SPECIAL SPEAKER ISSUE

10 Spectacular Records to Judge Speakers By

High Efficiency
Or Low?

/ to Choose speakers for
idraphonics
THE FISHER PHILOSOPHY OF EQUIPMENT DESIGN. PART 6.

THE PRAGMATIC APPROACH TO LOUDSPEAKERS.
Loudspeakers are fundamentally different from all other high-fidelity components. All the others are designed to produce an electrical output signal. Loudspeakers are designed to produce sound waves.

This fundamental difference necessitates a modification of the Fisher philosophy of the "balanced component" when applied to speaker systems. A receiver, for example, raises the question of how the money should be split among a number of costly electrical performance requirements to achieve an optimally balanced design at a given price. A speaker presents a completely different problem because there is really only one requirement: fidelity of sound. Fisher would never consider a trade-off in fidelity against other costs in speaker design.

It must not be automatically assumed, however, that there is a direct relationship between speaker fidelity and engineering cost. Theoretically, the ideal loudspeaker should be an exceedingly simple device. The physicist's mathematical model of the perfect loudspeaker is a pulsating sphere, with every point on its surface moving simultaneously, in or out, in exact phase with the input. If no response is required directly above or below the speaker, as in a listening room, the model could change to a pulsating cylinder. In either case, there would be only a single, continuous diaphragm, producing a coherent, "seamless," one-to-one sonic replica of the input signal. Certainly not a complex ideal to strive for.

In real life, of course, things are not so simple. Real-life materials have mass and limited stiffness. Real-life rooms are reverberant. Real-life cabinets must be sensible in size and shape. And so on. Despite all theoretical striving toward simplicity, the flattest response and lowest distortion in real life have always been obtained with relatively intricate multi-driver systems having several highly specialized diaphragms. It is, at best, a rather ambiguous business, with little room for dogmatism or oversimplification.

For these reasons, Fisher tries to be pragmatic and maintain an attitude of the utmost flexibility in approaching the problems of speaker design. We say yes to anything that makes a speaker sound better within the allotted budget. We say no to anything that only makes a speaker "better." When you buy a Fisher speaker, you are buying sound, not an academic exercise in loudspeaker theory.

Are there any fixed principles or practices at all, then, that apply across the board to all Fisher speaker designs? There are a few:

1. **The acoustic suspension principle** is used in all systems, regardless of size or price. (See Fig. 1.) Woofers are tightly sealed in heavily braced enclosures and air leaks are stringently controlled in production. We believe that no other method results in equally deep and flat bass response nor in comparable bass transients.

2. **All woofers** have extremely compliant surrounds as well as unusually long voice coils. (Fig. 2). Nothing is allowed to interfere with completely linear piston excursions.

3. **Every effort** is made to make Fisher speakers more efficient than comparable models in competitive lines. Although efficiency is unrelated to fidelity, it can mean the difference between marginal and adequate volume where amplifier power is limited. Fisher achieves increased efficiency the expensive way, with huge magnets, rather than by narrowing the gap widths to the point of unreliability.

4. **Dome-type tweeters** are used wherever possible because of their superior dispersion characteristics. The patented Fisher soft-dome construction (Fig. 3) eliminates all possibility of resonances and the resultant coloration of high frequencies.

5. **Crossover networks** are designed with sharp-cutoff bandpass filters to keep woofers from tweetering and tweeters from woofering.

6. **Step-type midrange and tweeter controls** are used wherever possible, to make 3 to 4 dB level changes precisely resettable at all times.

Other than these guidelines, which are basically nothing more than engineering common sense, we have no set rules, no "party line" when it comes to designing a new speaker. After we have a certain size and a certain cost in mind, we keep experimenting with a number of approaches until we believe we have something better than anybody else.

Sometimes we don't stop even then.

---

**FISHER**

*We invented high fidelity.*

---

The next ad in this series will explain in detail the Fisher philosophy of 4-channel design. Don't miss it! But just in case you do, you may want to get on the mailing list for a free reprint of the entire series. To obtain this valuable booklet, write to Fisher Radio, Dept. HF-6, 11-44 45th Road, Long Island City, N.Y. 11101.
Choosing the wrong cartridge for a record player is like putting the wrong motor in these cars.

Each of these cars has its own fine motor.

But, it would be unwise to expect the lower horsepower engine to efficiently drive the larger vehicle. And, it would be silly to use the higher horsepower engine for the smaller car.

It's the same with cartridges. In fact, a cartridge that's great for one record player could be disastrous for another. How then can you be certain you are playing your records with the right cartridge? The answer is simple.

There is a Pickering XV-15 DCF-Rated Cartridge for the most simple to the most complex playback equipment! We have taken virtually every high fidelity record player and pre-analyzed the vital engineering variables affecting cartridge design, so that no matter what equipment you own or plan to purchase, you can get an XV-15 cartridge exactly right for it.

If you're concerned about improving your reproduction, we refer you to our handy DCF guide shown below. (Why not clip it out for handy reference?)

Every Pickering XV-15 cartridge features the exclusive DUSTAMATIC® brush that sweeps record grooves clean to insure cleanest sound.

If you'd like a DCF guide for a friend or additional information on Pickering cartridges, write Pickering & Company, Inc., 101 Sunnyside Boulevard, Plainview, N.Y. 11803.

Cut out this handy DCF Guide.

<table>
<thead>
<tr>
<th>IF YOU OWN</th>
<th>MODEL NUMBER</th>
<th>ELLIPTICAL</th>
<th>SPHERICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acoustic Research</td>
<td>XA</td>
<td>750, 400</td>
<td>350</td>
</tr>
<tr>
<td>Benjamin Miracord</td>
<td>501, 750, 770H</td>
<td>750</td>
<td>350</td>
</tr>
<tr>
<td>Dual (United Audio)</td>
<td>7219, 1209, 1019, 1215, 1015, 1015F, 1218</td>
<td>750</td>
<td>350</td>
</tr>
<tr>
<td>Fisher</td>
<td>502, 402</td>
<td>200</td>
<td>150</td>
</tr>
<tr>
<td>Garrard (British Industries)</td>
<td>SL91B, SL95, SL75B, Zero 100</td>
<td>750, 400</td>
<td>350</td>
</tr>
<tr>
<td></td>
<td>SL71, LAM80MK11, LAM80</td>
<td>400</td>
<td>350</td>
</tr>
<tr>
<td></td>
<td>SL72B, 70MK11, A70, 60MK11, SL65B, SL65, SL55B, SL55, SF20B, SF20, A, AT60, AT6</td>
<td>200</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>40, 40B, 50MK11, 50, 40MK11</td>
<td>140</td>
<td>100</td>
</tr>
<tr>
<td>Lenco</td>
<td>L-75</td>
<td>750, 400</td>
<td>350</td>
</tr>
<tr>
<td>McDonald (BSR)</td>
<td>810</td>
<td>400, 610, 500A</td>
<td>350</td>
</tr>
<tr>
<td></td>
<td>710, 500, 400, 310</td>
<td>200</td>
<td>150</td>
</tr>
<tr>
<td>Pioneer</td>
<td>PL 30</td>
<td>140</td>
<td>100</td>
</tr>
<tr>
<td>Rabco</td>
<td>ST-4</td>
<td>750</td>
<td>350</td>
</tr>
<tr>
<td>Sony</td>
<td>TTS 3000, PS 1800A</td>
<td>750</td>
<td>350</td>
</tr>
<tr>
<td>Thorens</td>
<td>TD 125</td>
<td>750</td>
<td>350</td>
</tr>
<tr>
<td></td>
<td>TD 125A, TD 124</td>
<td>400</td>
<td>350</td>
</tr>
</tbody>
</table>

All Pickering cartridges are designed for use with all two and four-channel matrix derived compatible systems.

CIRCLE 48 ON READER-SERVICE CARD
Do Americans Prefer Distortion?

A few months ago a group of American audio dealers and writers visited a European speaker manufacturer's plant. The manufacturer demonstrated his new bookshelf speaker, the essentially flat bass response of which was the pride of his engineering department. One Los Angeles dealer was unimpressed. The speaker simply wouldn't do for his rock-oriented customers. The bass didn't have enough "zonk." "Come back after lunch and we'll show you something," said the manufacturer. Two hours later the group returned for a second demonstration. This time the Southern California gentleman beamed. "I don't know how they did it, but the bass really has it now! This is among the best-sounding speakers I've ever heard for rock."

What had the engineers done to "improve" the speaker? They had spent their lunch hour adding distortion by increasing the system's resonance to produce a bass peak. The manufacturer explained that this certainly lowered the quality of the speaker. "But if that's what you Americans want, we can make it."

Do Americans want distorted sound from their speakers? Do we want boomy bass or bleating highs, because they have more "zonk"? During the early days of high fidelity, a great many people preferred their old distortion-producing systems to the new technology because that is what they had been used to. One joke of the time had a record collector attending his first live concert and complimenting the cellos and double basses were producing too much distortion. A cartoon showed a conductor asking his flutes to produce "more highs." But hasn't there been enough high-quality sound reproduction over the past generation for anyone's ears to have gotten used to decent recorded music in the home?

Apparently not, for during the past decade there has been a proliferation of "live" concerts, primarily of rock music, where the sounds in a hall are predominantly those generated through speakers. And as often as not, those speakers are LOUD, and attached to electric musical instruments and amplifiers that have been designed to add the "zonk" of distortion. But here we come to the paradox. In the home, if you want the distortion to be reproduced as the musician has added it, you need a system without its own distortion. On the other hand, if the recording does not feature distortion, a cheap system can give you the same experience you may have had at a rock concert, while a good system will be "too faithful" to the sound of the recording. What had the engineers done to "improve" the speaker? They had spent their lunch hour adding distortion by increasing the system's resonance to produce a bass peak. The manufacturer explained that this certainly lowered the quality of the speaker. "But if that's what you Americans want, we can make it."

Next month we will have a special issue devoted to "MOVIE MUSIC." Included will be two articles by our new contributing editor Miles Kreuger: THE BIRTH OF THE AMERICAN FILM MUSICAL, in which you will learn that Elwood's The Jazz Singer was not the first talkie, and THE DUBBERS BEHIND THE STARS, which reveals the names of all those anonymous singers whose million-seller albums implied they were Natalie Wood or Christopher Plummer. Academy Award-winning film composer Elmer Bernstein will discuss THE DECLINE OF THE ART OF BACKGROUND MUSIC, a Hollywood sound engineer will tell you WHY SOUNDTRACK ALBUMS DON'T SOUND SO GOOD, a soundtrack album collector will expose which of your SOUNDTRACK ALBUMS MAY BE WORTH OVER $200, and Gene Lees will polemicize—as usual—on the film composers' recent strike in THE DAY THE MUSIC STOPPED.
Twelve years — Five major advances

The twelve years of university research that led to the design of the BOSE 901 and BOSE 501 DIRECT/REFLECTING® speaker systems revealed five design factors which optimize speaker performance:

1. The use of a multiplicity of acoustically coupled full-range speakers — to provide a clarity and definition of musical instrument sounds that can not, to our knowledge, be obtained with the conventional technology of woofers, tweeters and crossovers.

2. The use of active equalization in combination with the multiplicity of full-range speakers — to provide an accuracy of musical timbre that can not, to our knowledge, be achieved with speakers alone.

3. The use of an optimum combination of direct and reflected sound — to provide the spatial fullness characteristic of live music.

4. The use of flat power response instead of the conventional flat frequency response — to produce the full balance of high frequencies without the shrillness usually associated with Hi-Fi.

5. Acoustical coupling to the room — designed quantitatively to take advantage of adjacent wall and floor surfaces to balance the spectrum of radiated sounds.

To appreciate the benefits of these five design factors, simply place the BOSE 901 directly on top of the largest and most expensive speakers your dealer carries and listen to the comparison.

You can hear the difference now.
Artistic Defiance

In your March issue, I was most interested to read your reply to the letter from Garry Margolis regarding Barlow's resolution to UMZE on the necessity for freedom in the arts, to the exclusion of government interference: also, the "Musical America" review by Royal S. Brown in regard to the tremendous ovation given Mstislav Rostropovich after his Paris concert with the Orchestre de Paris.

Last May, my husband and I visited the Soviet Union, and while in Moscow attended a concert at Tchaikovsky Hall where Tortelier performed the Saint-Saëns cello concerto. He received such a tremendous ovation after his performance that he returned to play an encore which he announced would be a work written by his great friend, the artist whom he considered today's finest living cellist, Rostropovich! (During this period, Rostropovich was still in great disfavor with his government because of his open friendship and support for Solzhenitsyn.)

There was a moment's silence, after which the audience, composed mostly of Russians, rose to their feet and spontaneously broke into the rhythm applause that is traditional in Russia when hearty approval is manifested. Much electricity was in the air as Tortelier played a lovely, lyrical aria, and when he finished, Tchaikovsky Hall resounded with another tremendous burst of applause—for his performance—but especially for Rostropovich. We could only interpret this response as a moment's defiance sparking an audience in an environment where art should be, but is not free.

Incidentally, while in Russia, we inquired at several record shops for recordings of either Rostropovich or his wife, Galina Vishnevskaya. Russia's great soprano. While there are huge stocks of recordings of all the "acceptable" artists in the Soviet Union, the answer was simply Nyet.

The "New" Tchaikovsky Concerto

I found Michael Ponti's discussion [March 1972] of the "new" Tchaikovsky piano concerto interesting and yet in some respects confusing, since it appears to be inconsistent with what was said on the subject by Peter G. Davis in the May 1965 issue ["Notes From Our Correspondents"]. In a discussion of the then-soon-to-be-released recording of the Third Concerto by Graffman and Ormandy, Davis questioned Graffman on the subject of the Andante and Finale but found that the pianist was equally mystified concerning its status. Mr. Davis then went on to say, "Unexpectedly, a solution to the problem was not long in coming. Visiting the Graffmans that very evening was their close friend Russian pianist Yako Zak. As I heard later, Mr. Zak settled the matter by explaining that the Andante and Finale was an arrangement by Sergei Taneyev of Tchaikovsky's discarded sketches for the concerto. More Taneyev than Tchaikovsky, these two movements are never played in Russia" (italics mine).

Mr. Davis later noted that Tchaikovsky himself "was satisfied with the Third Concerto as it stood: he thought of it as a one-movement Konsertstück." Both of these points appear to be negated in Ponti's discussion, wherein he writes "this work which Tchaikovsky himself was not completely satisfied with..." (italics mine).

We can let Ponti and Davis argue over whether Tchaikovsky was or was not satisfied with the Third Concerto in its one-movement form. The more serious contradiction, to my mind, is implied by Ponti's comment that the Soviet conductor Kondrashin "mentioned that he thought the Tchaikovsky Third Concerto, in its three-movement form, was even better than the Second." The clear implication is that the three-movement version—far from going unplayed in the Soviet Union—has now been accepted as valid, and the composer's wishes be damned. I used to think that Tchaikovsky was venerated as a god in Russia, but if this revelation is any criterion (not to mention the recent sacrilege in which the Soviet anthem was substituted for the Tsarist anthem in a performance of the 1812 Overture on Melodia), this impression is no longer an accurate description of Tchaikovsky's status among the Soviets. I hope that someone can authoritatively state at this time whether the Third Concerto is really in one or three movements as far as current Soviet musicology is concerned.

Please inform reviewer Harris Goldsmith that Graffman's recording of the Second Piano Concerto is based on the Siloti revision only in the middle movement, which is really a triple concerto with extended passages for solo violin and cello as well. In the outer movements, Graffman plays Tchaikovsky's original score. Personally, I feel this is inconsistent. It would have been better if Graffman had stuck to the original version throughout, but Columbia probably felt that they would not have been able to get the Third Concerto on the disc if he had! (In Davis' article cited earlier, Graffman noted that he was prepared to play either version, so I assume the decision was in fact Columbia's).

Steven J. Halle
Detroit, Mich.

In writing about his rediscovery and performance of the Tchaikovsky Third Concerto, Vishnevskaya and Rostropovich

Nyet for the soprano's recordings, applause for the absent cellist.

Russian Musical Gaps

Michael Ponti suffered a memory slip as he has never, to my knowledge, committed on the concert stage. The conductor for his first public performance of the work in Seoul, Korea was not David Epstein but David Shapiro. I reviewed this concert and can testify that there was no one named Epstein involved.

Mr. Shapiro was on a five-month visit to Korea as a Fulbright lecturer, his fourth visit to this country, where he has directed a number of operatic, symphonic, and chamber performances and taught widely. His Seoul Philharmonic concert with Ponti as soloist took place late last October.

James Wade
Seoul, Korea

Mr. Wade is correct, and our apologies to Mr. Shapiro. The error was not made by Ponti but by a Boston-reared typist. Wanted: Repairs By Mail

Repairs of quality equipment seem to be unavailable at any price. Ask a repairman to produce 0.1% THD from an amplifier capable of it and he will tell you, "No one can hear distortion under 2 or 3%..." plus suggestions that you are a crank. Yet why buy equipment capable of low distortion and not be able to get it?

I suggest that somewhere, open a repair service for national repairs by mail where one may obtain quality work and performance verification tests (distortion, power, etc.) as well as the reconditioning of old or discontinued equipment. It's a service that is desperately needed.

Donald Bistee
Columbus, Ohio

The service industry does often seem disastrous unsatisfactory from the high fidelity point of view. One standard complaint, however, is that most warranty agreements require shipping defective equipment to an authorized serv-
HERE IS THE WORLD'S ENTIRE SELECTION OF AUTOMATIC TURNTABLES WITH ZERO TRACKING ERROR.

There they are. All one of them. Garrard's Zero 100, the only automatic turntable with Zero Tracking Error.

Not that there haven't been attempts by other turntable makers. Many have tried. This is the first to succeed. And it has succeeded brilliantly. Expert reviewers say it's the first time they've been able to hear the difference in the performance of a record player...that the Zero 100 actually sounds better.

It's all because of a simple but superbly engineered tone arm. An articulating auxiliary arm, with critically precise pivots, makes a continuous adjustment of the cartridge angle as it moves from the outside grooves toward the center of the record.

This keeps the stylus at a 90° tangent to the grooves. Consequently tracking error is reduced to virtual zero. (Independent test labs have found the test instruments they use are incapable of measuring the tracking error of the Zero 100.) Theoretical calculations of the Zero 100's tracking error indicate that it is as low as 1/160 that of conventional tone arms.

Zero tracking error may be the most dramatic aspect of Zero 100, but it has other features of genuine value and significance. Variable speed control; illuminated strobe; magnetic anti-skating; viscous-damped cueing; 15° vertical tracking adjustment; the patented Garrard Synchro-Lab synchronous motor; and exclusive two-point record support in automatic play.

The reviewers have done exhaustive reports on Zero 100. We believe they are worth reading, so we'd be happy to send them to you along with a 12-page brochure on the Zero 100. Write to us at: British Industries Co., Dept. F22, Westbury, N.Y. 11590.

GARRARD ZERO 100
$199.95
less base and cartridge
ice center—a process a great many readers seem to find objectionable. Other than that, we would welcome any truly crackerjack repair service, although overhead being what it is in the service industry, we suspect that charges for the kind of in-depth bench work envisioned by Mr. Bisbee could be discouragingly high.

Super Sills

After reading Dale Harris' review of the Sills Traviata [March 1972], I was once again disappointed by the misplaced criticism that I have found to be prevalent in many recent reviews of operatic recordings. Mr. Harris implies that Sills' supposed lack of "amplitude" for Verdi's grand melodic arias is a problem totally unique with her and her alone. This is hardly the case. There has never been a Violetta, in my memory, who has handled all of the part's varied and complex demands with equal brilliance and comfort. Some sopranos are splendid once "Sempre libera" is over, while others achieve distinction only in the role's coloratura pyrotechnics. Perfection eludes all recorded Violettas, and were the enclosure used by the joy of this opera, the joy derived from comparing the myriad facets of personality and voice that each performer individually imparts to the role would be gone.

Why condemn Sills' Violetta just because of her supposedly inadequate rendition of "Amami, Alfredo?" That phrase may be a second-act climax, but the whole opera doesn't depend on it, and there is not a phrase of similar difficulty for a voice like Sills' anywhere else in the opera. The rest of the performers may have their flaws, but Violetta is what really matters and I feel that not only Sills but other singers as well should have better and more just representation in reviews of their operatic performances.

George Donaker
West Palm Beach, Fla.

In reviewing the Sills recording of Maria Stuarda [March 1972] Dale Harris states: "But in this Maria Stuarda she sings with greater security than she has commanded for some time. On the whole her line is fairly taut and her upper register is free and firm. After so many recent disappointments from Sills, it is a pleasure to hear her intelligence and control again matched by vocal control of this sort..."

I would appreciate it if Mr. Harris would elaborate on these many recent disappointments from Sills. Contrary to Mr. Harris, I have found each Sills recording to be an example of consummate vocal artistry.

Geraldine Segal
Baltimore, Md.

Mr. Harris replies: With reference to Miss Segal's question, what I was referring to is the kind of slapdash effort to be heard on Sills' Mozart/ Strauss recital and "Welcome to Vienna" albums. In both of these the voice palpably tires—especially when Miss Sills's own standards. Moreover, the artistic preparation sounds negligible. The atmosphere of carelessness can be discerned on almost every track.

With reference to Mr. Donaker's letter, La Traviata is a different matter. It has obviously been serenely prepared, and in my opinion falls short because Sills is not vocally equipped to create a successful characterization. Anyone who heard Maria Callas at La Scala in the mid-1950s (with Ivano Scurti and Battista, under Giulini) will know that a great Violetta is not in-compatible with serious vocal imperfections. At that stage of her career, however, Callas held voice and artistry in a marvelously effective balance, and succeeded in creating an unforgettable portrait of Violetta. She was vital, vulnerable, and extraordinary moving. Sills, in my opinion, is not. In the recent Angel album she is at the mercy of her vocal limitations, not as Callas was, the mistress of them.

Test Reports Reviewed

Your equipment articles and reports are excellent except for the omission of certain information that should be made available to the consumer. The reports on speaker systems, for example, rarely discuss the driver units employed, wiring diagrams, or features inside the cabinet if of unusual design.

The report in the February 1972 issue on the Harman-Kardon Citation Thirteen, one of the best available assembled speaker systems, is an example. The cabinet contains an adaptation of the double-tuned enclosure used by the BBC and Quad, among others, years back, and was thoroughly described by George Augspurger [until recently] of J. B. Lansing in an article published in Electronics World. December 1961. This system contains something that may be considered new. It employs the high fidelity speaker units made by Philips in Holland, except for the midrange drivers. Three high-performance Philips speakers have been available in middecent U.S.A. for approximately two years and they are very reasonably priced.

An equipment review should be given where credit is due. It is assumed that the evaluator had knowledge of the above and should have included them. If not, he should have been more inquisitive and opened the box to see what made it tick.

Herman E. Johnson
Alamo, Calif.

If the test reports on new equipment are meant only for electronics engineers, hi-fi freaks, and those with a background of technical knowledge, then I am out of line. But I do not want to have to go back to school to interpret the test reports.

Bernard Reiser
Winter Park, Fla.

These letters illustrate the extremes between which we try to see: the Scola of in-group technicalia, and the Charybdis of oversimplification. In preparing our test reports we attempt to answer two questions in particular. First, what is the product—what will it do, and how well will it do it? Second, what technical or practical considerations will influence the way it fulfills its functions, either alone or in combination with other equipment? The means employed to make it do its job are distinctly less important to us (and to readers like Mr. Reiser), and therefore we would answer Mr. Johnson's point about giving credit where credit is due by saying that the specifics chosen by Harman-Kardon in producing the Citation Thirteen are less important in this respect than the relationship as embodied in the final design. Hence it is H-K that deserves (and was given) the credit.

On the other hand, our reports can't attempt to explain the practical importance of each mea-

Music, that is.

All kinds of music—best of rock, pop, Moog of the classics.

There's a size and price of Bozak for everyone, from $49.50 to $424.00. Hear them, or write for our catalog with the whole story.

Bozak, Box 1166, Darien, Conn. 06820
Please send me your Catalog.

Bozak

Box 1166-H
Darien, Conn.
06820

Name
Address
City
State
Zip
It really comes alive...

It would be silly to ask if you dig real live sound. Of course you do. The same holds true for quality — for things that are really made, and really perform.

Our objective in developing the B-301 (Tempo 1) was to give you the best, most lifelike sound obtainable, in a well-engineered, well-constructed bookshelf system. The fact that performance fully met expectations, and that we could furnish full-fledged BOZAK construction quality for a modest price, were the real measures of its success.

The BOZAK B-301 is a three-way system based on a long-throw, high-compliance bass driver with a solid low-bass response. The high-compliance midrange unit with its well-damped aluminum cone was developed especially for this loudspeaker system: its clear definition, or transient response, is remarkable and we know of no other that can equal it. The latest version of the BOZAK high-frequency driver, originally introduced over twenty years ago, is highly regarded for its wide dispersion and silky-smooth response. All three drivers are of standard BOZAK quality — sturdily constructed, with generous magnet structures and unique BOZAK-made cones assembled on solid cast frames.

You will have to compare this speaker system to really appreciate it. And its price is very modest — especially for a real BOZAK!

the facts:

Bass Speaker: 12" high-compliance, long-throw/Midrange: 4½", with 2¾" damped aluminum cone on high-compliance suspension/Treble: 2", with foam-damped diaphragm and wide dispersion/Crossovers: 1200 and 3600 Hz

Frequency Response: 40-20,000 Hz
Impedance: 8 Ohms/Power Handling: 40 Watts
Program average/Acoustical-Environmental Switch:
3-position/Enclosure: oiled walnut, 14½" x 23½" x 11½" deep
Grille: snap-out/Weight: 40 pounds.

Bozak, Darien, Connecticut, 06820
Overseas Export by Elpa Marketing Industries Inc., New Hyde Park, New York, 11040, USA
Ever wondered why records seem to have less dynamic range than live performances? Commercial record producers typically sacrifice as much as 20 db of dynamic range through compression (for reasons we explain in our literature).

The dbx 117 Decilnear Expander restores up to 20 db of the dynamics missing from records, tapes, and FM broadcasts. The Model 117 also lets you make professionally noise-free, full range recordings on even a modestly priced tape recorder.

Write for full product specifications on the dbx 117 and copies of professional reviewers' reports. dbx, Incorporated. Harvard, Massachusetts 01451

dbx 117 expansion gives your records 20 db more dynamic range

dbx inc.

CIRCLE 16 ON READER-SERVICE CARD

LOWEST AIR FARES TO EUROPE

Icelandic Airlines

LOWEST AIR FARES TO EUROPE

Thingvellir, where Iceland's parliament was founded in the year 930 A.D.

The unphotographed country. Hurry!

Here where the air is clear as a lens, you get pictures never seen before. Fjords, geyser, waterfalls, volcanic islands. Whaling stations. Farm and fishing villages. The Uninhabited Areas. Even the names are magic. Thingvellir. Langjokull. Sigulfjordur. You'll find birds like the Great Skua. And a people descended from the Vikings. This is Iceland, the unphotographed country. Stopover Tours for Siglufjordur. You'll find birds like the Great Skua. And a people descended from the Uninhabited Areas. Even the names are magic. Thingvellir. Langjokull.

Here where the air is clear as a lens, you get pictures never seen before. Fjords, geyser, waterfalls, volcanic islands. Whaling stations. Farm and fishing villages. The Uninhabited Areas. Even the names are magic. Thingvellir. Langjokull. Sigulfjordur. You'll find birds like the Great Skua. And a people descended from the Vikings. This is Iceland, the unphotographed country. Stopover Tours for Siglufjordur. You'll find birds like the Great Skua. And a people descended from the Uninhabited Areas. Even the names are magic. Thingvellir. Langjokull.

The Uninhabited Areas. Even the names are magic. Thingvellir. Langjokull. Sigulfjordur. You'll find birds like the Great Skua. And a people descended from the Vikings. This is Iceland, the unphotographed country. Stopover Tours for Siglufjordur. You'll find birds like the Great Skua. And a people descended from the Uninhabited Areas. Even the names are magic. Thingvellir. Langjokull.

The unphotographed country. Hurry! Here where the air is clear as a lens, you get pictures never seen before. Fjords, geyser, waterfalls, volcanic islands. Whaling stations. Farm and fishing villages. The Uninhabited Areas. Even the names are magic. Thingvellir. Langjokull. Sigulfjordur. You'll find birds like the Great Skua. And a people descended from the Vikings. This is Iceland, the unphotographed country. Stopover Tours for Siglufjordur. You'll find birds like the Great Skua. And a people descended from the Uninhabited Areas. Even the names are magic. Thingvellir. Langjokull.

The reputations of Furtwangler and Walter of course have nothing to fear from such critical feautres. But I am afraid one is trying to build somebody up by tearing somebody else down. Two. I object to referring to any great artist as if he were a disease. Of your critics--Goldsmith again. I think--was recently taken to task for using the phrase "the Bruno Walter syndrome" in this way. Such tactics are cheap, crude, and undignified. If Goldsmith insists on using them, he belongs on the staff of Time or The National Enquirer, not HIGH FIDELITY.

Finally, and what is even more unprofessional, this kind of criticism is noncommittal. I, who have collected a big majority of all the records Furtwangler ever made, can at least see what Goldsmith is getting at: Furtwangler's way of "launching" rather than hitting an attack, which then seems to come a fraction after the metronomic beat. I think any Furtwangler recording of the Beethoven Third or Fifth will show that Furtwangler knew what sforzando meant as well as any man. Goldsmith of course is entitled to his opinion. The point, though, is that I suspect a large percentage of HIGH FIDELITY's readers will be unequainted with Furtwangler and therefore have no idea what Goldsmith is talking about. All they will get from his remark is a vaguely negative feeling about Furtwangler. For them, Goldsmith's review will be the making of a prejudice.

The reputations of Furtwangler and Walter of course have nothing to fear from such critical features. But I am afraid one is trying to build somebody up by tearing somebody else down. Two. I object to referring to any great artist as if he were a disease. Of your critics--Goldsmith again. I think--was recently taken to task for using the phrase "the Bruno Walter syndrome" in this way. Such tactics are cheap, crude, and undignified. If Goldsmith insists on using them, he belongs on the staff of Time or The National Enquirer, not HIGH FIDELITY.

Finally, and what is even more unprofessional, this kind of criticism is noncommittal. I, who have collected a big majority of all the records Furtwangler ever made, can at least see what Goldsmith is getting at: Furtwangler's way of "launching" rather than hitting an attack, which then seems to come a fraction after the metronomic beat. I think any Furtwangler recording of the Beethoven Third or Fifth will show that Furtwangler knew what sforzando meant as well as any man. Goldsmith of course is entitled to his opinion. The point, though, is that I suspect a large percentage of HIGH FIDELITY's readers will be unequainted with Furtwangler and therefore have no idea what Goldsmith is talking about. All they will get from his remark is a vaguely negative feeling about Furtwangler. For them, Goldsmith's review will be the making of a prejudice.

