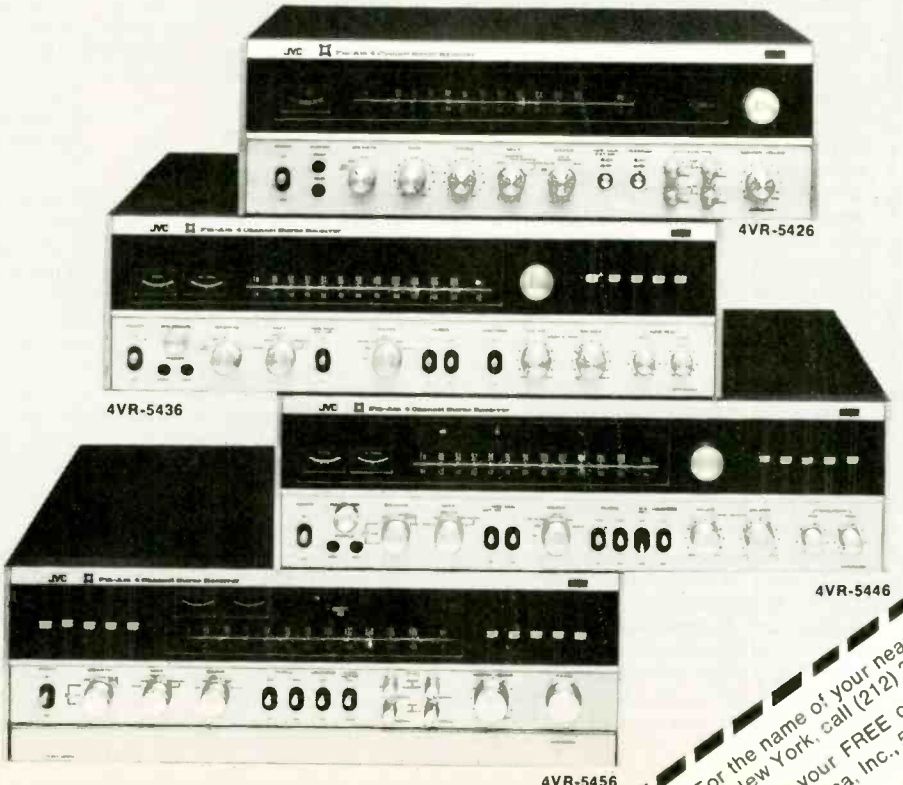

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JVC

André Previn and the LSO—*rocketing through* The Planets.

decry him as "decadent." Garvey plays up big emotional storms in the piano parts with what sounds like injudicious use of the pedal.

Both recordings are consistent with the players' views of the music. Unicorn bestows light-textured, dryish sonics. Connoisseur Society offers very rich and bass-heavy engineering (I have heard it only in two-channel format). Both discs have impeccable surfaces and informative annotations. If there are developing "ideologies" in Delius interpretation, these discs could well serve as their standard-bearers. A.C.

HAYDN: Symphonies: No. 95, in C minor; No. 96, in D (*Miracle*). New York Philharmonic, Leonard Bernstein, cond. [John McClure, prod.] COLUMBIA M 32598, $6.98. Quadriphonic: MQ 32598 (SQ-encoded disc), $7.98; MAQ 32598 (Q-8 cartridge), $7.98.

Bernstein here continues his traversal of the Haydn "London" symphonies; that such a project would be attempted early in the quad period is evidence enough that Haydn has come fully into his own.

Bernstein has been a Haydn enthusiast from the beginning of his career, a commitment that is probably part of the legacy of his great teachers, Reiner and Koussevitzky, each of whom, in his quite different way, was a notable champion of the composer in the days when he rated a weak third to Beethoven and Mozart. In his Haydn performances Bernstein reflects both of these influences: the strong pulse, clean articulation, and firm rhythmic foundation that were fundamental to Reiner, and the orchestral virtuosity and big gleaming ensemble sound that Koussevitzky loved. Haydn in London was writing for a large orchestra, with the exception of Paris the largest ever available to him. Bernstein plays this music in that spirit, reminding us that the difference between Haydn's orchestra and that of the Beethoven symphonies (works we regard as in no way antiquarian) is very slight.

It was also basic to Haydn that strings, woodwinds, and brass should carry equal weight, and, especially in quad, Bernstein manages that very well. These symphonies are filled with antiphonal effects and striking contrasts, lyric phrases and heroic gestures. When you seem to be listening from a midway point in the orchestra, with solo voices (and there are some gorgeous solos for strings and winds) precisely defined, lower strings to the rear, wind players in the front, the interplay of lines within the score not only is made wonderfully clear, but becomes a terrifically exciting experience for those who delight in eighteenth-century music. This is not to suggest that the stereo version is unexciting. It is an excellent record, but it cannot compete with the quad heard through full-logic decoding.

The *Miracle* Symphony is misnamed. The falling-chandelier incident, to which the name refers, took place later, during the concert in 1795 at which Symphony No. 102 received its premiere. No. 96 was presumably the opening work on the program, selected because it was popular from its first performance in 1791. Symphony No. 95 has a powerful opening that is simply glorious in the quad version when the entire room seems to burst into sound.

Clearly it is a matter of personal taste, but for me this is the finest SQ record so far.

R.C.M.

HOLST: The Planets, Op. 32. Ambrosian Singers; London Symphony Orchestra, André Previn, cond. [Christopher Bishop, prod.] ANGEL S 36991, $6.98.

Comparisons:

Haitink/London Phil.	Phi. 6500 072
Boult/New Philharmonia	Ang. S 36420
Holst/London Sym.	EMI HLM 7014

In just the last few years, Previn has grown so impressively in stature as both a virtuoso conductor and English-music specialist that one might confidently bet he would make the most not only of the specularity of Holst's showpiece, but also of its roast-beef-of-Old-England jocularity. Like other "sure things," however, this one is only partially successful.

The Londoners' performance is first-rate, recorded with ultravivid brilliance and an expansiveness that undoubtedly is further enhanced in a quadriphonic edition so far available only in Great Britain. And Previn's earnestly sympathetic reading is obviously modeled on the Boult interpretation long generally considered an authoritative, even quasi-definitive, one. (Sir Adrian conducted both the first private and first public performances of *The Planets*, in 1918 and 1919, respectively.) Previn even comes very close to matching the 50:45 over-all timing of Boult's last, 1967, recorded version.

What Previn doesn't match, unfortunately,

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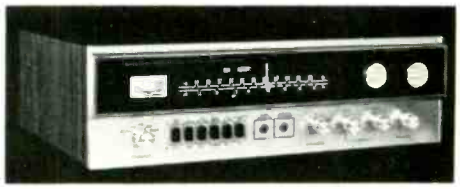

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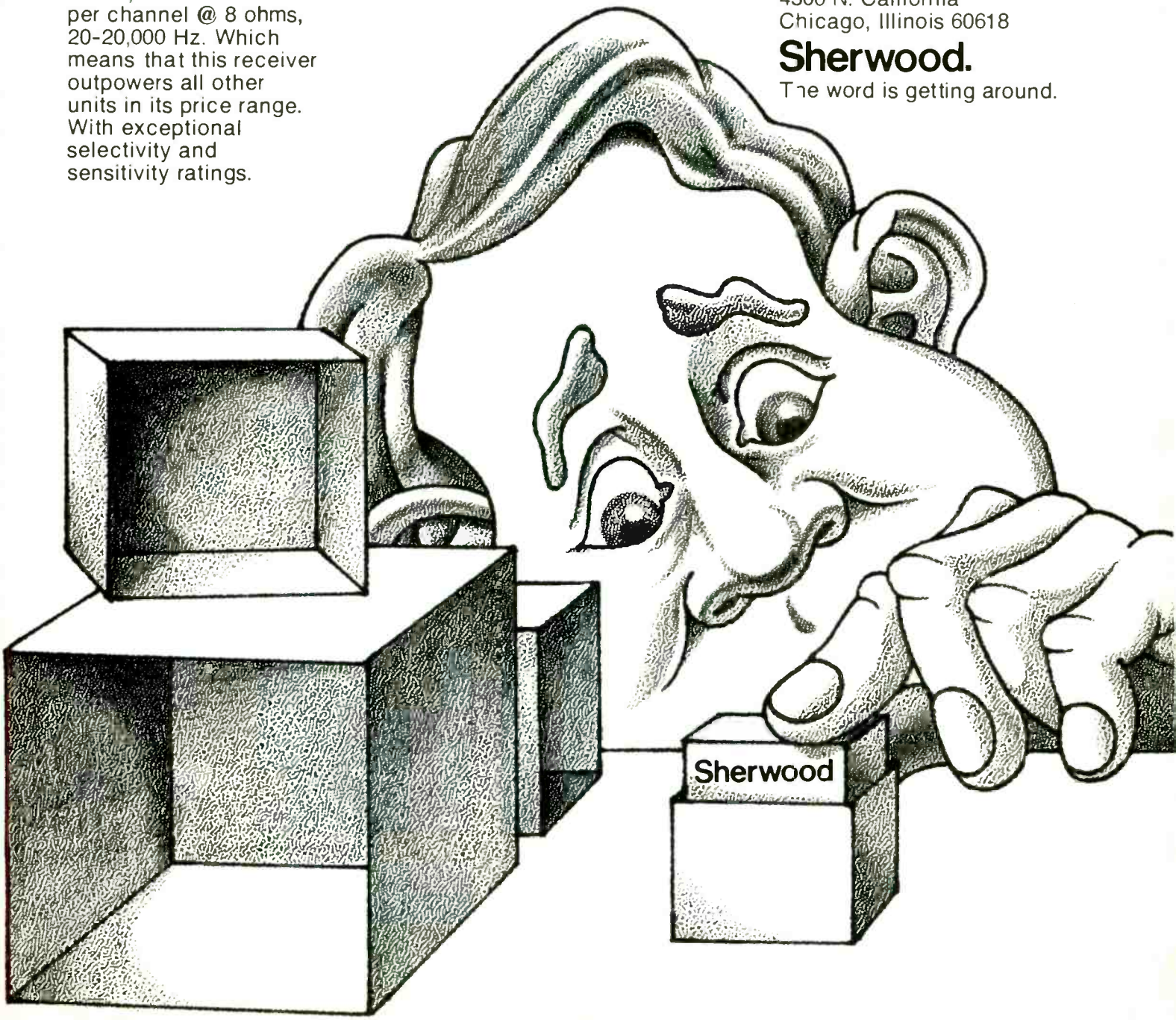

are Boult's steadiness and bluff assurance, and his richer, warmer songfulness. To his credit, he does avoid the unidiomatic idiosyncrasies and sonic coarseness of the 1973 Bernstein/Columbia version. He avoids too the absence of personality projection and true sonic buoyancy in the 1971 Mehta/London version. But when I compare the present recorded performance point-by-point with the one I've slowly come to find the most thoroughly satisfactory, I find Previn offering no serious competition to Haitink's glowing warmth and dramatic conviction; nor do his engineers, skilled as they are, achieve the full technological lucidity and auditorium authenticity of the 1972 Philips recording.

Yet if I still put Haitink's edition at the top of my personal *Planets* discography, this time it's only after new comparisons and rethinking prompted partly by the appearance of Previn's recording, but even more by the reappearance of one of the composer's own versions. Thanks primarily to the pioneering efforts of English Columbia's Louis Sterling (long before he became Sir Louis) in giving contemporary composers a chance to record their own works, Holst first recorded his *Planets* acoustically in 1924 and again by the then-new electrical process in the summer and fall of 1926. It's the latter version, of course, that has been recently reissued as an LP in the HMV Treasury series, available in this country via Peters International.

Heard after so many years (I reviewed the Columbia 78-rpm set in the *Phonograph Monthly Review* for May 1928!), the shock of recognition has been eclipsed by the greater shock of realizing how much I had forgotten. For me, as well as for every Holstian who has never heard the recording before and who has smugly assumed that the Boult reading represents the composer's own approach, this is a bombshell! Nevertheless, I can't agree with *The Gramophone's* reviewer, Trevor Harvey, even though he claims support from both Sir Adrian and Holst's daughter Imogen (herself an able exponent of her father's works) in denying that this 1926 performance accurately represents the composer's intentions.

When I reviewed it in 1928 I found no radical interpretive difference from the earlier acoustical version, which I had also discussed in print. Early in 1932 I not only heard Holst rehearse and perform the work with the Boston Symphony, but had the privilege of discussing it and his 1926 recording in a personal interview. And nothing in my published story or my still-preserved notes (to say nothing of anything left in my less reliable memory) gives any indication that Holst's 1926 approach to *The Planets*—different as it was and is from Boult's and everyone else's—was then considered in any way eccentric or aberrant.

However, it now does sound startlingly fast: running a couple of minutes less than even the supposedly far-too-fast Steinberg/DG version, eight minutes less than either Boult's or Previn's, incredibly fourteen minutes less than the 1970 Herrmann/London version. More significantly than in any choice of tempo, though, Holst is far more high-tensioned, electrifyingly exciting, and *vital* than any of his competitors, including Steinberg.

And while the technological age of this invaluable documentary is of course most evident where atmospheric evocation is demanded (as in *Venus* and *Neptune*, especially the dying-away of the latter movement's distant unaccompanied choral ending), the recording can still amaze present-day audiophiles' ears by how much of the complex scoring detail it miraculously captures. There were giants in the engineering world in those days. And even now—believe it or not—the mono sonics as well as the music in this recording can be heard with genuine pleasure and admiration.

At the very least, this release is a living monument with which to celebrate—even better than with the special centennial release of the Previn *Planets*—the highly individual genius born September 21, 1874, and died May 25, 1934. For me the 1926 version reflects the fiery, vaultingly imaginative Holstian inner man as illuminatingly as Haitink's glowing version reflects the engaging outer man.

Where I *can* trust my memory of over forty years ago is in the still-vivid picture of a man who in both rehearsal and private conversation was disconcertingly (for a celebrity) shy, gentle, and schoolmasterish. I remember exactly what he said when one of the usually impeccable Bostonian brasses blared out in rehearsal the opening unison motto theme of *Uranus* in the wrong key: "Now, now, gentlemen! That doesn't sound very nice, does it?" And I remember too how taken aback I was when I tried to quiz him on some of the details of his British recording experiences and he protested that, when it came to technical matters, "You should tell me about them, not I you." That struck one brash youngster, still learning his trade, uncharacteristically dumb!

Holst may not have been one of the great composers, but he deserves better than the neglect suffered by so many of his works ex-

cept for the by-no-means fully representative *Planets*. I hope that there will be more, and more successful, centennial releases (however belated) than the present showpiece duplication by Previn. But meanwhile we do have Haitink—and a still-very-much-alive Holst himself.

R.D.D.

MONTEVERDI: Orfeo; L'Incoronazione di Poppea. For a feature review, see page 84.

MOZART: Die Entführung aus dem Serail.

Pasha Selim	Otto Mellies (spkr)
Constanze	Arleen Auger (s)
Blondchen	Reri Grist (s)
Belmonte	Peter Schreier (t)
Pedrillo	Harald Neukirch (t)
Osmin	Kurt Moll (bs)

Der Schauspieldirektor.

Buff	Kurt Moll (bs)
Monsieur Vogelsang	Peter Schreier (t)
Madame Herz	Reri Grist (s)
Mademoiselle Silberklang	Arleen Auger (s)

Leipzig Radio Chorus (in *Entführung*); Staatskapelle Dresden, Karl Böhm, cond. [Ellen Hickmann, prod.] DEUTSCHE GRAMMOPHON 2709 051, $23.94 (three discs, manual sequence).