The reputations of Furtwangler and Walter of course have nothing to fear from such critical features. But I am afraid one is trying to build somebody up by tearing somebody else down. Two. I object to referring to any great artist as if he were a disease. Of your critics--Goldsmith again. I think--was recently taken to task for using the phrase "the Bruno Walter syndrome" in this way. Such tactics are cheap, crude, and undignified. If Goldsmith insists on using them, he belongs on the staff of Time or The National Enquirer, not HIGH FIDELITY.

Finally, and what is even more unprofessional, this kind of criticism is noncommittal. I, who have collected a big majority of all the records Furtwangler ever made, can at least see what Goldsmith is getting at: Furtwangler's way of "launching" rather than hitting an attack, which then seems to come a fraction after the metronomic beat. I think any Furtwangler recording of the Beethoven Third or Fifth will show that Furtwangler knew what sforzando meant as well as any man. Goldsmith of course is entitled to his opinion. The point, though, is that I suspect a large percentage of HIGH FIDELITY's readers will be unequainted with Furtwangler and therefore have no idea what Goldsmith is talking about. All they will get from his remark is a vaguely negative feeling about Furtwangler. For them, Goldsmith's review will be the making of a prejudice.

The reputations of Furtwangler and Walter of course have nothing to fear from such critical features. But I am afraid one is trying to build somebody up by tearing somebody else down. Two. I object to referring to any great artist as if he were a disease. Of your critics--Goldsmith again. I think--was recently taken to task for using the phrase "the Bruno Walter syndrome" in this way. Such tactics are cheap, crude, and undignified. If Goldsmith insists on using them, he belongs on the staff of Time or The National Enquirer, not HIGH FIDELITY.

Finally, and what is even more unprofessional, this kind of criticism is noncommittal. I, who have collected a big majority of all the records Furtwangler ever made, can at least see what Goldsmith is getting at: Furtwangler's way of "launching" rather than hitting an attack, which then seems to come a fraction after the metronomic beat. I think any Furtwangler recording of the Beethoven Third or Fifth will show that Furtwangler knew what sforzando meant as well as any man. Goldsmith of course is entitled to his opinion. The point, though, is that I suspect a large percentage of HIGH FIDELITY's readers will be unequainted with Furtwangler and therefore have no idea what Goldsmith is talking about. All they will get from his remark is a vaguely negative feeling about Furtwangler. For them, Goldsmith's review will be the making of a prejudice.

The reputations of Furtwangler and Walter of course have nothing to fear from such critical features. But I am afraid one is trying to build somebody up by tearing somebody else down. Two. I object to referring to any great artist as if he were a disease. Of your critics--Goldsmith again. I think--was recently taken to task for using the phrase "the Bruno Walter syndrome" in this way. Such tactics are cheap, crude, and undignified. If Goldsmith insists on using them, he belongs on the staff of Time or The National Enquirer, not HIGH FIDELITY.
We doubt that anyone will be overly surprised to learn that our newest loudspeaker sounds terrific. Most people really expect KLH to make terrific sounding things. But at $62.50 a piece, our new Model Thirty-Eight delivers an amount and quality of sound that we think will astonish even our most avid fans. The bass response is absolutely staggering; the transient response is flawless; and the Thirty-Eight's overall smoothness matches anything we've ever heard. Most important, you can use a pair of Thirty-Eights with virtually any modestly priced receiver. (What good is an inexpensive pair of loudspeakers that need a $400 receiver to effectively drive them?)

The Thirty-Eights are at your KLH dealer now. After hearing them, we think you'd pay $125 for just one. But $125 buys you two. Which has got to make the Thirty-Eights the biggest stereo bargain since ears.

For more information, visit your KLH dealer or write to KLH Research and Development, 30 Cross Street, Cambridge, Mass. 02139.

The New KLH Model Thirty-Eight. Two for $125.

KLH RESEARCH AND DEVELOPMENT
A Division of The Singer Company

†Suggested east coast retail price. Slightly higher in the south and west. "A trademark of The Singer Company.
Exploring the Offbeat

by Michael Tilson Thomas

ENOUGH HAS BEEN SAID about the difficulties in getting the musical world—whatever that is—to listen to music of great complexity. But there's another kind of limitation people impose upon themselves, one that goes to the other extreme, a kind of snobbery that insists on a minimal level of complexity and seriousness. People will listen to, say, a medieval motet, then dismiss it as uncomplicated and hence unimportant. The same kind of thinking is used against today's composers of minimal music, people like Steve Reich. It's interesting that in the visual arts we don't have such arbitrary strictures. A schematization system employed in the Middle Ages may seem adolescent by today's standards, but this doesn't prevent us from looking at something created within that system and responding to it as something sophisticated and exquisite and enjoyable.

Why then should we deny ourselves the pleasures of old music? Of Dufay, of Josquin, of Machaut? Even of Gregorian Chant: I have always thought that the Liber usualis, with its one-line writing, contained some of the greatest music ever written. And why should we deny ourselves the music of other cultures—Bulgarian folk music, for instance, or types of Asian music? Once attuned to their simplicity of organization, we perceive their great variety in terms of rhythmic possibility, the breathtaking extent of improvisation.

To some extent we seem to be breaking away from our narrowed notions of acceptable music. This is due partly to the greater availability of more materials—through publication and recordings. Among younger listeners especially, it now seems possible to enjoy listening to Gregorian chant or Jimi Hendrix or Stockhausen—but without the implication that you can't equally love a Brahms sextet.

There are fine recordings of old music, especially on Telefunken's Das alte Werk series. But I'd like to draw special attention to something more out of the way—the ethnomusicalological series put out by UNESCO. My favorites among these are the ones of gagaku, and the music of the No theater. Both demand disciplined listening—and in return offer an incredible sensuousness. This is especially true of a piece called Ryoe, which is on one of the gagaku records. The performance is of the most transcendent virtuosity; but what is much more important, it demonstrates the point I've made above: that with simplicity means, much can be done. It uses only four notes, but then goes on to achieve infinite ideas of expression and infinite ideas of organization (including four-and five-voice canons).

Right now I'm on a Bulgarian folk music kick, and have taken great pleasure in the recordings of it on Nonesuch, particularly the album "Village Music of Bulgaria" (H 72034). One of the woman singers is named Balkanska, who's a Bulgarian Grace Slick. Another of my favorite Nonesuch albums is one of Balinese music called "Golden Rain" (H 72028). There are some very beautiful gamelan pieces on Side 1, but on Side 2 there is something I particularly cherish—the Kepjuk, or Balinese Monkey Chant. It's an astounding piece—rhythmically, conceptually, and from the standpoint of the performance: bear in mind that this very complex music is being played not by professional musicians, but by villagers who are staging a play. There's a great deal more to be got out of the piece: at first hearing, it may seem like a continuous rhythmical texture, but gradually things emerge from the background.

Also, you can follow it as a play. It's a very happy record; it always leaves me in a state of jubilation.

For anyone interested in expanding his musical horizons, I would also recommend the many records that Ali Akbar Khan has made for Nonesuch. They include some very beautiful improvising.

If I were putting together a desert-island collection of records, I would certainly include some by James Brown, one of my favorite performers. During my college years, I used to hear his singles on the radio. I was always impressed. There were even some I thought Stravinsky should hear, especially one called I Got a Feeling. When I first heard that one—with all its lack of inhibition, both rhythmically and tonally—it left me in a state of shock. As a result, I got his album "Live at the Apollo, Vol. 2" (King 71022), and that really sold me. After that I began trying to find out where he was performing, and I became one of his regular attenders. The Apollo album has a routine called There Was a Time, which is a twenty-minute-long musical experience, sociological rap, and everything else. It's Brown at his most dazzling. Another of his albums, "Sex Machine" (King S 71115), would also have to go into my desert-island collection.

And I would have to take some other rock performers Smokey Robinson, certainly—especially his recording of the tune Baby, Baby, Don't Cry. He is probably the closest singer today to a seventeenth-century bravura tenor—though his style is more expressive. Nor could I do without the "Jimi Hendrix Experience" album (Reprise S 6261) which has Fuzzy Lady on it: From the standpoint of playing, composition and singing, it is a very powerful piece. I would have to include the Rolling Stones too: "Through the Past, Darkly, Big Hits," NPS 3 has a lot of wonderful tunes like Jumpin' Jack Flash, Honky-Tonk Women, and Street Fighting Man—although it doesn't have In Sympathy With the Devil, which is probably the closest Tk to a seventeenth-century bravura tenor—though his style is more expressive. Nor could I do without the "Jimi Hendrix Experience" album (Reprise S 6261) which has Fuzzy Lady on it: From the standpoint of playing, composition and singing, it is a very powerful piece. I would have to include the Rolling Stones too: "Through the Past, Darkly, Big Hits," NPS 3 has a lot of wonderful tunes like Jumpin' Jack Flash, Honky-Tonk Women, and Street Fighting Man—although it doesn't have In Sympathy With the Devil, which is among the ones I feel closest to. Finally, in the pop department, one of my favorite ladies and probably one of the three greatest living masters of rubato (the other two being Heifetz and Pugliese) is Peggy Lee. Her record "Things Are Swingin" shows her at her best (Capitol T 1049, deleted).

I almost never listen to recordings of the standard classics now, but I do cherish the memories of those I heard during my childhood. There was the Bach D minor Piano Concerto played by Eugene Istomin and conducted by Busch, a set of 78s. I would put it on, then play it on the piano at the same time. And there were other discs that I played to the point of Rainout: the Prokofiev G minor Violin Concerto with Heifetz; Stravinsky conducting his Rite of Spring; and two others—I've forgotten who the performers were—the Brahms Hymn Variations and the Mozart G minor Symphony. In my teenage years there were other records I played by ear on the piano while the disc spun; but there was another innovation as well. I made up words—complicated verses and narra-
It stopped the traffic in Times Square.

We took our new ST-5130 FM stereo/FM-AM tuner to Times Square, where traffic—and ignition interference noise—are at their peak. Then with a flick of a switch, we stopped the noise dead.

That switch cuts in our new, exclusive, Impulse Noise Suppression circuit. It instantaneously cuts out the manmade impulse noises that can plague FM reception.

With this background interference gone, it's easy to hear and appreciate the rest of the 5130's super-tuner performance. The numbers are unbeatable: 1.5 uV IHF, sensitivity, 1.0 dB capture ratio, 100 dB selectivity, and 100 dB rejection of images, i.f., and spurious response (with equally remarkable AM performance, of course).

And you'll also like such features as the 5130's oscilloscope output jacks for multipath indication, and it's independently-controlled headphone jack.

Impulse Noise Suppression. Hear the difference it makes, at your nearby Sony Dealer. Sony Corporation of America, 47-47 Van Dam Street, Long Island City, N.Y. 11101.

New SONY ST-5130 FM Stereo/FM-AM Tuner
When you make the finest
tape recorders,
you've got to make the
finest tape recorder
accessories—Sony
Right? Right!  SONY SUPERSCOPE
You never heard it so good a

For "owners of CROWN, MARantz, and other fine amplifiers . . ."*
Total of 48 SPEAKERS in Stereo
MAGNUM OPUS ELECTRONICS, LTD.
proudly introduces a new era in loudspeaker technology, patent and patent pending "Infinite dynamic damping."
FLOOR MODEL—OPUS 24A
(Replacing Opus 24)
24 speakers per system
Four 12" woofers, four 5" midrange, and sixteen super-tweeters. 15—20,000 HZ. Power: 10—
200 watts.
24" H x 29 1/4" W x 18" D on 6" pedestal.
PRICE: $695 ea.* 5 yr. warranty.
SHELF MODEL—OPUS 7
7 speakers per system
One 12" woofer, one 10" woofer, one 5" midrange, and 4 tweeters. 20—20,000 HZ. Power:
10—100 watts.
25" H x 15" W x 13" D.
PRICE: $250 ea.* 5 yr. warranty.

WERNER KLEMPERER, Film and T.V. actor.*
"No shelf speaker I have ever heard comes even close to the Opus-7 in authenticity and delineation of individual instruments . . . as to the new Opus 24A . . . altogether unbelievable . . . owners of CROWN, MARantz, and other fine amplifiers will be flabbergasted . . . ."

BARBARA COOK, Broadway actress and singing star.
"The sound is gorgeous. Voices and instruments are completely natural. Orchestral crescendos are so solid they seem organic — you can feel the air around each instrument."

These speakers may be purchased at select dealers or directly from us in New York City at our beautiful showroom with gaslighted entrance at:

MAGNUM-OPUS ELECTRONICS, LTD.
111 E. 35th St. (between Park and Lexington Aves.) New York, N.Y. 10016
Tel: (212) 684-3997

* East Coast retail price, slightly higher in south and west.

When you make the finest tape recorders,
you’ve got to make the finest tape recorder
accessories—Sony
Right? Right!
The first tuner that can tell the difference between music and noise.

Since the function of FM tuners is to bring in FM stations, tuners have traditionally been designed to bring in the strongest signals possible.

This seems like the height of common sense. It isn't. Signals, weak or strong, are often noisy. So even after you pull in a strong signal, you may have to deal with the problem of noise polluting the music. Since your tuner can't tell you which is which, you have to rely on instruments that have failed you in the past. Your ears.

Not with the new Citation 14.

Ours is the first tuner with a quieting meter (patent pending). It tells you exactly how much noise is accompanying the music. This lets you adjust the tuning dial, or your antenna, to the precise point where quieting is at a maximum. (It's sensitive enough to detect a 1° rotation of your antenna.)

But Citation 14 does more than just tell you how noisy a signal is. It's the first tuner with a multiplex circuit that senses any phase error in the pilot signal, and then readjusts the circuit for maximum separation and minimum distortion.

Once Citation 14 has brought in the cleanest possible signal, it won't add any noise of its own. Signal-to-noise ratio is –70dB. And to make things even quieter, it's also the first tuner with a built-in Dolby noise suppressor.

But to really appreciate all these firsts, you first have to record off the air.

Since it is so noiseless, you can produce recordings of close to master-tape quality. It even has a 400-Hz tone oscillator to let you match levels with the station you're recording. So you don't have to make adjustments every time the music changes.

Still, at $525, Citation 14 obviously isn't for everyone. Like Citation amplifiers, preamplifiers and speakers, it's designed for people who can't tolerate even the suspicion that there's anything in their music but music.

But if you are such a person, there's finally a tuner as intolerant as you.

For complete details and specifications, write Harman/Kardon Incorporated, 55 Ames Court, Plainview, N.Y. 11803.*

harman / kardon
The Music Company

*Distributed in Canada by Harman/Kardon of Canada, Ltd., 9429 Cote-de-Liesse Rd., Montreal 760, Quebec.

CIRCLE 28 ON READER-SERVICE CARD
Jonathan Wild, with a book by Edward your lyrics, you learn an awful lot about gan. Through all those years, Lalo Schif- writing a Broadway musical for Joshua and eagerly of writing something to- arship. We started talking immediately lespie's quintet as pianist and arranger, a I MET HIM the night he joined Dizzy Gil- out too many notes per month for films deed, when he's had enough of grinding ary of a jazz player. Of those years with Beverly Hills—a far distance from the most versatile, skillful, and intelli- Schifrin's father had had his way, the theme gent musicians I have ever known. n the most composition and counterpoint, Unable to face law, he applied for en- flight musicians call technique. chows are what jazz musicians call tech- Schifrin's one of those people who he's had enough of grinding out too many notes per month for films and television, he likes to slip away, find Dizzy somewhere out on the road, and sit in to play some jazz for a couple of nights. I need it for my soul," he says.

Schifrin is one of those people who has combined the techniques of jazz and classical music in motion picture scoring over the past decade or so. But if Schif- rin's father had had his way, the theme for Mission Impossible would never have been written, nor the score to Mannix, nor that lovely theme from The Fox, nor the music for Cool Hand Luke and Bullit, nor the music for The Helström Chronicle, nor the Canons for String Quartet, nor Pulsations, the symphonic work which Zubin Mehta commissioned for the Los Angeles Philharmonic, nor the recently completed Madrigals for the Space Age with a text by Ray Bradbury, nor the Jazz Suite on the Mass Texts, which was recorded with flutist Paul Horn. Schifrin's father, concertmaster of the Buenos Aires Symphony (now retired), wanted him to be a lawyer.

"He wanted me to have an academic career," Lalo says. "Music was not taught in the universities in Argentina then, and he wanted me to get a degree. At that time I considered music a hobby." Lalo dutifully put in four years of law study; he had two more to go for a degree. "But I couldn't see myself as a lawyer," he says. And he hadn't given up studying music. He was a composition student of Juan Carlos Paz, and studied piano with Andreas Karalis, who had been director of the Kiev Conservatory. He credits the exercises Karalis assigned him for his piano technique, which can be blazing when it is in condition. "Because of Karalis," he says, "I can get my chops up in two weeks of practice." Chops are what jazz musicians call technique.

Unable to face law, he applied for entry to the Paris Conservatory. He won first prizes in harmony, contrapuntal, and orchestration during his years there. His teachers included Charles Koechlin and Olivier Messiaen.

Schifrin got interested in jazz when he was about sixteen. One of his heroes was Dizzy Gillespie. When he returned to his native Buenos Aires from Paris in 1956, at the age of twenty-four, he formed a big jazz band. Gillespie turned up there in concert, heard Schifrin's band and the writing he had done for it, and urged him to move to the United States.

He made the move for the first time in 1958. "When I got to New York, I was frightened. I became insecure. I thought I wouldn't make it. I started playing piano in a Mexican restaurant, El Rancho Grande, on Forty-fourth Street for seventy bucks a week and tips. I was so depressed I was thinking of going back to Argentina where I had concerts and television and all kinds of things waiting for me.

"After a few weeks, Xavier Cugat called me to write arrangements for his show. Then, when I went to the rehearsals, he asked me to come and play on tour with him. The money was incredible, so I went with him to Tahoe, Miami, places like that. Then he said we were going on a South American tour. I decided to go and leave the band when we got to Argentina."

In Buenos Aires he was offered his own television show with Coca-Cola as sponsor. "They wanted to bring in jazz stars like Dizzy—he's a big name in Ar- gentina. So I flew up to New York with the agent to hire Dizzy. We went to Bird- land. Dizzy said to me, 'Hey, man, where've you been? I heard you were in New York. Why didn't you call me? Have you written anything for me?' I sat down immediately and went to work on the Gillespiana Suite."

Gillespie arranged a rehearsal. But then he called Schifrin to say he had no pianist. "Haven't you ever got anybody in mind?" Lalo asked. Dizzy said, "I was sort of thinking of you." Schifrin went to the rehearsal. He had been studying Gil- lespie's records for years, and he knew all his harmonies. "Not the approximate changes, but the exact changes. At the end of the rehearsal Dizzy handed me a W-2 form. I thought about it for a minute, then called Argentina and canceled the TV show. I lost a lot of money, but it didn't matter. To play with Dizzy? It had been my dream."

Schifrin's sojourn with Gillespie seems, in retrospect, quite short. The reason was simple: Gillespie began buttonholing everybody he could find to tell him about Schifrin's writing. I remember him telling me (I was then the editor of Down Beat), "Wait till you hear his string writing. He's incredible."

As a result of all this promotion, Gil- lespie lost himself a piano player. Schif- rin began doing albums of his own, then got a shot at an African film called Rhino. He left New York supposedly for a trial run at Hollywood; he never re- turned.

Immensely successful now, he has aroused a certain envy among a number of Hollywood composers, particularly those who work slowly and resent his proficiency. Some have suggested he doesn't write all his own music. He does, I can assure you. I have sat in rooms with him hour after hour, watching it pour out.

At forty, Schifrin has grown a little weary of the Hollywood grind. He is anxious to devote more of his time to concert music and jazz. And he is, in fact, doing just that.

"It would be so nice to sit somewhere on the Riviera and write only what you want to write, when you want to write it," he says.

It is every composer's dream. Chances are that Schifrin will fulfill it. Why not? He's fulfilled every other dream he's ever had.

GENE LEES
Here’s your FREE HIGH FIDELITY “at home” shopping service!

It’s easy! All you do is use the Reader Service card at right . . . HIGH FIDELITY’s Reader Service Department will take it from there. It’s as simple as 1, 2, 3!

1 Just circle the number on the card that matches the number below the ad or editorial mention that interests you. You’ll also find the key numbers for advertised products in the Advertiser’s Index.

2 Then type or print your name and address. Don’t forget your zip code, it’s important!

3 Drop the card into the mail. No postage is needed if mailed in the United States. You’ll receive literature, colorful brochures and specifications about the products that interest you . . . free and without obligation!

First Class Permit No. 111 Cincinnati, Ohio

BUSINESS REPLY MAIL
No postage stamp necessary if mailed in the United States

Postage will be paid by—

HIGH FIDELITY
Subscription Dept. 72
P.O. Box 14156
Cincinnati, Ohio 45214

Subscribe today by filling out the subscription order card on the reverse side of this page.

NAME ____________________________

ADDRESS ____________________________

CITY ____________ STATE ____________ ZIP ___________

☐ I am a subscriber  ☐ I am not a subscriber

[Redacted]
USE THIS POSTAGE-FREE CARD TO DOUBLE YOUR LISTENING AND READING ENJOYMENT

Now you can enjoy the best in both musical worlds—in one colorful magazine: HIGH FIDELITY/MUSICAL AMERICA.

SUBSCRIPTION ORDER FORM

☐ Please enter a one year subscription to HIGH FIDELITY/MUSICAL AMERICA in my name. I'll receive 12 issues of HIGH FIDELITY, plus about 32 pages per issue of news and reviews of important musical happenings throughout the world—concert, opera, etc.—for only $14.

☐ Please enter my subscription to HIGH FIDELITY only. I want to take advantage of your special offer of 15 issues for only $9.47.

☐ New Subscription ☐ Payment enclosed
☐ Renewal ☐ Bill me

Name

Address

City State Zip Code

For postage outside U.S.A., Possessions: Add $1.00 for HIGH FIDELITY/MUSICAL AMERICA subscription (12 months); add $2.00 for HIGH FIDELITY subscription (15 months).

First Class Permit No. 111
Cincinnati, Ohio

BUSINESS REPLY MAIL
No postage stamp necessary if mailed in the United States

Postage will be paid by—

HIGH FIDELITY
Reader Service 72
P.O. Box 14306
Annex Station
Cincinnati, Ohio 45214

For the full story of music and music makers today, be sure to include MUSICAL AMERICA as part of your HIGH FIDELITY subscription.

In 32 sparkling pages, MUSICAL AMERICA covers the live musical scene completely. You'll get news, reviews and reports of important musical events all over the world—written by critics who know the score and how to write about it with wit as well as authority. You'll meet today's outstanding conductors, composers and performers...learn how they work and live...what they think and say about music—and about each other.

MUSICAL AMERICA adds a new dimension to HIGH FIDELITY—and to your enjoyment of music. Use the postage-free card to start copies coming your way regularly.

(MUSICAL AMERICA is available only by subscription...and only with HIGH FIDELITY. It is not sold on newsstands. Another important reason for you to use the subscription card now.)
Not everybody needs a concert grand piano, nor does everybody need the best cartridge Shure makes to enjoy his kind of music on his kind of hi-fi system. Eventually, you'll want the renowned V-15 Type II Improved, the peerless cartridge for advanced systems and ample budgets. But, if your exchequer is a little tight, consider the M91E, widely acclaimed as the second best cartridge in the world. With a sharply circumscribed budget, all is far from lost. Choose any of the four models in the M44 Series, built for optimum performance in the easy-to-take $18-25 price range. Write for a complete catalog:

Shure Brothers Inc.,
222 Hartrey Ave., Evanston, Illinois 60204.

CIRCLE 56 ON READER-SERVICE CARD
A nostalgic romp through the pages of High Fidelity and Musical America

60 Years Ago
Camille Saint-Saëns, the French composer, is disgusted with the theater and will not longer write for it. A Paris newspaper quoted Mr. Saint-Saëns as saying: "...be sure you will never hear of a new opera by Saint-Saëns. The theater is so ungrateful, so treacherous! In my youth I was treated as a revolutionary musician. Today the press employs in my case the most extraordinary methods...sententious aristocratic they praised in Debussy only the manner of composition...as if my work were barren of expression. But enough! Let us leave the frogs to croak in the mud in which they are mired! Always the public is like the shark that follows the boats and swallows the bait and the harpoon. The day of my departure from Cairo, Aida was presented at the Pyramids. What a sacrilege! In the face of these eternal stones they stupidly materialized a work of the theater!...If this fashion is approved, The Flying Dutchman will be played out at sea and Orpheus—in hell!"

Harry Patterson Hopkins, a young American musician and student of Antonin Dvořák, comments on the atmosphere of lessons in the Czech composer's home: "His children were permitted to invade his studio at all times...my daily lessons were usually taken with the companionship of grimacing boys and girls hidden behind articles of furniture or appearing at unexpected moments...Dvořák's high silk hat often played a comical part on the tousled head of one of the younger boys."

40 Years Ago
An unusual honor was conferred on famous tenor John McCormack when he was recently invited to act as Private Chamberlain to His Holiness, Pope Pius XI, at the Papal Palace in the Vatican in Rome. Mr. McCormack officiated in the capacity of chamberlain for a week. During this time his duty was to introduce all visitors to the Pope, and as a special honor he himself was received in private audience later. Mr. McCormack is also a papal count of the church.

During the recent visit of Richard Strauss to Berlin, he conducted the Berlin Broadcasting Orchestra in a program of Mozart's Jupiter Symphony and his own Don Juan. Among those present during the rehearsals were Erich Kleiber and Otto Klemperer, each with score in hand. After the Andante of the Jupiter, both rushed up to Strauss exclaiming: "Herr Doktor! At the second beat, second quarter, the cellos and double basses played a C?" "Well, what of it?" replied Strauss. "But the score says G." retorted the two disciples and they attempted to prove their point but to no avail. Strauss simply found "the C more beautiful and more logical." Kleiber, upon inspecting the original at the State Library, found much to his surprise that Mozart had actually written C, and the much-argued G was merely a caprice of the publishers.

20 Years Ago
As television networks are extended across the country, the medium is assuming increasing importance in the eyes of serious music critics says the recent Musical America ninth radio poll of Serious Music on the Air. Of the 850 music critics and editors of the daily newspapers in the United States and Canada who received ballots many reported that television has not yet appeared in their areas, but most expressed themselves vigorously about video music. They want more opera, they want it in English, and they would like to see it composed expressly for the television medium.

Laslo Halasz, dismissed last December as musical director of the New York City Opera Company which he had founded, won a verdict for $15,324 of his $37,000 suit against the New York City Center for Music and Drama, which operates the company. He was charged with being "a threat to the prosperity and advancement of the City Center." The City Center attorney brought some members of the company, including Joseph Rosenstock, now general director, to the stand to testify in an attempt to prove that Mr. Halasz was "petulant, temperamental, and insubordinate to a degree no employer could tolerate." Mr. Halasz' attorney, after more than fifteen singers and officials of the company testified in the conductor's behalf, won the case as the jury unanimously agreed in Halasz' favor.
Think of everything you've ever wanted in a stereo receiver.

The new SX-828 and SX-727 are Pioneer's top two entries in a new, dynamic line-up of four AM-FM stereo receivers with increased performance, greater power, unsurpassed precision and a wide range of features for total versatility.

If you lust for power, here it is — to spare. EX-828, 270 watts IHF; EX-727, 195 watts IHF. Employing direct-coupled amplifiers and dual power supplies, you'll hear improved bass while transient, damping and frequency responses are greatly enhanced. Distortion is infinitesimal.

Whichever model you select, advanced FM sensitivity deftly plucks out those stations a hairline away from each other on the dial, and excellent selectivity zeroes in on your program choice.

At Pioneer, we believe our engineers have really outdone themselves by designing features like:
- new and exclusive circuit that protects your speakers against damage and DC leakage
- Ultra wide linear dial scale, loudness contour, FM muting, mode lights, click-stop tone controls, high & low filters, dual tuning meters, audio muting, plus a full range of connections for turntables, tape decks, headphones, microphones, speakers — and even 4-channel connections, when you're ready.

To top this total combination are Pioneer's sensible prices — SX-828, $429.95; EX-727, $349.95, including walnut cabinet. If all this doesn't impress you, listening to them will. See and hear these magnificent new receivers; as well as the new moderate-priced SX-62E and SX-525, at your local Pioneer dealer.

U.S. Pioneer Electronics Corp., 178 Commerce Road, Carlsbad, New Jersey 07923.

Pioneer has more of everything.
RCA Gives Green Light to Discrete Quadraphonic Discs

By the time you read this, RCA expects to be selling "discrete" quadraphonic LPs made by the process that JVC has been calling CD-4. That process, as you may remember, produces a groove similar to that in a conventional stereo record except that it contains a high-frequency subcarrier in addition to the conventional two-channel audio information. The use of this subcarrier allows recovery of all four channels with minimum loss in separation between them. (Theoretically, infinite separation is possible in the discrete system; in all so-called matrixed quadraphonic systems such as SQ and Stereo-4 it is limited by the matrixing principle itself.)

According to RCA the discs are compatible in two senses: They will produce normal stereo sound without loss of program information when played on stereo equipment, and they can be played on conventional equipment without significant damage—in terms of record wear or with respect to subsequent quadraphonic playback. In support of this last claim RCA states that the combination of a new record compound (which includes antistatic and lubricating ingredients) and a more sensitive demodulator "enables four-channel playback with satisfactory separation and signal-to-noise ratios after the product has been played at least 100 times on a conventional, inexpensive stereo player with a conical stylus and 5 grams of pressure."

We heard an RCA four-channel disc that had been played 500 times under otherwise similar conditions, and although the record naturally sounded terrible by then, the quadraphonic effect was still evident. In listening to a demonstration disc that had been played perhaps a half-dozen times for other auditors and using the JVC cartridge with the specially formed Shibata stylus (described in this column in the January 1972 issue), we were impressed by both the sound and the four-channel effect.

Both JVC and Panasonic have announced CD-4 playback equipment, as detailed in this column last February. The first disc release was scheduled for May, with regular but selective issues to begin in the fall. Prices will be the same as those for conventional stereo LPs, and RCA says it plans to avoid double inventory—that is, separate stereo and quadraphonic issues of the same recording. Just which recordings will be made available in the first CD-4 release is undecided at this eleventh-hour writing. Even the name by which the discs will be called is undecided since RCA does not plan to use the CD-4 designation.

video topics The Big Picture

Industries have their hangups just as people do. Take home video for example. Three concepts keep popping up like dandelions: cartridge-type recorders, flat screens, and movie-size screens. All three, we have repeatedly been told over the last few years, are just around the corner, but they all (pace Avco's Cartrivi- sion, which Sears is expected to introduce in the Chicago area this month, and Sony's U-Matic Videocassette for which equipment appeared early last spring) seem to remain beyond commercial reach. Each project is beset by a series of similar problems: high projected selling prices, technical roadblocks, the expense of tool-up and initial distribution, sometimes irksome government rules, want of technical standardization, dubious data about the potential market, and so on. But still the hard core of hope—or of hangup—remains.

These ruminations were triggered by two recent demonstrations of large-screen projection television systems that, their sponsors say, will be offered first to in-

Continued on page 26
NOT ALL CHROMIUM DIOXIDE CASSETTES ARE EQUAL...

ONE IS MORE EQUAL THAN THE OTHERS

There's a lot of performance capability locked up inside chromium dioxide, but it takes the right know-how to liberate it. There is the basic tape, there is the accuracy in slitting, there are the dozens of little cassette-housing construction details and the over-all skill of a world renowned company like TDK that make the difference; after all, it was TDK that created the famous Super-Dynamic cassette. Yes, not all chromium dioxide cassettes are alike.

Of course the KROM-O₂ is the cassette that gives you the widest frequency response, the wide dynamic range and the complete reliability for which TDK is already famous. However, all these advantages will only truly benefit you if you have a cassette machine that can properly be biased for chromium dioxide. If your equipment has only standard bias you may be better off using one of the other TDK superior tapes and cassettes, either the Low-Noise or the Super-Dynamic.

Remember, TDK cassettes are just a little more equal than the others.

Purity in sound.

World's leader in tape technology.

TDK ELECTRONICS CORP.
LONG ISLAND CITY, NEW YORK 11103
© COPYRIGHT 1972 BY TDK ELECTRONICS CORP.
The 4-channel Sansui MQ2000 is not a second-class component system.

It’s a first-class compact.

Sansui has never made anything but components until now. So our engineers just couldn’t break the old habit when we asked them to come up with a four-channel compact. They took the ingredients of a state-of-the-art component system and packed them into a single housing, then crowned them with an acclaimed, first-line automatic turntable and magnetic cartridge.

The MQ2000 complete four-channel music center. It’s an AM/FM receiver. A decoder for all compatibly matrixed four-channel recordings and broadcasts. A four-channel synthesizer for your entire collection of conventional stereo records, as well as for regular stereo broadcasts. It can handle any discrete four-channel source, taped or otherwise, and can take any adapter for any future four-channel medium that might come along.

Total IHF music power: 74 watts. FM sensitivity: 5 microvolts IHF. Normal-level response: 30 to 30,000 Hz ±2 db, with harmonic or IM distortion below 1% at rated output.

The automatic turntable is Perpetuum Ebner’s Model 2032 with calibrated stylus-force adjustment, variable-speed control, damped cueing, anti-skating and a host of other features. The cartridge is Shure’s M75-6, specially recommended for four-channel discs.

The speakers are Sansui’s exciting new AS100 two-way acoustic-suspension designs. Not scaled-down performers made just to go along with a package, but full-fledged performers in their own right—regular members of Sansui’s new AS speaker line. Two of them come as part of the package, because most people already have a stereo pair, but you can match up another pair of Sansui’s regular line, if you wish, for a perfectly balanced system. Wait till you hear this at your franchised Sansui dealer!
It sounds like reel-to-reel. It looks like cassette. It is. It is the new Sansui SC700.

Close your eyes and your ears tell you you're listening to a reel-to-reel deck of the highest caliber. Open your eyes and you know that cassette recording has finally made the grade.

The performance-packed, feature-packed SC700 Stereo Cassette Deck incorporates Dolby noise reduction, adjustable bias for either chromium dioxide or ferric oxide tapes, three-microphone mixing and specs that will make your eyes—as long as they're open—pop even wider.

Undistorted response is 40 to 16,000 Hz with chromium dioxide tape and close to that with standard ferric oxide tape. Record/playback signal-to-noise ratio is better than 56 to 58 dB with Dolby in—and commendably better than 50 dB even with Dolby out! Wow and flutter are below 0.12% weighted RMS.

A DC servo motor (solid-state controlled) assures rock-steady speed. The tape-selector adjusts both bias and equalization for ferric-oxide or chromium-dioxide formulations. The large, slant-panel VU meters are softly illuminated. Contourless heads keep response smooth, and a head gap one micron narrow brings high-frequency output right up to reel-to-reel standards.

With so much in its favor, Sansui engineers decided it deserved all the features of a first-rank open-reel deck, and more: Pause/edit control. 3-digit tape counter. Separate record/playback level controls (independent but friction-coupled). Automatic end-of-tape shut-off with full disengagement and capstan retraction . . . and much, much more.

The SC700 is practically a self-contained recording studio. Which makes it quite a bargain at $299.95.
Continued from page 22

dustry and then to the home viewer. Think of it: Glorious color spread across a picture area measured in feet, rather than inches, and glittering with every speck of detail that a TV signal can convey. The first kid on the block to con his parents into acquiring one of these gadgets can pick up a dandy collection of bubble-gum cards by way of admissions.

The big hurdle (aside from present nonavailability) that the budding con artist will face is the price: $2,000 and up according to present guesses. But the pictures we saw do represent pretty spectacular televiewing. The first demonstration, of the Color Beam System, was in a back room at Advent Corporation in Cambridge, Massachusetts. On a screen some six feet wide appeared an afternoon show (which itself lent no distinction to the demonstration) in natural, soft colors. A couple of weeks later we watched Sony demonstrate its new Color Video Projection System on a screen four feet wide—a demonstrator which color saturation was pushed to the limits.

No valid comparisons can be made between the two systems on the basis of the demonstrations. That at Advent was no more than a look-see into the workshop; Sony’s was a formal press party. At Advent we saw an experimental standby lashup (the preferred system had been shut down for further work); Sony’s two projectors were carefully prepared prototypes. Advent’s work area had plenty of light for note-taking or similar chores; Sony’s room was darkened to near-theatrical murk.

This last point is particularly significant. Both systems—like all projection systems we have seen or read about to date—require that the room be darkened much as it would have to be to view movies. These are not, in other words, devices for casual viewing. Nor are they devices that can simply be folded up and put into a closet when the viewing is over. In both systems the projector-screen alignment is critical; disturb the relative placement of these elements and picture quality is lost. The Advent equipment in particular is meant to be built into the viewing room, rather than just set up as whim suggests.

While Sony leaned heavily on taped images with vivid purples, reds, blues, and greens for demonstration purposes, the off-the-air pictures came in with fine natural color (at least until a well-meaning Sony executive adjusted them for “maximum effect”). In both demonstrations the raster (the striped pattern of horizontal scan lines on the screen) was notable for its absence; only on close-up inspection did it become evident.

Operating principles differ somewhat, however. Sony is keeping mum about many technical details of its system, but basically it has a single conventional 12-inch color tube and uses an optical system similar to that in an “overhead projector” to form the image on a massive concave screen. Advent uses three special tubes (one per primary color), each of which forms a very small image internally and also contains the necessary mirror and lens elements for projection onto its relatively conventional flat screen. Advent’s color convergence is therefore adjusted by physically positioning the three projector tubes; Sony’s is electronic and is accomplished within the tube.

Sony presently says it plans to market its system this fall, but we must admit to a certain skepticism about such timetables. We had previously reported that Advent planned to have its Color Beam system “on the market by the end of this year; if all goes well, the consumer model—with a reduced price tag—may follow some time next year.” We wrote that over two years ago.

equipment in the news

Many-sided first offering from Design Acoustics

Add to the proliferating variety of speaker-system shapes the dodecahedron. The twelve-sided form of the D-12, the first product from Design Acoustics of California, is said to offer uniform sound dispersion over the entire listening area—particularly in the high frequencies—without regard to speaker placement. The sound is reproduced by nine tweeters, a single 5-inch enclosed direct radiator for the midrange, and a 10-inch high-compliance woofer. Available in a variety of finishes and grille colors, the D-12 costs $325 per speaker.

BGW’s powerhouse amplifier

BGW Systems’ Model 1000 combines very high power output with a “fail-safe” system to protect speakers and amplifier output stages in case of overload or shorted output, and so on. The amplifier’s output is rated at 200 watts continuous power per channel into 8 ohms, for total harmonic distortion of less than 0.2% at all audio frequencies. In addition to the fail-safe circuitry, the model incorporates a three-position current limiter to control power output, light-emitting diodes to show when limiting is activated, a rocker-style circuit-breaker power-switch assembly instead of fuses, and thermostatically controlled forced-air cooling. Priced at $1,200, the Model 1000 is designed for large home installations and professional use.
We've shortened the distance between you and the music.

Now you can really snuggle up to Schumann. When you get next to our new stereo receiver, the SA-6500.

Because we cut down the distortion. By cutting out the input transformer, the output transformer and the output capacitor. So instead of putting your music through a whole electronic maze, we put it right through. Via direct coupling. With less than 0.5% distortion. And an amplifier frequency response of 10 to 100,000 Hz—1 dB.

And because the signal doesn't get capacitorized and transformed to death, you get something else. Full 200 watts of power (IHF) all the time.

The music is more than just close, it's sharp. Because we've got 1.8 μV sensitivity on FM from two 4-pole MOS FET's that can pull in your favorite station. So it sounds like it's being broadcast next door. Even if it's coming from the next state.

We also have selectivity. Because of two RF stages, a four-section tuning capacitor, four tuned circuits and an IF stage with a crystal filter and integrated circuit.

Having brought you closer to the music, we also bring you closer to absolute control. With linear sliding controls for bass and treble. Low Filter, High Filter, and Loudness switches to shape the sound. An FM Muting switch to eliminate annoying inter-station noise. And pushbutton audio controls. There's even more. Like a linear FM dial scale with maximum station separation, for easier tuning. And dual tuning meters to measure FM/AM signal strength and pinpoint FM stations. Plus Lumina-Band tuning to light them up. A full range of input and output jacks. Even a rich walnut cabinet.

Now that our SA-6500 has shortened the distance between you and the music, all you have to do is shorten the distance between you and your nearest Panasonic Hi-Fi dealer.
The ADC 303AX.
Without a doubt, the most popular speaker we've ever made.

Time and again, enthusiastic owners have written to tell us how very pleased they were with the 303AX. Fantastic... outstanding... beautiful... and remarkable were among the more commonplace accolades we received.

As for the experts, they expressed their pleasure in more measured phrases such as, superb transient response, excellent high frequency dispersion, exceptionally smooth frequency response and unusually free of coloration.

Obviously, a speaker like the ADC 303AX doesn't just happen.

It is the result of continually designing and redesigning. Measuring and remeasuring. Improving and then improving on the improvements. All with only one goal in mind...

To create a speaker system that produces a completely convincing illusion of reality.

And we believe that the key to this most desirable illusion is a speaker that has no characteristic sound of its own.

We've even coined an expression to describe this unique quality... we call it, "high transparency".

It's what makes listening to music with the ADC 303AX like listening back through the speaker to a live performance.

And it is this very same quality that has made our very remarkable crowd pleaser the choice of leading audio testing organizations.

Finally, a pleasing word about price. Thanks to steadily increasing demand and improved manufacturing techniques, we've been able to reduce the already low price of the very remarkable ADC 303AX to an irresistible $90*.

That could make it the most crowd pleasing buy in high fidelity today.

*Other ADC high transparency speaker systems available from $45 to $150.
Norman equalizer evens bass response

Norman Laboratories of Norman, Oklahoma says its Acoustic Equalizer Model Five will extend the flat bass response in many of the best-selling bookshelf speakers by an octave or more. Bass equalization curves for each of ten speaker models have been designed into the equalizer, allowing the user to program the particular curve he wants. In addition, five-position bass, midrange, and treble controls are provided to accommodate personal listening preference. The price is $87.

CIRCLE 148 ON READER-SERVICE CARD

JVC's four-channel headphones

The introduction of four-channel equipment continues to move apace, with the latest quadraphonic headset coming from JVC. Model 5944 uses the dual-plug system consisting of separate front and back stereo connectors that seems to be the de facto standard for quadraphonic headphones. An unusual feature is the phase-reverse switch visible on the right earcup. Price: $49.95.

CIRCLE 149 ON READER-SERVICE CARD

Versatile budget receiver from Pioneer

U.S. Pioneer's Model SX-525 stereo FM/AM receiver, priced at $239.95, offers a full choice of program sources at modest cost. It accommodates two tape decks, microphone, and auxiliary sound sources and can operate up to two pairs of speakers individually or simultaneously. It is rated at 17 watts per channel continuous power into 8-ohm speakers with both channels driven.

CIRCLE 150 ON READER-SERVICE CARD

Concord compact cassette portable

Although it weighs in at only three pounds, the Concord F-21 monaural cassette tape recorder from Benjamin Electronic Sound Corp. still has some of the features of its bigger brothers. Standard equipment includes pushbutton controls, remote-control microphone, auxiliary input jack, automatic level control, and a 2¼-inch speaker. The F-21 operates from batteries or, via adapter, from house, car, boat, or trailer current. It costs about $35.

CIRCLE 150 ON READER-SERVICE CARD

Toshiba unveils three speaker systems

Toshiba's entries in the loudspeaker market include the SS-840, the SS-26, and the SS-36 (shown here). The first two are three-way systems, The SS-840 is a floor-standing model with a louvered high-frequency diffuser. The SS-26 and SS-36 are acoustic-suspension designs in walnut enclosures. The SS-36 is a four-way system with front-panel controls. Prices of the three models are, respectively, $199.50 a pair, $114.50 each, and $174.50 each.

CIRCLE 151 ON READER-SERVICE CARD
Mr. Feldman goes on to say: "The 'ultimate' tuner? Well, if it isn't it'll do until someone comes up with something better!... There is NO tuning knob and there is NO tuning dial or pointer, since all frequency indications are read from digital read-out tubes... At the left are ten keyboard buttons, numbered '1' through '0', as well as a re-set button (punched when you wish to 'punch up' a new station frequency) and a button labeled BY-PASS (used to initiate the 'auto-sweep' action which causes the tuner to sweep downward in frequency, automatically locking in on every available signal in your area)... three more buttons, labeled A, B and C... are used to select three predetermined favorite stations... and there are additional buttons for SQUELCH DEFEAT and STEREO ONLY reception...

"... a tiny test switch button when depressed, lights up all the elements of the digital readout tubes to insure that they are operative. There is also a rotary control which determines the speed at which the AUTO-TUNE action takes place, a noise squelch adjustment control, and an AGC squelch control. A slide switch changes the meter function from signal strength indication to multi-path indication and a second, three-position slide switch selects automatic stereo, partial stereo blend (for reduced noise in weak-signal stereo reception situations with some sacrifice in overall stereo separation), and mono-mix. The right section behind the trap door contains three horizontal slots, labeled A, B and C. These slots correspond to the three PREPROGRAM selection buttons described earlier and, upon inserting three plastic cards no larger than a standard credit card, the buttons can be used to tune in your favorite station which you easily program onto the cards yourself...

"... The rear panel of the AJ-1510... contains antenna terminals for 300 ohm or 75 ohm transmission lines, a dual pair of output jacks as well as horizontal and vertical output jacks for connection to an oscilloscope for observing the nature and extent of any local multipath problems beyond what you can read on the dual purpose self-contained signal meter...

"... we were able to appreciate the amount of thoughtful engineering that went into this unit, both in terms of its performance as well as its kit feasibility. Recent Heathkits have increasingly stressed the modular approach and the AJ-1510 has carried this concept to its ultimate. There is a 'master' or 'mother' board into which are plugged seven circuit boards. Connectors are used throughout, which means that boards can be removed without having to unsolder or unwind a single connection.

"... The heart of the non-mechanical tuning aspect of this unit lies in the voltage-tuned FM front-end, which is of the varactor-tuned type and contains no moving variable capacitor. Instead, a suitable d.c. voltage applied to the varactor diodes determines their effective capacitance. The keyboard, pre-programmed cards, or automatic sweep tuning methods all program a divider circuit. The divider circuit divides the tuner's local oscillator frequency and compares it to a crystal controlled reference frequency and the result of this comparison is the tuning voltage. Changing the divide ratio of the divider circuit changes the d.c. voltage applied to the tuner and a different station is tuned in. Simultaneously, a visual display of the station frequency is provided by the readout circuitry. Because of the crystal controlled reference frequency and the phase-lock-loop circuitry, however, the accuracy of the frequency tuned in is no longer dependent upon the drift-free characteristics of the FM front-end but will be as accurate as the reference crystal frequency and, in the case of the AJ-1510, that means at least 0.005% accuracy!...

"... Do not confuse this 'digital readout' tuner with some units which have recently appeared on the market and simply replace the tuning dial with numeric readout devices. The latter variety guarantee no more tuning accuracy than their 'dial pointer' counterparts. The Heath AJ-1510 is tuned exactly to 101.5 MHz when those readout tubes READ 101.5 — and not to 101.54 or 101.47!...

"... There is no doubt that the elaborate 'computer' type circuitry incorporated in the Heath AJ-1510 must represent a fair percentage of its selling price, but even if you ignored it completely (or considered it as a welcome bonus), the tuner's performance as a tuner would justify its total price and then some.

"... Almost as if to reprimand us, when we punched up 87.9 MHz on the keyboard, a light lit up on the front panel and read REPROGRAM. (It could have said 'please'...). Realizing that we weren't about to fool this unit, we settled for 88.3, 98.9 and 106.1. These
chosen frequencies, together with our not-too-perfect 'screen room' enabled us to read a sensitivity of 1.6 uV. Impressed, we decided that we weren't going to let this one get off so easily, so we tried to measure alternate channel selectivity and, as near as we could figure, it was just about 100 dB. (With the total quieting curve, you can interpolate the THD (mono) down to an incredible 0.18% for 100% modulation (as opposed to 0.3% claimed).)

Ultimate S/N is a very respectable 66 dB...quieting reaches a very usable 56 dB with a mere 5 uV of signal input. In the stereo mode, we remeasured the THD and found that it was only 0.25% for 100% modulation (as against 0.35% claimed) and that, to us, represents a real breakthrough, since stereo THD is usually much higher than mono THD on most tuners and receivers we have measured in the past...

"...Here's a tuner that maintains at least 30 dB of separation from 50 Hz to 14 KHz and hits a mid-band separation figure of 46 dB! Both SCA and 19 and 38 KHz suppression were in excess of 60 dB, which means that SCA interference was absolutely inaudible. Capture ratio measured 1.35 dB as against 1.5 dB claimed...

In short, every space was easily met or exceeded and if you compare published specs with the best of the 'ready made' you're not likely to come up with a finer set of readings anywhere...

"...After spending several hours playing with the keyboard, the automatic sweep, and the dozen or so cards which I prepared with the aid of a small pair of scissors, I got down to the serious business of logging stations...Would you believe 63, without having to rotate my antenna?...

"...We enjoyed the crystal-clear, distortion-free reception we obtained in using the Heath AJ-1510...[it] has got to be the best all tuners of the future will be made. It's very nice to know that Heath has just brought that future into the present..."

Mr. Hirsch comments further: "...the Heath AJ-1510 digital Stereo FM tuner kit is new, with a fresh and imaginative design approach...and we know of nothing else on the market with comparable features...

"...It is quite impossible, in the available space, to give an adequate description of this remarkable tuner. Anyone familiar with the inside of a typical FM tuner will not recognize this as belonging to the same family. It more closely resembles a small digital computer. There are no moving parts (the tuning is entirely electronic), and almost nothing resembling r.f. circuit components...

"...the Heath AJ-1510 digital Stereo FM tuner kit is new, with a fresh and imaginative design approach...

"...we measured performance data on the AJ-1510 met or exceeded Heath's published specifications...The IHF sensitivity was 1.6 microvolts...The 89-dB image-rejection figure was very good, and we confirmed Heath's alternate-channel selectivity rating of 95 dB. The FM frequency response was well within +1 dB from 30 to 15,000 Hz. Stereo channel separation was exceptionally good — 40 dB at middle frequencies...suppression of 19 and 38 KHz components of stereo FM signals was the best we have yet encountered...

"...tuning the AJ-1510, in any of its modes, is a unique experience. No matter how you go about it, the output is always a clean signal or nothing — not a hint of a hum, hiss, or squawk at any time...for anyone who wants a tuner that is most certainly representative of the present state of the art, and which is not likely to be surpassed in any important respect for the foreseeable future, his search can stop at the AJ-1510."

Kit AJ-1510, "Computer Tuner" less cabinet, 23 lbs. ....... 339.95* AKA-1510-1, pecan cabinet, 6 lbs. ........... 24.95*
From any place in the room, the versatile Achromatic W35 is a top performer... built to take power and give it all back... with ease! The unique shape permits shelf use in two ways: either straight-on; or at the acoustically desirable but frequently wasted corners. And, with an optional corner mounting bracket, suspension in room corners becomes both simple and decorative.

The robust, extraordinary performance of the W35, despite its modest size (15" x 15" x 8" deep), is a result of its being a full 3-way speaker system and of its professional quality components. The 8" woofer is a heavy duty, long-throw assembly with oversized, four layer-wound voice coil for maximum heat dissipation and fully controlled transient response. A 3¼" acoustically isolated midrange unit covers this important spectrum with clarity and definition; while a 2½" ultra-curvilinear tweeter with low mass aluminum voice coil provides treble tones that faithfully image the original. A multi-element LCR network reduces electrical and acoustic distortion. Cabinet buzzes and resonances are avoided by sturdy, "unitized" construction.

One of six Wharfedale speaker systems engineered to satisfy every budget, space and performance requirement, the W35 is compellingly priced at $82.00 list.


The new W35 is built for power... and takes corners with ease.

...Ideal for 4-channel too!
High Fidelity Lab Reports
On 6 New Speakers

New Hybrid
Is High Performer


Comment: This high-performing speaker system from a new California firm blends electrostatic and dynamic reproducer elements to form a top-quality unit of interest to stereo perfectionists. A floor-standing model, it is a three-way system containing three push/pull electrostatic cells for the highs (above 1,350 Hz), a plastic-diaphragm 5-inch cone speaker for the midrange (300 to 1,350 Hz), and a 12 inch by 8 inch oval-shaped high-compliance woofer for the bass. The woofer uses a flat, aluminum-stressed, plastic diaphragm driven by a very heavy magnet and loaded with a transmission-line enclosure that permits, during manufacture, individual tuning of the cabinet-speaker system for optimum bass response. The cones and electrostatics are mounted on a front baffle board hidden behind a wrap-around grille. When sold in pairs, each TS-I is a mirror image of the other so that the two systems may be positioned for optimum stereo spread in a given room with the treble dispersion normally toward the center. In addition to "front-firing," the electrostatics radiate their rear sound energy against an angled board behind the grille, so that a modified doublet effect is created that minimizes any beaming tendency and helps to achieve a broad-angle, natural dispersion of sound. The midrange speaker has its own transmission line terminating in a round opening at the rear of the enclosure. The enclosure itself has a raised underside on which the woofer's transmission line terminates, so that the bass actually is loaded to the room via slots around the bottom in addition to the direct radiation off the diaphragm above.

The system uses a complex crossover network composed of precision circuit parts and fitted with two level controls (for midrange and highs). It may be modified, on order, to suit the system for biamplifier use. The TS-I is protected by two fuses; rear input terminals are color-coded binding posts. Also at the rear is the power cord that must be plugged into an AC outlet to energize the electrostatics. Workmanship and construction are first-rate throughout.

Laboratory and listening tests show the Trans-Static I to be a superb performer that takes a ranking place among the top speaker systems available today. Response, clocked at CBS Labs, ran within plus or minus 3.5 dB from 46 Hz to 20,000 Hz, outstandingly wide and linear for a speaker. In audible test-tone tests, the low end rolled off smoothly with fundamental bass still evident down to 20 Hz. Doubling in this area was distinctly lower than average. Throughout the entire range of the speaker, response seemed exemplary—well balanced, clear, and with excellent dispersion of treble. Tones as high as 12,000 Hz were clearly audible well off axis; at 14,000 Hz the response was fainter and more directive but still audible off axis; at 17,000 Hz the signal was audible only on axis.

Definitely in the low-efficiency class, the Trans-Static I needed at least 20 watts to produce the standard test output level of 94 dB at 1 meter on axis. Indeed, the manufacturer recommends using it with the highest-powered amplifiers available (and certainly nothing less than 30 watts per channel) if you are to realize optimum performance. The system could not be driven into significant distortion with steady-state power input of 100
watts, and it could handle peaks of up to 654.5 watts—which attests to its ruggedness of construction and, with an output at that wattage level of 110.7 dB, its excellent dynamic range too. Lab measurements show the Trans-Static I to be essentially a 4-ohm system, and so the usual cautions about running two of them (or one of them with any other system) from the same output taps of a solid-state amplifier apply.

All the theory and verbal explanation in the world cannot adequately describe the sound of a great loudspeaker driven by an ample amplifier fed with high-grade program material. The experience is exhilarating, and it rather defines "high fidelity" at any given state of the art. The Trans-Static I is such a loudspeaker. Its upper range has all the advantages of clarity and definition of electrostatics, with none of the "overetched" quality of some; the midrange is smooth and very amply dispersed; the low end is solid and clean. The total effect is one of effortless and accurate reproduction of the kind that almost lets you "see" the glint of the brass or the drawing of bows across strings. In common with a few other very fine reproducers we have had the pleasure of testing, we would say that the Trans-Static I could serve as a professional monitor as well as the mouthpiece of the finest of home music systems.


Comment: The W60 is the top of the Wharfedale bookshelf-speaker line—though Wharfedale also makes two higher-priced (and basically floor-standing) models. The W60 designation has been with us for about a decade; the latest "E" version contains three drivers (a 12½-inch woofer, a 5-inch midrange driver, and a 1-inch Mylar domed tweeter), plus crossover network. Two rotary controls on the back panel allow attenuation of midband and highs. Also on the back panel are binding post connections marked for polarity.

The W60E is rated at 8 ohms impedance. In CBS Labs' tests, the impedance measured 6.9 ohms following the characteristic bass rise, and averaged 6 ohms out to 20 kHz, so the usual cautions apply here about connecting two such systems across the same outputs of a solid-state amplifier or receiver unless the owner’s

Wharfedale’s Updated W60

With grille cloth removed, Trans-Static I looks like this from the front. Note unusual flat, oval woofer.
The manual for the set states that it is safe to drive combined loads of less than 4 ohms in that manner.

The frequency response graphs show the W60E to be quite linear (±3.5 dB is a relatively small spread for a loudspeaker) with very wide-angle dispersion (as indicated by the similarity between the three curves). In the bass end, little doubling can be heard in the octave below the 60-Hz roll-off point; below about 30 Hz the output is mostly doubling. At the high end the dispersion is indeed excellent, with 15 Hz clearly audible at 90 degrees off axis of the system. The midrange control attenuates (by an amount up to about 6 dB) the response between about 2 kHz and 4 kHz. The control has little effect below 400 Hz or above 5 kHz, and none below 250 Hz or above 15 kHz. The treble control has slight effect from just below 1 kHz to 4 kHz; above that frequency it has increasing effect and, at its "minimum" position, reduces treble response by about 12 dB per octave. Both controls are considered "flat" in their maximum positions. We chose to keep the midrange control in that position, but backed off slightly on the treble since the room in which we did most of the listening is a bit on the bright side.

The W60E required 17.7 watts for a 94-dB output at 1 meter in the lab's broadband noise test—indicating that 15 to 20 watts per channel would be a desirable minimum for driving the amplifier in most rooms. The speaker handled up to 100 watts before buzzing began, and took 300-Hz pulses to 261.5 watts (523 watts peak)—the limits of the test setup—in its stride, with an output of 110 dB for that input. These figures indicate not only that it is ruggedly built, but that it has a fine dynamic range.

The over-all sound of the W60E may at first seem somewhat understated and withdrawn but its cleanliness becomes evident on careful listening. The deep bass is clean rather than prominent, and the midrange is without the peak that gives some competing models a sense of forwardness and "presence." It handles complex orchestral material with fine detail and transparency, and reproduces smaller instrumental combinations with exceptional definition and without a hint of the bigger-than-life quality that many speakers introduce.


Comment: Fisher has brought out the WS ("Wide Surround") series of speaker systems for those who want the feature of omnidirectional sound in "budget" stereo systems—the WS-80, for instance, is offered as standard equipment in the Fisher 3580 compact and also is available on its own for use in any stereo system.

A three-way reproducer, the WS-80 achieves its omnidirectional dispersion by having all drivers mounted vertically so that they radiate in an up-and-over pattern. An 8-inch woofer and a 5 1/4-inch midrange speaker both work into deflector cones that project their sound out through the slot that runs around the enclosure near the top. A 3-inch cone tweeter is mounted above the midrange driver and projects upward through the top grille-cloth panel. Crossover frequencies are 400 Hz and 1,500 Hz. The sound spread achieved by this system is,
as Fisher claims, truly omnidirectional as that term generally is understood in loudspeakers. Only close to 15 kHz can you discern anything like traditional “beam - ing”; that frequency can be heard somewhat more clearly by standing directly over the unit (since the beaming is aimed upward of course), but even so, the change in audibility is minimal as you move off axis.

Over - all response, while showing an obvious roll - off at the high end (see graph), is balanced and smooth enough to provide adequate and clean reproduction of the musical spectrum. By way of a removable link on the screwdriver lead connections on the bottom surface of the unit, Fisher has provided a “brilliance - reduction” option. In the lab, removing this link reduced by a few dB the response in the range from about 3,000 to 6,000 Hz; the audible difference was very slight, and we opted to leave the link in place for maximum upper - end response. Be that as it may, the very wide, multipane dispersion of the WS - 80 does make for an easy, natural sort of presentation that avoids the boxed - in sonic side effect of coloration often encountered in a low - priced direct - radiating system. At the bass end, response remains clean and firm down to about 80 Hz. There is noticeable doubling below this frequency, but the fundamental can be discerned down to about 30 Hz.

Fisher rates the WS - 80 for 8 ohms impedance, and that’s what lab tests showed it to be. At no frequency across the audio band did the impedance fall below 8 ohms, which means of course that the speaker can be safely connected in pairs simultaneously across the same output taps of a solid - state receiver or amplifier. Of low efficiency, the WS - 80 required 20 watts of input power to produce the standard test output level of 94 dB at 1 meter on axis. While 20 watts of continuous power per channel may sound like a lot to expect of a compact system or modestly priced receiver, we would judge that the type of installation in which WS - 80s would typically be used would not require terribly high output levels. Specifically the WS - 80 seems best suited for smaller rooms in which a normal listening level would not call for all of a 20 - watt - per - channel amplifier. In such an installation, the pair (on stereo or on mono) presents a surprisingly large and open sonic image. At that, the WS - 80 does stand up well to high - power inputs; it could handle peaks of up to 450 watts without distorting significantly. Its output level at that point was 111.6 dB, attesting to a fair dynamic range and robust construction.

Within its response range, then, the WS - 80 merits consideration primarily for use in a moderately priced stereo system, and especially where a small or awkwardly shaped room would tend to produce a sense of constricted sound or an unbalanced stereo image with conventional direct radiators.

---

**Fisher WS-80 Speaker Harmonic Distortion**

<table>
<thead>
<tr>
<th>Output Level</th>
<th>80 Hz</th>
<th>Frequency 300 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>(dB)</td>
<td>% 2nd</td>
<td>% 3rd</td>
</tr>
<tr>
<td>70</td>
<td>0.8</td>
<td>0.30</td>
</tr>
<tr>
<td>75</td>
<td>1.5</td>
<td>0.33</td>
</tr>
<tr>
<td>80</td>
<td>3.3</td>
<td>0.80</td>
</tr>
<tr>
<td>85</td>
<td>7.0</td>
<td>1.0</td>
</tr>
<tr>
<td>90</td>
<td>10.0</td>
<td>0.35</td>
</tr>
<tr>
<td>95</td>
<td>4.3</td>
<td>0.50</td>
</tr>
<tr>
<td>100</td>
<td>6.2</td>
<td>0.85</td>
</tr>
<tr>
<td>105</td>
<td>8.9</td>
<td>1.1</td>
</tr>
</tbody>
</table>

*Distortion data are taken on all tested speakers until distortion exceeds the 10 per cent level or the speaker produces the spurious output known as buzzing, whichever occurs first.