Entführung is a wonderful and touching musical experience, but it is hard to realize dramatically. All operatic characterization is dependent, first of all, on vocalism adequate to the composer's demands, and in *Entführung* Mozart's demands are technically awesome. Yet, of course, virtuoso singing is not enough. A bass who could sail with ease through the passagework (including a dozen triplets and a trill) in the middle of "*Ha! wie will ich triumphieren*" but was unable to invest the aria with gleeful vindictiveness would hardly be an outstanding Osmin. So it is with Constanze: Though one is grateful for a decently sung "*Martern aller Arten*," one also demands nobility, defiance, distinction.

In the matter of such imponderables Böhm's *Entführung* is not, I fear, entirely satisfactory. The cast, by and large, is intelligent, yet a certain blandness pervades everyone's work. Even the carefully characterized Osmin of Kurt Moll in the last resort lacks individuality, the ability to create the sense of a unique personality finding utterance in music.

Yet this is a very good *Entführung* indeed and, so far as I'm concerned, quite the best available. For one thing, the musicianship of Karl Böhm is an almost constant source of pleasure. He secures beautiful playing from the excellent Dresden orchestra. Colors, balances, and textures are marvelously judged. Though occasionally his tempos drag (in "*Traurigkeit*," for example, the quartet, and the Belmonte/Constanze duet), most of the score sounds natural and unforced. Böhm's conception is pervaded by lyric sweetness, yet he does not scant Mozart's high spirits, and there is a wonderful snap to the livelier sections of the score.

Except for the Pedrillo, Böhm has a worthy cast. Though Moll does not command the gift of vivid characterization that some of his rivals do (especially Kurt Böhme on DG 2709 021, under Jochum), he is by far the best vocalist of Osmin on records. Apart from a few moments of excessive vibrato, his tone is admirably firm; he can produce a fine low D; he manages the coloratura easily (with, it's true, a little aspiratory help); he can trill passably well. He shows signs of strain on his high Fs, but he is that rare creature: a vocally secure Osmin.

Peter Schreier's Belmonte is also a little tame, but he is a very sympathetic musician. He deploys a far from outstanding voice with imagination and sensitivity. His accentuation and coloring of the text are noteworthy. He has agility and breath control enough to meet even the tremendous demands of "*Ich baue ganz*." I only wish he did not avail himself of aspirates so often.

Arleen Auger, the Constanze, sings very prettily. Her scale is even, her top is free and bright, though like most Constanzes she lacks solidity in the lowest reaches of "*Martern aller Arten*." Her fiorituras are vigorous, precise, and attractive. Like Schreier, her breath control enables her to attack even the most extended passages without fear. The voice, however, sounds small. In the midst of one's considerable pleasure, one tends to notice that she lacks color and eloquence, that she never thrills. Reri Grist is a pert, likable Blondchen, weak on low A, screechy on high E, a bit thin in between.

Harald Neukirch, alone of the cast, is hard to listen to—the kind of tight-voiced, whiny *Spieltenor* whose notions of interpretation begin and end with the sforzando.

The dialogue, slightly abridged, is spoken by actors. As usual, their voices do not really match up with the singers. All the musical numbers are included.

In the case of *Der Schauspieldirektor* only the musical numbers have been recorded: an aria for each of the soprano rivals, a trio, and

the vaudeville finale. Separated by bands, these till the last side. Stephanie's text is no great loss, but some of it might have been included in the libretto.

Böhm gives a beautiful account of the overture, the only substantial music in the score, and is thoroughly sympathetic throughout. The singing is neat, intelligent, attractive, though like the *Entführung* it ultimately lacks vividness. Even so, it easily outclasses its rival on Mace (S 9088).

The recording is impressively clear, the balance between singers and orchestra being particularly satisfying. But I find the actors too close for comfort. The slap that Blondchen deals Pedrillo sounds like the shot heard round the world.

Texts and translations. D.S.H.

MOZART: Divertimento, K. 287—See Bach: Sonata for Solo Violin, No. 2.

MOZART: Early Symphonies. For a feature review, see page 81.

MOZART: Sonatas for Organ and Orchestra (17). Daniel Chorzempa, organ (little choir organ, 1746, of the Cistercian Stiftskirche Wilhering, near Linz); German Bach Soloists, Helmut Winschermann, cond. PHILIPS 6700 061, $15.96 (two discs, manual sequence).

Comparisons:

Biggs, Rozsnyai	Col. MS 6857 or MG 32985
Alain, Paillard	West. WST 17090/1 (OP)
Weinrich, Fiedler	RCA LSC 7041 (OP)

Mozart wrote these seventeen "epistle" sonatas between 1772 and 1780 while he was concertmaster (and later organist as well) at the Salzburg Cathedral. The Salzburg parishioners apparently found the Gregorian-chant settings of the gradual tedious, so the archbishop called for some light, festive, and above all short instrumental pieces to replace the gradual between the Epistle and Gospel readings. Mozart responded with these seventeen miniature gems (each lasts about five minutes), cast in a rudimentary sonata form.

While these are usually referred to as organ pieces, in more than half of them Mozart didn't even provide an organ part—the organ is strictly a continuo instrument, playing from a figured or unfigured bass part in the first nine sonatas. In all the remaining sonatas the organ part is fully written out, though at first it adds but little to the total texture. In only the last few sonatas does the organist have a fully independent, even leading part. The last sonata is, in fact, a mini keyboard-concerto movement, complete with an opportunity to provide a full-blown cadenza. Fourteen of these works are scored for two violins, cello, bass, and organ. Three of the later ones call for the addition of pairs of oboes, horns, trumpets, and drums. The string writing is clearly symphonic—not solo—but the texture must, of course, be kept small-scaled and transparent.

It has been a number of years since we've had a new recording of these festive masterpieces. The last was a domestic Philips disc, released here in 1969, containing mediocre performances of ten of the sonatas played by Pierre Cochereau (at Notre Dame de Paris) with Kurt Redel. Before that we had recordings by Biggs, Weinrich, and Alain on Columbia, Victor, and Westminster respectively. All three offered attractive readings, but Chorzempa's new set with the German Bach Soloists easily takes top honors. There's little to choose among the various organists, since their contributions are relatively small, but Winschermann leads his German Bach Soloists in highly polished, beautifully articulated, rich-toned performances that aren't equaled on any of the earlier recordings. Philips' recording quality is superb and is vastly superior to the other versions.

In fact, the only reservation I have in giving an unqualified recommendation to this new set is the extraordinarily high price of Philips imports. All the other versions offer more for the money. Biggs gets all seventeen sonatas onto one disc by omitting all the repeats (Chorzempa plays every last one); even more economical, Columbia has just coupled the sonatas in a "twofer" with a reissue of Biggs's superb disc of the Haydn concertos, whose deletion I lamented not long ago. Alain's two-disc set included Mozart's two F minor fantasies (K. 594 and 608) and the Andante (K. 616), and Weinrich's two-disc set contained a Haydn concerto. But the new Philips offers superior performances and recording, and excellent descriptive and analytical notes. C.F.G.

ORFF: De temporum fine comoedia: Vigilia. Various soloists; Cologne Radio Chorus, RIAS Chamber Chorus, Tölz Boys Chorus; Cologne Radio Symphony Orchestra, Her-

bert von Karajan, cond. [Hans Weber, prod.] DEUTSCHE GRAMMOPHON 2530 432, $7.98.

The 1973 Salzburg Festival premiere of this formidably grandiose work proved that Carl Orff in his late seventies has lost none of his distinctive earlier musical traits. He may have turned from evocations of medieval Germany and classic Greece and Rome to apocalyptic anticipations of the end of the universe, but he stubbornly retains his obsession with such primitive formulas as predominantly percussive timbres and unconscionable—particularly triple—repetitive patterns. (He's evidently a devout subscriber to the folk belief that if one says a thing three times it must be true.)

The present *Play About the End of Time: A Vigil* certainly is a monumental conception, calling for twenty singer/speakers (in German, Latin, and Greek), three choruses, orchestra minus violins but plus over ninety percussion instruments. Needless to say, its combined musical and spectacle novelties scored a sensational triumph at Salzburg—a triumph that I can well imagine might at least be approached in a TV production, perhaps even in a quadriphonic home experience in which one's hearing could be sharpened by following full texts-translations.

Even in stereo only and lacking texts (the lavishly packaged disc incredibly offers only a trilingual booklet of notes and texts-synopses), there are at least moments when these eerie ululations, subterranean declamations, and percussive clamors have a Medusa-like fascination. Certainly all the participants do their frantically persuasive best: the nine sibyls in Part I, nine anchorites in Part II, mezzo Christa Ludwig, tenor Peter Schreier, speaker Rolf Boysen, and the various choristers who give "The Last Beings" tragically eloquent voice in the *Dies illa* Part III. The recording, too, is marvelous in both its powerful sonic authenticity and its effective spacing (in depth as well as laterally) of sound-source locations—and this in stereo only! A quadriphonic version (undoubtedly made at the same time) should be more impressive by a full order of magnitude when it eventually appears.

Until then, though, this home listener finds it possible to suspend disbelief only momentarily. He feels let down when, after a long stretch of the hardest kind of attentive audition, a threefold shout of "*Das Ende!*" promises a relief that is belied by an indefatigable continuation, finally concluded by viola-quartet canon in notes of equal length that only too effectively express the idea of infinity. Worst of all, too often when I am just about to be solemnly awed by apocalyptic visions of the Alpha and Omega of Time and the Cosmos, my only too earthy mind falls from the Sublime to the completely Ridiculous, irresistibly swapping transcendental for comic images: in particular those of an infant in a tantrum, beating frantically on the bars of his crib while insistently screaming a demand to "Stop the world, I want to get Orff!" R.D.D.

PAGANINI: Works for Violin and Guitar. Gyorgy Terebesi, violin; Sonja Prunnbauer, guitar. TELEFUNKEN SAT 22548, $6.98.

Centone di Sonate: No. 1, in A; No. 3, in C; No. 4, in A; No. 6, in A. Sonatas: in A minor, Op. 2, No. 6; in A minor, Op. 3, No. 4. Sonata concertata in A. Cantabile.

Four of these works come from the collection ("*centone*") of eighteen sonatas for violin and guitar that were probably written in 1828 in Prague and published posthumously: Op. 2 was among the relatively small number of works Paganini published in his lifetime. As is usual when Paganini brings the violin and guitar together, the violin predominates and the guitar accompanies, but in the *Cantabile* and portions of the *Sonata concertata* this pattern yields somewhat, and the guitar steps forth for a bit of melody on its own.

All these pieces are tuneful and engaging. A few movements are particularly beautiful, such as the poignant Largo con precisione of the Op. 2 sonata and the affecting Larghetto cantabile of the *Centone di Sonate* No. 3. Paganini's melodies pour out with the simplicity of popular songs, some of them so vocal in quality that you can easily imagine them sung to a text. The violin has its work cut out for it, but the real virtuosic trickery of the fiddle showpieces—the caprices and the concertos—does not crop up at all. The main requirement here is to sing and dance.

Violinist Terebesi is superb and commands a pungent, slightly sinewy tone that gives the music a certain grit and strength. The guitarist—although relegated to the background by both the composer and the recording engineers—deports herself handsomely nonetheless. S.F.

PUCCINI: Madama Butterfly.

Cio-Cio-San	Mirella Freni (s)
Suzuki	Christa Ludwig (ms)
Kate Pinkerton	Elke Schary (ms)
Pinkerton	Luciano Pavarotti (t)

Herbert von Karajan and Christa Ludwig—*clipping* Butterfly's *wings*.

Goro	Michel Sénéchal (t)
Sharpless	Robert Kerns (b)
Prince Yamadori	Giorgio Stendoro (b)
Yakuside	Wolfgang Schieder (b)
The Bonze	Marius Rintzler (bs)

Vienna State Opera Chorus; Vienna Philharmonic Orchestra, Herbert von Karajan, cond. LONDON OSA 13110, $20.94 (three discs, automatic sequence).

Herbert von Karajan's apparent determination to work (in some cases, rework) his way through the standard Italian operatic repertoire despite the lack of affinity he shows for it these days—to labor, as it were, amid the alien corn—has produced some curious results. None, to my mind, is more curious than his new *Butterfly*. Music of this sort desperately needs spontaneity of feeling and a sense of emotional fitness. Self-consciousness robs *Butterfly* of all conviction; overemotionalism nullifies its power.

So, at any rate, I believe. Karajan clearly does not. He fusses endlessly with Puccini's score, adding an exquisite nuance here, a delicate rubato there, going hell for leather one minute, coming to a near-standstill the next. The result is not merely inadequacy of cohesion, but inadequacy of conviction. Karajan, I fear, betrays a want of belief in the opera that kills it stone dead. There is in this performance no discernible over-all conception, merely a series of momentary effects. And from beginning to end he overplays his hand, taking the score either too quickly or too slowly, too loudly or too softly. He launches into the opening measures at a tremendous clip and with a violence worthy of *Tosca*'s gorier moments. He treats Butterfly's excitement before the Cherry Duet with an orgasmic hysteria more appropriate for the prelude to the first act of *Rosenkavalier*. Cio-Cio-San is made to round on Goro as if she were flinging Lucifer from Heaven. At the opening of Act III the Nagasakian dawn comes up like thunder. The drumbeats that accompany Butterfly's dismissal of Sharpless are Berliozian in scale. The final orchestral peroration is concussive enough to depict the sinking of the *Abraham Lincoln* in Nagasaki harbor.

Conversely, Butterfly's entrance is lethargic, as if she were suffering from climber's fatigue. "*Un bel dì*" is sluggish, the scene with Sharpless leaden, the Humming Chorus torpid. Karajan's attempts to milk these scenes do not prove successful. By trying to load the opera with emotionalism beyond its capacity he simply makes it sound mawkish.

Mirella Freni battles bravely with the title role. It might be interesting to hear her one day with a more suitable conductor, though for me she is really too vocally frail for a role that demands a spinto. However, she is a delightful artist and does everything she can under the circumstances—except, that is, convince. Luciano Pavarotti betrays some momentary strain at the climax of the love duet, and, like Freni, his *mezza voce* is not as well-supported as it might be. Even so, I find the sound of his voice, whether in full flood or in Puccinian conversation, irresistible. Karajan swamps him, nevertheless, as he does Robert Kerns, whose serviceable, dry baritone seems incapable of characterizing Sharpless's music. Christa Ludwig—as might be expected of a great artist—has wonderful moments, but in this particular assignment she sounds like a recent immigrant. So does the chorus, which is oddly tentative. The Vienna Philharmonic plays splendidly. The recording is brilliant. Text and translation.

My advice to anyone needing a recording of *Butterfly* is to go straight to Barbirolli's (Angel SCL 3702), a slow performance, but a coherent one, beautifully shaped, sincere. Ideally speaking, Renata Scotto's pencil-point sound is wrong for this role, but in these particular artistic circumstances she is wonderfully moving.

D.S.H.

B R **ROUSSEL:** Symphony No. 3, in G Minor, Op. 42; Symphony No. 4, in A Major, Op. 53. Lamoureux Orchestra, Charles Munch, cond. MUSICAL HERITAGE 1879, $3.50 (Musical Heritage Society, 1991 Broadway, New York, N.Y. 10023) [from EPIC BC 1318, 1966].

Amidst all the stereotypes and clichés that have been used to pigeonhole French music from Debussy on (and even before), Albert Roussel, who died in 1937 (the same year as Ravel), has tended to be lost in the shuffle of the "unclassifiables." Yet, although he began composing relatively late in life, Roussel left behind an intriguing body of forward-looking and rather primitive (in the sense that Henri Rousseau's paintings are primitive) works, the best known of which is the ballet *Bacchus et Ariane* but also including four symphonies (the Second, also available on Musical Heri-

tage. MHS 1201, is definitely worth your time) and a truly impressive opera-ballet, *Padmâvatî*, that is apparently scheduled for recording.