---

**Marantz Builds a Better Soundtrap**


**Comment:** This is the second Marantz speaker we have tested. Like the Imperial III, it is a two - cubic - foot system for under $200. But the Imperial 7 represents a genuine improvement, to our way of thinking. It is a three - way ducted - port system with a formed plastic - foam grille. Connections are made via color - coded spring clips to the back panel. Also on this panel are two three - position switches, one for midrange, the other for highs. Both are marked decrease, normal, and increase. For all of the lab testing and much of our listening both switches...
were kept at "normal"; in a fairly bright room we preferred the "decrease" position in the treble.

The Imperial 7 is an unusually linear system whose efficiency is well above average for a bookshelf model. Only 1.8 watts were required to drive it to 94 dB at 1 meter in the CBS Labs broadband noise test. In the face of such a reading, considerations of "minimum power" requirements for home use become almost meaningless. Any modern amplifier of sufficiently high quality in other respects to be appropriate for use with the Imperial 7 will deliver more than enough power for the purpose. In pulse testing the speaker handled up to about 70 watts (139 watts peak) with aplomb. Any really good amplifier delivering between, say, 10 and 30 watts of continuous power per channel should be well mated to the Imperial 7.

Driven by such a unit the speakers produce wide-range sound at low distortion. The average omnidirectional response curve is unusually flat, being within ±2 dB over much of the range. Nominal impedance (the level to which the impedance curve descends following its characteristic bass rise) measures 4.5 ohms, and the curve averages about 6 ohms across the audio band. If you plan to parallel speakers across the same unit into combined loads of less than 4 ohms, refer to the instruction manual for some word on running the speaker taps of a solid-state amplifier or receiver.

In checking out the bass, we found some evidence of doubling at 70 Hz, but it increases only gradually as the frequency is lowered to about 35 Hz, the practical limit of good fundamental tone. The upper bass and mid-range, both on these pure -tone tests and in listening to music, is unusually smooth. At the high end, some evidence of inaudibility.

The over-all sound of the Imperial 7 is free, alive, and transparent. Even in listening monophonically (as we had to for this report since only one sample of the new model was available to us for testing) we were struck by the sense of space and detail it provides. The sound is on the bright side, though it is never harsh or brittle.

The three-position switches on the back panel make relatively subtle adjustments to the sonic balance of the speaker. That for the treble has most influence in the range between 10 and 17 kHz, adding or subtracting about 2 dB of response by comparison to its "normal" position. The midrange switch has most effect around 4 kHz, where it will either add 1.5 or subtract 4.5 dB; it produces less change in the remainder of its effective range, from about 2.5 to 10 kHz.

Marantz tells us that one of its design objectives was to build a speaker that would produce wide-range sound at high acoustic levels even with amplifiers of relatively low per-channel power—the sort that are likely to be common in quadraphonic equipment. It certainly has met that objective, and at the same time has given us a welcome addition to the catalogue of speakers available for more conventional purposes.

The Equipment: Empire Grenadier 7500M, a columnar-style floor-standing loudspeaker system. Dimensions: 20 inches (diameter) by 26½ inches (high) Price: $184.95 with marble top; $169.95 in all-walnut finish. Manufacturer: Empire Scientific Corp., 1055 Stewart Ave., Garden City, N.Y. 11530.

Comment: The basic Grenadier style should by now be thoroughly familiar to our readers. It consists of a vertical barrel or column that suggests the appearance of a high tambour with a bronze panel in the front and a slot or series of ports running around the bottom. The midrange driver and tweeter are set into the bronze panel; the woofer fires downward so that its sound emanates from the slot or ports and is reinforced by their directional response curve is unusually flat, being

Marantz Imperial 7 Harmonic Distortion

Output

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Level (dB)</th>
<th>80 Hz</th>
<th>300 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>0.13</td>
<td>0.70</td>
<td>0.53</td>
</tr>
<tr>
<td>75</td>
<td>0.12</td>
<td>1.0</td>
<td>0.64</td>
</tr>
<tr>
<td>80</td>
<td>0.25</td>
<td>1.2</td>
<td>0.70</td>
</tr>
<tr>
<td>85</td>
<td>0.35</td>
<td>1.4</td>
<td>0.75</td>
</tr>
<tr>
<td>90</td>
<td>0.50</td>
<td>1.9</td>
<td>0.89</td>
</tr>
<tr>
<td>95</td>
<td>0.95</td>
<td>2.5</td>
<td>1.2</td>
</tr>
<tr>
<td>100</td>
<td>2.3</td>
<td>3.0</td>
<td>1.7</td>
</tr>
<tr>
<td>105</td>
<td>2.3</td>
<td>4.7</td>
<td>2.5</td>
</tr>
<tr>
<td>109</td>
<td>5.6</td>
<td>5.8</td>
<td>3.2</td>
</tr>
</tbody>
</table>

*Distortion data are taken on all tested speakers until distortion exceeds the 10 per cent level or the speaker produces the spurious output known as buzzing, whichever occurs first.

Empire’s Latest Grenadier
proximity to the floor. This latest Grenadier is simpler and more contemporary in appearance than the first models. The body is made of eight flat vertical panels (rather than being fluted or cylindrical) and the recessed base has an oval opening in each face with no metal grille or other decoration. The walnut finish harmonizes nicely with the warm tawniness of the marble top.

Connections are made to the bottom of the case, using binding posts marked for polarity. Also on the connection panel is a three-position treble switch marked increase, normal, and decrease. These positions have little influence on response below about 3 kHz. Around 8 or 9 kHz they have most effect, raising or lowering response by some 5 dB with respect to the "normal" setting. Lab tests were run with this switch at "normal"; in listening tests we tended to leave it on "increase," though the audible difference between these two positions is not pronounced.

Dispersion at the high end is good. A 15-kHz test signal can be heard well off axis, and dispersion becomes progressively broader as the frequency is decreased; below about 6 kHz directional effects are negligible. At the bass end some doubling is audible below 60 Hz, but the fundamental remains well defined down to 30 or 35 Hz.

The over-all sound is rich, wide-range, and well balanced. Its precise qualities—particularly in the bass—do depend on its position in the room and the surface on which the 7500M is placed (carpeting as opposed to bare floor, for example). And because of its styling, it allows an unusual flexibility of placement. (The ease with which it can be integrated into a room's décor should make it particularly attractive in quadruphonic systems.) With the 7500M on a bare wood floor and away from heavily upholstered furniture the bass was particularly full, and we found a slight treble boost at the amplitudes. With the 7500M on a bare wood floor and away from heavily upholstered furniture the bass was particularly full, and we found a slight treble boost at the amplitudes.

Nominal impedance was measured in the lab at 6.5 ohms (at 100 Hz), and the impedance curve averages approximately 8 ohms across the audio band, never dropping below 4 ohms at any frequency. Normal caution should be observed in paralleling two speakers across the output taps of transistorized amplifiers.

The 7500M is both fairly efficient and wide in dynamic range. Only 3.2 watts was needed to drive it to 94 dB (at 1 meter) in the CBS Labs broadband noise test, indicating that amplifiers rated at only 5 watts continuous power per channel should be enough to drive the 7500Ms in average rooms. The speaker will take as much as 70 watts steady-state power (for a 110-dB output) without buzzing, and handles pulses of over 275 watts continuous or 550 watts peak power for an output level of 117 dB.

One note if you plan to buy a pair of 7500Ms. In the fancier version the marble top is of course subject to natural variations in color, so it might be a good idea to check the tops for color match before you take them home. Empire simplifies the process by packing the marble discs at the top of the cartons.

As we've said, the design of the 7500M—like that of other Grenadier models—lends itself to a wide variety of placements in your listening room. Aside from this fact, the attractiveness of these speakers lies particularly in the spaciousness and solidity of the sound image they produce. In orchestral material they are perhaps at their best; but since their sound is basically transparent, uncolored, and well balanced, they are fine reproducers for any program material. The 7500M strikes us moreover as the most attractive Grenadier to date in terms of sound quality versus cost.

**Empire 7500M Speaker Harmonic Distortion***

<table>
<thead>
<tr>
<th>Output Level</th>
<th>80 Hz % 2nd</th>
<th>80 Hz % 3rd</th>
<th>300 Hz % 2nd</th>
<th>300 Hz % 3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>0.11</td>
<td>0.15</td>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>75</td>
<td>0.13</td>
<td>0.13</td>
<td>0.07</td>
<td>0.08</td>
</tr>
<tr>
<td>80</td>
<td>0.19</td>
<td>0.13</td>
<td>0.06</td>
<td>0.08</td>
</tr>
<tr>
<td>85</td>
<td>0.30</td>
<td>0.20</td>
<td>0.12</td>
<td>0.10</td>
</tr>
<tr>
<td>90</td>
<td>0.63</td>
<td>0.15</td>
<td>0.11</td>
<td>0.14</td>
</tr>
<tr>
<td>95</td>
<td>1.0</td>
<td>0.28</td>
<td>0.15</td>
<td>0.19</td>
</tr>
<tr>
<td>100</td>
<td>1.4</td>
<td>0.35</td>
<td>0.19</td>
<td>0.18</td>
</tr>
<tr>
<td>105</td>
<td>0.20</td>
<td>0.15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Distortion data are taken on all tested speakers until distortion exceeds the 10 per cent level or the speaker produces the spurious output known as buzzing, whichever occurs first.

**TEST REPORT REPRINTS**

In response to numerous requests, most of our previously published test reports are now available in reprint form. To order, please write, asking for the report on a specific product (or products) and enclose 25 cents per report to cover handling and mailing. Address your request to HIGH FIDELITY Magazine, Test Report Reprints, Great Barrington, Massachusetts 01230. Please be sure to include your name, return address, and zip code.

**REPORTS IN PROGRESS**

ADC XLM pickup cartridge
BIC/Lux 71/3R receiver
JVC 1660-2 cassette deck
Sony's new chromium dioxide cassette tape is hungrier for high frequencies.

Sony chromium dioxide CRO-60 tape will record up to 50% more volume before you encounter distortion on playback. CRO-60 is hungrier than other tapes for high frequencies. This means more recorded sound than standard cassette tapes before distortion sets in.

**What you hear.**
Far less distortion, a smoother frequency response, and a greater dynamic range than standard tape. Every aspect of the sound, especially the higher ranges, comes through with sparkling fidelity.

Sony CRO-60 gets it all together from bottom bass lows to high howlin’ highs. And everything in between.

**A Sony tape for every purpose.**
The new Sony CRO-60 cassette tape becomes a member of a highly advanced line of tapes for every recording requirement.

In addition to standard open reel, cassette, and 8-track cartridge tapes, Sony also offers the finest in high performance tape: SLH-180 Low-Noise High Output tape on 7” and 10½” reels, plus Ultra-High Fidelity Cassettes.

These high-performance tape configurations take advantage of the added performance of today's highly sophisticated recorders by providing wider dynamic range, greatly improved signal-to-noise ratio, extended frequency response, and reduced tape hiss.

**How's your appetite?**
Now if your appetite has been whetted and you’re hungry for more information or a demonstration of CRO-60 or any other Sony tapes, get on down to your nearest Sony/Superscope dealer (he's listed in the yellow pages) and get an earful.

Comment: The Danish high fidelity manufacturer best known in the U.S. as “B&O” has introduced a new series of high-quality speaker systems of which the Model 5700 is the top of the line. Although approximately the same over-all dimensions as the familiar two-cubic-foot “bookshelf” systems, the new B&O is not an air-suspension system; rather it is described as a “further development of the bass-reflex cabinet”—the further development being the use of a passive or auxiliary bass radiator (ABR) in place of the conventional port-opening. According to B&O this design feature enables the use of a smaller enclosure than would otherwise be required in a reflex-type system. The passive element, which also is credited with smoothing the response, is a 10-inch-diameter flat diaphragm mounted on the front baffle board (behind the grille). The woofer itself is a 10-inch cone speaker also mounted on the front baffle. Situated between these two large elements are a 2½-inch dome midrange speaker and a ¾-inch dome tweeter. Approximate crossover frequencies are 700 Hz (from woofer to midrange) and 8,000 Hz (from midrange to tweeter). No level controls are provided. In place of hookup terminals, B&O provides a long twin wire that emerges from the rear of the cabinet and terminates in a DIN (European standard) speaker plug. For most U.S. users this means simply snipping off the DIN plug and connecting the wires to one’s amplifier or receiver. The cabinet itself is unusually handsome, finished in richly grained rosewood on five sides and fronted with a metal-framed black grille.

We have been accustomed to Danish products generally proving to be of high quality as well as beautiful design. The new Beovox 5700 is no exception. As a loudspeaker it demonstrates that handsome is as handsome does. Response in the lab was measured as within plus or minus 4.25 dB from 50 Hz to 16,500 Hz, with reference to an average output level of just under 80 dB—a characteristic that puts the unit in the ball park for speaker systems of its size and price class. The response curve generally is smooth in its over-all shape (see graphs). On audible test tones, we detected very slight doubling at about 46 Hz; this effect diminished, along with the fundamental bass output, gradually down in level. Although slight directional effects may be discerned starting at about 5,000 Hz, tones as high as 12,000 Hz remain clearly audible well off axis of the system. A 16,000-Hz test tone is audible at reduced level mostly on axis, and from here the response dips toward inaudibility.

B&O rates the unit’s impedance at 4 to 8 ohms, and the lab confirmed this right on the nose with a 6.4-ohm reading following the characteristic bass rise. The impedance curve averages about 6 to 7 ohms across the speaker’s range. Efficiency is relatively high for a top-quality bookshelf model; the Model 5700 needed 7 watts to produce the standard test output level of 94 dB at 1 meter on axis. It could handle 75 watts of steady-state power before distorting significantly, and it could take pulse power peaks of up to 316.4 watts, at which level the output produced was clocked at 112 dB. This data, in sum, bespeaks a very good dynamic range and a robustness of construction that would be more than ample for use in the home.

Although midrange and tweeter level controls are not provided, we did not feel the need for any. The Beovox 5700 struck us as an inherently well-balanced reproducer, whose tonal character—neutral, wide-range, and virtually uncolored as it is—we would not want to vary. This is particularly true when the speaker is driven by a good, clean amplifier itself fed with high-quality program material. The sound of the stereo pair we tested was utterly clean and remarkably smooth, with a well-aired top end, a nicely blossomed-out midrange, and a substantial bottom. The stereo panorama furnished by a pair, spaced at a normal (six to eight feet) distance apart, was most convincing. These are speakers, in sum, that may appeal to a wide variety of buyers, but especially—in our view—to those who know and value the natural ungimmicked sound of music.

High Efficiency Danish Speaker

Beovox 5700 Speaker Harmonic Distortion

<table>
<thead>
<tr>
<th>Output Level (dB)</th>
<th>80 Hz</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% 2nd</td>
<td>% 3rd</td>
</tr>
<tr>
<td>70</td>
<td>0.15</td>
<td>0.25</td>
</tr>
<tr>
<td>75</td>
<td>0.23</td>
<td>0.6</td>
</tr>
<tr>
<td>80</td>
<td>0.32</td>
<td>1.1</td>
</tr>
<tr>
<td>85</td>
<td>0.67</td>
<td>1.5</td>
</tr>
<tr>
<td>90</td>
<td>1.4</td>
<td>2.2</td>
</tr>
<tr>
<td>95</td>
<td>8.0</td>
<td>2.9</td>
</tr>
<tr>
<td>100</td>
<td>0.33</td>
<td>2.0</td>
</tr>
<tr>
<td>105</td>
<td>1.3</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Distortion data are taken on all tested speakers until distortion exceeds the 10 per cent level or the speaker produces the spurious output known as buzzing, whichever occurs first.
THE JAM SESSION IS DEAD.

The tape cassette has always had its obvious advantages. Unfortunately, it's always had one, very not-so-obvious disadvantage: jamming.

After all, what good is a super-sensitive super-faithful tape if it's going to get stuck on you just when you need it most?

Introducing the BASF jamproof cassette. The first tape cassette that's actually guaranteed against jamming or we'll replace it any time, free of charge.

You see, every BASF SK™, LH™ and Chromdioxid™ cassette now comes with a special kind of tape transport system that guides the tape through the cassette without its ever snagging or sticking. It's called Special Mechanics and only BASF cassettes have it.

Variable tension is practically non-existent. Which means you can also forget about things like wow and flutter.

And because it's the perfect tape transport system you can bet your sweet woofer there's an equally perfect tape inside.

For the BASF dealer nearest you, write BASF Systems, Inc., Bedford, Massachusetts 01730.

The BASF jamproof cassette. Because it'll never get stuck on you, you'll always be stuck on it.

Audio/Video Products
A Marantz speaker system breaks up that old gang of yours.

Separation of sound is a true test of a speaker system. And to put Marantz—or any speaker—to the test you should listen to something you are already familiar with so you'll be able to hear for yourself that it's the speaker and not the recording that makes the difference. Oh, what a difference Marantz makes! What you thought were two oboes are now clearly an oboe and a flute and that barbershop quartet... well, they're really a quintet.

Let's face it: most speakers look the same, most speakers have an impressive list of specifications and ALL—ALL—ALL speakers claim to be the very A-1 HOT SHOT MOSTEST BEST.

But the proof is in the listening. And that's where Marantz Imperial speakers come in. Each model is engineered to handle a plethora of continuous RMS power and each employ excursion woofers and tweeters with fantastic off-axis response, high frequency level controls. And Marantz offers you bookshelf to big on-the-floor sizes. Priced from just $59. Each model for the money, truly the very A-1 HOT SHOT MOSTEST BEST. But on paper so is theirs.

However, keep this in mind. Marantz speaker systems are built by the makers of the most expensive stereo equipment in the world. And exactly the same quality that goes into Marantz receivers and Marantz amplifiers goes into Marantz Imperial speaker systems.

To find out how much better they sound, listen. That's all we ask. Listen. Then ask about the big savings on a complete Marantz system.
Once nearly over the edge into oblivion, this baroque survivor has reached new heights of popularity and music-making.

The outcome of at least one twentieth-century music revolution is no longer in doubt—the harpsichord is back and has plucked out a solid place for itself on records and in the recital hall.

Involuntarily relegated to the status of a museum piece during the Romantic heyday of the nineteenth century, the harpsichord today has found new life on a variety of fronts. Music of the baroque era is and will always be the core of the harpsichord repertory, but it is far from being limited to that. Twentieth-century composers as diverse as Poulenc, De Falla, Hans Werner Henze, and Elliott Carter have written music for it. It has even found a home in rock and jazz (not an altogether unmixed blessing—but more about that later).

Furthermore, it has adapted itself to another twentieth-century phenomenon—do-it-yourselfism. Many owners of harpsichords, like high fidelity enthusiasts, have built their instruments from a kit. The job is more difficult than assembling even the most complicated stereophonic tuner or amplifier. It requires dexterity, patience, and much time (about 150 hours of work for a small harpsichord, 500 hours and above-average skill for a large one). But the persevering hobbyist can build himself an adequate harpsichord for about one third of its ready-made price. Most kit harpsichords are small instruments suitable for amateur pleasure in the home and are equipped with a single keyboard and only one or two sets of strings. A harpsichord suitable for concert use is more complicated, with two keyboards and three or four choirs of strings each contributing a different register of tone color. Such resplendent instruments demand the skill of a professional builder and may cost as much as a top-quality grand piano.

The factor that distinguishes a harpsichord from other stringed keyboard instruments is the plectrum action that excites the strings into vibrations. Piano strings are struck by hammers. The clavichord key raises a thin metal blade creating pressure that causes the string to vibrate. The blade also acts as a bridge to define one end of the string's vibrating length. A harpsichord, on the other hand, is essentially any keyboard instrument with strings that are plucked, whatever its size, shape, or name.
various countries the harpsichord has been given many names: the clavecin, the cembalo, the clavicembalo, the Klavizimbcl, the Flügel. If the instrument is small and built in something other than the familiar wing shape (later bequeathed to the grand piano), it may be called a spinet. Some rectangular spinets are given the name of virginal—but to confuse matters, in sixteenth-century England all harpsichords were called virginals. Although this variety of harpsichord types and titles testifies to the instrument's popularity in the baroque period, at the end of the eighteenth century the harpsichord had seemingly vanished from the musical scene.

Wanda Landowska was the midwife for the modern rebirth of the harpsichord. From 1903 until her death in 1959 her artistry was devoted chiefly to baroque keyboard music, and her enthusiasm kindled a new blaze of life in the old instrument. Beginning with her earliest acoustical recordings of 1923 Landowska's performances became accessible to a mass audience. Many of her 78-rpm discs from the 1930s and early 1940s are still available in LP repressings. Her monumental recording of Bach's Well-Tempered Clavier was begun in 1949 and completed in 1954; her last performances were taped only months before she died. The memory of Landowska's magisterial interpretative imagination and leadership cannot be diminished if we critically evaluate her work.

The harpsichords on which Landowska played (and almost all modern harpsichords until a little more than twenty years ago) were significantly unlike their antique prototypes. Baroque harpsichords varied considerably according to their date and place of origin, but all were built with thin soundboards, ingeniously braced thin resonant cases, low string tensions, and solid bottoms enclosing an air-filled sound chamber. The best of these instruments compare in quality and value with their great contemporaries, the violins made by the Stradivarius family. These harpsichords speak with a strong, rich, and virile baritone voice, not the polite tinkle so often imagined. In contrast, the typical modern harpsichord of the first half of the twentieth century (as well as many built today) has a soundboard twice as thick, a heavily framed rigid case, and an open bottom that calls to mind the open baffles of cheap low-fidelity loudspeakers. The tone that results from this type of construction was thought to be interesting—nay, beautiful—so long as traditional criteria remained in the background. When compared with the tone of an antique harpsichord or a good modern replica, it sounds harsh, uninteresting, and lacking in volume.

Perhaps in an effort to compensate for the deficient tone of her instrument and to reinforce its effect in large concert halls, Landowska resorted to an excessive use of the 16-foot stop, which sounds an octave lower than the pitch at which its notes are written. This stop, not normally found on baroque instruments except for a very few late German harpsichords, can add a color that is heavy and opaque.

Also typical of Landowska's playing was her reliance on a kaleidoscopic effect produced by frequent changes of the tone colors controlled by the harpsichord's stops. The modern harpsichord is sometimes equipped with pedals that operate its registers and couple its keyboards. The baroque harpsichordist had hand stops for these purposes. To add or subtract a register, he had to have a hand free long enough to flick a knob. To use the coupler he had to have both hands free. With modern pedals, registers can be changed no matter how the hands may be occupied. The results often deviate wildly from anything that a baroque composer might possibly have imagined.

Pedals on baroque harpsichords, often cited in defense of this mechanism, were rare. They date mostly from the final decades of the eighteenth century when the harpsichord's fortunes were already declining. There is no evidence to show that pedals were known to any composer before 1750, with the sole possible exception of Henry Purcell. Contrasts of color and timbre in baroque harpsichord music are architectural, not impressionist. Their function is to underline the formal structure of a baroque composition. This principle was frequently violated by Landowska, who admittedly knew better but took a typically Romantic attitude toward these problems in performance.

The first half-century of the harpsichord revival
was dominated by this approach. With Landowska as principal model and teacher, the entire next generation of harpsichordists followed this path. Only a notable few of them have been able, in recent years, to achieve a mature style more consonant with baroque performance practices. Consequently, much of the recorded harpsichord repertory is deficient in style and played on inadequate instruments. New recordings of greater authenticity are badly needed in many instances.

Total authenticity is doubtless impossible. For even a modicum of authentic baroque style, the harpsichordist must be generously endowed with insight and scholarship. Baroque composers usually specified little more than the bare notes of their music, and even these were not always meant to be taken literally. Most interpretative details—not only the choices of register and color, but also most of the decisions concerning phrasing and articulation that are the elements that contain the secrets of expressive performance at the harpsichord—were generally left to the performer's discretion. A harpsichordist needs to be a practical working musicologist familiar with every baroque tradition, each with its own system of ornaments, rhythmic and melodic deviations from the written score, tempo indications, and the like.

These challenges to the mind and fingers still elude some contemporary performers. A recording of six Bach-Vivaldi concertos for solo harpsichord on Turnabout 34287 is excellent in its engineering techniques—including one of the first uses of the Dolby S/N stretcher—but the performance by János Sebestyén whirls through color changes to the point of vertigo, inserting shifts of registration between units as closely bound together as an appoggiatura and its resolution. Attempting to solve the rhythmic problems of *notes inégales* in his album of Rameau's *Pièces de clavecin* (Argo 5491/2), the English harpsichordist George Malcolm applies rhythmic inequality like a thick paste over the entire surface of the music without regard for its appropriate use. (In the album's liner notes, Malcolm candidly admits of his application of *notes inégales*: "I am not convinced that I have yet really digested the system.")

Harpsichord performances of this kind, and they are numerous, resemble the Stokowski transcriptions of Bach of a couple of decades ago in their distortion of the composer's intentions. (If you happen to like Bach-Stokowski, pardon me.) Stylistic authenticity does not call for the strictures of pedantic purism, but for musical artistry of the most practical kind, in that it reveals the expressive eloquence of baroque music with a force that can be compared to the restoration of a great old painting to its original colors by the removal of layers of Victorian varnish. Fortunately, there is an increasing number of harpsichordists with a high regard for baroque style. Most distinguished among them are three virtuosi: the Americans Ralph Kirkpatrick and Igor Kipnis and the Dutch musician Gustav Leonhardt.

Modern instruments based on baroque specifications are heard more frequently now. Some of
the best of these come from the American work- 
shops of Frank Hubbard and William Dowd, and 
from the German builders Rainer Schütze and 
Martin Skowroneck.

A happy development in recent harpsichord 
recordings is the availability of performances 
played on antique instruments. The opportunity to 
hear harpsichords built in the seventeenth and 
eighteenth centuries and to compare the individual 
timbres of instruments from northern and southern 
Europe is one that we are able to enjoy only through 
recordings. Leonhardt has recorded for Telefunken 
(S 9512) on a variety of antique harpsichords. In a 
three-record Vox box (SVBX 5448), Alan Curtis 
plays eight of the early Ordres of Francois Couperin 
on a fine 1730 instrument by the French harpsi-
chord maker Blanchet. Robert Conant, a Kirk-
patrick pupil, can be heard on a Yale University 
disc, playing two 1770 instruments from the Yale 
collection: a German harpsichord by Hass, and one 
by the French builder Pascal Taskin that may well 
possess the most beautiful harpsichord tone ever 
fashioned.

Harpsichord tone poses a number of hazards to 
the recording engineer, even apart from the old trap 
(usually avoided now) of setting the recording level 
twice as large as life. Some noise elements are native 
to the harpsichord, particularly those caused by 
the backfall of jacks when keys are released. In 
proper proportion this faint clatter adds to the in-
herent charm of the instrument, like the “chuff -
of a baroque organ. Other noises are less desirable 
and must be minimized by the performer as well as 
by the recording technician. The thud of fingers on 
the keys or the overenergetic knock of jacks against 
the jack-rail can be amplified into a rattling din of 
transients that will assail the ear and belie the true 
sweetness of the tone. To cite one horrible example, 
a harpsichord recording by Aimée van de Wiele 
on Nonesuch 71037 makes a battery of percussive 
oises devastatingly audible.

The repertory for solo harpsichord is well repre-
sented in the Schwann catalogue, though not with-
out some gaps. The field is too extensive to permit 
a complete discography, but a brief survey arranged 
by the nationalities of the composers will reveal 
both the strengths and the weaknesses.

England

Elizabethan England was the earliest home of a 
virtuoso harpsichord style. The best-known com-
posers—John Bull, William Byrd, Giles Farnaby— 
have been recorded (on Vox SVBX 572, among 
others) mostly in short selections on varied pro-
grams. In the seventeenth century, England’s great-
est composer was Henry Purcell. A small but 
delightful segment of his work was for solo harpsi-
chord, some of which will be found on Nonesuch

71027 and Cambridge 2709. It is recorded in its 
entirety by the late Thurston Dart on Spoken Arts 
207 and 208. Other performers who have addressed 
themselves to Purcell include Igor Kipnis and Sylvia 
Marlowe. Eighteenth-century England was domi-
nated by an adopted son, George Frideric Handel, 
whose harpsichord suites have been recorded by 
almost a dozen players, including a complete ver-
sion by Paul Wolfe on five Expériences Anonymes 
discs (500). After Handel, England had little to 
offer, though Thomas Arne wrote some pleasant 
harpsichord sonatas, one of which is fleetly played 
by George Malcolm on Argo ZRG 577.

France

Jacques Champion de Chambonnieres, the sev-
enteenth-century founder of French harpsichord 
music, has not been granted a separate entry in 
Schwann. One of his short dances turns up in a 
Landowska recording (RCA Victor LM 1181). Of 
Chambonnieres’ famous pupils, Louis Couperin 
and Jean-Henri D’Anglebert fare better, but the 
harpsichord music of Nicolas Lebègue is missing 
from the catalogue. Not all of Francois Couperin’s 
compositions for harpsichord have been recorded, 
although they are considered to be the peak of the 
French harpsichord style. A fairly wide selection of 
Couperin can be had from the fingers of Sylvia 
Marlowe, Alan Curtis, and others. The complete 
harpsichord music of Rameau—which, despite its 
many felicities and manifestations of genius, lacks 
the profound humanity and the psychological pene-
tration of Couperin—still exists in George Mal-
colm’s rendition on Argo 5491/2.

Italy

From seventeenth-century Italy, harpsichord 
music by Frescobaldi is played by Gustav Leon-
hardt (Telefunken S 9463 and S 9512), Paul Wolfe 
(Expériences Anonymes 22), and Sylvia Marlowe 
(Capitol P 8336, now deleted). In general, harpsi-
chord music by eighteenth-century Italians (with 
the tremendous exception of Domenico Scarlatti) 
tended to be frothy and superficial. A pleasant 
program by eight Italian composers of this period 
is played by Luciano Sgrizzi on Nonesuch 71117. 
A complete recording of the more than 550 sonatas 
of Domenico Scarlatti is not yet a reality, but Scar-
latti sonatas have been recorded by at least eight 
harpsichordists, of whom the most authoritative is 
Ralph Kirkpatrick.

Germany

The greatest composer of the German harpsi-
harpischord, or of the baroque in any country, and perhaps of all music of any period—Johann Sebastian Bach—has had his harpsichord music recorded often enough to warrant a separate discography. There is the complete music for solo harpsichord on six three-record sets (Vox SVBX 5434, 5435, 5436, 5437, 5438, 5439) in stodgy performances by Martin Galling that are deficient in understanding of the baroque style. In smaller chunks, the Bach repertory has been recorded by just about every professional harpsichordist of the twentieth century.

Other German keyboard composers of the period are less fully represented. In the seventeenth century, Johann Froberger wrote some thirty suites for harpsichord, some of which are played by Thurston Dart (Oiseau Lyre 60038), Igor Kipnis (Odyssey Y 30289), and Gustav Leonhardt (Cambridge 1509 and RCA Victrola VICS 1494). From eighteenth-century Germany, all thirty-six of Telemann's entertain Fantasias are played by Helma Elsner on three Dover records (5210, 5236/7), but the harpsichord music of Muffat, Graupner, and Kirnberger—the latter a pupil of Bach—is not to be found on current discs. A few solo harpsichord recordings have been made of music by J. S. Bach's best-known sons: Carl Philipp Emanuel, Johann Christian, and Wilhelm Friedemann—and with these names we approach the point in time at which the harpsichord was supplanted by the pianoforte.

Twentieth-century harpsichord compositions merit an article of their own, as do some other areas of harpsichord music. The importance of the baroque harpsichord as an accompanying instrument to chamber groups was perhaps even greater than its role as a solo instrument. The baroque concerto for harpsichord and orchestra, a genre invented by J. S. Bach, is less common, though performances of Bach's harpsichord concertos (including complete recordings) are abundant.

In the twentieth century, extensive use has been made of the harpsichord in jazz and rock. For the latter, the instrument is usually one of two versions of an electronic harpsichord. One, totally electronic, uses tone generators rather similar to those in a Hammond organ; this instrument isn't really a harpsichord, and doesn't sound like one. Another type has the strings and jacks of a conventional harpsichord, but the sound-board (the heart of the tone) is replaced by magnetic pickups and an amplifier capable of emitting a truly nauseating sound.

The harpsichord is no mere antiquarian fad. Modern audiences have recognized both the great vitality of baroque music and the unique suitability of the harpsichord to contemporary themes.

Following are twelve harpsichord recordings the author feels are of extraordinary interest. The two that are no longer in the catalogue may still be found in some record shops.

D'ANGLEBERT/COUPERIN, L.: French Harpsichord Masterpieces. Gustav Leonhardt. RCA Victor VICS 1370. This Couperin was the uncle of the better-known François. Leonhardt uses a modern Skowroneck harpsichord tuned to mean-tone temperament.


BACH, J. S.: The Well-Tempered Clavier. Wanda Landowska. RCA Victor LM 6801 (six discs). Gustav Leonhardt. Book II only. RCA Victor VICS 6125 (three discs). Eccentricities and all, Landowska's has no substitute. But Leonhardt's modern recording shows his great poetic musicianship. His introspective and slightly somber approach is an interesting contrast to Landowska's and possesses at least an equal validity. The sound is overly loud, but clear. I await Book I.

BACH, J. S./BOHM/COUPERIN, F./FRESCOBALDI: Selections. Gustav Leonhardt. Telefunken S 9463. Leonhardt plays on a variety of harpsichords, antique and modern. The record includes a Suite by Georg Böhm that is a little (and little-known) gem.


BULL/BYRD/FARNABY: Suites and Miscellaneous Pieces. Sylvia Marlowe. Capitol P 8336 (deleted). This elderly recording is worth hunting for. The Frescobaldi pieces are particularly recommended.

PURCELL: Suites and Miscellaneous Pieces. Sylvia Marlowe. Decca DL 710419 (deleted). Miss Marlowe's mastery of French rhythmic alteration is appropriately applied to this English galanterie. The harpsichord is a fine modern instrument built by William Dowd after a baroque model.

SCARLATTI, D.: Sixty Sonatas. Ralph Kirkpatrick. Odyssey 32 26 0007 (mono only, two discs) and 32 26 0012 (rechanneled stereo, two discs). Recording engineers have learned much since the time of this early recording (and so has Kirkpatrick), but it remains one of the best large-scale surveys of Scarlatti. A more up-to-date, if less comprehensive recording by Kirkpatrick (Archive 1583 072) contains eighteen Scarlatti sonatas. Here, to an even greater extent, Kirkpatrick demonstrates his total command of both style and virtuosity and the modern Rainer Schütze harpsichord has the authentic old-Italian flavor.
IN THIS ISSUE of HIGH FIDELITY we’re running two articles on loudspeaker efficiency, each representing an opposing viewpoint offered by spokesmen for Acoustic Research (low efficiency) and J. B. Lansing (high efficiency). The intent of our forum on this subject is to recall and re-examine one of the most intriguing and contested aspects of speaker system design—in the new double light provided at this time by the accumulated wisdom and experience of the loudspeaker industry, and by the renewed focus on speaker systems and their performance that is suggested by the rising interest in four-channel sound. Hopefully, our twin bill also will stimulate discussion and further exploration on the part of audio enthusiasts generally, both in and out of the high fidelity industry.

One thing we do not intend with these two articles is to hand down any dogma on either side of the question. Our own position on speaker efficiency holds that this is one of many variables in speaker design. How efficient a speaker is to be is a choice made by the speaker designer as he relates this particular characteristic to a host of others in evolving the total product he is responsible for. Our own years of listening and the results of tests—in the lab and in the living room—tell us that efficiency as such is no guide to speaker performance. You can, that is to say, have high-efficiency speakers that sound poor or great; ditto for low-efficiency speakers. In an "all-other-things-being-equal" situation, the difference in efficiency between two otherwise similar speakers reduces itself to the matter of available amplifier power to drive each. A low-efficiency speaker requires relatively more amplifier power to produce a given level of sound in a given room than does a high-efficiency speaker.

That is true of course from a purely technical viewpoint. But obviously speakers—perhaps more than any other class of audio equipment—get us involved in many extra-technical considerations. Certainly a major one is appearance; speakers are not only the mouthpieces of our stereo systems, they also are their most obvious visual objects. Speakers do take up space in a room, and where stereo vis-à-vis mono meant one more unit of space, quadraphonics vis-à-vis stereo pre-empts two more units of space over that.

The question of size does loom more significantly today. And indeed it is on this aspect of design, as it relates to efficiency, that our distinguished guest authors disagree. But the disagreement is not a simple one, and indeed the way in which these two writers disagree is, to us, as fascinating as the nominal nature of the subject itself. To elucidate: Given three design factors—cabinet size, bass response, and efficiency—in which one factor is fixed, what happens to the other two? In other words, if you limit the factor of size to "small"—that is, two or so cubic feet—what is left? With a cabinet of this size, you can aim for high efficiency and thereby necessarily compromise to some degree the bass response; or you can go after full bass response and thereby necessarily give up something in the way of efficiency. This very equation, it must be pointed out, has occupied the minds and efforts of speaker-system designers for nearly twenty years, and the various ways in which it has been solved account for the majority of the speaker systems made, bought, and used in high fidelity systems to date.

But if this formulation were the only one involved, there would be little worth arguing about at this stage of the art, and we would hardly be inclined to devote pages in HIGH FIDELITY to a rehash of the obvious.

What enlivens the present discussion as presented by Messrs. Allison and Phillips is that each writer now brings a new element of persuasion to his side of the argument. Allison, for instance, holds that the large speaker system is now, for all intents and purposes, obsolete—and with it, the idea of high efficiency. Phillips insists that high efficiency—whether in large systems or in small ones—is highly desirable not in terms of whether or not it compromises bass response but rather because it is more capable of reproducing the actual sound of a recording session, and that this feature might outweigh all others, including such traditionally esteemed factors as frequency response.

When these two viewpoints reached our desks, we reacted strongly. Few communications from the industry or from readers have triggered such long and intensive discussion here—and we’re supposed to be seasoned, sophisticated, not-easily-shaken connoisseurs of the high fidelity art. After a period of not being able to agree among ourselves we realized that if these new viewpoints had stimulated such lively debate here, their publication might constitute an equally provocative feature to our readers.

And so here it is: a new twist in an old argument about speaker design, one that may confuse at first but which doubtless will lead to deeper understanding. But whether this discussion serves to explicate or to entertain, we feel it is one you will not turn away from.
OF ALL THE CONTROVERSYS that have appeared (and disappeared) in high fidelity over the years, one of the most persistent—and, to me, most fascinating—is that between the proponents of high-efficiency loudspeaker systems and those who believe that by ignoring the question of efficiency a better system can be produced. I don't propose to raise all the arguments again; they're too well known. Dozens of articles have been written on both sides, with elegant and conclusive proofs. Pages of laboratory data, mathematical derivations, and theory have been produced to support one hypothesis or the other.

Today, most manufacturers have switched to the low-efficiency approach—for a very good reason. It permits loudspeakers to be built for considerably less money. If electroacoustic efficiency is to be ignored in the design and manufacture of loudspeakers, little or no machining is required, parts can be stamped, ceramic magnets can be used instead of alnico, voice coils can be mass produced from round wire instead of hand wound on edge. The loudspeakers themselves usually cost less than the enclosure in which they are housed, no matter who makes them and irrespective of the final selling price. And of course the enclosure itself will cost less if it is small—which the most common of low-efficiency speaker designs are. Only a couple of manufacturers continue to insist that efficiency is necessary to the proper reproduction of music.

In the final analysis theory is relatively unimportant; you and I will listen to whatever sound we prefer, and the mass of the cone or the volume of the enclosure will not intrude on our pleasure in hearing the music. That pleasure is the object of our search in choosing a loudspeaker, and it is in this respect that I believe an important—or even overriding—consideration has been lost in the welter of technical invective.

Many articles have been written to define the term “high fidelity.” Ten or twenty years ago, it meant the re-creation of a live performance, at a later time, in a different place, in so realistic a manner that the listener could imagine himself present at the original performance. The concept of recording as a preservative, as an acoustical photograph if you will, no longer is valid however. Recording has ceased to be merely the medium and now is part of the message. It has become a creative art form in itself.

This is important: The sounds on many recordings today cannot even be approximated in live performance. And unless you are a conductor you will not be able to hear a symphony as well in a hall as you can, potentially, from a record. If that causes your brow to furrow and raises your blood pressure a bit, bear with me while I review how recordings are made today.

To begin with, modern studios use highly specialized tape recorders. These machines cost about $20,000 apiece and will record up to sixteen tracks (or sometimes more) across the width of two-inch tape. The engineer uses a track chart to log which musical sounds are on what portion of the tape. A typical track chart for a middle-of-the-road pops session might show the following: Track 1, left drums; Track 2, right drums; Track 3, bass drum; Track 4, acoustic bass; Track 5, acoustic guitar; Track 6, left piano; Track 7, right piano; Track 8, percussion; Track 9, lead vocal; Track 10, chorus; Track 11, left horns; Track 12, right horns; Track 13, left strings; Track 14, right strings; Track 15, woodwinds; Track 16, open.

As I say, this track layout suggests a middle-of-the-road recording scheme and may be taken as more or less prototypical of the techniques that dominate the recording industry today. These techniques apply in varying degrees to different types
of music, with the potential of multitrack recording applied quite differently from job to job. At one extreme is classical music, where as a general practice the entire musical forces for a given passage are present in the studio or hall and record simultaneously. The separate tracks can be used for the several portions of the orchestra, solo instrumental passages, vocal soloists, chorus, and so on. In some cases two tracks may be reserved for the same sound—one with and one without echo or similar special effects, so that the effect can be altered or moderated in subsequent mixing. Sometimes microphones are placed toward the back of the hall and used to record its “ambiance” as a separate track or tracks. At the other extreme are many modern rock sessions, where some tracks may be “laid down” as much as months later and thousands of miles away in another studio, sometimes by musicians who had nothing to do with the original sessions. But there are no set rules. Techniques are borrowed and adapted to fit the job at hand.

The arranger may have planned to use forty musicians for this particular performance. When we look in the studio, however, we might see microphones set up for only drums, bass, guitar, and piano because only these instruments are being recorded today. As you can see from the track chart, they will take up Tracks 1 through 7. Three days from now, the string section (perhaps three violins, one viola, and two cellos) is scheduled to record. The performers will listen to the original seven tracks, played back through headphones while they record their portion of the score right onto Tracks 13 and 14 of the same tape through a process known as Sel-Sync.

While the recording is being made the engineer and the producer will listen, in sync, to Tracks 1 through 7, as well as 13 and 14, on the monitor speakers in the control room. In this way they can hear the previous tracks together with the new material that is being added. As the days go by, each group of musicians will repeat this process until the track chart is completed.

Let’s go out into the studio and look at the microphone setup. There are five microphones on the drums, mixed down to three tracks on the tape. The mikes are located very close to the instruments; that for the bass drum actually is inside it, resting on a foam pad. Another mike picks up the traps, another the cymbals, and so forth. These percussion instruments may be isolated from the others—the bass, guitar, and piano—by acoustical barriers. By close miking, the engineer captures all the transients and harmonics generated by the drums; by acoustical isolation he ensures that only the drums will appear on Tracks 1, 2, and 3. Similarly close miking is used for the other instruments as well. One mike may be suspended inside the piano or placed directly under it.

Throughout the recording, the engineer will be trying to get as much signal as possible onto each track to improve the S/N ratio. No attempt is made at relative balance—which cannot be assessed until all tracks are complete of course. What the engineer will be listening for, via the monitor speakers, is the clarity and vividness of the individual sounds rather than their combined effect. That comes later.

When all tracks are filled, the mixdown sessions can begin. The musicians have gone home, and we are left with the producer, the engineer, perhaps the featured artist, and fifteen tracks of raw musical material. These fifteen signals must be mixed down to two (to make the stereo master tape), and become an artistic whole in the process.

In the mixing process the signals will be altered. Echo will be added to the strings and perhaps the voice. There will be about 6 dB of boost at 5 kHz added to the voice and 10 dB of cut at 100 Hz applied to the guitar. The drums will have 4 dB of boost at 10 kHz and 6 dB at 100 Hz. The vocal track will be compressed to reduce the dynamic range of the voice. Relative balances will be set between tracks. Each of the fifteen can be assigned to the left, the right, or anywhere in between on the final stereo copy.

At the risk of being a bit precious I’d like to suggest an analogy that is both accurate and useful in understanding the mixdown process. Consider the producer an artist. The fifteen tracks become his paints, the console his brushes, the two-track tape his canvas, and the monitor loudspeakers the light source by which he sees what he is doing.

The producer and the engineer may begin with the rhythm tracks, adding equalization to get the sound they want and some echo on the rim shots. They bring in the bass, and then the guitar for three bars only, then fade down and bring up the piano—and so it goes. This mixdown process can require weeks of concentrated effort for a single tune. The producer and engineer must get to know all the subtleties of each track, how to alter each instru-
These pictures, made in RCA studios, suggest some of the key techniques in modern record production. At left, members of the Youngbloods record miscellaneous tracks while listening to previous tracks via headphones. Note isolation screens in background at left and multiple miking. (We count seven mikes, though not all need be live at any one time.) At right, the engineer cues up a quarter-inch stereo master tape during mixdown session. Multitrack originals, from which master is made, often are recorded on two-inch tape.

ment, when to bring up which instrument, and when to fade down which combination of others. A recent popular LP required over two thousand hours of studio time for eleven tunes—an average of over five forty-hour weeks for each.

High fidelity, then, might be redefined as the recreation at a later time and a different place of a musical experience in so faithful a manner that the listener can imagine himself present at the recording session. The complex and subtle evaluations that the engineer and producer must make in subsequent processing are bent on one end—maximum effectiveness in translating the musical performances in the studio into a vivid, convincing musical experience in your home.

Any team that will spend over two thousand hours mixing an LP obviously is not looking for convenience in choosing its techniques. And this is true whether it is recording pops or classics. Bach, Haydn, and Mahler were innovators and often were misunderstood by their contemporaries. We must not assume that the live-concert perspective for which their music was written defined their musical values for all time. Since all these changes are made using the sound from a loudspeaker as a reference point, the characteristics of that loudspeaker obviously will be reflected in the final sound that is pressed into the recording. To re-create that original studio experience (the only reality that exists) we must use a similar type of loudspeaker. I don’t mean the same model number or even the same manufacturer, but a similar type. Low-efficiency designs have a different and characteristic sound from high-efficiency designs, no matter which manufacturers are involved.

I’ve been intimately involved with recording and recording studio design for several years, but I don’t know of a single studio that uses low-efficiency loudspeakers for monitoring—though there undoubtedly are some. The essential point is that, for all practical purposes, modern recordings are mixed using high-efficiency loudspeakers, and that the sound on those recordings reflects what the producer or conductor heard from those loudspeakers in the studio. To hear the recording the way they heard it, you need a similar loudspeaker.

Use of a dissimilar loudspeaker will, to some extent, represent a reinterpretation, rather than a recreation, of the recorded reality. Whether reinterpretation is good or bad I leave to you. This is not a reflection of any ethical stance on my part—I simply cannot judge for you, nor will I pretend to. You are the person who is listening, and you must be pleased with what you hear. Listen to both and choose the one you prefer.

Enjoy! That’s what it’s all about!
I have in the past expounded the position that efficiency is not (or should not be) a criterion in choosing a loudspeaker system. After giving the matter some thought I find that I can no longer defend that position. Efficiency should be a criterion, at least indirectly, because the only way that good low-frequency performance can be obtained from a small loudspeaker system is to sacrifice efficiency that isn't really necessary.

A loudspeaker's efficiency is an index of how much acoustical power it will produce for a given amount of electrical power from the amplifier. If it is 1 per cent efficient, it will convert 1/100 of the electrical power into acoustic power; the rest is dissipated uselessly. If it is 5 per cent efficient, on the other hand, 1/20 of the amplifier power is converted into acoustical power. The 5 per cent efficient loudspeaker system will sound as loud in your living room with only 2 watts from the amplifier as the 1 per cent efficient system with 10 watts.

If we assume optimal design for a number of loudspeaker systems, and further assume equal low-frequency performance for all of them, we will find that the system efficiency is directly proportional to the cabinet volume. It will be proportional only to cabinet volume—not to woofer diameter or the number of woofers or anything else. This isn't a controversial matter like how little distortion can be heard under normal listening conditions. It is a plain statement of a physical law that is as inexorable as Newton's laws of motion. If we want full, flat low-frequency response, we must be prepared to give up either high efficiency or small size. We cannot have all three, even if some advertising copy implies that we can.

In the era of monaural high fidelity sound and 12-watt amplifiers a large speaker cabinet was a minor disadvantage. Even if it didn't have the virtue of visual beauty, it could be tolerated for its other qualities. Stereo introduced a new dimension in more ways than one. A pair of big boxes in the living room is quite a different matter from a single box in the corner. Still, there were people willing to put up with such an intrusion on living space so that they could use dual 10-watt receivers, or to obtain some mythical performance advantage. One could continue to say that efficiency was unimportant only if size didn't matter.

But now quadraphonic sound must be considered, and no woman with a shred of independent spirit will permit her living room to be taken over by four big boxes. It is irresponsible to propose such a thing, irrational to believe that any number of sensible people would go along with it. Large loudspeaker systems for domestic use are obsolete.

Small systems can be made quite efficient if we are prepared to give up bass response. Do quadraphonics require deep-bass performance from the rear speakers? Absolutely. For any type of four-channel recording wherein all channels carry primary information—including almost all popular music and some serious music (particularly electronic or synthesized music)—and for special effects, clearly all of the speaker systems are equally important and should be capable of reproducing the full range. Full bass capability is also needed for accurate re-creation of spatial ambience; otherwise, one of the most important parts of that ambience is lost. The awesome solidity of the deepest bass experienced in the concert hall can be duplicated at home only by a four-channel recording played back on four full-range speaker systems. It cannot be obtained with a two-channel recording played through the same four loudspeakers. This serendipitous attribute of the quadraphonic medium is lost unless all the speaker systems have excellent low-frequency capability.

If quadraphonics make it essential that loudspeaker systems be small for practical reasons, and if it is essential that these systems have well-extended flat bass response, then they will of necessity have relatively low efficiency. Fortunately the efficiency is not so low as to be troublesome. With amplifiers of moderate power these low-efficiency systems can produce more than enough sound level in living rooms to match the concert-hall experience. They can't duplicate the deafening sound levels experienced at live performances of some rock
groups—but then, almost nothing can generate sound levels like those except the speakers that created them originally: large banks of speaker systems designed for brute power, rather than fidelity as such.

Finally, there is another performance advantage that can be gained from a small system because of its low efficiency. The midrange and tweeter output levels must be brought down by the manufacturer to match the woofer output. Excess efficiency in these units can be exchanged for smooth, extended frequency response and better transient response by using damping techniques that are not permissible in a speaker system whose efficiency must be kept high at all frequencies. If this inherent engineering advantage is exploited, a well-designed small speaker system is at least equal in every audible aspect of quality to a well-designed big system, and superior in some ways. All it needs is more electrical power from the amplifier—and sheer wattage is no longer the exotic, expensive commodity it once was.

Before you buy speakers

What About Quadrrophonics?

FOUR-CHANNEL SOUND, while a subject of fascination today, admittedly isn't (yet) a way of high fidelity life. But judging by your letters increasing numbers of readers are planning stereo purchases in such a way that the conversion to quadrophonics—if and when you decide to take the plunge—will be as painless as possible. These notes are dedicated to that objective.

Mix or Match?

One bromide of speaker purchasing over the last decade or so has been that if you want to keep initial costs down you can buy a stereo system that includes a pair of inexpensive speakers and add a "good" pair later on when your budget allows it. The ultimate system, then, would place the better speakers in the main listening room and relegate the original cheapies to a bedroom, den, or kitchen, driven from the "remote" speaker connections of the stereo system's receiver. The plan is eminently sensible, but its application to four-channel sound is a little awkward. In its commonest form, the question it raises is: Will I be able to use my better speakers in the front channels and put the cheapies at the back of the room?

If you were to twist my arm for a yes-or-no an-
swen, I'd have to say "no." Particularly in reproducing matrixed recordings, where directionality often is achieved by a delicate balance between the loudnesses of two otherwise identical signals fed to two of the four loudspeakers, dissimilar loudspeakers can demonstrably produce instability of placement in the aural image. Let's say that the violins—usually placed on the left in most symphonic setups—play first a high E and then a high A. If the front speaker has a 3-dB peak at the frequency of the E and the back speaker has a similar peak at A, the balance between speakers will be altered by 6 dB as the note changes from E to A. These are not very extreme peaks as speaker response patterns go; but the 6-dB difference is significant. (Remember that in some matrix systems the total maximum separation between front and back channels on either side may be no greater than 6 dB.) The result is, of course, that the violins can appear to jump across the left side of the room between the two notes.

They can, but the effect is seldom really noticeable. As a practical matter, differences in response due entirely to room acoustics also tend to disturb the nice, neat equations of quadraphonic theory, but the over-all effect—like that of stereo—is less fragile than theory might lead you to believe.

Even if our violins are placed firmly at the left front, and the back channels are reserved for ambiance (or "hall sound") information, do not assume that dissimilar front and back speakers pose no problems. Ambiance signals are quite different from the directly propagated front signals, but they are equally demanding in terms of the speakers that reproduce them. Bass reproduction is particularly important to the ambiance effect, yet bass response is one respect in which cheapie speakers regularly are deficient.

So while much solid enjoyment can be derived from a system in which there is audible disparity between front and back speakers, the basic rule is to try for maximum similarity.

My suggestion: Plan on using four identical speakers in the final system, but don't reject out of hand the possibility of using dissimilar pairs in an interim system. (Keep in mind, however, that some models—particularly among "off" brands—may no longer be available when you come to buy your second pair.)

**Spread or Focus?**

If questions relating to mixing speaker models for four-channel reproduction are the most often asked on this subject, those dealing with dispersion characteristics probably come in second: Will a reflective type of speaker be better or worse than direct propagation in the creation of a quadraphonic aural image?

The question seems to arise—as it does in stereo reproduction—partly through confusion between directionality (or beaming) in a speaker's dispersion pattern and directionality (or the ability of the listener to localize sound sources) within the aural image. Indirect radiators, as a class, tend to spread out the sound they produce in such a way as to minimize the possibility of hole-in-the-middle localization. At the same time, by diffusing the sound, they tend to make it seem to come from a larger source—one whole corner of the room, for example, rather than a single point behind the grille cloth.

A beaming speaker, on the other hand, poses much the same problem in quadraphonic reproduction as it does in stereo: The area in which the full frequency range of its output can be heard in proper balance is relatively restricted and some of the effect may be lost as the listener moves out of the optimum listening area. The size and acoustics of the listening room, the program material and recording technique, and the personal tastes of the listener all will make important differences to the choice between dispersion types when you come to purchase speakers for a quadraphonic system.

My suggestion: Choose your speakers much as you would for stereo. If you like the way a given speaker delivers its sound to the room, it should please you whether you are listening to stereo or to four-channel sound.

**Where Do the Speakers Go?**

Most published descriptions of quadraphonic systems assume that the speakers will be placed roughly in the four corners of a rectangular room. If the room is exceptionally long, it may be a better plan to use one end as the listening area, with two of the speakers placed part way down the side walls. Given such an arrangement, I prefer to hear the "front" sound—rather than the back—emanating from the end wall, but depending on décor and seating arrangements, you may opt for the opposite.

Not all rooms are rectangular of course. An L-shaped room can pose problems of stereo—let alone quadraphonic—speaker placement. The main thing to keep in mind is that you will be creating a sort of "listening field" in all or part of the room, and that this field, with the speakers at its four corners, must be placed so that it will work well with the décor and traffic-flow patterns of the room.

My suggestion: Don't begin by looking for four handy spots to place your speakers, but by thinking in terms of the "sound field" you are trying to create. Does one side—perhaps that with a fireplace—tend to act as its focus? (If so, that wall probably should be thought of as the front of the sound field.) Where would the listeners logically be sit-
Announcing not merely the best Fisher speakers ever made but an important new insight into speaker design.
Controlled dispersion.
The engineering concept behind the new Fisher Studio Standard speakers.

These new Fisher speaker systems are the first of a new generation of professional-quality components for the serious audiophile, distinguished from other Fisher products by the Studio Standard designation.

Even if judged by the strictly conventional criteria of frequency response, harmonic distortion and transient performance, these are by far the most advanced speakers Fisher has ever produced. But that alone is not what gives them their special technological stature.

Their true sophistication can be appreciated only by examining their dispersion characteristics. These are not conventional bookshelf speakers with highly directional forward-facing drivers. Nor do they belong to the new breed of omnidirectional speakers utilizing reflected sound for wide-angle dispersion. In the opinion of the Fisher engineering staff, the Studio Standard speakers represent a more valid approach than either of these schools.

A new insight: controlled dispersion.

Audiophiles know that the limited dispersion or "beaming" of high frequencies by conventional bookshelf speakers restricts the ideal listening area to a small section of the room. They also know that in most rooms such speakers are unable to create the impression of a very large sound source, like a symphony orchestra or choral group, even with proper stereo placement. The effect is simply not real enough. On the other hand, more and more audiophiles are beginning to complain about just the opposite fault in fully reflective omnidirectional speakers. A solo violin appears to stretch from wall to wall. A singer's mouth seems fifteen feet wide. Everything sounds big, not just the big sound sources.

Once the problem is clearly stated, the solution is almost obvious. Narrow-angle dispersion is inadequate. Random reflective dispersion is exaggerated and inaccurate. The truth must lie in between. With that thought, the principle of controlled dispersion was born.

In the Studio Standard speakers, the proportion of reflected to direct sound is carefully calculated and controlled, at least to the extent that the variables of room acoustics and speaker placement permit. There is enough direct sound for ideal overall presence and precise localization of solo parts; at the same time there is enough sound reflected off the walls for realistic spaciousness of large sound sources. All of this is accomplished by specially designed midrange and treble speakers, each mounted with its own precisely determined angular offset. The angles must be large enough for greatly improved dispersion but not so large as to produce an omnidirectional effect.

The patented midrange driver.
The crucial driver in all three Studio Standard systems is a patented soft-dome midrange unit with a 1¼-inch dome and giant 6-lb. magnet structure. The unusually large magnet permits the small dome to reproduce frequencies from 600 Hz up, not only relieving the woofer of a troublesome range but also dispersing the upper midrange and lower treble over a much wider angle than a typical 4-inch or 5-inch midrange speaker could. Since the soft-dome driver is assigned all frequencies up to 5000 Hz, there are no crossover effects in the range where nearly all of the basic musical material is located, and the essential sonic character of the entire speaker system is determined by this virtually perfect midrange unit.

The other sophisticated drivers.
The treble speakers are equally advanced 2-inch cone units with a 5/8-inch aluminum center dome, capable of peak-free response up to nearly 25,000 Hz.

The most elaborate of the three speakers, the Fisher ST-550, also incorporates an extra set of slightly different soft-dome drivers, angled even further out and limited to the range that benefits from the added dispersion. Even without their sophisticated offset mounting, these drivers, along with the state-of-the-art 15-inch and 12-inch woofers used, would make the bookshelf speakers they are used in the most desirable on the market. The crossover networks, cabinets and general construction details are of the same high caliber, right down to the sculptured grilles.

But it is the controlled dispersion principle that puts these speakers into a special category. Fisher is willing to risk the statement that the ST-550 Studio Standard is the absolute first choice for the audio perfectionist today and that the ST-530 and ST-550 are very close behind.