Certainly, the Third Symphony (1929–30) must be considered quintessential Roussel. It is busy, rough-hewn music with transparent formal structures in which the dynamic flow is seldom broken, even in the meditative (and somewhat rambling) second movement. Out of this dynamism, Roussel is often capable of generating considerable excitement, as in the first movement's opening theme, with its soaring and rather jagged string melody pitted against an almost ominous ostinato in the brass and percussion. (The strings-versus-brass alchemy is typical of the composer.)

At other moments, the wit and sparkle of some of the figures and their forward motion remind one of a rather un-urbane William Walton. Yet Walton would never be so brash as to break into a first movement with a brassy, Bruckneresque climax as Roussel does; nor would he introduce, as Roussel does, a fanfare theme in an off key over the skipping string passage that opens the Third Symphony's fourth movement.

In contrast to all this, the Fourth Symphony (1934) is much more subdued and less jolting than its predecessor, and it lacks the Third's drive, even though it still contains the same nonstop flow and is filled with the composer's characteristic motor rhythms. And in spite of the prominence of the strings and brass, the Fourth has a somewhat more subtle orchestration that includes the softening presence of the harp. Furthermore, while the Third's first movement crashes right into the opening theme, the Fourth begins with a moody introduction setting an elegiac tone that never entirely leaves the symphony. (In both cases, the first movements are by far the most impressive of their respective symphonies.)

Musical Heritage has considerably deharshened the rather unpleasant sonics of the disc's previous domestic release. This improvement, combined with Charles Munch's beautifully contrasted and exhilaratingly paced interpretations, makes the Musical Heritage version of these symphonies the one to have, even though Ansermet (Stereo Treasury STS 15025) gets better playing from the Suisse Romande orchestra. R.S.B.

SCHOENBERG: Moses und Aron. For a feature review, see page 82.

SIBELIUS: The Tempest, Op. 109: Suites Nos. 1-2. Scaramouche, Op. 71. Hungarian State Symphony Orchestra, Jussi Jalas, cond. [Andras Szekely, prod.] LONDON CS 6824, $6.98.

SIBELIUS: The Tempest, Op. 109: Prelude; Suites Nos. 1-2. In Memoriam, Op. 59. Royal Liverpool Philharmonic Orchestra, Charles Groves, cond. [Christopher Bishop, prod.] EMI ODEON ASD 2961, $7.98.

The incidental music for *The Tempest* is the last of Sibelius' eleven stage works and the only one based on Shakespeare. The incidental music was arranged into two orchestral suites portraying, with impressive economy of means (the twenty-odd pieces run an average of two minutes apiece), the play's various characters and landscapes and seascapes. They comprise far less than the complete score, of course, even omitting the prelude, a more extended version of the onomatopoetic section "The Storm," which concludes Suite No. 1.

The contrast between *The Tempest*'s charm, tenderness, and imagination and the roughly contemporaneous *Tapiola* parallels that between the Sixth and Seventh Symphonies, also dating from the 1920s. They are the two sides of the visionary detachment that is quintessentially Sibelian—one sanguine and coolly feline, the other hoary, gnarled, and epochal in scale.

Sir Thomas Beecham was the first phonographic champion of *The Tempest*, recording the prelude in the Thirties for the old HMV/Victor Sibelius Society and a nearly complete account of the two suites for a ten-inch European Philips LP of the Fifties. These are long since vanished, as is a more abbreviated Westminster mono recording of the suites under Stig Westerberg. For most of the Sixties, the music was unavailable on discs. In typical fashion, two new recordings come simultaneously to fill this gap, both of high quality.

Jalas' *Tempest* is weightier and more sharply accented than Groves's. The Finnish conductor thus has a decisive edge in the oafish "Caliban's Song," in the repetitive figurations that dominate "The Harvesters," and in "The Storm," which gains in intensity. Fur-

thermore, the Hungarians dig in with more impassioned lyricism for the "Chorus of the Winds," for the haunting "Miranda" portrait, and to some extent for the "Berceuse" (though hardly enough, in the latter, to erase memories of the searing Stokowski/Philadelphia shellac).

Sir Charles' more poised and reserved interpretation is aided by vastly superior instrumental forces, especially the winds. Thus the Liverpool rendition has a chilling mystique in "The Oak Tree" (one of the most phenomenal inspirations of the entire work) and a matchless grace and smoothness for "Humoresque" and the various dance episodes that, if memory serves me, can stand with Beecham.

The English HMV recording is remarkably atmospheric, conveying the open-air ambience with subtlety and panache. Decca/London's sonics are richer on the bass end, but the uncomfortably close-up perspective highlights the periodic roughness of the Budapest ensemble. The EMI import is the only recording that includes the prelude with the suites, so that for the first time one can readily compare the full and abbreviated evocations of the storm.

The choice is further complicated by the couplings, both unique and attractive—though HMV's arguably redundant *Tempest* prelude leaves only half as much room for a filler. Neither coupling has previously appeared in this country on LP, though *In Memoriam* is familiar to many collectors from the hardy old Beecham 78s (the Sibelius Society again, importable on a World Records LP, SH 133). I have not come across any other recording of *Scaramouche*.

In Memoriam, which dates from 1909 (between the Third and Fourth Symphonies), is said to have been inspired by the memory of an antitsarist Finnish patriot but also by the composer's own brush with throat cancer. Both "explanations" are plausible, for the music has a mixture of grief and terror that is almost Mahlerian (and the general character of the scoring is not unlike Sibelius' Austrian colleague's). Groves delivers the work with more emphasis on the valedictory element than on subjective *Angst* (Sir Thomas' tauter interpretation got the two in proper proportion), but I can't quibble too strongly, considering how long we've waited for a stereo version.

Scaramouche, which followed four years later, is an accompaniment to a Poul Knudsen play whose plot is an exercise in erotic violence. Sibelius' setting is a devastating juxtaposition of courtly pantomime à la Strauss or Grieg and Expressionistic post-Wagnerian chromaticism. Jalas and his (evidently) scaled-down orchestra play it with keen appreciation of its biting irony. A.C.

STRAVINSKY: Le Sacre du printemps. Chicago Symphony Orchestra, Georg Solti, cond. LONDON CS 6885, $6.98.

The Chicago Symphony is the most exciting orchestra before the public today, and this is very probably the most exciting record it has ever made. Solti—in his other job as chief conductor of the Orchestre de Paris—has been working since 1972 in the Théâtre des Champs Elysées, the very hall where, in 1913, the premiere of this music produced the most celebrated artistic riot of the century. His intent was to try and recapture that *Sacre*, a *Sacre* that is truly "pictures of pagan Russia," untouched by the neoclassicism and old age of the composer. What he has produced instead is a glorification of the spirit of that performance, employing an orchestra far superior to any that might have been available to the Diaghilev ballet.

The exact text of the 1913 premiere was never published. On the basis of the lessons of the early performances, Stravinsky revised the score slightly before it first appeared in print in 1921. Solti takes that 1921 text and adds to it such material from the later editions as he regards as corrections rather than revisions. Specifically, he does not play the second version of the *Danse sacrale*, which the composer prepared in 1943. For Solti the second version is weaker than the first, and on a trip to Los Angeles some years ago he went to see Stravinsky to ask why the changes were made. (The visit is commemorated by an autographed inscription in Solti's score in which the conductor's name is misspelled.) As Solti tells the story, Stravinsky's reply was, "Because I can no longer conduct the original!" Historians can deal with that as they see fit. The important points for me are that by 1943 the original *Sacre* had acquired an artistic identity of its own, an identity, indeed, as one of the half-dozen most important scores in twentieth-century music, and that Solti's desire to present the music with the blazing fury of youthful genius is perfectly valid.

Those who want *Sacre* in the revised form have a wide choice of recordings in the 1943 text, among them a 1960 version by Stravinsky himself and the recent Haitink disc in full-bodied sound. The Stravinsky-conducted counterpart to the new Solti is a 1940 recording that survived for many years in the long-play catalogue.

For the majority, I suspect, these textual matters will be far less compelling than the sound of the record itself. Made in early May of 1974 in Medinah Temple, Chicago, it well may be taken as the ultimate expression of London's engineering technique, in which the players are very closely miked and some two dozen mike channels are separately equalized and mixed down into a final master. The presence, especially if played through four speakers, is absolutely phenomenal; the dynamic range is very wide; and the stunning quality of the performance—its precision, thrust, clarity, and energy—are projected in a manner that makes this a genuine confrontation with the composer and the musicians.

It takes no great aptitude for soothsaying to predict that this record will win its share of awards, sell like mad, and take this music to thousands of new listeners. Sixty-one years after that premiere, *Sacre* is sexier and more relevant than anything a pop music producer is likely to bring us. R.C.M.

VERDI: Aida.

Aida	Montserrat Caballé (s)
Amneris	Florenza Cossotto (ms)
Radamès	Placido Domingo (t)
Amonasro	Piero Cappuccilli (b)
Ramfis	Nicolai Ghiaurov (bs)
The King	Luigi Roni (bs)
A Messenger	Nicola Martinucci (t)
Priestess	Esther Casas (s)

Trumpeters of the Royal Military School of Music, Kneller Hall; Chorus of the Royal Opera House, Covent Garden; New Philharmonia Orchestra, Riccardo Muti, cond. [John Mordler, prod.] ANGEL SCLX 3815, $21.98 (three discs, automatic sequence).

VERDI: Aida.

Aida	Dusolina Giannini (s)
Amneris	Irene Minghini-Cattaneo (ms)
Radamès	Aureliano Pertile (t)
Amonasro	Giovanni Inghilleri (b)
Ramfis	Luigi Manfrini (bs)
The King	Guglielmo Masini (bs)
A Messenger	Giuseppe Nessi (t)

La Scala Chorus and Orchestra, Carlo Sabajno, cond. DISCOPHILIA KS 7/9, $23.94 (three discs, mono, manual sequence) [from HMV/VICTOR 78-rpm originals, recorded August 1928] (distributed by German News Co., 218 E. 86th St., New York, N.Y. 10028).

It may be a heretical admission, but there are stretches of *Aida* that, during a phonograph performance of the opera, I listen to with impatient ears, wishing they were done. This does not happen in *Otello*, in *Falstaff*, in *Un Ballo in maschera*—nor in *La Traviata*, except during the Spanish divertissements at Flora's party. But the popular muster of the triumphal scene and its ballet, the choral dance of the temple scene and the little scamper of Amneris' Moorish pages, that two-part chorus of tiring-women, even the off-stage trial of Radamès—divorced from the theatrical context they are revealed as grand-opera framework stuff, albeit of excellent quality. Without the last two, Amneris' splendid interjections, amorous in the first case and desperate in the second, would not be possible. Still, there are just two recordings of the opera during which such reflections do not occur: Toscanini's (RCA Victrola VICS 6113, rechanneled), in which the force and sense of the instrumental writing prove so gripping, and Karajan's (London OSA 1313), in which the sonic beauty of the score is so exquisitely captured.

Many recorded *Aidas* are currently available. The two under review form a striking contrast, which can be summarized in the word "portamento." Carlo Sabajno was not a Scala conductor, but the Scala orchestra in 1928, when the earlier recording was made, was Toscanini's. Sabajno conducts the prelude with a flexibility, and the Scala strings play it with an ample employment of portamento, that make it almost a different piece from the clean-cut movement in a very regular 4/4 conducted by Riccardo Muti in the new Angel recording.

Muti continues squarely, and Placido Domingo sings "*Celeste Aida*" with a clean articulation, not a smooth bridging, of the rising interval at the end of each phrase. Even where Verdi specially asks for "carrying of the voice," on "*pensiero*," Domingo eschews portamento. He is in full, easy voice—and one could use his performance as a model of wrong style in Verdi interpretation. Aureliano Pertile, on the other hand, is exemplary, with all the vigor, variety, and delicacy that Domingo lacks. Pertile is not a favorite tenor of mine, but this account of the aria does much to explain his fame. The contrast between "*ergerti un trono*," *f*, and "*vicino al sol*," *pppp*, is beautifully achieved. Neither tenor essays a *morendo* close, but it is unrealistic to make a fuss about that. The Amneris of Fiorenza Cossotto lacks portamento too (even where Verdi specially calls for it, on "*quanto*"), while that of Irene Minghini-Cattaneo has it.

But in other respects the two versions are not comparable. One is an uneven and at times pretty dim transfer of an ancient electrical recording. More of it later, after considering the new Angel, which has a big, bright,

Montserrat Caballé and Dusolina Giannini—*the later is greater.*

spacious sound, with excellent definition and balance.

Enter Aida, in the person of Montserrat Caballé, and everything becomes convincingly angelic. Her very first phrase is exquisite. And all in all this role is perhaps the finest thing she has put on record. When there are so many contenders, and each has her particular glories, it would be foolish to attempt a grading; yet a fool might rush in and say that, since the young Tebaldi (on the early London recording conducted by Erede, now on Richmond RS 63002), no one on record has sung the role more beautifully—and he could justly add that Caballé's artistry is more individual and more bewitching.

The recitative declamation of "*Ritorna vincitor*" is really *agitato*, instinct with dramatic feeling. Everything she does in the aria and two duets of the Nile act is just about perfect. (Someone determined to find fault could object to exaggerated gulps at "*Padre! . . . a costoro . . . schiava*" etc.) She rises to a magical *dolce* high C in "*O patria mia*" in a single breath—something Rethberg achieved only in the earliest of her three recordings of the aria (see Rethberg review, 107)—and sings the final phrase, again, in a single breath, as Rethberg did not. The previous phrase, starting *pp* and then descending *con forza*, is perfectly judged. No other Aida of my experience has breathed those questions to Radamès, about what path they should take, so seductively. The examples of finely spun line and floating beautiful tone are far too numerous to list. One trick Caballé has: Four times, where Verdi has marked a crescendo to the peak of a phrase, she achieves emphasis by means of a diminuendo to one of those gentle pianissimos that are her specialty—on "*pavento*" at the end of her very first entry; during the ascent to the high C just mentioned; and twice in the first duet with Radamès. The result in each case is so beautiful that one cannot object. In the final duet, I do not find Caballé *quite* so magical, though she is very, very good. Domingo is a shade beefy and unimaginative here—in excellent voice, but not really thrilling in his pronunciation of the lines.

Cossotto, after that initial lack of portamento, becomes a first-rate Amneris—excellent in the boudoir scene; particularly striking at the start of the Nile act, because her tone is so truly focused (the passage often goes awry in the theater) and her pronunciation of the Italian is so beautiful; commanding in the last act.

Piero Cappuccilli makes a powerful Amonasro, broad in "*Pensa che un popolo.*" The grand casting of Ramfis pays off: Nicolai Ghiaurov is splendid in his "*Gloria ai numi!*" entry (and he knows about portamento); he doesn't make "*Son nemici e prodi sono*" in the triumphal scene sound an inappropriately jaunty little tune; like Cossotto, he registers strongly at the start of the Nile act; and in judgment on Radamès he is tremendous.

Muti accompanies all the great passages with uncommon sensitivity. He is less happy with such things as the women's chorus in Act II, Scene 1; they sound altogether too brisk a team. The triumph is held on too tight a rein. (Her Majesty's musicians, the Trumpeters of the Royal Military School of Music, Kneller Hall, provide its tarantaras.) In general, one does not get from Muti much sense of a large theatrical action in progress—and therefore notices which passages are musically less rewarding. On the other hand, nothing he does is thoughtless or routined. On the whole, this is an *Aida* to be treasured for its excellent performers rather than as a revelation of the work itself.

The interest of the Discophilia reissue of the old HMV/Victor recording of 1928, originally published on thirty-eight 78-rpm sides, is almost entirely historical—souvenir of a typical enough European "house performance," rather than the thrilling all-star affair that a complete recording by, say, Rethberg or Ponselle, Onegin or the young Stignani, Martinelli, De Luca, and Pinza could have been.