To have a more detailed understanding of this principle and of the engineering features of the three Studio Standard speakers, it is advisable to read the complete technical literature Fisher has prepared on the subject. For a free copy, write to Fisher Radio, Dept. HF-5, 11-40 45th Road, Long Island City, N.Y. 11101.
Total number of drivers

<table>
<thead>
<tr>
<th></th>
<th>ST-500</th>
<th>ST-530</th>
<th>ST-550</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woofer</td>
<td>6</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Diameter</td>
<td>12&quot;</td>
<td>15&quot;</td>
<td>15&quot;</td>
</tr>
<tr>
<td>Voice-coil diameter</td>
<td>2&quot;</td>
<td>2&quot;</td>
<td>2&quot;</td>
</tr>
<tr>
<td>Resonance (open-air)</td>
<td>16 Hz</td>
<td>14 Hz</td>
<td>14 Hz</td>
</tr>
<tr>
<td>Magnet structure</td>
<td>6 lbs.</td>
<td>6 lbs.</td>
<td>6 lbs.</td>
</tr>
<tr>
<td>Midrange</td>
<td>1 cone</td>
<td>1 cone</td>
<td>1 cone</td>
</tr>
<tr>
<td>Voice-coil diameter</td>
<td>2&quot;</td>
<td>2&quot;</td>
<td>2&quot;</td>
</tr>
<tr>
<td>Magnet structure</td>
<td>6 lbs.</td>
<td>6 lbs.</td>
<td>6 lbs.</td>
</tr>
<tr>
<td>TWEETERS</td>
<td>2 cones</td>
<td>4 cones</td>
<td>2 cones</td>
</tr>
<tr>
<td>Cone diameter</td>
<td>5/8&quot;</td>
<td>5/8&quot;</td>
<td>5/8&quot;</td>
</tr>
<tr>
<td>Voice-coil diameter</td>
<td>2&quot;</td>
<td>2&quot;</td>
<td>2&quot;</td>
</tr>
<tr>
<td>Side-dispersion units</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Voice-coil diameter</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Crossover frequencies

<table>
<thead>
<tr>
<th></th>
<th>ST-500</th>
<th>ST-530</th>
<th>ST-550</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woofer to midrange</td>
<td>600 Hz</td>
<td>600 Hz</td>
<td>600 Hz</td>
</tr>
<tr>
<td>Midrange to tweeter</td>
<td>6000 Hz</td>
<td>6000 Hz</td>
<td>1000 Hz</td>
</tr>
<tr>
<td>Side dispersion</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Controls (constant impedance)

<table>
<thead>
<tr>
<th></th>
<th>ST-500</th>
<th>ST-530</th>
<th>ST-550</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midrange</td>
<td>3 pos.</td>
<td>3 pos.</td>
<td>3 pos.</td>
</tr>
<tr>
<td>Tweeter</td>
<td>3 pos.</td>
<td>3 pos.</td>
<td>3 pos.</td>
</tr>
<tr>
<td>Side dispersion</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Frequency response

<table>
<thead>
<tr>
<th></th>
<th>ST-500</th>
<th>ST-530</th>
<th>ST-550</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impedance (nominal)</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>8 ohms</td>
</tr>
<tr>
<td>Power-handling ability</td>
<td>100 watts</td>
<td>200 watts</td>
<td>300 watts</td>
</tr>
<tr>
<td>rms, 2 sec.</td>
<td>50 watts</td>
<td>100 watts</td>
<td>100 watts</td>
</tr>
<tr>
<td>rms, 60 sec.</td>
<td>25 watts</td>
<td>50 watts</td>
<td>50 watts</td>
</tr>
<tr>
<td>rms, long-term average</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

CABINET

<table>
<thead>
<tr>
<th></th>
<th>ST-500</th>
<th>ST-530</th>
<th>ST-550</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>26&quot;x15&quot;x12&quot;</td>
<td>27½&quot;x16½&quot;x13&quot;</td>
<td>30&quot;x17½&quot;x12½&quot;</td>
</tr>
<tr>
<td>Material</td>
<td>Walnut</td>
<td>Walnut</td>
<td>Walnut</td>
</tr>
<tr>
<td>Finish</td>
<td>Semigloss</td>
<td>Semigloss</td>
<td>Semigloss</td>
</tr>
<tr>
<td>Front baffle finish</td>
<td>Walnut vinyl</td>
<td>Black paint</td>
<td>—</td>
</tr>
</tbody>
</table>
tions your room may impose on the size and shape of the loudspeakers you can use for the purpose.

How Big Should They Be?

This is a loaded question—if it's not irrelevant altogether. All too many purchasers make an irrational identification between the size and the quality of a loudspeaker system. Granted that most big speakers are relatively expensive, and no expensive speaker will stay on the market if it’s not also a good one. But don't let that fact lead you into the trap of saying, “I'll need four big speakers to get really good quadraphonic sound.” You need four good speakers; size is entirely beside the point except as it relates to décor and practical necessities.

It seems to be a foregone conclusion that if stereo’s need for two speakers helped to put the relatively compact bookshelf size on the high fidelity map, so to speak, quadraphonic sound will make small-size models even more desirable. It's difficult to imagine any normal room that would welcome four full-size folded-horn systems, for example. Windows, doors, bookshelves, other furniture—even limitations of floor space itself—all work against the floor-standing behemoths. Yet it also would be a mistake to assume that you “must have four small speakers for really good quadraphonic placement.”

My suggestion: Think this one out purely in terms of your own room and listening tastes.

How Much Should They Cost?

Some readers seem to assume that you should spend the same amount on loudspeakers whether they are to be used for stereo or quadraphonic reproduction—that, in other words, four $50 speakers will give you quadraphonic reproduction that is the equivalent of the stereo from two $100 systems. It’s just not true—and would not be true even if you could make valid assumptions about speaker quality on the basis of price alone. No matter how high or low you set your sonic standards, satisfactory loudspeakers for quadraphonic listening are going to cost you more than the price of a stereo pair.

Perhaps not necessarily twice as much, though; it depends on what you’re spending your loudspeaker dollar for. If bass reproduction is an important consideration in separating the men from the boys among loudspeakers—and for most of us it is—you’ll normally find fuller bass in quadraphonic listening than you will in stereo with the same speakers. To put it another way, you may not have to be quite as picky about deep-bass response in choosing four speakers as you would in choosing two. In most other respects the qualities that make a speaker a good choice for stereo are equally important to quadraphonic sound. Don’t forget, too, that you’ll probably be listening to your present stereo records and tapes for a long time to come: so don’t sell two-channel stereo short.

My suggestion: Try not to skimp on speakers just because you may want to buy four of them. You’d be better advised to postpone the purchase of the second pair than to commit yourself to sound that isn’t really what you want.

How Much Power Will They Require?

A case can be made for keeping total amplifier power constant in switching from stereo to quadraphonics, however. The technically questionable rationale runs like this: Assuming equal speaker efficiency all around, 60 watts of electrical power will deliver the same acoustic power into your room whether it is divided into two channels or four. In other words, if you need 30 watts per channel for your stereo system, the same room fitted with an additional pair of the speakers you are now using for stereo will require only 15 watts per channel to produce equally room-filling quadraphonic sound.

This proposition doesn't seem to stand up well in practice. Where the four-channel effect is strongly front-oriented—as it is in ambiance recordings—convincing reproduction will require as much power in each of the front channels as it does for stereo. And it’s not true, as the argument assumes, that levels will be divided more or less equally among the four channels even in surround-style recordings.

In switching back and forth between stereo and quadraphonic reproduction I seldom feel the need to lower the volume in the latter mode. (Subjectively, of course, only a slight reduction in level is necessary to cut power by half; although the difference between 30 watts and 15 sounds important, it represents only a 3-dB drop in power—not an important difference to the ear.) Sometimes I find myself actually boosting the per-channel power when switching from two channels to four. Cataclysmic sounds that seem overamplified and unconvincing in stereo can be truly awesome in quadraphonics and will support, on a pure-sensation level, almost unlimited acoustic power when they roll at you from all sides.

My suggestion: Remember, again, that you have many, many hours of stereo listening ahead of you even if you convert to a quadraphonic system. And while it’s probably true that you don’t really need twice the power for quadraphonic listening, don’t be talked into skimping on the amplifier either.
What to listen for and why

by Robin Lanier

Ten Records to Test Speakers By

There was a legendary sailor who swore by his skill at dead reckoning—his ability to determine where he was at sea by figuring how far he had gone each day, and in what direction. He did seem to have an instinct for speeds, directions, currents, and the rest; and his calculations usually were uncannily accurate. Once, however, he didn’t fix his starting point in the hurly-burly of putting to sea and could only guess at it when he was far away. That was one time his dead reckoning was useless; he had no recourse but the exact science of celestial navigation.

You will get lost too, and for analogous reasons, if you go into an audio shop or a friend’s living room to listen critically to one or more loudspeakers, and don’t take along three or four records with which you are totally familiar. Because aural speaker evaluation is not an exact science, the best you can manage with unknown program material is a rough guess at which properties can be attributed to the speakers and which to the recordings themselves. If, on the other hand, you know the sound source intimately to begin with, one to three minutes of music on each of three or four records usually is enough to give you a reasonably good rundown on a speaker.

As many writers over the years have pointed out in this magazine and elsewhere, most of us can’t remember exact tonal qualities for more than a few minutes. The only way to make detailed comparisons is by switching back and forth between the sounds you are comparing—the so-called A/B test. But a record you know extremely well does supply a valid base line for general speaker judgments.

You can classify the speaker and pinpoint outstanding virtues and faults. If there is more than one speaker to judge, you can rank them very accurately by combining the known-record test with A/B comparisons.

Following are the main qualities to look for.

Low bass in reasonable balance with middles. No speaker is perfect in the bass; the practical criterion for good bass is that it will be deep enough and strong enough to give the music a satisfying solidity, power, and weight. There should be no weight when no bass instrument is playing of course. Only a handful of instruments go lower than about 60 to 70 Hz: organ, tuba, bass drum, bass viol, piano. Because the bottom octave in the bass is very expensive in terms of speaker cost, and also very rare in musical material, you may want to consider it as expendable. What you should not accept is unnatural thinness or tinniness.

Smoothness—lack of extreme peaks or holes within the useful bass range. Holes—that is, notes that get lost in the medium to high bass—can weaken the music by stealing away part of what you were meant to hear. Strong peaks in the bass produce an overpowering, indistinct, one-note “juke-box” effect.

Distortion in the bass. This can reach fairly high levels before we are conscious of it. Generally speaking, distortion is within acceptable limits if bass instruments retain their characteristic sound.

Middle honk. This is one of the most common speaker faults. One or more peaks in the middle frequencies give the music a hollow, through-a-
barrel sound, dominated by a characteristic pitch. This is often hard to identify at first hearing; more on that in a moment.

**Weak highs.** The cause of a dull or muffled quality. Well-balanced, extended highs seem to open up "air" around the instruments, put them in an acoustic space, make them sound sharply natural.

**Peaky highs.** Strong treble sounds turn shrieky or scratchy when response is peaky.

**Tendency to overload—intermodulation distortion.** The effect is evident in loud full-orchestra passages. With moderate distortion they become just undifferentiated loud sounds, lacking in clarity and transparency. Severe distortion brings unpleasant blurring and raucousness.

**Transients.** The impact sounds from percussion instruments—drums, cymbals, triangle, castanets, etc.—should have their natural sharpness. Poor transient response (actually related to peakiness) takes the edge off—figuratively and, in terms of the audio waveform, literally.

To get a quick fix on these qualities, recordings of certain types are needed. In the following list are ten recordings that I find useful for the purpose. Obviously there are many others in the record shops that would serve. I list these mainly because they are on my shelf, are presently available, and have been proved out as speaker testers. They will cue you in to the kinds of recordings to look for.

Since three or four records would likely be the maximum number you can take when you go shopping and still expect a cordial welcome, I have arranged them in groups so you can pick and choose Chinese-menu style. However, if you can check the speaker or speakers in your own home (extremely desirable because of the tremendous effect room acoustics have on speakers’ sounds) you may want to run through all ten. Some of these records are pretty spectacular, but don’t fall into the trap of listening to the music or the recording instead of the speaker. From this point of view, you may find it easier to test speakers with a recording you don’t like than with one that bowls you over.

If possible, listen to at least part of each passage on a speaker of known superiority just before you go to the unknown. Failing that, your familiarity with the record will, as already noted, give you a reasonable base line for judgments.

---

**Full orchestra and chorus; for highs, bass, transients, distortion, middle honk**

These are tremendous recordings for sampling orchestra and chorus. Fortissimo tuttis put heavy strain on the ability of the speaker to maintain differentiation in loud passages. Listen to the fortissimo near the beginning of the Mahler and the soprano solo and choral passage near the end of the opening Kyrie in the Mozart. Do the massed sopranos stay as thrilling voices, or do they become shrieky or scratchy, or hard—the result of peaky highs? Do drums and cymbals have their natural sharp attack (transients)? Do low drums have satisfying weight, and the organ in the Mahler the proper power, indicating good bass response? In the tuttis do you hear male voices, female voices, and the main orchestral instruments all individually? No known sound reproduction system will do this perfectly, but a poor system does it very badly indeed. Try to make sure your standards are not too low in this respect by hearing at least a sampling of your test records on an excellent system.
The organ is of course the natural instrument for a thorough low-bass test, and there are many good organ recordings. The Bach has the special virtue of using a baroque organ. The pedal notes have the wonderful, slightly snarly quality that gives us a ready criterion for low distortion. The dynamics in the opening D minor Toccata and Fugue are wide indeed—great as test material—and a lot of the bass has tremendous power. In those held chords in the Toccata, when the biggest pipes come in, do you hear great power at the very bottom? Listen most carefully when the pedal notes go up and down the scale, as in the Fugue; does the speaker reproduce them all or does it drop some out of hearing? Listen too for the effect known as doubling, in which the deepest notes seem to lose their fundamental and seem to be dominated by the overtone an octave higher. The truer and more distinct the fundamental tone, the better the speaker. In judging bass, don’t listen only to organ recordings, however. You will be listening to massed orchestral instruments—drums, cellos, etc.—most of the time, and the lowest organ notes are particularly difficult to record well.

The Strauss is a far-out test that will separate superb bass reproduction from the merely good. The soft opening is played by four instruments: a pedal note at low C (about 33 Hz) on the organ; the C an octave higher (about 65 Hz) on the contrabassoon; the C another octave higher on a kettle drum, and the last two Cs played together on the bass fiddles. London has managed to get the organ note on this record with superlative power and clarity. If your speaker is in the big bass class and your room is favorable acoustically, the organ will envelop you, assail you physically with a profound power. If your speaker is not quite in that class, you may know the organ is there but will hear mostly the buzz in the contrabassoon note and the tremolo in the double basses.

Remember in making this test that you are dealing with but a single deep-bass frequency. It does not tell you all you need to know about deep-bass response, and you might evaluate the speaker differently if the musical pitch were altered by as little as a whole tone. (If the speed of your turntable can be “tuned,” you can easily check out this possibility.)

Transients and highs: percussion sounds

Each of these discs contains passages with an abundance of percussion instruments at work. Try the fortissimo about ¾ inch from the beginning of the Varèse or the Stars and Stripes Forever on the Boston Pops record. Wood blocks, bells, cymbals, triangles, and what not all make demands on transient response and on clear, crisp sound at the top of the highs. Cymbals are particularly revealing: They should “smash,” of course, but stay metallic and ringing, not papery or scratchy. It would be most helpful to hear one or more of these records...
ENCORE -
Boston Pops, Fiedler.
Polydor 24 5005.

on a very superior system first, because percussion may sound impressively sharp even when it falls short of its true quality.

The Boston Pops record is valuable not just for percussion, but also for general orchestral texture. Deutsche Grammophon has done a terrific job in Boston's Symphony Hall; the highs are exceptionally clean, wide, and smooth.

Some ultimates

LEONTYNE PRICE
“Prima Donna,” Vol. 3.
RCA LSC 3163

Individually desirable characteristics should work together to produce a unified impression which is in itself a test. Take Price’s marvelous singing. On a moderately good speaker it can be thrilling enough. What a speaker of the utmost refinement in middles and highs does by comparison is to remove some last “support”—coloration, if you will—so that Leontyne stands there alone, free in space, utterly true. All middle honk is gone, the mid-highs are smooth as glass, there is no roughness to make the sound edgy or hollow. The accompanying orchestra sounds absolutely true too.

Similarly, Heifetz’ violin comes through wonderfully on fairly good speakers: It is recorded well up front, with plenty of pizzazz. Get good extended, supersmooth highs, and freedom from all honk, and the violin moves a little closer and into sharper focus, but ingratiatingly, sweetly, totally without hardness—just what a fiddle is like a few feet away. (I’m a Sunday fiddler myself.) And the quartet music can be similarly indicative of the speaker’s refinement at the top. It should leave behind all hollowness, all oversharpness, and stand ultraclear but sweet.

Obviously these are subjective terms. They take on most exact meaning in comparative tests; but as I’ve noted, they are valid for straight speaker checks if you know the records intimately. That’s the key: Get your base lines firm, and you won’t get lost.
LONDON RECORDS’ SILVER JUBILEE

Donizetti: LUCIA DI LAMMERMOOR
Joan Sutherland, Luciano Pavarotti, Sherrill Milnes, Nicolai Ghiaurov—The Orchestra of The Royal Opera House, Covent Garden—Richard Bonynge OSA-13103

Rachmaninov:
THE FOUR PIANO CONCERTI
RHAPSODY ON A THEME OF PAGANINI
Vladimir Ashkenazy—The London Symphony Orchestra—André Previn CSA-2311

Listz: THE BATTLE OF THE HUNS; ORPHEUS; MAZEPHA
The Los Angeles Philharmonic Orchestra—Zubin Mehta CS-6738

ALICIA DE LARROCHA—BACH
Italian Concerto; French Suite No. 6; Fantasia in C Minor; English Suite No. 2 CS-6748

Schubert: THE EIGHT SYMPHONIES
LUSTSCHLOSS
OVERTURE TO DES TEUFELS
LUSTSCHLOSS
OVERTURE IN THE ITALIAN STYLE
OVERTURE TO FIERRABRAS
The Vienna Philharmonic Orchestra—Istvan Kertesz CSP-5

SPOTLIGHT ON SOLTI
Glinka: Russian and Ludmilla Overture; Gluck: Orfeo ed Euridice—Dance Of The Blessed Spirits; Tchaikovsky: Serenade For Strings—Waltz; Borodin: Prince Igor—Polovtsian Dances; Bizet: Carmen— Prelude; Mahler: Symphony No. 5—Adagietto; Rossini-Respighi: La Boutique Fantasque—Excerpts CS-6730

BERNSTEIN IN VIENNA
Mahler: DAS LIED VON DER ERDE
Mozart: PIANO CONCERTO NO.15 (K.450); SYMPHONY NO. 36 (K.425)(“Linz”)
James King, Dietrich Fischer-Dieskau—The Vienna Philharmonic Orchestra
Leonard Bernstein (piano & cond.) CSA-2313

SPOTLIGHT ON TEBALDI
Arias from Gianni Schicchi, La Boheme, La Forza del Destino, Don Carlo, Cavalleria Rusticana, Otello, La Wally plus Ave Maria (Schubert); If I Loved You OS-26275

Wagner: HIGHLIGHTS FROM DER RING DES NIBELUNGEN
Various soloists—The Vienna Philharmonic Orchestra—Georg Solti OSA-1440

ALSO CELEBRATING GEORG SOLTI’S 25 YEARS ON LONDON

At last. Solti’s long awaited release of Mahler: SYMPHONY NO. 8 “Symphony of a Thousand”

LONDON RECORDS

CIRCLE 39 ON READER-SERVICE CARD

HIGH FIDELITY MAGAZINE
Epics from Miniatures

by Harris Goldsmith

Richter and Curzon play Beethoven variations

One astonishing aspect of Beethoven's genius was his ability to build colossal structures from the plainest, smallest fragments. He hammered away at two- and three-note motifs, forging them into music of grand, almost epical proportions. Naturally the theme-and-variations form offered him unlimited material for such tonal adventures and it is not surprising to find that the master was frequently drawn to this form. His efforts range from the most humble (the variations on Nél cor pit) to structures of profound complexity (the Diabelli set, composed in 1822–23). As often as not, some of Beethoven's most remarkable writing in variation form is contained within works of even larger scope. Take, for example, the great second movements of the Kreutzer and Appassionata sonatas, the third of the Archduke trio, and the lovely, lyrical opening section of the A flat Sonata, Op. 26. The majority of the late string quartets and piano sonatas likewise have movements given over to this kind of development and even the great choral finale of the Ninth Symphony is, when you come down to it, basically a set of variations. To be sure, it is often in the extended codas and introductory passages that Beethoven's mightiest creative gifts came to fullest flower. Freed from the circumscribed limitations of structure, the titan was able to give free reign to his fecund inspiration and creativity.

With the exception of the aforementioned Diabelli Variations, the most ambitious and virtuosic of Beethoven's self-sufficient variation structures is the four de force known variously as the Prometheus, Eroica, or simply Op. 35. Actually, as I pointed out in my discography of Beethoven's piano music [January 1971], the theme started life not in the Eroica Symphony or in the Prometheus ballet, but rather as one of the unpretentious little contradances. There are nominally fifteen variations and a fugue here, but if you take the bass line to be the real key to the work, you will find that Beethoven slipped a few extras in both the introduction and the longish coda.

Two of our foremost recitalists have recently turned to this work and their concurrent recordings present a fascinating comparison. Sviatoslav Richter picks up the Eroica tag and runs with it. Discophiles who recall the Soviet pianist's 1964 disc of Schubert's Wanderer Fantasy will know what to expect here: The operative word is "titanic." Richter plays with tremendous toughness, force, and clarity. Fingerwork is brilliantly accurate and always right in place, the rhythmic framework is slightly unyielding and four-square. To be sure, Richter is too sophisticated and knowledgeable a musician to be completely metronomic, but it is not incorrect to say that he is remarkably chary of rhythmic rubato within the single variations. The cumulative effect of his reading registers principally because of its relentless tenacity and fecund accuracy. In the end the listener is a bit battered and overwhelmed by the sheer implacable brilliance of it all. I was constantly reminded, when listening to Richter's performance, of Klemperer's Eroica Symphony, for there too the weight and deliberating clarity make up for a serious lack of humor and forward-plunging nervous energy. It's a very valid approach to what is, after all, a rather impersonal, monumental piece—but it will not appeal to all tastes.

Richter's performances of two less cosmic Beethoven sets of variations on the overside of this Melodiya/Angel presentation are even more open to question. In the Op. 34 Beethoven was working in a rather uncharacteristic vein for him: For one thing, he was experimenting with a multisonal scheme, setting each variation in its own key, and giving each remarkable diversity and character. Secondly, this is on the whole an untypical, almost Schubertian, effort—full of vernal lyricism and adventurous color. Richter's account is once again ultra-clear and scrupulous, but almost completely lacking in the requisite charm and tenderness. Perhaps part of the blame may be placed on the close microphoning of his piano: but whatever the cause, the effect is rather hard-nosed, dry, and overbrilliant (very rarely does the dynamic go below a hefty mezzo-forte).

One finds a similar state of affairs in the slightly trivial Eroica Variations, Op. 76. Gilels' recent Angel recording of this gave considerate treatment to each variation, and his lovely polish and lightness were, in my opinion, close to ideal. Richter's viewpoint is much more concerned with forward continuity. He makes the variations follow one another very strictly—never does he pause for breath and only once does he change the tempo (at midpoint, an effective touch of excitement in the second half of Variation 5 leading to the presto Variation 6). The strength of it all is undeniably impressive, but Richter's economy has its drawbacks as well as its assets: I find his treatment of Variation 1 rather over-bearing in its spiky nonlegato articulation and he also misses many subtleties of voicing in the curious Variation 5, not to mention his callow disregard there of the piano and dolce markings (Gilels did this to perfection). Throughout this disc, I was put off by the rather hard,
murky piano reproduction. Richter’s playing is made to sound much more percussive than it does in the concert hall.

Curzon is more intimate and colorful in his performance of Op. 35. He keeps his dynamic range to pianistic rather than orchestral dimensions, but paradoxically “orchestrates” with his tone and pedal to a far greater degree than Richter. A perfect example of what I am talking about comes with the three fortissimo B flats in measure 11 of the Introduzione col baso del tema: Curzon’s volatile, sensitive touch has a certain tonal mysticism that makes one wonder whether or not he is playing an extra octave in the treble (he isn’t, of course, but the pedal nevertheless gives off these scintillating harmonics). One might describe the British artist’s approach as Schubertian. Certainly his inward, prismatic, nuanced sound, his gracious, never overstated technique, and his structured but entirely flexible treatment of rhythm are entirely suited to that lyrical composer. As a Beethoven expression, however, some may find it slightly small-scaled and delicate. In fact, having recently heard Curzon play the same composition in the concert hall, I confess to finding more of the requisite drive and relish in the “live” version. For his recording, Curzon sounds a bit too intent on creating the “definitive” statement of his ideas. Granted the disc is far more cleanly played and mindful of detail than the concert reading, but it also seems just a trifle constrained. Yet even in the recorded form I find far more warmth and charm in Curzon’s approach than I do in Richter’s. (Note, for example, his deftly staccato treatment of the elfin Variation 6 and especially its whimsical subito pianos on both first endings. The brusque Richter never bothers with details of that sort.)

But if Schnabel (Seraphim) or Arrau (Philips) ultimately offer more idiomatic treatments of Op. 35 Variations, nobody can approach Curzon’s wondrous way with Schubert’s Moments musicaux. There are two tiny details in his performance with which I take issue—one is his inconsistent decision to omit the second repeat from No. 6 (which seems strange in view of the fact that all other such repetitions are scrupulously adhered to). Secondly, I find the F flat (given in the Breitkopf & Härtel edition) in the trio of No. 4 more convincing musically than the F natural which Curzon plays (and Hartel edition) in the trio of No. 4 more convincing musically than the F natural which Curzon plays (and which appears in the equally authoritative Henle edition). From these miniscule quibbles, Curzon’s readings of these delightful morceaux are irresistible in their magical tonal pointing, their beguiling warmth, and their utter, but really quite deceptive, simplicity. Audibly this playing is sheer magic, as close to perfection as one can ever come. London’s sound—resonant, airy, superbly voiced—gives the treasurable artistry every chance it deserves.

BEETHOVEN: Fifteen Variations and Fugue on a Theme from “Prometheus,” in E flat, Op. 35. SCHUBERT: Moments musicaux, D. 780; No. 1, in C; No. 2, in A flat; No. 3, in F minor; No. 4, in C sharp minor; No. 5, in F minor; No. 6, in A flat. Clifford Curzon, piano. London CS 6727, $5.98.

BEETHOVEN: Fifteen Variations and Fugue on a Theme from “Prometheus,” in E flat, Op. 35. SCHUBERT: Moments musicaux, D. 780; No. 1, in C; No. 2, in A flat; No. 3, in F minor; No. 4, in C sharp minor; No. 5, in F minor; No. 6, in A flat. Clifford Curzon, piano. London CS 6727, $5.98.

by Dale Harris

Pavlova and Balletomania
Richard Bonynge offers a delicious collection of dancing musical confections.

This is a consequential album. For balletomanes, that is, though not necessarily for all music lovers. It is important to keep the distinction clear. Balletomania includes a love of music—the danceable kind, at any rate—whereas a love of music by no means includes an appreciation of ballet. “Music,” as Balanchine has put it, “is the floor the dancer walks on,” and all ballet fans will immediately recognize the indissoluble connection between aural and visual experience which this statement implies. You cannot, in other words, listen to ballet music as if it were absolute music. You are always conscious of its dependency on the stage to fulfill its ultimate intentions. Since the reforms of Diaghilev (whose Ballets Russes lasted from 1909 to 1929), a lot of superb music has been written for ballet. Diaghilev himself commissioned Firebird, Petrushka, Sacre du printemps, Les Noces, Daphnis et Chloé, Les Biches, The Three-Cornered Hat, and Jeux. Stravinsky later turned out masterworks like Card Game, Orpheus, and Agon for Balanchine; Prokofiev produced Romeo and Juliet; Hindemith Four Temperaments; and Bartók The Miraculous Mandarin. Despite this imposing array of concert-hall staples, however, the facts of performance will always obtrude upon the awareness of the initiated. To have made the acquaintance of Petrushka in the theater is to remain forever unsatisfied when encountering the score outside it. The music, glorious though it is, addresses itself to events beyond its own form. Oddly enough, the same kind of awareness is present even where the ballet has fallen into desuetude. What a ballet fan brings to a score like Satie’s Parade or Prokofiev’s Chout is history, a kind of collective memory, a sense of what the music adumbrates by way of story, atmosphere, and style.

This is the reason that balletomanes are inclined to collect recordings of even very familiar ballet scores; the musical experience these offer is relative, not absolute, and on that very account stimulating to the imagination. This is also the reason that balletomanes take pleasure in scores which the regular, fastidious music lover would shudder at. We can discount musical tastes too refined to acknowledge the marvels of Tchaikovsky’s Sleeping Beauty, Delibes’ Sylvia, or Glazunov’s The Seasons. There remains, however, an entire realm of music untouched by sophisticated taste or plain inspiration. Such music, as the ballet lover immediately understands,
merely aims to serve the craft of dance, to satisfy, modestly, the basic needs of rhythm, propulsion, line, and metrical form. These were the limits recognized by composers like Jéan Schneitzhoeffer, who wrote La Sylphide (1832); Adolphe Adam, who wrote Giselle (1841); and Leon Minkus, who wrote La Bavadere (1877). Craftsmen though these were, and with no more than craftsmanlike attainments to their credit, such composers did in effect serve the art of dance, too. To this day, a score like Minkus' Don Quixote (1869) provides the perfect "floor" for Petipa's choreographic formulations, which are inventive yet formalized, dazzling yet controlled. It is the kind of music that imposes nothing on the dance, that indeed frees the dance to be itself. Only a few months ago at a gala in aid of the New York Public Library Dance Collection the last-act pas de deux from Don Quixote almost became the evening's climax. Among the assembled glories of the dance world this familiar piece to tinkling music offered a summation of the virtues that make up the classical style. As danced by the prodigiously gifted Gelsey Kirkland and her partner Helgi Tomasson it became synonymous with dancing, just as Caruso's did with singing and Bernhardt's with acting. Pavlova's secret was her confidence in the expressive power of dancing and her belief in its ultimate self-sufficiency. It is clear that, contrary to what we are sometimes told, her own performances did not represent the triumph of genius over unfortunately mediocre surroundings. The ambience her company provided was one she put together herself; it was perfectly attuned to her requirements. All she asked of her productions was that they create the circumstances of dance without too much intrusiveness.

Distinction would have been too great a distraction. She needed only the simplest theatrical framework to display the essentials of her art, and only the most lucid and soothing musical experiences would serve her needs. Whereas Diaghilev's characteristic composer was Stravinsky, hers was Czibulka or Krupinski or Luigini or any of the other names represented on this album. An individual musical will had no place in her autocratic and personal scheme of art. The Palm Court musician served her as well as Tchaikovsky.

What these records do is open up a whole new area of sympathy. Hearing this music makes it possible for those who did not see Pavlova to apprehend her art and to feel the force of her personality and will. Richard Bonynge has once again increased the range of our knowledge. His scholarship, interest, and understanding have already resulted in several important ballet albums: Burgmiller's La Peri, Adam's Giselle, and Le Diable à Quatre, as well as miscellanies like "Pas de Deux" and "The Art of the Ballerina." "Homage to Pavlova" is a worthy successor, fascinating and—for this must be added to any account of the music—full of charm. One thing the balletomane soon learns is that the house of music has many mansions. The Tchaikovsky waltz used for Christmas is irresistible, the Rubinstein and Czibulka pieces are delicious. There are excerpts from many works in Pavlova's repertoire, several short numbers and one full-act ballet, Le Reveil de Flore by Riccardo Drigo (1894). This is the sort of music that Richard Bonynge performs with brilliance and authority. He brings out all its rhythmic subtleties and propulsive power. The London Symphony is very responsive to his leadership and the recording (apart from some uncomfortably close miking) is good. The substantial booklet, which features a lot of superb Pavlova photographs, is (in typical London style) shoddily printed, but it does contain a long essay by the doyenne of ballet-writers, P. W. Manchester. This wise and sensitive piece is, like the records it accompanies, indispensable for anyone who wants to know about Anna Pavlova.

"HOMAGE TO PAVLOVA." London Symphony Orchestra, Richard Bonynge, cond. London CSA 2232, $11.96 (two discs).

The 1936 Das Lied and the 1954 Brahms Requiem

by Robert C. Marsh

In an interview in 1957, Bruno Walter observed, “I am really very happy about this idea... that we really, in some sense, can live on with our best efforts through recorded performances. That indeed these recordings can be a kind of school in which young musicians and others can see how Toscanini conducted...”

“And Bruno Walter,” the interviewer added.

“Well, and perhaps something I did,” the old man added modestly.