Dusolina Giannini has her enthusiastic admirers—and I have often enjoyed (on disc) her long, impassioned phrasing and vivid temperament. This *Aida* dates from early in her career. The Philadelphian soprano made her debut in Hamburg in 1927, and her Covent Garden debut the following year, as Aida. (Her Metropolitan debut, again as Aida, was in 1936.) At Covent Garden Giannini was deemed inexperienced (she never returned there); a few months later she recorded this *Aida*. In the first section of "*Ritorna vincitor*" there is even more color and character in the voice than Caballé has; and throughout, there

is a kind of boldness and directness that is attractive. Some of the moves from note to note are very charming. But it is not a performance of special subtlety or of any great technical refinement.

Pertile's fine "*Celeste Aida*" I have already mentioned; in the final duet, however, his intonation is apt to stray. Minghini-Cattaneo, the Amneris, has a rapid quiver in the voice. She was the Adalgisa, and Luigi Manfrini the Oroveso, for Ponselle's London Normas. Manfrini (uncredited by Discophilia) is a very fine Ramfis indeed, even more secure in focus than Ghiaurov. Giovanni Inghilleri is a puissant Amonasro, a little careless about note values.

When Sabajno scampers through the Amneris/Aida duet, one suspects that the 78-rpm format may have been dictating tempo. His reading is a mixture of good old "routine" of the most convincing kind and routine that seems perfunctory. The transfer is pitched sharp, which makes the set unsatisfactory for anyone whose turntable revolves at a fixed 33 rpm. It was evidently made from sides of variable quality; there are some violent changes of sound at turnovers. Occasionally tempos do not match (what should be even quarter notes break step before Amneris' "*Vieni, o diletta*"), but those who made the transfer cannot be held responsible for that. The "*Guerra*" ensemble of the first scene and "*Su, dunque*" are sides of particularly poor quality.

The Angel booklet includes text and translation; Discophilia provides only an incomplete cast listing. A.P.

VERDI: Ballet Music for Paris. Monte Carlo National Opera Orchestra* and London Symphony Orchestra†, Antonio de Almeida, cond. PHILIPS 6747 093, $15.96 (two discs).

Jérusalem*; Les Vêpres siciliennes*; Le Trouvère*; Macbeth*; Don Carlos*; Otello*.

Italian audiences of the nineteenth century liked ballet with their operas but generally preferred it as dessert following the evening's main course, a tradition that lasted at least as late as 1893, when the world premiere of *Falstaff* was followed by a performance of Bayer's *Die Puppenfee*. Ballet in the abstract, as an independent genre, didn't much interest Verdi. However, when dancing and dance music could function integrally in a plot situation, he invariably grasped at the possibility, and his increasing skill at weaving appropriate music for such episodes constitutes one of the interesting threads of his development as a composer.

All that was fine for Italy, but the Paris Opera demanded a set ballet—specifically in the third act, when the members of the Jockey Club were wont to roll in after a leisurely dinner. This requirement acquired considerable historical notoriety when Wagner flouted it by placing his *Tannhäuser* ballet in the first act, but Verdi was a man of theater, and he complied pretty regularly, each time making a greater effort to give the ballet a dramatic rationale.

The first Verdi ballet, for *Jérusalem*, the 1847 French rewrite of *I Lombardi*, is the least interesting, both musically and dramatically. There are four groups of dances, each group starting relatively slowly and working up to a fast final number (this is a standard pattern). The sequence is without plot—just dances in the harem gardens (the scene is equivalent to Act II, Scene 3 of the Italian *Lombardi*)—and,

although the tunes are pleasant and lively, the orchestration is little varied (usually violins on the tune, oom-pah underneath). Despite the occasional brief flight of fancy, such as the opening number of the third section, for wind solos with harp accompaniment, the whole becomes monotonous.

Verdi's next ballet was for another situation: a new opera, composed specifically for Paris, *Les Vêpres siciliennes* (1855). Here the even longer ballet sequence—entertainment for the guests at Monfort's ball—has a scenario (the four seasons) and is notably more varied in texture and color. When the Paris production of *Il Trovatore* came up in 1857, Verdi provided a substantial chunk of music for gypsies cavorting around Di Luna's camp after the soldiers' chorus; this is variously Spanish in color and introduces two tunes from the "Anvil Chorus."

Another rewrite, the Paris *Macbeth* (1865), brought forth a ballet for the witches awaiting Macbeth's second visit. It is a vigorous, inventive passage, much better than the ballet with chorus that follows while Macbeth is out cold (part of the original score and therefore not included here).

Doubtless the most interesting part of this new set, since no previous recording has circulated widely, is the "Ballet de la Reine—La Peregrina," which originally formed part of Act III, Scene 1 of the Paris (five-act) *Don Carlos* (1867, not 1865 as given in the annotations). In that original form, the act opened with an episode in which Eboli dispatches her anonymous note to Carlos, inviting him to a meeting in the garden; she then exchanges clothes with Elisabeth, whose role she takes in the climactic sequence of the ballet performance (an homage to the queen). As connoisseurs of the Italian *Don Carlo* will note, this clarifies important circumstances in the later development of the garden scene. I regret that here, as elsewhere, De Almeida's synopsis of the dance scenario does little to relate action to sound.

According to my colleague Andrew Porter, Verdi apparently did extend the original Cairo/Milan ballet in *Aida* to its present length for the Paris production, contrary to what De Almeida seems to say in his notes. This music is not included here, and quite rightly, for there are ample recordings elsewhere. The final Paris ballet music is that for *Otello*, the delightful, exotic *Ballabili* that are well-known from Toscanini's brilliant recording (Victrola VICS 1321, rechanneled) and from their inclusion—misguided, I think—in the Karajan/Vienna complete recording (London OSA 1324) and the now-deleted Serafin set for RCA; there is also a separate Karajan/Berlin recording, which I have not heard.

Little of this music is unavailable. Gardelli's *Macbeth*, Levine's *Vespri*, and the aforementioned *Otellos* give us the complete ballet sequences. The Bolshoi recording of *Don Carlos* (MK D 014469/76), which includes the opening chorus and Eboli's scena—sung in Russian, of course—as well as the ballet, has had limited distribution here, and Charles Mackerras once made a record including the *Trovatore* music. As for *Jérusalem*, the 1963 Venice revival (in Italian)—and the pirate recordings derived from it—omitted the ballet, so this recording may well be the first modern performance.

De Almeida gets reasonable brio and accuracy from his two orchestras, if nothing excep-

tional in the way of brilliance and precision. The Monte Carlo band is short on good soloists: The trumpeter lets us down in *Trovatore*, and the clarinet solo in the "Spring" episode of *Vêpres* is just plain flat. Still, it's convenient to have all this in one handy package, acceptably played and recorded. As already suggested, the annotations are not all they might be, and the editor should have cleaned up assorted linguistic inconsistencies. (Even the French-language annotations refer to the host of the *Vêpres* ball as "Monforte," which he did not become until later Italian productions.) D.H.

H **VERDI:** Operatic Excerpts. Elisabeth Rethberg, soprano; orchestral accompaniment. DISCOPHILIA KG-R-5, $7.98 (mono) [recorded 1927–30].

Aida: O patria mia . . . Ciel, mio padre . . . Pur ti riveggo . . . Ma dimmi, per qual via (with Giacomo Lauri-Volpi, tenor; Giuseppe de Luca, baritone). I Lombardi: Qual voluttà trascorrere (with Beniamino Gigli, tenor; Ezio Pinza, bass). Attila: Te sol quest'anima (with Gigli, Pinza). Un Ballo in maschera: Ma dall'arido stelo; Morrò, ma prima in grazia. Otello: Willow Song; Ave Maria.

It is good to have Elisabeth Rethberg's *Aida* Nile act recordings collected in sequence. The side begins with "*Qui Radamès verrà*" and continues to the end of the act. The first verse of the aria proper, "*O cieli azzuri*," is missing; we cut from ". . . *oblio*" to "*O fresche valli*." An unnamed Amneris sings "*Traditor*" toward the end (how mezzos must dislike hanging around all that time just to utter this single word!), and Ramfis' two exclamations are omitted. Rethberg recorded "*O patria mia*" three times; the version here represented (the jacket is innocent of any discographical information) is the third of them, the HMV Berlin recording, conducted by Zweig, of November 1927. The Victor duet with De Luca dates from 1930, and the other sides are from 1929.

Rethberg was a marvelously secure singer; but her Aida, heard after Caballé's, is likely to be found lacking in finesse, somewhat plain and unemotional. A brief note on the sleeve quotes Strauss's 1927 opinion that "Frau Rethberg is generally reckoned the best German singer, with the loveliest voice and perfect technique." Strauss, shortly before this "*O patria mia*" was recorded, had conducted a *Frau ohne Schatten* in Dresden with Rethberg as "a magnificent Empress," and he wanted her to create the Egyptian Helen. (Hofmannsthal insisted on the more glamorous but very expensive Jeritza and deemed Rethberg "worse than mediocre as an actress.") The assurance that nothing will go wrong, the evenness and solidity of the voice through all its range and at all dynamics, the sound and sure musicianship—these made Rethberg a great singer. In her first recorded "*O patria mia*," the acoustical Brunswick made in Dresden in about 1920, she ascends to the high C, we are told, in a single breath; but in the electrical Brunswick and this HMV she breaks, after the A flat. (Giannini, in the 1928 complete *Aida* reviewed above, breathes after the F; Caballé takes the whole phrase in one breath.)

De Luca is a subtle and beautiful Amonasro, if less forceful than most. Lauri-Volpi is rather disappointing—not heroic in "*Nel fiero anelito*," which he breaks into two-bar sections, not carrying the sense through the segments. He suggests a tenor thinking about the quality of his tones, rather than Radamès in a dramatic action.

The *Lombardi* and *Attila* trios, recorded in 1930, formed a famous record that lingered on in the catalogues well into the mid-Fifties. The *Attila* is excellent; in *Lombardi*, Gigli as the dying Oronte sobs far too much (compare Caruso, with Alda and Journet). The *Otello* Willow Song and Ave Maria present Rethberg at her very finest; these are most moving performances. And so are the two *Ballo* arias. Surprising, though, that the singer never quite dropped the German way of pronouncing a final *-e*, saying "*Buona notte*-uh" to Emilia, "*e parch*-uh *fors*-uh" in "*O patria mia*," etc.

Rethberg deserves—and on some reissues has received—transfers of the highest quality, from perfect pressings. She does not receive that here. There is more to the voice than emerges from the Discophilia dubbings. In any case, the transfer has been made slightly sharp, and so the disc is useless without a variable-speed turntable. A.P.

recitals and miscellany

B **BRITISH ORCHESTRAL WORKS.** London Philharmonic Orchestra and London Symphony Orchestra, various cond. MUSICAL HERITAGE MHS 1919, $3.50 (Musical Heritage Society, 1991

Broadway, New York, N.Y. 10023).

BERKELEY-BRITTEN: Mont Juic (LPO, Lennox Berkeley, cond.). **BLISS:** Mêlée fantasque (LSO, Arthur Bliss, cond.). **HOLST:** Japanese Suite (LSO, Adrian Boult, cond.). **WALTON:** Music for Children (LPO, William Walton, cond.).

When is a review not criticism? When a record like this comes along, so fine as to be beyond criticism.

This 1971 English Lyrita release reaches us in time to be a distinguished centenary addition to the Holst discography. The *Japanese Suite*, in six sections, is probably more authentically Oriental in feeling and texture than the slightly better-known *Beni Mora* suite. Bliss's *Mêlée fantasque* is a big, splashy rhapsody, alternately restful and breezily furious. The Walton *Music for Children* is orchestrated from ten piano duets that range from whimsical parody to guileless tenderness. The Britten-Berkeley *Mont Juic*—a real joint effort, not one's arrangement of the other's creation—is a suite of four Catalan dances, of which the third is a lament for Spain's tragic civil war and the last starts out with rhythmic surprises and winds up in a giddy climactic free-for-all.

In each of these scores, the deft use of the orchestra—low winds and brass in particular—is typical of the contemporary English ear for such things. The various composers (with Sir Adrian Boult filling in for Holst) are evidently first-rate podium spokesmen, for both the LSO and the LPO turn in their most brilliant playing here. The recorded sound is stunning.

This disc is so uncomplicatedly delightful that I don't see how I'll be able to keep it off my turntable. A.C.

CONTEMPORARY CHAMBER WORKS. Various performers. [Carter Harman, prod.] COMPOSERS RECORDINGS SD 321, $6.95.

YTTREHUS: Sextet (Ronald Anderson, trumpet; Barry Benjamin, horn; Thomas Kornacher, violin; Joan Tower, piano; David Walter, bass; Claire Heldrich, percussion; Efrain Gulgui, cond.). **HEISS:** Quartet (Boston Musica Viva, Richard Pittman, cond.); Four Movements for Three Flutes (John Heiss, Paul Dunkel, and Trix Kout, flutes). **BRUN:** Gestures for Eleven (University of Illinois Chamber Players).

Another interesting disc of new music from CRI. The chief attraction here is Rolv Yttrehus' sextet, a very strong work of twelve minutes' duration. A tightly controlled twelve-tone piece, it is also a work of considerable dramatic power. Although in one continuous movement, it is clearly divided into several shorter sections, each of which carries the argument convincingly forward to its conclusion. The writing is fragmented in the sense that lines are passed from one instrument to another, yet the general effect is one of a broad and continuous motion. This is a serious work, one that requires effort on the listener's part: but its rewards are many. Especially notable is a brilliant percussion part that runs throughout most of the piece and serves to provide a kind of inner continuity that acts as a cohesive force for the other events.

Unfortunately the performance is only fair. Although generally accurate, it is much too hesitant to give a convincing picture of the underlying rhythmic flow. And the sound, which has very little resonance, doesn't help matters.

Also impressive is John Heiss's quartet for flute, clarinet, cello, and piano, a brilliantly scored, rather rhapsodic workout for the four players. In addition to the virtuosic, almost flashy instrumental writing, the piece has an extremely flexible, and unpredictable, rhythmic quality that is especially attractive. I found the *Four Movements* for three flutes somewhat less interesting. Here Heiss seems to have been concerned mainly with exploiting various kinds of sonic tricks, and the musical substance suffers accordingly.

To a lesser extent, this is also true of Herbert Brün's *Gestures for Eleven*, although the basic ideas are of more interest. But despite the composer's assurance in the liner notes that after repeated hearings the various gestural ideas will add up to "one continuous event and one large gesture," I was left with the impression of a series of effective but isolated moments.

The performances of the Heiss and Brün works are quite good. I was especially taken with the University of Illinois Chamber Players, a student group that clearly has had considerable experience playing difficult new music. R.P.M.

ANNA MOFFO: The Incomparable. Anna Moffo, soprano; various orchestras. RCA RED SEAL ARL 1-0702, $6.98.

DONIZETTI: Linda di Chamounix: Ah, tardai troppo . . . O luce di quest'anima.[1] Lucia di Lammermoor: Regnava nel silenzio . . . Quando rapito in estasi (with Corinna Vozza, mezzo-soprano).[3] **ROSSINI:** Semiramide: Bel raggio lusinghier.[2] **VERDI:** I Lombardi: Qual prodigio . . . Non fu sogno.[1] **LEONCAVALLO:** I Pagliacci: Qual fiamma . . . Stridono lassù.[1] **PUCCINI:** Tosca: Vissi d'arte.[1] Suor Angelica: Senza mamma.[1] Turandot: Signore, ascolta; Tu che di gel si cinta.[2] [1: Bavarian Radio Orchestra, Kurt Eichhorn, cond.; [2]: Rome Opera House Orchestra, Tullio Serafin, cond., from LSC 2504, 1961; [3]: RCA Italiana Opera Orchestra, Georges Prêtre, cond., from LSC 6170, 1966].

On one side of this disc we have Moffo Then, reissues predating her vocal crisis a few years back. But only the *Turandot* arias show her to real advantage; the voice at its best was fresh and pretty but limited in color, range, and size. Moffo as Semiramide?! "*Bel raggio*" (from the same recital disc as the *Turandot* excerpts, which would make an attractive reissue) is negotiated, but barely. The *Lucia* Act I scene is from the complete recording with Prêtre, which I like very much, but not because there's anything distinctive about Moffo's Lucia—out of context it sounds neutral.

The other side of the disc, Moffo Now, is Eurodisc material not previously released here. I assume it postdates the worst of her troubles, since it's reasonably handled. Moffo can now sing creditably within a severely restricted range of pitches and dynamics. None of these excerpts respond to such treatment. "*Senza mamma*" sounds positively jolly.

We will refrain from any of the obvious quips about the album title. RCA provides full texts. K.F.

B **GERARD SCHWARZ:** A Festival of Trumpets. New York Trumpet Ensemble; Kenneth Cooper, harpsichord and organ; Gerard Schwarz, dir. [Marc J. Aubort and Joanna Nickrenz, prod.] NONESUCH H 71301, $3.98.

H. BIBER: Sonata à 7, in C. **C. H. BIBER:** Sonata in C; Sonata for Two Choirs. **GABRIELI:** Sonata. **MOLTER:** Symphony for Four Trumpets, in C. **PEZEL:** Sonatinas Nos. 61, 62, 65, 66. **RATHGEBER:** Concerto in E flat, Op. 6, No. 15. **SCHEIDT:** Canzon cornetto.

At first glance, this release may seem to be just one more addition to a steadily growing catalogue of interest only to specialists in either trumpet music or ultra-glittering recorded sonics. But a closer look and the first arresting hearing will reveal that everything here tran-

scends all the usual vogue characteristics of the general brass, and trumpet in particular, discographies.

First, and perhaps most important of all, this program eschews works written either for solo trumpet or for "mixed" brass ensembles. Five of the eleven selections feature two trumpets, one of them (Rathgeber's) along with two violins; Gabrieli's sonata stars three trumpets, Molter's "symphony" and one of the younger Biber's sonatas four, the elder Biber's sonata six plus timpani, and the younger Biber's sonata for two choirs no less than eight. And all of these (except for the Molter) include a continuo part, played here by cello and/or bassoon and harpsichord or organ. Moreover, the percentage of transcriptions is less excessively high than customary in most baroque-era trumpet programs. Both Bibers and Rathgeber specifically wrote for trumpets, and Molter authorized them as alternatives to horns. The remaining works (except for the Gabrieli sonata originally scored for "three violins or other instruments and continuo") were originally intended for *cornetti*, to be sure, but in all the present instances they are admirably suited for the closely related more brilliant instrument. In any case, the illuminating jacket notes (by Alexander Blachly) provide full documentation not only of the original sources, but also of the modern editions actually used.

Second, the music itself is unusual in several respects. It represents both the early (Gabrieli to Pezel) baroque era and the later period (Rathgeber to Biber *fils*) when the high baroque merges into the rococo, or even early classical, era. Except for Carl Heinrich Biber (?-c. 1750), of whom I'd never even heard before now, and Johann Valentin Rathgeber (1682–1750), who has been only rarely represented on discs previously, the composers' names are familiar, at least to connoisseurs. But their present compositions (save the grandly ceremonial Sonata à 7 by the elder Biber) seem to be mostly if not all record firsts. More to their own credit, all but two of them are notably rewarding, with perhaps top honors going to Biber *père*, Gabrieli, Scheidt, and Rathgeber; while the obviously minor Biber *fils* Sonata in C is amusingly childish and the so-called symphony by Molter is at least a fascinatingly varied exploitation of the resources of four unaccompanied trumpets.

Finally, and perhaps the most influential factor for nonmusicologists, the performances are well-nigh ideally exhilarating as well as magisterially virtuosic even in the stratospheric topmost trumpet register. Schwarz himself is ably partnered by Louis Ranger in the duos and no less ably supported in the multiple-trumpet works by his other colleagues. Kenneth Cooper provides, along with a cellist or bassoonist or both, a deft if sometimes overreticent continuo part.

Even so, all this executant excellence would scarcely be as evident as it is if it were not for recording that miraculously matches the best previous standards for brilliance and vividness, but does so without the unpleasant sharp-edgedness of so many earlier brass "spectaculars." Here the glittering highest tones truly float and soar as well as "ring" resoundingly. R.D.D.

JOHN WILBRAHAM: The Well-Tempered Trumpet. John Wilbraham, trumpet; Leslie Pearson, organ; London Festival Orchestra, Tutti Camarata, cond. [Raymond Few, prod.] LONDON PHASE-4 SPC 21100, $6.98.

Since neither ear nor eye will tell you, I should note that Wilbraham is a perfectly respectable British trumpet virtuoso who has recorded serious baroque concerto programs for Argo and HMV with no-less-musicologically esteemed an ensemble than Neville Marriner's Academy of St. Martin-in-the-Fields. And he was featured first of four trumpeters in the Phase-4 "Magnificent Sound of Baroque Brass" program I reviewed in June 1974.

Here and now, however, he appears as Britain's answer to Al Hirt in a mélange of eleven transcriptions ranging from the dazzlingly spectacular (an Albinoni oboe-concerto movement, the "Arrival of the Queen of Sheba" from Handel's *Solomon*, and five Purcell and Stanley trumpet tunes with organ only) through the musically ridiculous (the two Queen of the Night arias from Mozart's *Magic Flute*, the acrobatic Frosini-Camarata *Carnival of Venice*, and the "*Alleluia*" from Mozart's *Exsultate, jubilate*) to the grotesquely godawful (Schubert *Ave Maria*, Gluck "Dance of the Blessed Spirits," and the Prelude in G from Book II of Bach's *Well-Tempered Clavier*).

The tastelessness of both the disarrangements and the unabashed executant exhibitionism is well matched by overheavy groove modulation and exaggeratedly vivid and brilliant recorded sonics guaranteed to pierce the toughest eardrums even at normal playback-level settings. R.D.D.

4-channel discs/tapes BY ROBERT LONG

The Spectacular Charles Ives. I welcomed the arrival of two Ives symphonies on RCA Quadradiscs with real excitement. Both were reviewed (from stereo pressings) in our October issue. But Ives in *quad*!

What a disappointment, then, to discover that the quad review pressing of the Second Symphony (Red Seal ARD1 0663, with Ormandy and the Philadelphians, $7.98) is excessively noisy and possessed of such a severe high-frequency warp that it will not track adequately to maintain quad separation at any reasonable setting of my equipment. The sound is, however, discernibly similar to that of other Philadelphia quad recordings: The back channels are used for ambience, and the orchestral textures are well defined.

The Fourth (Red Seal ARD1 0589, José Serebrier and the London Philharmonic with the John Alldis Choir, $7.98) is much better as a pressing. And since it presents music that is far more complex in texture and unconventional in scoring, its use of the surround technique is welcome. As the liner notes emphasize, Ives wrote the Fourth with little regard for the practicalities or preconceptions of the concert hall, and I see no reason why the music should be presented in concert hall perspective.

Serebrier's notes, however, do say that "the orchestral seating was mapped in order to resemble Ives's suggestions as closely as possible," and a picture shows him in the usual podium position with musicians filling 180 degrees of the space in front of him. The 360-degree spread of the recording, then, appears to be RCA's idea. I think it's a good one. The Fourth is an easy symphony to lose your way in; I, for one, need all the help that quad can give me.

The Great Everest Scandal. It's no secret that there has been a lot of infighting behind the quad scenes. Nor is it any secret that the fortunes of Sansui's QS matrixing in this country have been hampered by a scarcity of big-name recording stars to grace its lists of available discs. So it's not surprising that Sansui would welcome any and all newcomers to the QS fold.

One of the more recent is Everest. Last June it issued a list of "QS-encoded" discs, bearing various labels in the Everest group, for imminent issue; and almost immediately the listings were being passed out by Sansui. The catch, as a few insiders with long memories realized immediately, was that the list seemed to contain nothing but reissues from mono days—old Oceanic opera recordings, classics from the palmier days of jazz, and the like—that could not possibly be quad of QS or any other sort.

Well, the storm of protest was headed off almost before it started. The Sansui people said, "Sorry; we took the Everest list at face value. We're removing the discs from our QS list." The Everest people said, "Sorry; we used the QS encoder, so we thought the listings were legitimate. And anyway we're not going to promote the recordings as quad."

But they had been labeled as quad. To the unsuspecting, the legend "QS regular matrix; compatible for stereo and 4-channel quadriphonic equipment" would seem even more unequivocally up-to-date than the familiar euphemism "rechanneled stereo." How could anybody take mono for quad?

The answer lies in a technique that is, frankly, as dear to Everest as it is repugnant to me: the rechanneling itself. That company seems to have done more experimenting in *ersatz* stereo than anybody—or at least more unsuccessful experimenting. Unless you've had a whole carton of Everest issues to sample your way through (and as a reviewer of sorts I've repeatedly had the displeasure), you have no idea how many changes a single company can ring on that one cracked bell. All sorts of filterings, phase shiftings, and echo effects can be used to alter a mono original and derive from it as many variants as you please. Play two carefully related variants simultaneously through a pair of speakers and you have a surprisingly convincing suggestion of stereo; play two extravagantly unrelated ones and you have a travesty. And you can do the same thing with four versions and four speakers for "quad."

QS REGULAR MATRIX

COMPATIBLE FOR STEREO AND 4 CHANNEL QUADRAPHONIC EQUIPMENT

QS logo and quad legend both appear on our samples of mono-derived discs from the Everest group. They are reproduced here from a Ted Lewis record (on Olympic) whose liner notes indicate that he retired about 1953—further underlining that this could not be a true quadriphonic recording.

The Federal Trade Commission has ruled that no recording may be called stereo unless it originally was recorded in at least two channels of sound. I hope that Everest—and everybody else—will keep firmly in mind that quad is four-channel *stereo*; and I hope that the FTC will update its ruling to be explicit about "quad" recordings requiring at least four channels (or perhaps two legitimately matrixed recordings, just in case anybody has ever prepared master tapes that way) in the original tapes.

But best of all, I think, would be a solemn pact by all concerned to give us older recordings, when they are reissued, without any rechanneling.

The Other Rhymin' Simon. One pops record in the review stack before me really stands out: Carly Simon's Quadradisc (Elektra EQ 4082, $6.98). Not only are her songs unusually sensitive, but I particularly like the way quad is used (i.e., not abused) in realizing them. Though there's plenty of evidence that many of the effects were created by overdubbing and to that extent depend on "multiple mono" quadriphonics, the sound hangs together unusually well. Where some tracks (notably guitar) have a different aural space around them than the others, they still seem to play against the others, responding to them instead of going a separate way.

This feeling of musical (if not spatial) togetherness works well with her songs. In some ways the spatial isolation helps emphasize the inventiveness of detail that the tracks contain. And in "That's the Way I've Always Heard It Should Be," for example, the quad certainly contributes to the sense of time and place ("The living room is still; I walk by, no remark," etc.). A fine job all around.

Renaissance on CD-4. The Western Wind, a group I admired in its disc of early American music, has turned its phonographic attention to quite another time and place, Orazio Vecchi's madrigal comedy *L'Amfiparnaso* of 1594 (Nonesuch HQ 1286, $3.98). I find it equally admirable in this music. Further, the quadriphonic image on this Quadradisc seems a bit firmer and fuller than that of the (presumably remixed) American-music disc.

By modern standards, it's quite a tour de force to sustain almost an hour's worth of music with only five unaccompanied voices, but Vecchi and Western Wind, between them, manage easily—and without any "help" from quadriphonic gimmickry. This is a straightforward ambience recording in which the voices remain firmly on stage with plenty of breathing space around them but with no hint of falsely reverberant perspective. Most attractive. ●

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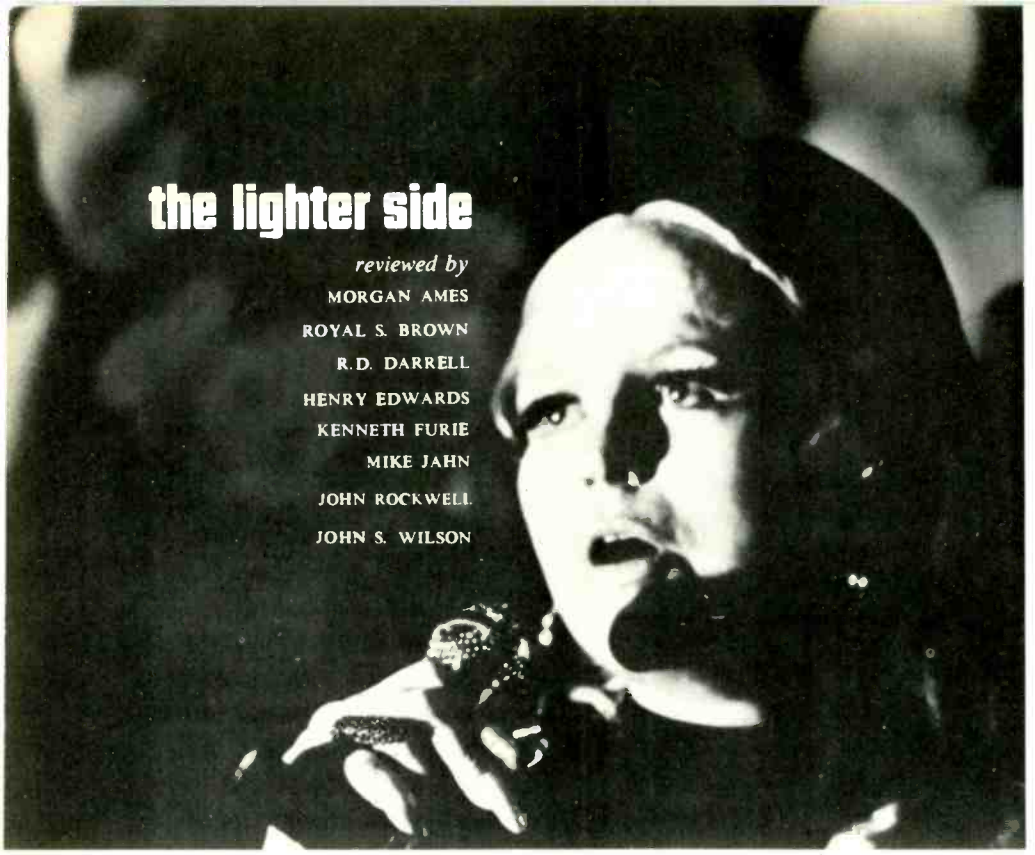

Peggy Lee—*comfortable in any style.*

✻ **PEGGY LEE:** Let's Love. Peggy Lee, vocals; Dave Grusin, arr. and cond. *He Is the One; You Make Me Feel Brand New; Always*; eight more. [Dave Grusin, Peggy Lee, and Paul McCartney, prod.] ATLANTIC SD 18108, $6.98. Tape: ●● CS 18108, $7.97; ●• TP 18108, $7.97.

The big deal is that Paul McCartney wrote a tune for Peggy Lee called "Let's Love," and he produced that track, and they used it as a title song and a reprise, which is more than it deserves. McCartney is a heavyweight writer, as we all know. But when you're not, you're not.

Now that that's out of the way, let's move on to the fact that this is a lovely album. I don't know how Ms. Lee does it, and I suspect she doesn't either, but she keeps on happening. Along with a cast-iron talent, she has always had the brains to surround herself with the best musicians. In this case that means Dave Grusin.

Grusin has been best known as a film composer (*The Graduate, The Heart Is a Lonely Hunter, Winning*, many more) and as the best of the TV theme writers ("Name of the Game," "Maude"). He is also a contender for best pianist in a field of giants.