In fact, Walter did a better job of preserving his musical legacy than Toscanini. It did not stem from egotism, but the flexibility and natural curiosity of a remarkable mind. Walter was making recordings of lasting musical value in 1936 when Toscanini was still regarding the entire recording process with the deepest skepticism, and in the final period of his life Walter co-operated with the engineers to produce stereo discs which preserve the distinctive sound of an orchestra under his baton more faithfully than any Toscanini recordings represent their protagonist. It was not just a matter of surviving into the 1960s. There could have been Toscanini stereo too if the maestro had been more receptive to the idea.

At this moment in our musical history the availability of Walter material may be the more important influence. The romantic approach to the music and the art of the romantic conductor are being studied and revived, and more and more the prototype for this school is Wilhelm Furtwangler. No one questions his importance, but even at the peak of his career he had two serious rivals in Europe, Willem Mengelberg and Bruno Walter. And when Columbia, in the notes to the Brahms disc, calls Walter the “last great representative of the Romantic tradition” this is no press agent’s fancy. He was, and so remains. If we had a couple of young Bruno Walters around, instead of an ersatz Furtwangler or two, I would feel a lot more optimistic about the state of music.

The Mahler album was originally made at a public performance in Vienna on May 24, 1936. It was issued in Europe as a Mahler Society set. In this country it appeared as Columbia M 300, a big, thick album with fancy blue labels that had a badly printed profile of the composer to set them apart from ordinary releases.

This was, of course, the initial recording of the song cycle. In fact, it was the only one for fifteen years, until Otto Klemperer and the Vienna Symphony were heard in an LP version released in 1951. The historic Walter/Vienna Philharmonic performance with Kathleen Ferrier followed late in 1952.

How do you review a recording you have been playing with some regularity for some thirty years? Well, for the generation that was becoming aware of Mahler’s importance as a composer, this recording, with all the inadequacies of discs made in live performance, was the only representation we had of what may be Mahler’s greatest work. Even by the standard of 1936 the album was no great technical achievement, but the vocal performances were spectacularly good (and remain so) and the playing had the style and authority that eliminated any doubt that this was a masterpiece. Hearing the records, you wanted to hear the music in concert, and hearing it live you wanted better recordings. The cycle had begun.

Up to now I have been playing this recording from a tape I made some years ago from the least worn-out 78-rpm discs I could find. The Seraphim transfer is a distinct

Continued on page 70
"SOCIETIES" honoring major performers of the past appear to be a growing phenomenon, and in some respects such arrangements may turn out to be the optimum solution to the production of historical reissues with limited commercial appeal but decided musical and documentary significance. The principle of the Walter Society is similar to that of other such groups. Annual membership is $6.00 ($7.00 abroad), and each member receives one record; further records are available in return for donations to the Society's Development Fund, which is currently underwriting a radio series on Walter for national distribution. The recordings apparently stem from a variety of sources (at least some of them, I would judge from the label typography, are of Japanese origin); the Society also issues a newsletter for members, and provides mimeographed program notes on the recordings.

The current batch of Walter Society discs, commemorating the tenth anniversary of the conductor's death, divides comfortably into two types of material: 78 reissues and off-the-air material. Of the former, the best is the Haydn coupling, two 1937 recordings graced by impeccable Viennese playing and firm, straightforward direction, except for the slightly stodgy first movement of No. 100. I prefer these readings to Walter's post-1950 LPs of the same works. The dubbings are slightly sharp, but otherwise forward and well balanced.

In the same category, but of less general appeal, is an acoustic (?) Tchaikovsky Sixth with the Berlin State Opera Orchestra (BWS 1004, coupled with two Mozart overtures)—strictly for curio collectors, archivists, and "complete" Walterites. An early electric version of Mozart's G minor Symphony (Berlin again, on BWS 1003 with some Johann Strauss) is typical, but no competition...
improvement. When you first hear this recording, the sound seems ancient and awful, but after a few moments I find myself drawn into the performance, my ears adjust to its sonic limitations and restricted dynamics, and my attention is focused on the music. No one ever got more out of this score than Kullman and Thorborg. For me, Thorborg in the final bars, singing "Ewig...Ewig..." gets to the heart of the music in a way not even Fettner could match. I know the British will charge me with treason for that, but listen for yourself.

The Walter recording of the Brahms German Requiem was made in 1954, and it is here appearing for the first time. Walter's links with Mahler are well known, but we are less conscious of his ties with Brahms. For example, from 1910-12 Walter directed the Vienna Singakademie, a chorus that had been in Brahms's charge in the relatively recent past and must have preserved a performance tradition of the composer's choral works that would be of the greatest value to its new leader.

As a historic document, Walter's account of the Brahms seems to be of the highest importance. It is a truly beautiful performance, filled with the warmth that a great romantic conductor could bring to this music, and abounding in the felicities of phrasing and nuance that separate the truly great from the merely skillful.

Like the Mahler it is limited technically. It too may be a concert performance, although the fact that it is difficult to tell shows that the matter is not grave. (There are a few extraneous noises.) The sound is pleasant and reasonably balanced, although with the usual limitations of mono engineering. I find it almost impossible to follow the words, especially from the chorus, but musically the chorus is first-rate. Of the two soloists, George London is variable and displays vocal problems both in production and sustained tone quality. Irmgard Seefried, on the other hand, sings so beautifully that you simply cannot find fault. Everything she does is so completely right for this music, and sounds so gorgeous, that the record is worth having for her contribution alone.

One can perfectly well understand why Walter may have had second thoughts about either of these recordings being released in his lifetime. He had two later versions of the Mahler in print and he retained hopes that he could do the Brahms again with even greater success. But in the year that marks the tenth anniversary of his death, he surely belongs to history, and even a flawed work is pre-destined by a speech by Walter, from which one deduces that this was a ceremonial occasion in Vienna; the well-recorded performance is, interestingly, more highly contrasted than Walter's 1958 New York version. The Brahms pieces, of earlier vintage (some grading of air-check acetates here), are extremely stylish.

In brief, there is some very valuable material here, worth the attention of any serious collector or student of musical performance, and a must for all sound archives.

---

**Mahler**

_B: Mahler: Das Lied von der Erde. Kerstin Thorborg, contralto; Charles Kullman, tenor. Vienna Philharmonic Orchestra, Bruno Walter, cond. Seraphim 60191. $2.98 (mono, recorded in 1936)


---

**Hamilton**

for his later versions. In this symphony, Walter's concern for setting the "proper" emotional character always seemed (to me, anyway) to override essential structural factors (whereas with Haydn the character is quite self-evident, so he did not worry, concentrating exclusively on setting forth the substance). This record too is sharp, but otherwise handsomely dubbed.

Among the air-check recordings, my particular favorite is the Mozart concerto with Széchényi, where the slow movement is exceptionally poised; even the occasional technical problem does not prevent this violinist from keeping afloat the longest phrase, and his sense of the style is admirable. Equally impressive is the overture Berg, with strong support from Mitropoulos and the excellent orchestra; the curve of the second movement can be heard as marvelously shaped, even through the balance broadcast (too much soloist) and limited dynamic range. On this record, the Mozart is a shade sharp, the Berg squarely in pitch—both in quite good AM sound.

Important in other respects besides the conducting is a 1942 Don Giovanni (WSA 304/6, three discs) with a cast including Pinza, Kipnis, Kullman, Bampton, Novotna, and Sayão—indispensable, in fact, for Pinza's classic Don, whose delivery of the recitatives (among many other things) is absolutely nonpareil. WSA 702/3 (two discs) presents Part I of the St. Matthew Passion (sung in English, from a 1943 broadcast)—not the kind of Bach we are now used to hearing, but thoughtful and musical, an important document in the history of performance practice. (The odd side here includes Handel and Corelli concertos, from 78s.)

Finally, the Schubert/Strauss coupling, from concerts with the Vienna Philharmonic. The Unfinished is preceded by a speech by Walter, from which one deduces that this was a ceremonial occasion in Vienna; the well-recorded performance is, interestingly, more highly contrasted than Walter's 1958 New York version. The Strauss pieces, of earlier vintage (some grading of aircheck acetates here), are extremely stylish.

In brief, there is some very valuable material here, worth the attention of any serious collector or student of musical performance, and a must for all sound archives.


IF YOU LIKE GOOD MUSIC,
YOU'LL LOVE THIS AD.

A: Walton's orchestration updates Bach without intruding. Tommasini's orchestration of Scarlatti sonatas sparkles. M 31241
B: Two of the world's greatest sonatas, performed by one of the world's greatest pianists. The third album in a great series. M 31239*
C: Presenting a wide selection of Stravinsky's choral works, including arrangements of Bach, Russian folk songs, and "The Star Spangled Banner." M 31124
D: A collaboration of the amazing Puyana and the versatile Williams, who is known for his classical repertoire and excursions into the rock world with Frank Zappa. M 31194
E: A memorable recital of masterpieces for two harpsichords, performed by two of the finest harpsichordists of our time. M 31240
F: Tchaikovsky's homage to the Ukraine, performed by Bernstein and the New York Philharmonic with their customary zest and vitality. M 31195*
G: No other orchestra has ever sounded as luxurious or as golden as the Philadelphia, here playing ballet from French and Italian operas. M 31238*
H-I-J: Originally a 3-record set, now released as single LP's. Definitive performances of great 20th century chamber music. M 31196,7,8

ON COLUMBIA RECORDS

*Also available on tape

JUNE 1972

HIGH FIDELITY MAGAZINE
they seem to lack the necessary lyrical sensibility to do justice to this most intimate of the late quartets. Ironically, the very qualities that make their renditions of the other two works so admirable are apt to go awry in Op. 135: the tendency to bring out the larger shape, achieved partly through the suppression of surface nuance, leads here to an overly inflexible rhythmic flow. Although there is much that is interesting in this reading, it is not one I would want to live with over an extended period of time.

I will confine comparisons with other recordings to the recent Guarneri set comprising the late quartets. What should be said first off, I think, is that the appearance of such distinguished recordings of late Beethoven by two American quartets speaks very well indeed for the present state of the standard quartet literature in this country. My own preference falls on the side of the Yale, as I find that their more assertive approach to the music results in a stronger sense of formal cohesiveness, an eminently desirable characteristic in communicating works of such profound structural ambiguities. I always have the feeling in hearing these works that this is music which demands to be held together by sheer force, and that is precisely what the Yale group accomplishes better than any other ensemble I know. Indeed, it is only in the less monumental Op. 135 that I would give the Guarneri the edge.

Two textual peculiarities in the Yale performances are perhaps worthy of note: They play octave F' in the end of the first movement of Op. 135 rather than the F major chord notated in the score; and in the subject of the Grosse Fuge, the second of the tied notes is given a separate articulation. This latter is particularly puzzling, as it occurs only in the opening statement of the subject.


Selected comparison: Guarneri
RCA VCS 6418

These two discs represent the completion of the Yale's recordings of the last five Beethoven quartets and the Grosse Fuge. Those who read my discography of the quartets (High Fidelity, November 1970) may remember the great admiration I expressed for their three earlier discs (of Opp. 127, 131, and 132). The present two lend further support for my earlier enthusiasm. The Yale's Grosse Fuge is the most convincing version I have heard; they perform the work with clear contrapuntal differentiation and a truly comprehensive view of the complexities of its over-all design.

The Op. 130 is equally good. This quartet, with its violent contrasts, is a particularly difficult one from the performer's point of view: yet the Yale group projects the music with a sense of power and conviction that clarifies its mysteries to an extraordinary degree. They are particularly successful in integrating the tempo changes of the first movement into one well-defined rhythmic span. Unfortunately the Op. 135 is somewhat less impressive. Here

Britten: Turn of the Screw

SUGGESTED LISTENING:

- R. P. M.
- BOLCOM: Twelve Etudes
- WINSOR: Melted Ears

This disc brings together works by two young American composers, both born in 1938. Of the two, William Bolcom seems to me clearly the more interesting. His Twelve Etudes for piano are written with tight compositional control and a really virtuosic conception of keyboard writing. Like the études of Chopin and Liszt, these works can best be considered-at least from a compositional (as opposed to a performance) point of view-as a series of studies in texture and sonority; and Bolcom reveals an unusual grasp of the possibilities of keyboard scoring and a pronounced flair for discovering unexpected textural combinations. Pianistically considered, the work explores a wide range of technical problems, and Bolcom, who plays the piece himself, indicates that he's a performer of no small accomplishments. Unfortunately the recording, which was apparently made at a concert, is quite poor.

Phil Winsor's Melted Ears is one of those collage pieces made up out of the fragments of well-known works from the classical literature. Although in principle I have nothing against this (readers are referred to my review of Mauricio Kagel's Ludwig Van in the February, 1971 issue of High Fidelity), in this instance the results are of little interest. It sounds very much as if two pianists with a fair knowledge of the literature sat down at a piano and played around for a little while. What emerges is not so much a piece as a kind of musical parlor game. There are, of course, parlor games and there are parlor games; but this one isn't terribly well done.

R. P. M.

It's possible to criticize Britten's operas for any number of reasons, but The Turn of the Screw seems just about perfect to me. The libretto is extremely clever-concise, brilliantly paced right up to the final exorcism, and provocatively ambiguous. Britten has made superb capital from its episodic structure, casting each scene as a variation on the twelve-tone "screw" theme that opens the opera, achieving a taut, evenly flowing musical/dramatic synthesis. His scoring for chamber orchestra has never been more brilliant, while the invention is consistently imaginative and gripping-surely the cathartic final scene is one of the most moving in all contemporary opera.

This recording is not in stereo, but the performance is so magnificent and the technical quality so good (the special sonic ambience created for the two ghosts are vividly realized even without the benefit of two channels) that a new version hardly seems necessary. This is the cast of the premiere and they have not yet been bettered in the several productions I have seen over the past fifteen years. It is certainly one of the high points in London's valuable Britten series.

P. G. D.


Selected comparison: Guarneri
RCA VCS 6418

These two discs represent the completion of the Yale's recordings of the last five Beethoven quartets and the Grosse Fuge. Those who read my discography of the quartets (High Fidelity, November 1970) may remember the great admiration I expressed for their three earlier discs (of Opp. 127, 131, and 132). The present two lend further support for my earlier enthusiasm. The Yale's Grosse Fuge is the most convincing version I have heard; they perform the work with clear contrapuntal differentiation and a truly comprehensive view of the complexities of its over-all design.

The Op. 130 is equally good. This quartet, with its violent contrasts, is a particularly difficult one from the performer's point of view: yet the Yale group projects the music with a sense of power and conviction that clarifies its mysteries to an extraordinary degree. They are particularly successful in integrating the tempo changes of the first movement into one well-defined rhythmic span. Unfortunately the Op. 135 is somewhat less impressive. Here
part of the increasing popularity of Bruckner is due to the distinctive sound of his orchestration, the organlike effects he produces from interweaving strings and winds, and the splendor of his writing for brass. If this is the case, neither of these recordings is nearly as satisfying as it ought to be. The performances are of exceptionally high quality. Karajan and Steinberg have been champions of Bruckner for many years. They have the style at their fingertips, and they have the skill to achieve full realization of the scores.

The failures are due entirely to the engineering. In the case of the Angel set, I assume that the Berlin orchestra was playing in the same church it has used for recording purposes for a number of years. But the microphone placement suggests the practices of the early stereo period of a dozen years ago. The effect is that of a very large and resonant hall. The orchestra is at one end and you're at the other—except for a few climactic moments when, out of the blue, presence mikes appear highlighting the percussion. Some of the balances, as a result, are very strange indeed.

As studies in interpretation, Karajan's treatment of the Fourth and Seventh are valuable documentations of what he does with tempo and phrasing and his current over-all view of these works. But too much detail is missing or obscure for these records to be of value as documents of his treatment of texture and color. The texts used are identified as the Haas editions.

Steinberg, on first impression, gets much better sound from the RCA engineers. I would take it that this disc was made in Symphony Hall during the 1969-70 season, just before the recording affiliation of the orchestra moved to Deutsche Grammophon. There is a nice sense of spaciousness, and the ensemble is far more precisely defined than the Berlin orchestra, but soon one senses the engineers fussing with levels during the climactic pages and cranking down the volume. The effect of the final moments of the score is particularly depressing, rather dull and flat in quality rather than brilliant and triumphant.


This is a thoroughly rehearsed, meticulously worked-out collaboration between soloist and conductor that reveals countless carefully considered details. For example, Inbal's unusual long treatment of the appoggiatura at the beginning of the slow movement's orchestral preface is thoroughly in keeping with Arrau's by now well-known practice of keeping appoggiaturas long (as per their Mozartean antecedents) and playing acciaccaturas on the beat. Quite aside from these specific details, there are literally hundreds of other phrases which are here re-created with discernment, character, and imaginative deliberation. Note, to cite another example, the way Arrau delineates his phrases in the Rondo's opening theme, and note how he astutely colors each inner line and modifies the tempo slightly for greater point and personality. As one would expect, this new version is superlative from a pianistic standpoint: There is wide dynamic range, magnificent clarity, and above all, poetic sensibility.


This is a thoroughly rehearsed, meticulously worked-out collaboration between soloist and conductor that reveals countless carefully considered details. For example, Inbal's unusual long treatment of the appoggiatura at the beginning of the slow movement's orchestral preface is thoroughly in keeping with Arrau's by now well-known practice of keeping appoggiaturas long (as per their Mozartean antecedents) and playing acciaccaturas on the beat. Quite aside from these specific details, there are literally hundreds of other phrases which are here re-created with discernment, character, and imaginative deliberation. Note, to cite another example, the way Arrau delineates his phrases in the Rondo's opening theme, and note how he astutely colors each inner line and modifies the tempo slightly for greater point and personality. As one would expect, this new version is superlative from a pianistic standpoint: There is wide dynamic range, magnificent clarity, and above all, poetic sensibility.
Itzhak Perlman bows on Angel.

For his Angel debut, he performs two technically fierce works by Paganini, plus Sarasate’s dazzling Carmen Fantasy. His choices, and the ease of his execution, tell much about the prodigious skill of this 26-year-old Israeli violinist.

A CYCLE BEGINS. With the most famous of the five Paganini Concerti, the First, Perlman begins his Angel recording of the complete cycle—the first available today. It is an auspicious start. We doubt that with the exception of himself, Paganini has ever had a more heroic spokesman. Sarasate’s sensuous Carmen Fantasy serves as a fitting companion piece.

AND A CHALLENGE MET. Paganini’s 24 Caprices for Unaccompanied Violin, with their hair-raising pyrotechnical demands, present a merciless challenge to any artist. But they prove no hazard for Perlman’s poise and intellect. For the sheer thrill of witnessing virtuosity, you’ll not find another hour and thirteen minutes on record that can match this performance.
Fidelity—the A-25 has earned the accolades of audiophiles and critics the world over for natural, lucid, uncolored reproduction of every program source—at a far lower cost than any alternatives. Very nearly the ideal loudspeaker—unobtrusive yet overwhelming in its authenticity—the A-25 can accommodate powerhouse amplifiers, or may be driven adequately by a 15 watt receiver. Dynaco's exclusive aperiodic design assures a uniform impedance which achieves the most from your amplifier, and contributes to the articulate deep bass which rivals systems several times its cost. A unique soft-dome tweeter radiates definitive, widely-dispersed highs or faithful "big sound". 5-step tweeter control and hidden wall mounts included.

$79.95 in walnut

DYNACO INC. 3060 Jefferson Street, Philadelphia, Pa. 19121

IN CANADA WRITE: Dynaco of Canada, Ltd. 9429 Cote de Liesse Road, Montreal 760, Quebec, Canada
The world’s smallest electronic 35mm camera

This incredibly compact and precise camera will please those hard-to-please people who like the simplicity of automatic operation but demand superior quality pictures. The Olympus 35EC uses standard 35mm film and a professional type 5 element Zuiko lens. You’ll notice the difference whether you shoot slides, color prints or want really big black and white enlargements. And the 35EC is pocket-size. Always ready in your pocket or purse to take pictures automatically in sunlight, dim light, candlelight, even with flash it’s automatic. The EC’s computer brain selects shutter speed and lens aperture automatically to guarantee perfect exposures every time, day or night. How? Electronically. See a demonstration at your photo dealer.

Marketed exclusively in the U.S.A. by Pander & Best, Inc., 11201 W. Pico Blvd., Los Angeles, Calif. 90064.

OLYMPUS 35EC

Ormandy’s Incandescent Recording of Ilya Murometz

by R. D. Darrell

QUINTESSENTIALLY Russian and romantic, Gliere’s musical glorification of the medieval Slavic folk hero Ilya Murometz (far more a grandiose epic tone poem than a symphony) never has enjoyed concert-hall popularity—probably because it makes such unconscionable demands on both its performers and auditors. But on records, where inessential evocations of “old, unhappy, far-off things and battles long ago...” are maximally effective and where its extravagant sonic opulence can be best relished by absorbed individual listeners, it has achieved a not inconsiderable vogue. In particular, it has always been an ideal work to demonstrate advances in the state of audio art and technology.

The still memorable first recording, on eleven 78-rpm discs by Stokowski and the Philadelphia in 1941, was timed as a tribute to the then-em-entailed U.S.S.R., but it was famous among discophiles as perhaps the most spectacular triumph electrical recording techniques had yet achieved. Then new standards were set in the mono LP era by Scherchen’s first complete version of the 400-page-plus score for Westminster in 1953, and by the 1957 Ormandy/Philadelphia version (with the composer-approved cuts used earlier by Stokowski) for Columbia. But these, along with several other versions including a Russian one conducted by the composer, were pushed into out-of-print limbo when Capitol released stereo-tape (1958) and stereo-disc (1959) editions of a new Stokowski version, this time with the Houston Symphony. And despite the somewhat less than top-flight orchestral virtuosity and a cruel whittling down of the score to not much more than a third of its full length, the “demonstration” potency of this music in stereo made that version enough of an audiophile favorite to keep it in print, now as Seraphin S 60089.

Impressive as each of these Ilya Murometz recordings has been by the standards of its own era, it’s only today that the kaleidoscopic palette and the ultracompound sonority potentials of the work—and of the Philadelphians at their best—can be exhaustively exploited. RCA finally solved its earlier problems in recording this orchestra when the recording locale was shifted back to Philadelphia’s Town Hall (renamed the Scottish Rite Cathedral).

But in the present disc even its best recent engineering efforts (and, for that matter, even the best of the exception cell recordings made during the last years of the Columbia contract) are thrillingly excelled. Indeed, I know of no other examples of today’s multi-channel audio technology which so harmoniously reconciles the often conflicting aims of sonic lucidity, transparence, and differentiation with those of cohesiveness and homogeneity. Above all, this Murometz is notable not only for giving full justice to the tonal splendors of the famed Philadelphia strings, but for providing true apotheoses of the brass, horn, and woodwind choirs.

Aved so completely by the magnificence of sound alone, it seems both necessary either to praise Ormandy for organizing the performance so expertly and for keeping the music’s romantic excesses so firmly under control, or to blame him for giving us something less than the full score of what is admittedly an unconscionably long and sprawling work. The present performance runs just a few seconds less than a full hour, which is (I think) several minutes longer than the earlier composer-approved cut versions, and some thirteen minutes longer than Stokowski’s Houston performance (Unfortunately, I no longer have the note-complete Scherchen set on hand for an exact timing or for detailed evaluations of the passages now omitted by Ormandy.)

In any case, to concentrate attention on technical, executant, and editorial considerations is to dodge the issue: either to endorse or to contradict the usual damning-with-faint-praise evaluation of Gliere’s—and other composers’—music, which is generally considered by cognoscenti as far too obvious in its sheer aural appeal. Let us admit that Gliere’s structural forms and harmonic idioms are orthodox to an extreme, that his profusion of melodies may sacrifice originality and even high distinction for immediate, uninhibitedly sensuous appeal, that his elaborate “program” here seems juvenile at best nowadays. What’s wrong with that?—especially when such attractive interactions are immeasurably enhanced by orchestral scoring as skilled and splendid as anything by Rimsky-Korsakov, Richard Strauss, and Ravel. Why should “escapist” entertainment be any more deplorable in music than comparable historical fiction in literature—at least when practiced by experts?

Intellectual respect is not an essential in passionate love, and a double standard, even a kind of double life in the arts, well may enable us to multiply our pleasures—and simultaneously to pacify our hyperactive aesthetic con- sciences. Gliere’s Ilya Murometz, in its present epiphany, makes an ideal starting point.

Have you ever fallen in love? You wanted it to last "forever", didn't you? Well that's only natural... but it's usually hard to find.

If you would fall in love with music, the natural choice would be the remarkable AKAI GX-365 Stereo Tape Recorder.

Because the heart of the system is AKAI's exclusive GX glass and crystal ferrite head—dust-free. And virtually wear-free. So it's built to last. Guaranteed, in fact, to last for twenty years.

What's more, the GX head provides an exclusive "focused field" for distortion-free recording. The result is magnificent sound reproduction.

But that's not all.

The GX-365 is superbly engineered with 3 motors... 4 speeds... 3 heads... 4-track stereo/monaural recording system... automatic continuous reverse. With sound-on-sound, sound-with-sound, sound-over-sound. Plus Compute-O-Matic (automatic recording level control). And an SRT button for use with super range tape. Available as a deck or a complete unit.

Nothing's been overlooked.

Which is why you owe it to yourself to see your AKAI dealer. And discover a sound investment in recording pleasure. The remarkable AKAI GX-365.

You'll fall in love with it... for a long, long time.
been featured on volumes seven, eight, and nine) and to Vox. Concert managers used to refer to chamber music as "poison," but the very fact that such a ten-volume project can be embarked upon shows the remarkable growth of musical literacy. Indeed, there is no more satisfying musical experience than what has been called the intimate musical conversation of four wise men. The four instruments correspond admirably to the four-part construction that became standard in the eighteenth century; the texture is always clear, there is no place to hide, no way of slurring over difficult spots, and every note must be доведено. In the creation of this genre Haydn's role is paramount, but to realize the magnitude of this role we must recall his position in the sequence of events.

The year after Haydn's birth Bach finished the Kyrie and Gloria of his B minor Mass; one year before his death Beethoven's Fifth and Sixth Symphonies had their première. Thus Haydn's life extends from the late baroque to the high classic era. No major composer, Mozart not excepted, had so decisively influenced musical history during this broad expanse of stylistic evolution. With great patience, extensive experimentation, critical acumen, and a large measure of genius, this peasant-born master gradually reconciled the many conflicting trends to establish the norms of what in the absence of a more precise term we call classicism. The string quartets occupy the central position in his fantastically rich output, and it was in them that he concentrated his studies and experiments in the art of setting, form, instrumentation, and the problems of sonority.

Haydn is not interested in monumentality, he likes to spin musical yarns for his audience; here a theme gets him "talking," there he picks up another idea, weighs and tests it, then either drops or elaborates it with infinite resources. The old mistake of considering Haydn and his colleagues "formalists" is nowhere better refuted than in the quartets recorded here. Aside from the fact that in Haydn's time no one had ever heard of the "sonata form" as we know and teach it, the modern textbook concept simply does not fit the originality of Haydn's imagination. Yet in spite of the seemingly casual narration, precision and logic reign everywhere.

The first quartet in Op. 64, a friendly work in B minor, does not allow a single cloud in the sky. The second, in B minor, is solemn and moody with a good deal of chromaticism, though in the finale Haydn permits himself one of his marvelous musical jokes: He interrupts the coda by inserting a general pause of a measure and a half, thereby completely upsetting all our expectations. The third work, in B flat, opens with one of those typically Haydnesque themes having endless melodic, rhythmic, and harmonic possibilities, which he then exploits to the hilt. The last three quartets of the set are among the most popular works in this literature. In the opening movement of the G major (No. 4) Haydn, who often operates monothetically, does have a fine second subject, which he proceeds to develop instead of the principal subject—another rebuke to the textbooks. The minuet is really an earthy Austrian peasant dance, and the finale is musical classicism incarnate. No. 5, in D, better known as the Lark quartet, offers heavenly song but also a whirlwind finale. No. 6, in E flat, with its warm themes, clearly shows Mozart's influence on the older master. The Andante is almost romantic in its effusiveness; every instrument sings with abandon, but toward the middle the mood darkens. The minuet is a highly refined and stylized piece, while the humorous byplay in the finale thrives side by side with exceptionally transparent instrumental polyphony. The album is rounded out by two earlier quartets from Op. 2, and by the quartet-divertimento that carries the quaint designation "Opus 0."

The quality of the performance is consistently on a very high plane. The ensemble work is interpratable: each member of the quartet is a finely honed instrumentalist with impeccable technique and intonation, and each knows when to defer to the other. The tone is warm, the phrasing musicianly, every instruction in the score is carefully followed, and no melodic note is ever mistaken for a grace note. About the only objection that may be made concerns the use of the old-fashioned allargando at the end of fast movements. And there are some instances of exaggerated agogic freedom. The sound is first class. We base this outrageous claim on something called "Linear Sound." Which means that on a frequency response graph the sound of an EPI speaker looks like a straight line.

On the bass end, down as low as 22 cycles, there's exactly the amount of bass that was recorded. With no artificial boosting to impress the innocent.

On the treble end, up as high as 20,000 cycles, EPI speakers deliver overtones that, on ordinary speakers, just fade out.

So what you end up with is a reproduced sound that sounds just like the original sound. With no artificial coloring added. And nothing taken out.

Linear Sound. It comes out of eight fantastic speakers, from $55 to $1000, made by Epicure Products Inc., Newburyport, Massachusetts 01950.

CIRCLE 26 ON READER-SERVICE CARD
Test reports in both HIGH FIDELITY and STEREO REVIEW prove the Altec 714A receiver is built a little better.

In February, HIGH FIDELITY magazine printed a detailed two-page test report (by CBS Laboratories) on the Altec 714A stereo receiver. The wrap-up comment read as follows: "All told the 714A is one beautiful piece of audio machinery that should be given a long serious look by anyone in the market for a new high-quality stereo receiver." And in January, STEREO REVIEW'S equipment test report (by Hirsch-Houck Laboratories) stated, "In its general performance and listening quality, it is comparable to the best we have tested..."

The Altec 714A AM/FM stereo receiver delivers 44/44 watts of RMS power at less than 0.5% distortion (180 IHF music power). And for high FM sensitivity, it features 3 FET's and a 4 gang tuning condenser. Plus, 2 prealigned crystal filters and the newest IC's for better selectivity and more precise tuning.

The Altec 714A sells for $399.00. Hear it at your Altec dealer. Or, write for a complete Altec catalog and copies of available test reports. Altec Lansing, 1515 S. Manchester Ave., Anaheim, California 92803.
Hansel never gets such glamorous all-star casting in the opera house as it does on this new recording. Eurodisc's largest ever inside Angel's classic mono set (3506, deleted) with Schwarzkopf and Grümmer's very sophisticated children and Karajan's suave leadership. (If these sound like paradoxical plus qualities for a simple fairy-tale opera, they are nonetheless appropriate—like Rosenkavalier. Hansel and Gretel is full of paradoxes that work like a charm.) My loyalty for that sleek and silken performance remains unshaken, but this latest entry is a splendid one—eagerly awaited reading that accentuates the Wagnerian aspects of the score. The parts do not mesh as smoothly as with Karajan, but the orchestra sounds plump and warm, most of the marvelous scoring and thematic details come through tellingly, and the tunes are affectionately phrased. The sound is smooth, rich, and creamy.