The level of taste on this album is as high as you'll find anywhere in today's music, without making a federal case out of it. Ms. Lee and Grusin have found some contemporary material that sits easily into the project: "You Make Me Feel Brand New," familiarized by the Stylistics; "Easy Evil," an Alan O'Day song that everyone has tried to make into a hit; and James Taylor's "Don't Let Me Be Lonely Tonight." To this day, Peggy Lee can sound comfortable in any style she wants to. She's not a judger, but a doer.

A couple of timeless and beautiful pieces are included for pleasure: "The Heart Is a Lonely Hunter" by Grusin with lyric by Ms. Lee, and "Sometimes" by Henry and Felice Mancini, which has a section that sounds just like the Jack-in-the-Box commercial. Lifting Mancini's music is nothing new, whether intentional or subliminal.

McCartney's lead tune would have sounded a hell of a lot better in anyone else's album. Next to these masters, for all their polite treatment of it, it's like sneakers and a T-shirt at a Givenchy showing. M.A.

✻ **POWER OF ATTORNEY:** From the Inside. Charles McDowell, bass and vocals; Wilbur C. Brown, keyboards; William Smith, guitar; Stanley Watkins and Marion Wilson, saxophones; Ronald Aikens, percussion and vocals; Gilberto Albizu, conga; Otis J. Graham, drums and vocals; Brother Edward J. X. Smith, guitar. *Life Is Nowhere in the Ghetto; Loving You; I've Been Thinking*; six more. [Stan Vincent, prod.] POLYDOR PD 6031, $6.98.

The Power of Attorney consists of nine prisoners and former prisoners—some convicted for the most serious of crimes—who formed this group when they met in Pennsylvania's Graterford Prison. This most unusual ensemble fuses rock and jazz in an attractive, commercial, rhythmic way. The vocals are especially gritty and soulful. Indeed, this disc would be musically attractive even if these were men who were merely musicians rather than convicts who decided to make music.

"From the Inside . . ." is probably one of the few nice things to ever happen in a prison. H.E.

THE WHO: Odds & Sods. Pete Townshend, vocals, guitar, and keyboards; Keith Moon, drums; Roger Daltry, vocals; John Entwistle, bass and French horn; instrumental accompaniment. *Postcard; Little Billy; Glow Girl; Long Live Rock*; seven more. [John Entwistle, prod.] MCA 2126, $6.98. Tape: ●• T 2126, $7.98; ●● C 2126, $7.98.

In his liner notes, Peter Townshend gives the impression John Entwistle threw together this batch of unreleased songs as a hedge against boredom while the other three members of the Who were otherwise engaged. It sounds it.

The songs are short, many of them are hasty ideas recorded hastily, and in all this package would appeal only to those who must have every record the group ever put out, if indeed there are such people. "Little Billy," for example, was written as an antismoking public service commercial but never used as such.

The songs don't stand on their own. The only interest is that a few of them contain riffs that showed up later in *Tommy*, the rock opera for which the Who is justly famous.

Townshend says he never throws anything out. I hope he does not intend to rename this fine band "The Collier Brothers." M.J.

ETHEL MERMAN: Ethel's Ridin' High. Ethel Merman, vocals; London Festival Chorus and Orchestra, Stanley Black, cond. *Gee, but It's Good to Be Here; Whispering; Some People/People*; seven more. [Raymond Few, prod.] LONDON PS 909, $6.98. Tape: ●• L 80909, $7.97; ●● L 50909, $7.97.

At sixty-five, Ethel Merman, First Lady of the American Musical Theater, has never been in better voice and has never delivered a more appealing set. On "Ethel's Ridin' High," she roars her way through material that has previously been associated with her (*Happy Hunting*'s "Gee, but It's Good to Be Here," *Gypsy*'s "Some People"), material she has never before recorded ("Someone to Watch Over Me," "Impossible Dream," "On a Clear Day"), and a truly authentic golden oldie ("Whispering"). These are traditional, intelligent choices made less stuffy because the singing is so vibrant. "Ethel's Ridin' High" demonstrates that superstar Merman is not only brassy, but capable of evoking the full range of emotions that are the hallmarks of the best pop singers.

Still, this disc is not an authentically contemporary effort. There are ways one can make the transition from the singing of traditional pop songs to today's music without losing one's dignity. Peggy Lee's new LP, "Let's Love," is a prime example. A Richard Perry, Bob Ezrin, or Snuff Garrett should produce the next Ethel Merman LP. On it Ms. Merman should sing the songs of the new singer/songwriters, in the process giving them the workout they deserve. The notion of Ethel and an electric rhythm section is a notion that could get lots of people high. H.E.

✻ **GLADYS KNIGHT AND THE PIPS:** I Feel a Song. Gladys Knight, Bubba Knight,

Explanation of symbols

✻ exceptional recording

Recorded tape:

●● Open Reel

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●● Cassette

William Guest, and Edward Patten, vocals; Tony Camillo, Kenny Kerner, Richie Wise, Larry Wilcox, Burt Bacharach, Don Hannah, and Ray Jackson, arr. *The Way We Were; The Need to Be; Tenderness Is His Way*; six more. [Various prod.] BUDDAH BDS 5612, $6.98. Tape: ●● M 55612, $7.97; ● M 85612, $7.97.

Gladys Knight keeps shining on, and so does her group. (The only thing I like about calling them the Pips is that it's short and easy to say.) It is always a pleasure to see a group in its prime and ready to handle it, as opposed to those who are ruined by its pressures. These people seem to thrive on pressure.

They are also excellent choosers of material. Take their new hit, "I Feel a Song" by Tony Camillo and Mary Sawyer. There is nothing much original about it, yet it pops out at you, lightens you. And Ms. Knight's version of "The Way We Were," recorded live in Michigan, is the first one I've really liked.

Bill Withers threw in for one track, "Tenderness Is His Way," which he wrote and produced and on which he sings. It's one of the best moments of the set.

The weirdest is an effort by Burt Bacharach called "Seconds," with oddly trite lyric by Neil Simon (if he wants to do lyrics, he'd better look up composers such as Mancini and Johnny Mandel, who think in longer lines). Bacharach produced the track, but the Dionne Warwicke period is over, and the riff-at-the-end shot sticks out uncomfortably.

The energy level of this patchwork album sizzles. Ms. Knight was getting ready to get married when it was made, so feelings must have been particularly positive. Married or not, she has a superb voice and, if that's not enough, the Pips are the best dancers of all the singers.

Bravo to them for winning so well. M.A.

RCA Records

Cleo Laine
The standards superbly done.

✻ **CLEO LAINE:** A Beautiful Thing. Cleo Laine, vocals; strings, rhythm, and horns accompaniment. *All In Love Is Fair; Skip-a-long Sam; Send In the Clowns*; seven more. [Mike Berniker, prod.] RCA CPL 1-5059, $6.98. Tape: ● CPS 1-5059, $7.95; ●● CPK 1-5059, $7.95.

"A Beautiful Thing" is Cleo Laine's first American-produced and recorded studio album.

Britain's "Empress of Song," Cleo is the superlative singer with the four-octave range who can brilliantly sing any kind of song. On this disc she has been produced by Mike Berniker, who has guided the likes of Barbra Streisand through the recording studio. Berniker and Laine have joined forces to present an accessible collection of ballads that have been selected to demonstrate Cleo at her most commercial. She sings standard selections by Stevie Wonder, George Gershwin, Stephen Sondheim, Buffy Sainte-Marie, and Michel Legrand, and she does each superbly. "A Beautiful Thing" is a lovely LP featuring a most distinguished artist. H.E.

Gladys Knight and the Pips—*sizzling energy level.*

✻ **PHOEBE SNOW.** Phoebe Snow, songs, vocals, and lead acoustic guitar; rhythm accompaniment; organ sweeteners by Bob James. *Let the Good Times Roll; Poetry Man; It Must Be Sunday*; six more. [Dino Airali and Phil Ramone, prod.] SHELTER SR 2109, $6.98. Tape: ● T 2109, $7.98.

Phoebe Snow is a natural, born to write songs, sing, and play guitar—and make records. She is totally comfortable, as if she had been doing this work forever.

So impressive is Ms. Snow that, despite some litigation going on between the artist and Shelter Records (Leon Russell and Denny Cordell's label distributed by MCA), the album is already pushing up through the charts like an air bubble. Nor is it a commercial album, in the sense that hits are usually designed to formula. Once in a great while talent is enough. Laura Nyro, Joni Mitchell, Phoebe Snow is such an original, as strange and riveting as her name, and, if she's not too crazy, her future is solid.

Ms. Snow's voice is also strange, with a wide, slow vibrato that makes her agility surprising. Her style is simultaneously raunchy and wise. Her playing is right down the middle of the time, sparse and to the point, yet not quite simple.

Her songs are understated and elegant: "Sometimes these hands get so clumsy that I drop things and people laugh; sometimes these hands seem so graceful I can see them signin' autographs. What I want to know from you when you hear my plea: Do you like or love either or both of me? Sometimes this face looks so funny that I hide it behind a book, but sometimes this face has so much class that I have to sneak a look. Sometimes this life gets so empty that I become afraid; then I remember you're in it, and I think I might still have it made. . . ."

The album is sensitively produced by Dino Airali, whom I never heard of, with coproduction and engineering by Phil Ramone, whom everybody in music has heard of. There are some excellent and unusual sweeteners from Bob James, using organ programmed to sound like strings. Among the first-rate musicians who lend a classy hand are Steve Mosley, Chuck Delmonico, Chuck Israels, David Bromberg, Ralph MacDonald, and even Teddy Wilson, Zoot Sims, and the Persuasions. All these folks are used in superb taste.

Congratulations to everyone, particularly to Phoebe Snow. M.A.

RONNIE HAWKINS: The Giant of Rock 'n' Roll. Ronnie Hawkins, vocals; vocal and instrumental accompaniment. *Dream Lover; Bo Diddley; Brand New Tennessee Waltz; Kinky; High Blood Pressure*; six more. [Fred Foster, prod.] MONUMENT KZ 32940, $5.98. Tape: ● ZA 32940, $6.98.

Hawkins once claimed to be the only man who

has been singing rock for twenty years without ever having a hit record.

That was two years ago, and he still hasn't had one. He probably won't get one from this album, either. Not that it's a bad album. It is, in fact, rather enjoyable, old-style "beat" music of the sort that made Jerry Lee Lewis, Carl Perkins, and Elvis Presley famous during the period when they all recorded for Sun Records.

As usual, Hawkins is at his best on the uptempo tunes, such as "Dream Lover" and "Bo Diddley." But he now seems hit-proof. Even his hilarious good humor and Falstaffian antics have proved unable to make him more than a very popular singer in Canada, where he lives. It's too bad. In this age of pale-faced, undernourished British pop stars wearing rouge, America could use a popular idol who traces his roots to Nero. M.J.

DORY PREVIN. Dory Previn, songs and vocals; string and bazouki arrangements by Perry Botkin Jr.; background vocals led by Marti McCall. *Did Jesus Have a Baby Sister?; Coldwater Canyon; The Crooked Christmas Star, '73*; seven more. [Nick Venet, prod.] WARNER BROS. BS 2811, $6.98. Tape: ● L 82811, $7.97; ●● L 52811, $7.97.

The great thing about Dory Previn is that she keeps surviving herself. She dogs through life, pain for pain, insight for insight, improving like a wine even if the bottle gets dusty.

I hated Ms. Previn's first solo effort some years ago, the one about Mia taking up with her ex, André, and how crazy she was and so on. I disliked her for having analysis on my dime—that is, my time—instead of privately like the rest of us neurotics. Also, she was a musical primitive at that time. She knew two chords and no dynamics. But she always had a way with words.

I have managed to avoid her songs for years, other than her lyric to the song from "Last Tango in Paris," which was so breathtakingly good that I can't believe no one every exploited its possibilities.

From this frankly described vantage point, I would like to state my opinion: Dory Previn has honed herself into considerable artistry. She has become a first-rate example of herself, nobody else. I like this fact better than I like her songs, and I like her songs better than I like her singing—though it is tidy.

So long as you want to breathe the entire being of your conscious attention into songs, Dory Previn is your writer. She is not for casual listening. But for moments of total disregard for self-ego, check these statements: "Brando" involves a common feminine fantasy about famous men: "I'll bet I could have handled him if only we had met. . . ." (Is the key word in that thought "handle"?) "Did Jesus Have a Baby Sister?" touches on Women's Lib with beautiful whimsy, and "Coldwater Canyon" smiles cleverly at the latest styles in vain mail seducers.

Fortunately or unfortunately, Ms. Previn is at her best on the subject of cynicism and love, such as "Crooked Christmas Star" ("Star of wonder, star of doubt, ragged beauty, burning out . . ."). "The Empress of China" captures the uncapturable in song: the notion that in our most negative moments we are often possessed by our parents, repeating broken records of fights overheard in childhood—known to be true by all veterans of The Couch. "An echo hears an echo, and my mother's fist is raised, the hand I clench at you shows her distrust. The way one behaves is determined in the graves of all the great-grandparents gone to dust . . . Our fathers fight through us as they fought their fathers' war, and the same old scene's repeated as before. . . ." Previn at her most incisive.

The other nice thing about Ms. Previn's new set is that she has kept a good hold on her humor, which is the safest way to stay off the lectern. Heavy as she is, she can also smile out of one side of her mouth.

Most of the rhythm tracks are simple and fine, as are Perry Botkin's arrangements and Marti McCall's background vocals. Congratulations to Nick Venet for his able production. M.A.

JEFFERSON STARSHIP: Dragon Fly. Paul Kantner, vocals and rhythm guitar; Grace Slick, vocals and piano; David Freiberg, vocals, bass, and keyboard; Craig Chaquico, lead guitar; John Barbata, percussion; Papa John Creach, violin; Peter Sears, bass and keyboards. *Ride the Tiger; That's for Sure; Be Young You*; five more. [Jefferson Starship and Larry Cox, prod.] GRUNT BFL 1-0717, $6.98. Tape: ●● BFK 1-0717, $7.95; ● BFS 1-0717, $7.95.

"Dragon Fly" is a serious, thoughtful disc made by a group of multitalented composer/performer/instrumentalists whose nucleus comes from the Jefferson Airplane, the first

★ ★

He's Still—— Well, Sinatra

by Morgan Ames

This is in defense of Frank Sinatra, a man who is always in his prime one way or another, by nature. I'm tired of the smirks of people who handle their youth as if it were something earned, like a judgeship.

I like the fact that Sinatra could not stay in retirement. That's my kind of inconsistency. It confesses with a shrug that singing is more fun than not; being an ass with the Australian press is more alive than planting daffodils around your golf course or grave. What other singer of Sinatra's roots has the outrageous ease to take Stevie Wonder's 1974 Grammy winner, "Sunshine of My Life," and translate it into his own terms, with no apologies to anyone? The same goes for Neil Diamond's "Sweet Caroline" and the late Jim Croce's "Bad Bad Leroy Brown" (the last fits the singer by default).

For those of us attuned to today's attitudes and rhythm sections, this album takes a moment's getting used to. But to deny the effort is to be as mean and narrow as the contingent that must shrink all artists into their own cute little skull sizes. The conservativeness of youth is a crashing bore.

Frank Sinatra operates from the same intuitive sense of style as ever. Despite the album title, many of these songs are not his kind of thing, but he spits right in their eye with a respectful challenge, ready to make a performance out of a language barrier.

The ballads of the set are a more likely fit for the singer, since he was father to most of them. On "What Are You Doing the Rest of Your Life?" by Michel Legrand and Alan and Marilyn Bergman, Don Costa reminds us and himself that, when he's feeling inspired and exquisite, he can still outwrite any song arranger in the entire business.

Let us also note that, in a business totally dominated by its rhythm sections, necessitating adjunct horn and/or string sweetening sessions after the fact, Sinatra still works live with an orchestra—the same guys who have shared record dates with him for years. The same producers too.

As for the voice: the less it is perfect, the more it is human. And about time.

Styles change like the laundry: In with one load, and out with another. God help Elton John in a few years when we fall out of love with him, when he must express his strength against our tides instead of with them. Ask Burt Bacharach. But I still find it an operative privilege to work in the same industry with Mr. Frank Sinatra.

FRANK SINATRA: Some Nice Things I've Missed. Frank Sinatra, vocals; orchestral accompaniment; Don Costa and Gordon Jenkins, arr. *The Summer Knows; If; Sweet Caroline*; seven more. [Don Costa, Jimmy Bowen, and Sonny Burke, prod.] REPRISE F 2195, $6.98. Tape: ●● M 52195, $7.97; ● M 82195, $7.97.

★ ★

San Francisco rock band to receive national acclaim way back when in the mid-1960s. Once again Airplane superstars Grace Slick and Paul Kantner and the Starship band, including the snazzy, flashy violin gymnastics of Papa John Creach, are up to snuff. Then why does it all sound so strange?

The basic Starship sound is the same as that of its predecessor, the Airplane. Throbbing harmonies and relentlessly eerie melodic effects predominate. These were indeed among the highlights of rock's psychedelic era. Now this music does not sound so much dated as like something new one can't grow accustomed to. "I want to ride ride the tiger/I want to ride ride the tiger/It will be black and white in the middle of the night/Eyes flashing in the clear moonlight/I want to ride the tiger," write and sing Slick and Kantner. The days of riding the tiger may have passed. It all does seem most peculiar in 1975! H.E.

✻ **GEORGE BENSON:** Bad Benson. George Benson, guitar; instrumental accompaniment. *Take Five; Summer Wishes, Winter Dreams; My Latin Brother*; three more. [Creed Taylor, prod.] CTI 6045, $6.98. Tape: ●● CTC 6045, $7.95; ●● CT8 6045, $7.95.

We all know by now that black artists of all kinds who wish to advertise themselves as being "good" call themselves "bad." In most cases, such productions really *are* bad. This is an exception.

Benson is a talented jazz guitarist who works in a popular vein. This album has him backed with a full orchestra, from woodwinds to harp. Yet it retains the essential fire and flow of jazz, even spicing it up with a few Latin touches. Creed Taylor has become famous for adding Latin touches to standard songs, following his successes with that formula as producer of Eumir Deodato.

"Take Five" is long and a bit frantic, but the rest is beautiful. "Summer Wishes, Winter Dreams" is especially noteworthy. M.J.

✻ **HUGO MONTENEGRO:** Hugo in Wonder-Land (Hugo Montenegro Interprets the Genius of Stevie Wonder). Hugo Montenegro, arr. and cond.; Moog programmed by Dick Hamilton; Arp programmed by John Montenegro. *Superstition; Higher Ground; All in Love Is Fair*; seven more. [Dave Blume, prod.] RCA APL 1-0413, $6.98. Tape: ● APS 1-0413, $7.95; ●● APK 1-0413, $7.95. Quadriphonic: APD 1-0413 (Quadradisc), $7.95; APT 1-0413 (Q-8 cartridge), $7.95.

The first time I ever actually saw a Moog synthesizer in use on a record date was in Los Angeles about 1968. The user was Hugo Montenegro. While most of us in pop music didn't yet know what to make of synthesized music, let alone *how* to make it, Montenegro was already off and running. It is ironic that, because his music itself is smooth and easy, one forgets what an innovator of electronic sound he has been. For years this skilled arranger has been making "cover albums" (covering other people's hits) that sell steadily if not explosively.

RCA has long recognized Montenegro's value. They record him as perfectly possible, such as with this disc available in stereo and in quad. Either way, the sound has a crystal presence that never disappoints.

It is fitting that Montenegro should do an all-synthesized tribute to the music of Stevie Wonder. Different though they are, both are masters of electronics and great respecters of quality. The distance between the two shows up most strongly in the rhythm section: Wonder's time is always laid back and smoldering, while Montenegro's is crisp and forthright. Good music works both ways. Montenegro also uses some of our best rhythm players, such as Ronnie Tutt, Larry Carlton, Carol Kaye, Wilton Felder, Bobbye Hall, and Larry Muhoberac.

"Superstition" is one of the most interesting tracks, full of fascinating sound devices. I only wish I'd been there to see who did what and how. The most beautiful ballad is "All in Love Is Fair," with superb woodwind solo by Tom Scott (sounds like alto flute run through a synthesizer) and a clean flügelhorn solo by Gary Barone. It's hard to believe that the string background is really a bunch of tape loops brilliantly programmed to sound "real," but that's probably the case.

Hugo Montenegro has always struck me as a fiendishly hard worker: he must be in order to sound as comfortable as he does in Wonder's world as well as all the others before it. He has my thorough respect for a first-rate piece of work. M.A.

theater and film

✻ **GOOD EVENING.** Original Broadway cast recording. Performed by Peter Cook and Dudley Moore. *Hello; One Leg Too Few; Madrigal; Mini-Drama; Six of the Best; THe Frog and Peach; Die Flabbergast; Gospel Truth.* [Eddie Kramer, prod.] ISLAND ILPS 9298, $6.98.

Peter Cook and Dudley Moore are clever writers and delightful performers whose credits began with the remarkable satiric revue *Beyond the Fringe* (still available on records, Capitol SW 1792 and SW 2072), with Alan Bennett and Jonathan Miller. *Good Evening* is rather disappointing in the mildness of its wit, but I suppose de-fanged Cook and Moore are still more entertaining than most folks.

The record is fairly representative of the show, with some of its best moments, some of the more predictable ones, and, happily, two of Moore's delicious musical parodies. (He happens to be quite a classy musician, a talent rather difficult to use fully in this kind of act.)

Best here, in addition to the musical parodies (a Schubert song, "*Die Flabbergast*," and an Elizabethan madrigal), are a surrealistic "Mini-Drama" of a peer menaced by a psychopathic cab driver; a breezily inconsequential interview with the aristocratic proprietor (Cook) of a restaurant in the middle of the Yorkshire moors (no parking problem) whose entire menu consists of frog à la pêche and, "even more disgusting," pêche à la frog; and best of all an irreverent interview, by one Matthew of the *Bethlehem Star* (whose other reporters' names I think you can guess), with a shepherd who knew Jesus.

The bit about the one-legged Tarzan aspi-

rant still seems to me not nearly funny enough to offset its tastelessness. The "Hello" dialogue (two pedestrians catch up on old times, though they've never seen each other before) makes its point quickly and continues predictably if amusingly from there. "Six of the Best" has even less point on disc than on stage, where there is some mild amusement in the image of schoolboy Cook towering over headmaster Moore.

It's tempting to compare Cook and Moore with our own Bob and Ray, who always seem so gentle however cutting their material. One always expects biting satire from Cook and Moore (you know those acid British humorists), but in *Good Evening*, at least, there isn't much.

The jacket reprints the performers' malicious program bios of each other, as well as an out-of-order list of contents (correct on the labels). Theories are invited as to why Cook doesn't sound anything like himself. K.F.

BURN. Original film soundtrack recording. Composed by Ennio Morricone. UNITED ARTISTS UA-LA 303G, $6.98. Tape: ● UA-EA 303H, $7.98.

Although Gillo Pontecorvo's *Burn* was released in 1970, this is the first time Morricone's outstanding score for it has appeared on these shores.

As usual, Morricone establishes a unique and utterly apropos instrumental atmosphere that immediately sets the character for both the music and the film. In addition to the various electric sounds heard in many of his scores (organ, bass, etc.), the music for *Burn* evokes the film's setting (an African slave uprising on a Portuguese island named Quemada) by using a large assortment of native drums and a chorus that, in the title theme, for example, sings what is apparently an African chant. (No information is given on this in the liner notes, which simply recount the film's plot.)

These basic sounds pervade the score in varied contexts, with the emotional impact constantly shifting. In the cut entitled "The Battle for Quemada," for instance, Morricone initially instills a feeling of suspense through the use of the unaccompanied African drums. These are later joined by the organ, playing a type of chorale theme that has come to characterize Morricone's style, and the chorus, vocalizing a somber theme that creates an incredible mood of both tension and tragedy. It is to the composer's immense credit that he has been able to combine a nonclichéd use of certain ethnic materials with his own cinematically oriented idiom in a convincing amalgam.

Incidentally, the soundtrack of another excellent Morricone-Pontecorvo collaboration, *The Battle of Algiers*, recently was reissued by United Artists. R.S.B.

CHINATOWN. Original film soundtrack recording. Composed and conducted by Jerry Goldsmith. [Tom Mack, prod.] ABC RECORDS ABDP 848, $6.98.

Jerry Goldsmith's title theme for Roman Polanski's *Chinatown* is not only one of the best he has written, but also manages to capture the film's 1930s atmosphere without indulging in the campy imitations that are glutting soundtracks these days. This theme dominates the majority of the cuts, which include some typically jagged Goldsmith action sounds and three bands of source music ("Easy Living," "I Can't Get Started," and "The Way You Look Tonight") that have been electronically rechanneled for stereo. (I suppose this means Schwann-1 will have to give the listing as *Chinat*). R.S.B.

jazz

✱ **COUNT BASIE TRIO:** For the First Time. Count Basie, piano; Ray Brown, bass; Louis Bellson, drums. *Pres; Blues in the Church; Royal Garden Blues*; nine more. PABLO 2310, $7.98.

Putting Count Basie in a trio situation forces him into a distillate of the exemplary piano work that is otherwise spread thin in his work with his band. Here, with Ray Brown on bass and Louis Bellson on drums, a rhythm section that would be difficult to improve on, the Count puts it all on display, from the dazzling up-tempo stride technique he unleashes on "Baby Lawrence" to several views of the blues and a glimpse of the organ that he plays too infrequently.

There are memories of Basie's past—pieces that recall musicians with whom the Count once played them: "Lady Be Good" and Lester Young, "As Long as I Live" and Benny Goodman. But these versions owe nothing to the past. They are as fresh and sparkling as if it were the first time around on the Basie keyboard. J.S.W.

✱ **MODERN JAZZ QUARTET:** In Memoriam. John Lewis, piano; Milt Jackson, vibes; Percy Heath, bass; Connie Kay, drums; orchestra, Maurice Peress, cond. *In Memoriam; Jazz Ostinato; Concierto de Aranjuez: Adagio.* LITTLE DAVID 3001, $6.98. Tape: ●● M 53001, $7.97; ● M 83001, $7.97.

This is ostensibly the final record by the Modern Jazz Quartet. The group broke up in July after playing together for twenty-two years (nineteen years without a change in personnel) and, although the musicians got together for one farewell concert in New York in November, it isn't likely that there will be any more appearances until and unless Milt Jackson, whose desire to go out on his own caused the breakup, decides that he will be better off in the quartet and it is reorganized on a permanent basis. Because John Lewis is a perfectionist and the music of the Modern Jazz Quartet means so much to him, it seems unlikely that he would consent to any further one-night-stand reunions.

While this disc's title is apt, it was not intended to apply to the quartet when the recording was made. "In Memoriam" is a work in two movements that takes up one side of the disc, composed by Lewis in memory of a piano teacher and other musicians, from Louis Armstrong to Béla Bartók, whom he admired. With an ensemble of strings and woodwinds added to the quartet, Lewis' composition comes out as a fresh, gentle, and melodic work in his most charming and polished manner. As was the case in his earlier "Sketch," he does not try to make the strings swing. He uses

them as rich coloration and lets the quartet handle the rhythmic material.

The second side is divided between Lewis' "Jazz Ostinato," originally written for Eric Dolphy and Phil Woods, and his third recording of the Adagio from Joaquin Rodrigo's *Concierto de Aranjuez*. Although the "Jazz Ostinato" has a basically sprightly quality, it builds to much more powerful climaxes than the group usually goes in for, something that Lewis has not been able to translate into terms related idiomatically to the quartet.

If this is indeed the last recording, the Modern Jazz Quartet's career has ended in appropriate fashion—with a piece that emphasizes Lewis' constant search for a balance between jazz and the European tradition and with two pieces that were, as Lewis' work always seemed to be, in the process of development.

J.S.W.

✻ **HARRY JAMES AND WOODY HERMAN:** A Batch of Jazz. Harry James and his orchestra, 1944: *Shady Ladybird; Rose of Washington Square*; five more. Woody Herman and his orchestra, November 2, 1944: *Straighten Up and Fly Right; The Man I Love*; five more. TULIP 107, $5.50 (Tulip Records, Box 3155, San Rafael, Calif. 94902).

Two 1944 radio broadcasts show Woody Herman's first Herd on its way up (just three months before it cut the first of its records for Columbia, which lifted it to the top of the big-band heap in the mid-Forties) while Harry James's band, complete with string section, is riding the crest of the wave of its popularity.

James's side includes two of his classics of the period—"The Mole" and "9:20 Special"—and a Helen Ward vocal that is a reminder of what an easy, open-voiced singer she was.

Herman's broadcast has Frances Wayne singing ballads and Woody singing novelties, but there is still time to include a piece called "Helen of Troy," which nine months later was recorded as "The Good Earth." There also are early versions of "Apple Honey" and "125th Street Prophet," recorded on V disc in August 1945 but never a part of the Herd's commercial catalogue. Built around Woody's low-register clarinet, it is an easy swinging performance in an arrangement that is completely in the style the Herd was moving into at the time.

J.S.W.

✻ **ZOOT SIMS:** Party. Zoot Sims, soprano and tenor saxophones; Jimmy Rowles, piano; Bob Cranshaw, bass; Mickey Roker, drums. *Caravan; The Very Thought of You*; four more. CHOICE 1006, $6.98.

This record has the fingerprints of Charlie Bourgeois all over it. Bourgeois, who has been George Wein's right-hand man for the past twenty-five years, is a connoisseur of fine pianists, fine pianos, fine singers, and fine songs, as well as fine wine and fine Chinese food. It has been through his persistent urging that pianists such as Dave McKenna and Jimmy Rowles have been heard in New York in the past couple of years. Similarly he keeps talking up singers—Mabel Mercer, Teddi King, Sylvia Syms, Helen Merrill, and Anita Ellis.

And for both pianists and singers he has new songs—actually unknown or forgotten *old* songs—to suggest. Two of his songs appear along with one of his pianists in this collection: "Dream Dancing," a charming Cole Porter tune, and "Restless," a hauntingly constructed melody of the 1930s. To these Zoot Sims has added a discovery of his own, "Fred," a Neal Hefti tune written for a Fred Astaire TV special, and three familiar standards—one of them, "Getting Sentimental over You," played with a swinging drive that one does not expect to hear on the old Tommy Dorsey theme.

Sims is an uncannily consistent and imaginative saxophonist, working in a moderate, middle range, with no exclamations, but finding a deep well of provocative phrasing, melodic variations, and warm sounds within his self-imposed limitations. Rowles's piano is seductive—soft but swinging and filled with unexpected deviations. The two musicians are ideal complements, and with the help of Bob Cranshaw and Mickey Roker they have produced a very convincing example of the enticing middle-ground jazz that currently seems to be on the rise.

J.S.W.

✻ **ALBERT AMMONS, PETE JOHNSON, MEADE LUX LEWIS:** Boogie-Woogie Kings. Albert Ammons, piano: *Hersal Blues; Monday Struggle; Shout for Joy*; five more. Pete Johnson, piano: *Four O'Clock Blues; G flat Blues*. Meade Lux Lewis, piano: *Closing Time*. EUPHONIC 1209, $5.98 (mono).

MEADE LUX LEWIS, CRIPPLE CLARENCE LOFTON: Boogie-Woogie Kings. Meade Lux Lewis, piano: *Bear Cat Crawl; Try Again; Chapel Blues*; three more. Cripple Clarence Lofton, vocals and piano: *Streamline Train; Pitchin' Boogie; Mistaken Blues*; three more. EUPHONIC 1208, $5.98 (mono).

Albert Ammons, who died in 1949, was always the calmest, the coolest of the three boogie-woogie pianists who moved into Cafe Society in New York late in 1938 and lit the fuse for the boogie-woogie explosion of the next few years. Meade Lux Lewis was a rumpled, round little man who poked at the keyboard with stubby fingers. Pete Johnson was massive and solid and always seemed to be sweating—even when he might not have been. But Ammons just leaned back, stretched out his arms, tickled the keys, and rolled through finger exercises that were an ideal balance to Lewis' jabs and Johnson's rolling power.

All three were so closely associated with boogie-woogie that they rarely got a chance to do anything else, at least on records, although Lewis did record a few slow, probing blues.

On Euphonic 1209, taken from radio broadcasts from the Sherman Hotel in Chicago in 1939, Ammons, who gets most of the space, expands from his boogie-woogie base. He had a light, airy style that gave everything he played a smooth, rollicking flow, and his imagination carried far beyond the boogie stereotypes. His "Jesse James" opens with Ellingtonian piano figures and develops into Hines flourishes. "Monday Struggle" is played over a "Dardanella" bass figure. And his "Pinetop's Boogie-Woogie" has a tremendously driving swing, reminiscent of his recording of "Boogie-Woogie Stomp," on which he had the support of a small instrumental group.

Lewis shows his nervous, edgy drive on

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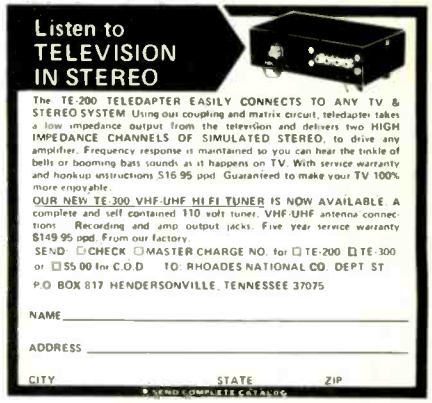

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Euphonic 1208, which includes his two special variants on his piano playing: "Whistlin' Blues" and, on "Doll House Blues," a bit of virtuoso display on the celesta. Lewis was primarily a blues man, and his mastery of the slow blues is made evident on this disc on "Dupree Blues."

Cripple Clarence Lofton, a much more limited pianist than Ammons, Lewis, or Johnson, takes up one side of Euphonic 1208 with his walking boogie figures and pinched-voice vocals. J.S.W.

in brief

JORMA KAUKONEN: Quah. GRUNT BFL 1-0209, $5.98. Tape: ● BFS 1-0209, $6.95.
This is a dulcet set of songs written primarily by Hot Tuna's Kaukonen and sung attractively by Tom Hobson. "Quah" is a gentle and unexpected treat. H.E.

BOBBY WOMACK: Greatest Hits. UNITED ARTISTS LA 346G, $6.98. Tape: ●● CA 346H, $7.98; ● EA 346H, $7.98.
Not all of these selections qualify as "greatest hits," but many of them are invigorating soul performances. H.E.

EARTHQUAKE. Original film soundtrack. MCA 2081, $6.98. Tape: ●● C 2081, $7.98; ● T 2081, $7.98.
John Williams is one of our finest film-score composers. Like all his scores, this one is clear of brow, calm, cool, beautifully laid out. Fully orchestrated scores like this are rarely released these days, so if you're a film-music fan, hit it. M.A.

ELTON JOHN: Greatest Hits. MCA 2128, $6.98. Tape: ●● C 2128, $7.98; ● T 2128, $7.98.
This is John's first anthology other than his "11-17-70," a recording of a radio concert. It contains ten of his best rock songs and ballads and is a joy to recommend. M.J.

HELEN REDDY: Free and Easy. CAPITOL ST 11348, $6.98. Tape: ●● 4XT 11348, $7.98; ● 8XT 11348, $7.98.
Fresh from her performance as a singing nun in *Airport 1975*, Helen Reddy once again turns the recording studio into a deep freeze with another set of exacting and icy vocals. She sings for the millions who want their music neat and slick and professional. They can find those qualities in abundance on "Free and Easy." H.E.

HORSLIPS: Dancehall Sweethearts. RCA APL 1-0709, $6.98. Tape: ●● APK 1-0709, $7.95; ● APS 1-0709, $7.95.
This intriguing Irish-flavored rock music is intelligent, sensitive, and compelling. Horslips deserves serious consideration. H.E.

GAYLE MCCORMICK: One More Hour. FANTASY F 9467, $6.98.
Everything an album should not be. Ms. McCormick could be a perfectly all-right singer. Arrangements by Jimmie Haskell mechanical and dull; songs and treatments stale and trite; production by Joe Porter useless; and engineering by John Mills and Dave Hassinger positively distressing. M.A.

the tape deck BY R.D. DARRELL

Optimum Quadriphony: The Reel McCoy. Since 1971–72, the vigorous propaganda battles over the relative merits of the two major quadriphonic disc systems have tended to obscure the plain fact that it was tape that not only pioneered with quadriphony in 1969, but that still excels—and will for the likely future—as its ideal medium. Yet for most home listeners taped quadriphony has been known only in the Q-8 cartridge format, one handicapped partly by its ineffectual debut in 1970, partly by the relatively slow progress made in eight-track, 3¾-ips technology, but mainly (where large-scale classical works and home rather than mobile listening are involved) by the jolting playback-head shifts between "programs" that are unavoidable in any endless-loop format.

Four-channel open reels, on the other hand, have the marked advantages of a wider track, higher speed (7½ ips), and far longer uninterrupted playing time. They also have the mixed advantages of semicompatibility: Conventional stereo reel machines can reproduce the two front channels of Q-reels (generally doing satisfactory justice to recordings in which the rear channels contain ambience-only materials); while Q-reel machines can of course be switched for normal frontal-stereo playback of conventional four-track stereo reels. The major inevitably counterbalancing disadvantage is that, since all four tracks are used simultaneously in fully discrete four-channel recording and playback, Q-reel programs run in one direction only and, like the original two-track stereo reels of 1956–59, must be rewound before replaying. As a consequence, they demand twice the tape-length of a stereo-only program—and of course cost more.

Then a further, if only temporary, disadvantage is that the *classical* Q-reel repertory is still extremely limited, especially in comparison with that of Q-8 cartridges. Nevertheless, the Q-reel pop repertory has been showing promisingly accelerated growth, and it seems sure that the classical catalogue—long confined almost exclusively to the pioneering Vanguard contributions but since 1973 markedly expanded by Stereotape/Magtec processings of RCA and Nonesuch programs—will follow suit.

Such considerations long have dampened my own hankering to invest in a Q-reel player so I can hear and write about quadriphony in its ideal format. But finally that hankering, sharpened by the need to replace my well-worn Ampex 1165, has practically forced me to purchase a Q-reel successor (Sony TC 277-4), and thus I have expanded my world of quadriphony that was hitherto confined to Q-8 cartridges. And while I should perhaps postpone still further my first Q-reel reports until I gain longer and wider experience (several expected Vanguard and Ampex releases haven't yet reached me), I'm far too impatient to wait any longer.

Setting Up and Squaring Off. As with any kind of quadriphonic playback, some kind of check, balance, and demo materials are essential. Those I'm using are the superbly convenient and comprehensive ones in the Project 3/Popular Science PR4C 401, Q-reel, $11.95. The contents are identical to those in the companion PRQ8 401 cartridge praised here last October, but they are even more impressive technically for their frequency-range and transients-crispness characteristics, as well as expectedly far more convenient for the instant-replay capability (lacking in the endless-loop cartridge edition) often needed for certain tests—the channel-phasing ones in particular.

Even more spectacular technically is the far briefer and less comprehensive "Sound of Space" demo (QRS 1, Q-reel, $12.75) from the newcomer Ambiphon Records, 1 Riverdale Avenue, Bronx, New York 10463. It includes 4½ minutes of speed, frequency, balance, and location alignment tests (which also preface Ambiphon's several other initial releases of piano-recital programs by Natalie Ryshna) plus 14 minutes of high-pressure propaganda for the miracles of quadriphonic sound, with organ, piano, and mono/stereo/quad illustrations. The technology, especially in dynamic range, is fabulous, but the blurbs are pretentiously overinsistent, and the price—for just a 19-minute tape—is high. Yet last fall's high fidelity show exhibitors made much of this deluxe demo, so perhaps well-heeled audiophiles will too.

Blowing Out One's Listening-Room Walls. No Quadradisc playback possibly can do full justice to two Ormandy/Philadelphia programs: Bach's "Greatest" Fugues and Shostakovich's Symphony No. 15 (RCA/Stereotape ERQ 1-0026 and 1-0014, Q-reels, $11.95 each). The Bach, with seven mostly familiar organ fugues transcribed by Arthur Harris, is probably the most sensational sonic spectacular to date. I can't defend either its arranger's inflations or the conductor's melodramatizations, but the awesome sonorities—in quadriphony heard from a kind of front-and-sides horseshoe-shaped sound stage—are imperiously spellbinding. Ignore the ridiculous moments, if you can, and be swept away by the sublime ones, as in most of the S. 552 *St. Anne* Fugue and the first halves at least of the "little" G minor S. 578 and C minor S. 549.

The delectably playful, possibly autobiographical Shostakovich Fifteenth has been widely and justly praised elsewhere for its fancifulness, even waggishness, and for the general quadriphonic effectiveness of its Quadradisc edition. But here that effectiveness is markedly enhanced (free from the source-location ambiguities noted by Robert Long, as well as from the disc side break in the second movement), while the tonal qualities, which struck me as somewhat hard and overclose in the stereo-only cartridge edition, truly represent the Philadelphians at their matchless best.

Uncribb'd, uncabin'd, unconfin'd. Quadriphony isn't necessarily synonymous with specularity and bigness. Witness the quieter moments of the Bach and Shostakovich programs—and everything in the bewitching "Western Wind" program (Nonesuch/Stereotape NSTQ 1276 QC, Q-reel, $8.95) of extraordinarily eloquent (and at times unexpectedly sensual) early New England anthems by Morgan and Billings, plus nine briefer examples of often quite touching Southern folk hymns. The one to eight singers, sometimes unaccompanied, sometimes backed by one to four instrumentalists, seem to be spread out mainly in front, but there is enough reflected sound from the rear, and indeed all around, to evoke a haunting country-church ambience that is of course just right for the music.

From such musical "primitivism" to the sophistication of Beatles tunes in quasi-symphonic dress is an easy jump in quadriphony. In Enoch Light's remarkable "Beatles Classics" (Project 3 PR4C 5084, Q-reel, $11.95) the all-star orchestral playing alone would make the here-uncredited, highly ingenious arrangements arresting in any medium. (I particularly relish the Handelian *Michelle*; Bachian—or is it Vivaldian—*Eleanor Rigby*; *Hey, Jude* in Ravelian bolero style; and a *With a Little Help*, surely inspired by Beethoven's Seventh Symphony.) But the special values of these ultrabrilliantly played and recorded divertissements are their searching exploitations of taped quadriphony's unique potentials of complete channel independence. Such absolute channel separation/differentiation is still well beyond the powers of Q-disc systems—SQ, CD-4, or any other—to match. And while it's unneeded for, and indeed usually would be quite alien to, most classical music in the standard repertory, it holds immense promise for present-day experimentally minded "serious" composers as well as pop arrangers. At any rate, it's utterly fascinating when capitalized upon as imaginatively as it is in this Q-reel of "Beatles Classics." ◉

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...worked its way to the second floor where my Marantz 2270 was, and finally engulfed the third floor. The floors collapsed and fell into the basement where the Marantz remained buried in debris and water until March when the wrecking company came.

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Out of sheer curiosity, I brought the damaged receiver up to my apartment and after attaching a new line cord to it, I plugged it in. All the blue lights turned on. I connected a headphone and the FM played perfectly. I then tested it with my tape deck, and finally the turntable and speakers. They all played perfectly, too.

Francisco Espina*
Newport, Rhode Island

Unretouched photograph.

Mr. Espina's Marantz 2270 receiver **still meets factory specifications.** We design all Marantz equipment to perform under extreme conditions for unmatched reliability year after year after year. Like the new Marantz 2275—even better than its incredible predecessor. See the complete line of Marantz receivers, components and speaker systems at your Marantz dealer. He's in the Yellow Pages.

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CIRCLE 43 ON READER-SERVICE CARD

Why nearly every record player is like a car that doesn't steer straight.

If you've ever driven a car with badly aligned front wheels or a defective steering mechanism, you know what we're talking about.

It's a queasy feeling when you can't make the car point in the same direction as the road is pointing.

There happens to be a distinctly comparable problem with record players, except that it's a nearly universal deficiency, not just a malfunction.

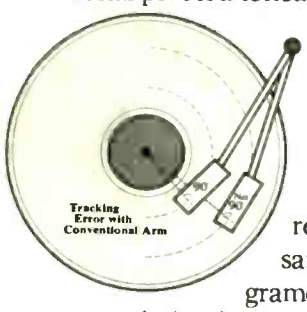
Of course, in this case there's no human life at stake, only the fidelity of the reproduced sound. And sometimes the life of the record.

Like a car, the phono cartridge (or pickup head) should point where it's going. Right down the middle of the groove. Not at an angle to it.

A more scientific way of saying the same thing is that the head should remain perpendicular to the line drawn through the stylus tip and the turntable spindle.

Any deviation from this ideal is known as tracking error. It's measured in degrees and it causes distortion. Inevitably.

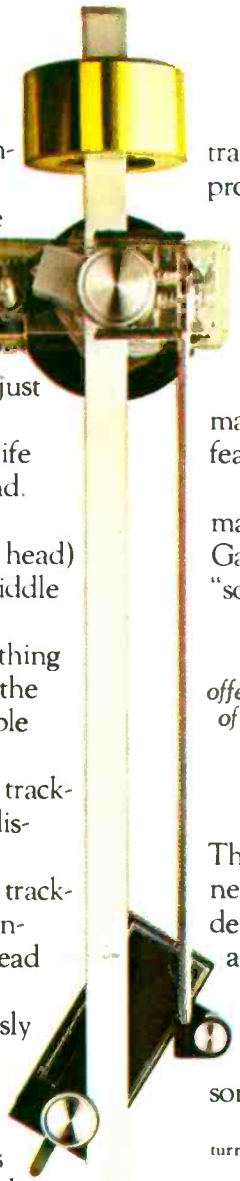
The trouble is that there's no way to avoid tracking error and the resulting distortion with any conventional pivoted tonearm. Why? Because the head swings in an arc and is therefore at a continuously changing angle to the groove as it travels across the record.



The problem has remained fundamentally the same since the Emile Berliner gramophone of 1887. It has been minimized, thanks to improvements in tonearm geometry, but it hasn't been eliminated.

With one important exception.

In the current line of Garrard automatic turntables, the top models are equipped with Garrard's unique Zero Tracking Error Tonearm.



This remarkable invention ends tracking error once and for all. The head is always properly lined up with the groove because it's hinged instead of fixed and keeps adjusting its angle during play. A simple idea, yes, but the engineering details took the world's leading manufacturer of turntables seven years to perfect.

The Zero Tracking Error Tonearm is a major technological coup, not just a glamour feature. You can hear the difference.

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"It probably is the best arm yet offered as an integral part of an automatic player."
—High Fidelity Magazine

It's true. Just like a car that doesn't steer straight, tracking error can make a nasty sound.

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Ask your nearest Garrard dealer about the Zero Tracking Error Tonearm.

It's absurd to tolerate a problem that somebody has already solved.

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CIRCLE 22 ON READER SERVICE CARD