When Choosing a Hi-Fi System

Many hi-fi dealers sell systems under their own name brands. Which is fine. You'll probably save money with one. And with Maximus made speaker systems and other Hallmarked audio components, you'll never sacrifice quality.

Maximus' unexcelled quality is acknowledged by audio experts and music lovers throughout the country. People who know have pronounced Maximus clearly the master in the field of private branding. Indeed, dealers, men whose livelihoods depend upon their sound judgment, prefer to use Maximus stereo equipment in their signature systems. It assures them of conformance to the best principles in high-fidelity, trouble-free performance...as well as very satisfied customers.

Yes, when your dealer carries Maximus speakers and components, he's got sound judgment. And when you buy Maximus, you get sound value. But don't ask for it by name. Simply look for the Maximus (M) Hallmark. It will probably be the most essential component in your own designed hi-fi den or home studio.

Maximus Sound Corporation
Garden City, N.Y. MAXIMUS WEST, Gardena, Calif.

When Choosing A Hi-Fi System

Many hi-fi dealers sell systems under their own name brands. Which is fine. You'll probably save money with one. And with Maximus made speaker systems and other Hallmarked audio components, you'll never sacrifice quality.

Maximus' unexcelled quality is acknowledged by audio experts and music lovers throughout the country. People who know have pronounced Maximus clearly the master in the field of private branding. Indeed, dealers, men whose livelihoods depend upon their sound judgment, prefer to use Maximus stereo equipment in their signature systems. It assures them of conformance to the best principles in high-fidelity, trouble-free performance...as well as very satisfied customers.

Yes, when your dealer carries Maximus speakers and components, he's got sound judgment. And when you buy Maximus, you get sound value. But don't ask for it by name. Simply look for the Maximus (M) Hallmark. It will probably be the most essential component in your own designed hi-fi den or home studio.

Maximus Sound Corporation
Garden City, N.Y. MAXIMUS WEST, Gardena, Calif.

When Choosing A Hi-Fi System

Many hi-fi dealers sell systems under their own name brands. Which is fine. You'll probably save money with one. And with Maximus made speaker systems and other Hallmarked audio components, you'll never sacrifice quality.

Maximus' unexcelled quality is acknowledged by audio experts and music lovers throughout the country. People who know have pronounced Maximus clearly the master in the field of private branding. Indeed, dealers, men whose livelihoods depend upon their sound judgment, prefer to use Maximus stereo equipment in their signature systems. It assures them of conformance to the best principles in high-fidelity, trouble-free performance...as well as very satisfied customers.

Yes, when your dealer carries Maximus speakers and components, he's got sound judgment. And when you buy Maximus, you get sound value. But don't ask for it by name. Simply look for the Maximus (M) Hallmark. It will probably be the most essential component in your own designed hi-fi den or home studio.

Maximus Sound Corporation
Garden City, N.Y. MAXIMUS WEST, Gardena, Calif.

When Choosing A Hi-Fi System

Many hi-fi dealers sell systems under their own name brands. Which is fine. You'll probably save money with one. And with Maximus made speaker systems and other Hallmarked audio components, you'll never sacrifice quality.

Maximus' unexcelled quality is acknowledged by audio experts and music lovers throughout the country. People who know have pronounced Maximus clearly the master in the field of private branding. Indeed, dealers, men whose livelihoods depend upon their sound judgment, prefer to use Maximus stereo equipment in their signature systems. It assures them of conformance to the best principles in high-fidelity, trouble-free performance...as well as very satisfied customers.

Yes, when your dealer carries Maximus speakers and components, he's got sound judgment. And when you buy Maximus, you get sound value. But don't ask for it by name. Simply look for the Maximus (M) Hallmark. It will probably be the most essential component in your own designed hi-fi den or home studio.

Maximus Sound Corporation
Garden City, N.Y. MAXIMUS WEST, Gardena, Calif.
The ultimate turntable for sophisticated systems.

The BSR McDonald 810 Transcription Series.

BSR makes more automatic turntables than any other manufacturer. More than all the other manufacturers in the world put together. But of all the turntables we make, the BSR McDonald 810 Transcription Series is the finest. It is a triumph of years of painstaking efforts and research in our Engineering Laboratories in Warley, Worcestershire, England.

The 810 offers an impressive group of design innovations for serious music lovers...or professional users of transcription turntables...and for the audiophile who revels in sophisticated high fidelity equipment. It has the tightest specifications for rumble, wow and flutter of any automatic turntable made. We would be pleased to send you detailed technical specs upon request. As a matter of fact, few—if any—automatic turntable manufacturers publish complete specifications as we do. Only your personal inspection can reveal the overall excellence of this fine instrument. We suggest a visit to your BSR McDonald dealer.
Why do speaker companies use more Crown DC300's than any other amplifier?

Audiophiles who keep up with the hi-fi shows have noticed something: nearly all independent speaker company exhibits use Crown DC300's. And, if you could visit their factory design labs and test chambers, you would see DC300's in nearly every plant too.

To be sure, they are not there just because some engineers were impressed with an ad or spec sheet. To sell a speaker, every manufacturer knows that they must sound their best to the evaluating ear of the critical listener. For, regardless of advertised specs, how a speaker sounds in your system is the final criterion. So for his speaker demonstrations, you know that every manufacturer searched and tested diligently to find the amplifier which would make his speakers sound their best. Interestingly, nearly every plant too.

Independent speaker company exhibits shows have noticed something: nearly all rated power, typically better than 115db hence-under 0.01 channel RMS with 8 ohm speakers; typically 300 watts per channel RMS with 4 ohm speakers. This is continuous power, not THD or short-term, but hour-after-hour performance. In actual laboratory testing, the DC300 has produced over 900 watts total power continuously for four hours with a single whisper fan for cooling.

In M DISTORTION guaranteed under 0.05% across the entire power spectrum; typically under 0.01%.

HUM AND NOISE guaranteed 110db below rated power, typically better than 115db.

LIFETIME units five years in the field show no measurable deterioration in performance.

WARRANTY three years on parts and labor, plus round-trip shipping.

PRICE $685, walnut enclosure $37

Made only in AMERICA

CROWN

BOX 1000D, ELKHART, INDIANA 46514, U.S.A.

CIRCLE 15 ON READER-SERVICE CARD

 gekommen. Um Mitternacht; Lieder und Gesänge aus der Jugendzeit; Um schlimme Kinder artig zu machen; Selbständ. Schenkung und Verzicht; Ablosung im Sommer. Nicht Wiedersehen!; Sere

nade aus "Don Juan"; Zu Straßburg auf der Schanz.

Mahler's "Songs of Youth" have received less attention on recordings than his other sets—far less attention than they deserve. The seven songs represented here include six settings of poems from Mahler's "Songs of Youth." (none of which is included in the later Wunderhorn cycle with orchestra), and one of a poem by the seventeenth-century Spaniard Tisio de Molina. While there are obvious similarities in style to Mahler's later songs, the selections show a rather unfamiliar side of the composer: that of the lighthearted comedian. Of the seven, only "Nicht wiedersehen!" and "Zu Straßburg auf der Schanz" have serious texts. The latter, incidentally, describes a homesick soldier's desertion and trial and very much recalls "Wo die schönen Trompeten blasen" a later Wunderhorn setting. There is in both the same sense of bleakness and approaching death.

The five songs generally referred to collectively as "the Rückert Songs" are represented with the exception of "Liebes für Lia Schäflein." It is almost unnecessary to state that the performances, Fischer-Dieskau catches the mood of each song exactly; his rhythm, his diction, his sense of style and timing, all serve as pleasurable reminders that few Lieder interpreters can equal this man, and none surpass.

Bernstein's accompaniment is equally outstanding. Especially good is his playing in "Um Mitternacht," where he gives the piano an almost orchestral sound—a welcome interpretation in a song whose accompaniment was originally orchestral and that sometimes sounds too weak with piano. His evocation of the varying moods of the "Youth" songs is excellent.

The Rückert songs, although available in many other performances, are done unusually well here; and the "Songs of Youth," less remarkable job. As I commented earlier on the release of Haitink's edition of the Mahler Eighth, Philips' engineering, with its four-track masters, presently offers an impressive likeness of what one hears in the balcony of the Concertgebouw. The beauty of sound in this set, and its ability to duplicate a live performance with so little loss, strikes me as exact what high fidelity must be about.

The Kubelik, in contrast, seems somewhat drier acoustically and more confined, while the Solti conveys the spaciousness of a large hall (Medinah Temple in Chicago) without the same sense of presence that is so strong in the Amsterdam recording.

My congratulations to Haitink on completing this cycle, and my respects as well to the Philips engineering staff for an achievement of equal stature.

R.C.M.
"Many professional audio people, including our reviewer, use the AR-3a as a standard by which to judge other speaker systems."  
*Electronics Illustrated, March 1972*

From the beginning, AR speaker systems have been characterized by independent reviewers as embodying the state of the art in home music reproduction.

**Standard of performance**

Soon after the AR-1 was introduced, as AR's first "top-of-the-line" speaker system, the Audio League Report stated, "We do not specifically know of any other speaker system which is comparable to [the AR-1] from the standpoint of extended low frequency response, flatness of response, and most of all, low distortion."

**Seventeen years later**

In a recent review of the AR-3a, published in Stereo Review, Hirsch-Houck Laboratories made the following observation:

"For the benefit of newcomers to the audio world, the AR-3a is the direct descendant of the AR-1, the first acoustic suspension speaker system, which AR introduced in 1954. The AR-1 upset many previously held notions about the size required for a speaker to be capable of reproducing the lowest audible frequencies. The 'bookshelf'-size AR speakers set new standards for low distortion, low-frequency reproduction, and in our view have never been surpassed in this respect."

**Durability of accomplishment**

AR's research program is aimed at producing the most accurate loudspeaker that the state of the art permits, without regard to size or price. Consumer Guide recently confirmed the effectiveness of this approach, stating that "AR is the manufacturer with the best track record in producing consistently high-quality speakers," and summarized their feelings this way:

"The AR-3a was judged by our listening panelists to be the ultimate in performance."

The AR-3a is the best home speaker system that AR knows how to make. At a price of $250 (in oiled walnut), the AR-3a represents what Audio magazine recently called "a new high standard of performance at what must be considered a bargain price."

---

**Please send detailed information on the AR-3a speaker system to**

<table>
<thead>
<tr>
<th>Name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td></td>
</tr>
</tbody>
</table>

**Acoustic Research, Inc.**
24 Thorndike St., Cambridge, Massachusetts 02141

CIRCLE 1 ON READER-SERVICE CARD

---

**Frequency response of the AR-3a 12-inch woofer, radiating into a 360° solid angle (hemisphere).**

---

**Frequency response of AR-3a tweeter: top curve measured on axis, middle and lower curves measured 30° and 60° off axis, respectively.**

**On-axis output (unattenuated, automatically recorded trace).**
Not that the Leppard show is itself perfect—far from it. Anyone looking for the dramatic verities in the Busenello-Monteverdi collaboration won’t find them in the chopped-up foreshortened version of this two-disc set. And although we are becoming accustomed—or numbed—to Leppard’s singing strings, the effect is still a bit overblown. But all the same, Monteverdi’s superb melodies are still there and the astonishingly perceptive characterizations—the blustering, weak, vacillating Nero; his nobly resigned discarded Queen; the seditious Seneca: the shallow and opportunistic Drusilla; and her enchanting and inoffensive counterpart, the waiting woman known only by her title, Damigella. But most of all it is Poppea’s show; one of the great characters in operatic literature, she is entrancing, seductive, irresistible, and totally amoral. The apotheosis of the drama, Poppea’s triumphal coronation is a victory for the greedy, power-loving sex and status symbols of the world. Not surely a nice ending but don’t we still admire the Howard Hugheses and Jacqueline Onassis of this world? And how much clearer the parallels must have seemed in the narrow hierarchies of the Italian nobility. In an age of allegory and historical fiction, Monteverdi has created the first realistic opera.

Magda Laszlo’s Poppea is outstanding, sung with a voluptuous tone and just the right note of insinuation. Richard Lewis matches her musically without sacrificing Nero’s debonair style. Their final duet, a staccato ‘expressive’ madrigal from Monteverdi’s earlier periods, is worth the price of the recording alone. Among the minor characters Oralia Dominguez’ rich contralto brings distinction to the small part of Poppea’s nurse—her lullaby is a showstopper—and Soo-Be Lee is particularly charming in the never-fail role of the Damigella.

S.T.S.

**Monteverdi: “Madrigali virtuosi.”** Ian Partridge and Nigel Rogers, tenors; Christopher Keyte, bass; Hamburg Monteverdi Choir, Jurgen Jurgens, dir. Archive 2533 087, $6.98. Se vittoria si bella; Non voglio amare; Vaga su spina ascossa; Zefiro torna a 2; Augellin che la voce; Ninfa che scuola il piede; Ah come un vago sol o mio bene; Zefiro torna a 2; Mentre vaga Angeloletta; Volgenda il ciel.

“Madrigali virtuosi” is an apt title for these early baroque works of Monteverdi meant to be sung for the pleasures of princes and pretenses by their highly paid and phenomenally skilled musicians. Most of the madrigals in Monteverdi’s last three big collections, Books 7, 8, and 9, are for two or three voices with a chamber ensemble as accompaniment. Intimate pieces, usually just a harpsichord would suffice for the continuo, they exploit the subtleties of the singer’s voice—delicate coloratura ornaments, expressive slow lines arching over great range, syllabic sections demanding perfect diction. Archive has imported these English singers who are thoroughly experienced in all phases of “early music” having appeared on just about every disc from Bernard de Vettuorsen to Purcell that has appeared in the last few years. Moreover the soloists are indeed virtuosos who would surely be welcomed in any century. To them is added the Monteverdi choir of Hamburg, a choral ensemble whose style is a disturbing contrast to the crisp clarity of the solo voices. Fortunately the programming is weighted toward the chamber ensemble so the difference is not too distracting.

The selections are for the most part unfamiliar to disc, and thus especially welcome. The little pastoral scenes of bird songs, nymphs, and flowers are traced in delicate detail in Ninfa che scuola il piede, Augellin che la voce, and Vaga su spina ascossa. The chromatic languishing of the lovely opening to Mentre vaga Angeloletta recalls the anguish of Monteverdi’s most expressive madrigals tempered by the knowledge that everything will, after all, come out all right. I was particularly struck by the Schütz-like sound of Se vittoria si bella, when it is in fact Schütz who sounds like his teacher Monteverdi. O mio bene is another jewel, contrasting seductive melodic lines with fast concitato passages.

The Hamburg Monteverdi Choir appears in the five-voice Zefiro torna, which is no relation at all to the duet but rather a staid “expressive” madrigal from Monteverdi’s earlier period; as a chorus in the multipartite Volgenda il ciel, a joint instrumental solo and choral production redolent of an Italian-flavored masque; and in A un groso sol, a halfway point for Monteverdi, combining rather stiff madrigal writing with long duos in the new concitato style. Despite the many excellences in this recording, I find I am not totally satisfied. The tempos are frequently too fast for one thing; one loses all the wonderful swing of the gourd bass in Zefiro torna which gave it a brief popular notoriety as a rock hit some years ago, and the singers are not always in tune. The far-off ooh-aah sound of the Hamburg group con-

---

**The $300.00 Concert Hall**

With all the “great”, “new”, “fantastic”, “innovative” things everyone’s claiming, how do we prove we’ve got something remarkable? Lend us your ears. And eyes.

Walk into an authorized LDL high fidelity dealer with a favorite record or tape—hopefully, a demanding one. Ask him to hook up your present (or future) amplifier or receiver and a pair of LDL 749 reflecting speakers. And listen.

Listen to the “speakerless” clarity of a multiple-transducer crossoverless system using the finest components. If your record’s got fundamental bass, the fundamental by what you’ll hear, up to and including the attack of drums and strings. And as for highs, you won’t just listen to them—you can pick them apart: violins, trumpets, piccolos and more—each clearly defined.

But good stereo (or quad) is more than frequencies and transients put in their place: it’s a spatial phenomenon. Which is where the LDL 749 really excels. Precisely combining forward-radiated sound from the front of the enclosure with panoramically-reflected sound from the rear. Result: the kind of acoustical environment you used to need a concert hall to get.

Need more convincing? A-B LDL 749’s against other speakers—even the $1000-a-pair variety. We honestly think you’ll prefer ours.

Where do your eyes come in? To appreciate the speakers’ compact size and elegant looks. Beginning with the $299.95 pricetag . . . for the pair. Now, where can you get a concert-hall for that? For the name of your nearest dealer, write or call.

**LINEAR DESIGN LABS, INC.**

114 Wilkins Avenue, Port Chester, N.Y. 10573 - Phone (914) 937-0622

**Not For One...For Both!!!**

CIRCLE 38 ON READER-SERVICE CARD

---

**High Fidelity Magazine**
If you're involved in the business of tape recording either professionally or simply for the love of it, we have an interesting proposition for you.

A couple of silent partners, who will work day and night, assure excellent results, let you maintain full control and be unfailingly reliable.

They're the new Revox/Dolby B tape recorder and the Beyer DT 480 headphones. And both of them come with excellent credentials.

The Revox/Dolby B is the most recent version of the critically acclaimed Revox A77, a machine which was described by the Stereophile magazine as, "Unquestionably the best tape recorder we have ever tested."

Listening to tapes made on the new Revox with its built-in Dolby Noise Reduction system is a revelatory experience. Tape hiss is virtually nonexistent. The music seems to emerge from a background of velvety silence. And at 3¾ i.p.s. the absence of extraneous noise is truly startling.

As for the Beyer DT 480 headphones, they are in a class by themselves. Their superb frequency response and enormous dynamic range permit you to critically monitor and evaluate recording quality and balance. Add featherweight comfort and an ingenious "ear seal" that effectively screens out ambient noise and you begin to understand why a modified version of the DT 480 was chosen as the European Din Standard in headphones.

Together or separately, our remarkable silent partners could open your ears to recording possibilities you never knew existed.

Your nearest Revox-Beyer dealer will be delighted to arrange an introduction.

We think once you've met them, you'll wonder how you ever did without them.

For additional information and complete technical specifications, write: Revox Corporation, 155 Michael Drive, Syosset, New York 11791.
FOR THE PERFECTIONIST: INTRODUCING THE WORLD’S BEST TAPE RECORDER!

BRAUN TG 1000
A brand-new professional stereo tape deck from Germany at a price acceptable for home use, but with performance that, until now, could be found only in machines exceeding $3000. The Braun TG-1000 is the new standard by which all other recorders must be measured!

This tape deck features a three-motor transport which provides incredible smoothness of operation. A unique feedback system electronically regulates current to the torque motors so that there are practically no tape tension variations. Tape tension remains constant for both large and small hub reels and tension does not vary more than 10 grams from a full to an empty reel. As a result, there is practically zero tape stretch—even with the thinnest tapes. In high-speed operation (3300 ft. in 90 sec.) the reel is wound so smoothly that it looks like it has been played at 7½ i.p.s.

The TG-1000's sophistication does not end with the transport. Its electronics are also unsurpassed! Harmonic distortion is 0.4% at 0 VU at 7½ i.p.s. Signal to noise is very conservatively rated at 60 dB and record to playback frequency response is an unbelievable ±0.5 dB from 20 Hz to 23 kHz!

Price: $729

BRAUn

BRAUN also manufactures excellent loudspeakers. For information on any Braun products and the name of the Braun dealer nearest you, write ADS, 1208 Governor’s Drive, S.E., Huntsville, Alabama.

CIRCLE 12 ON READER-SERVICE CARD

HIGH FIDELITY MAGAZINE
You are about to read detailed technical information concerning the most advanced sound reproduction system introduced in many years. Created by the Electro Music division of CBS*, the new Leslie Plus 2 system offers the listener two unique advantages over previous systems: 1. It provides sound augmentation for existing stereo systems which "animates" the music and reduces "standing waves" (dead spots) in the room. 2. It offers easy adaptability for switching between augmented two-channel recordings (stereo) and quadraphonic recordings (four-channel). The Leslie Plus 2 system reproduces both!

An exclusive feature: the rotor. Leslie Plus 2 cabinets are used in combination with your present stereo system. For stereo recordings, the "normal sounds" are produced by your present speakers and the "augmented" sounds by the Leslie Plus 2 speakers. Each Leslie cabinet has its own amplifier and a rotating drum rotor (photo above) to physically disperse the sound output throughout the room. Also, each Leslie cabinet has advanced 360° electronic phase shifters which produce a random spatial effect. Working together, they "animate" the sound to create the presence of a live performance.

Your home is not a lab. In the past, speakers and systems were evaluated on their ability to produce a "transparent sound" in a laboratory environment. However, when measured in a typical room, the sound waves interact with room surfaces, carpets, drapes, etc. and the flatness disappears. The Leslie Plus 2 system was designed to release the sound in a room to create a full, natural reconstruction of the music irrespective of room surfaces and sound-absorbing materials. One of the surprise benefits of the Leslie Plus 2 system is its ability to enhance SQ program material so that this superior recording method can be enjoyed in all room locations, instead of just the precise center of the room. Result: the music "comes alive" no matter what type of room you have and no matter where you sit.

The graph tells the story. To demonstrate how the Plus 2 speakers, working with conventional stereo speakers, perform in a typical furnished room, the same frequency scan was repeated five different times. As a result of the "random sound" qualities of the Leslie Plus 2 system, each measurement showed a somewhat different response curve. And, if the experiment were repeated five more times, still another five curves would be plotted. By superimposing the first five measurements over each other (see graph above), the benefits of the composite nature of Plus 2 sound becomes apparent. The random distribution of sound provides animation and the physical movement of sound waves which disrupt "standing waves"...eliminating acoustically dead areas.

Model 430 Leslie Plus 2 Speakers. Sound of the future. With a simple flick of a switch, the Leslie Plus 2 speakers convert your system into a full quadraphonic system. The Leslie Plus 2 system contains two independent 50 watt RMS amplifiers and can be used to amplify the two additional channels of discrete 4-channel tape. For quadraphonic recordings, the only additional component required is a decoder. Set for the quadraphonic mode, each of the four speakers acts independently to reproduce full-fidelity 4-channel sound.

For all these reasons, Leslie Plus 2 speakers offer a drama and scope never before available to home listeners. For additional information you are invited to see your nearest franchised Leslie Plus 2 dealer or complete the coupon below.

Leslie

Leslie is a registered trademark of CBS, Inc.

*Electro Music
CBS Musical Instruments,
A Division of
Columbia Broadcasting System, Inc.
56 West Del Mar Boulevard,
Pasadena, California 91105

Please send me additional information about the Leslie Plus 2 systems.

NAME
ADDRESS
CITY & STATE

JUNE 1972
Why Does INFINITY Use a 12" Woofer in Their $139 Speaker?

Virtually all speaker systems in this price range use a 10" or smaller woofer. This is to cut costs and to obtain decent midrange response. However, we were determined that at $139.00 our Infinity 1001 should have the widest and smoothest response possible for a bookshelf-size system.

From the basic laws of physics, we learn that the resistive component of the air load on the bass speaker is greater for larger woofers. This means that at low bass frequencies a 12" woofer will take a much larger "bite" on the air than a 10" woofer. Furthermore, a 12" woofer has to move a much smaller distance than a 10" woofer for equal sound pressure levels. This fact implies lower distortion characteristics for the larger woofer, particularly on the low organ and bass tones and heavy bass guitar passages in rock music... bass you can actually feel. The Infinity 1001's 12" woofer is loaded into a transmission line enclosure. This type of loading provides very uniform response down to extremely low frequencies while maintaining smooth and well-dispersed midrange response. What we have accomplished is a "tightness" and clarity associated only with live music—not with other speakers.

Another feature contributing to the 1001's sonic accuracy is the utilization of a frequency boost network for the tweeters which allows constant energy distribution to the tweeters which allows constant energy beamwidth.
Nothing is hard to get...

Elac / Miracord has spent a million dollars to bring you

NOTHING

True "NOTHING" would be the elimination of everything that interferes with the perfect reproduction of sound. So, the closer you get to "NOTHING" in sound, the better stereo equipment you own!

The ELAC 50H MARK II comes closer to the "NOTHING" in sound reproduction than any other automatic turntable. And for good reason. You see, we've spent a million dollars in research to eliminate motor noise, vibration, rumble, wow, and distortion. The closer we get to "NOTHING", the better it is for you. With rumble down to -42db, wow down to 0.05% and flutter to 0.01%, we're really coming close to "NOTHING!"

And we've even reduced record wear. Imagine an automatic tonearm that lowers so slowly, so lightly to your records that you can hardly tell when it touches the groove. You certainly can't hear it. At your command, a touch of the exclusive pushbutton control picks the arm up automatically and a silicone-damped piston lowers it lighter than a floating feather to your record. It's the ultimate in protection for stylus and record.

Alto Ciccioni's sixth, and apparently last, recording devoted to Satie's piano music offers a panoramic view of the composer's diversified career. From the four Ogives (1886), with their archaic sonorities and hints of Gregorian chant, to the Trois petites pieces montées (1919), in which Ciccioni doubles with himself 'in Satie's piano-duet arrangement of his Rabelaisian orchestral work (the third movement must certainly have led the way for Poulenc). Along the way there are the Danses gothiques—strangely and totally ingenious harmonies that give them the same "primitive" quality one finds in the paintings of Henri Rousseau; the Pages mystiques, which include the famous Vexations (to be played 840 times—Ciccioni stops after the first). a cho-
THE MIRACLE WORKER

When Sherwood can take America’s most popular receiver, increase its low frequency RMS power, broaden the power bandwidth, improve FM selectivity by 10 dB, provide a direct-coupled amplifier circuit, add ceramic filters, improve the appearance, and reduce the price $20.00...that’s a miracle.

THE SHERWOOD S-7100A....$199.95
(including walnut case)

For complete information on Sherwood products, see your local Sherwood dealer or write to Sherwood Electronic Laboratories, 4300 North California Avenue, Chicago, Illinois 60638.
Yes, Listen. Play "their" best demonstration records through the EVX-4 or the E-V 1244X add-on decoder/stereo amplifier.

In most cases you'll hear little or no difference. Some records may even sound better to you through our decoder than through theirs! How can this be? Because you're listening to music ... not ping-pong or algebra. And our decoding is basic.

STEREO-4™ decoders can do the best job at the lowest cost for all 4-channel matrix records and FM broadcasts. Not to mention how well they enhance your present stereo records, tapes, and FM.

But don't take our word for it. Listen carefully. Make your own discovery that "their" records can make the best case for "our" decoders!

Can the EVX-4 4-Channel Decoder face up to records encoded for Columbia SQ, Sansui, Dyna, and all the rest?

Lm 20 EVX-4 Stereo-Decoder $59.95 suggested resale

Gold Company

E-V 1244X Decoder/Decoder Amplifier $149.95 suggested resale

ELECTRO-VOICE, INC. Dept. 624H
610 Dooly Street, Buchanan, Michigan 49107
In Canada: 2121 E. 11 St, Toronto 15, Ontario
In Europe: Electrophonics, S.A., Lyon, France $15.50 module, Switzerland

Circle 24 on Reader-Service Card

STRAUSS, R.: Arabella

Arabella

Lisa Della Casa (s) Rudi Gualandri (t)

Despina

Hilde Gueden (s) Ida Malanick (ms)

Adelina

Anton Dermota (t) Vivian Atkinson (ms)

Don Alfonso

George London (b)

Eberhard Waechter (t)

Ruschka

Otto Erichson (t)Edith Mathis (ms)

Lamoral

Harold Prokohoff (b)

Vienna Philharmonic Orchestra, Georg Solti, cond. Richmond SRS 63522, $8.94 (three discs; from London OSA 1404, 1957).

Selected comparison:

Keilberth DGG 2709 013

When one takes an overview of Strauss's operas and considers precisely what he was after in terms of the ideal match between words and music, Arabella makes a strong claim to be his masterpiece. Act I is virtually flawless in its light conversational flow, melodic inspiration, and highly crafted orchestration. The framework is wonderful, and Strauss's writing is more revealing and more consistently beautiful and satisfying than in the other two acts.

The Scherzo fares better, but even there a meritorious rallentando cheapens the transition to the trio section. For these three movements Strauss has at last succeeded in achieving a certain quality which could happily be described as "breath." His finale spoils all that. It's giddily, light headed, rather silly account which sounds all the more so for being juxtaposed alongside the quasi-solennity of the other sections.

H.G.


Selected comparisons (Prometheus):

Ormandy RCA 3214

Johanos Can. 31099

Selected comparison (concerto):

Potti Can. 31040

The Maazel/Ashkenazy performance of Prometheus is by far the best currently available. To begin with, the unbelievably realistic and beautifully balanced recorded sounding is simply unmatched by either the Johanos or particularly the Ormandy versions. Not only do Scriabin's skillfully blended timbres stand out in perfect relation to one another, the stereo effect is such that when one of Scriabin's elusive thematic elements suddenly and unexpectedly appears the emotions of the listener are aroused in a manner that Scriabin surely must have desired. Much of the credit here, of course, is also due to Lorin Maazel, who gives each of the work's eleven themes a distinctive contour within the over-all dark textures and develops them with a perfect understanding of the work's shifting structures. Furthermore, Vladimir Ashkenazy performs the obbligato piano part in a subtly nuanced manner that perfectly suits Maazel's conception of this musical "poem." Ormandy and Sokoloff seem glib in comparison, while Johanos and Mouledous, who appear to be headed in the right direction, rarely attain the heights reached by Maazel. The one exception is at the end. Here, the brilliant climax which Johanos achieves (even if his chorus is not quite equal to the task) somewhat overshadows the Maazel performance, which, unfortunately, the chorus gets slightly buried.

Scriabin's piano concerto looks both backwards toward Chopin and Liszt and forwards toward Rachmaninoff. Aschenazy and Maazel have opted strongly for Rachmaninoff, producing a certain heavy-handedness which, to my mind, is not as appropriate to the concerto's first two movements as Michael Ponti's lighter approach. On the other hand, Aschenazy produces a much more convincing, much more expressive rendition of the last movement than Ponti, who seems to dash the whole thing off with flair but little feeling. Of course, the London Philharmonic is much to be preferred to the Hamburg Symphony that accompanies Ponti (just about any orchestra would), and London's sound, while not up to that of Prometheus, generally impresses more than Candide's, although I would have liked a more brightly recorded piano, as in the Ponti version.

But it is Prometheus a landmark in the history of artistic expression, that stands out on this disc, and no one should deprive himself of the chance to hear this splendidly recorded, beautifully conceived performance. R.S.B.
It's EASY To Convert Your Present 2-Channel Stereo System To Play

**SQ-L DECODER**
Deluxe version of the Lafayette SQ-M Decoder. Utilizes advanced Logic Circuitry to reproduce SQ 4-channel sound on a disc. Retains full front channel separation while vastly increasing rear channel separation. The vital center front-to-back separation is further increased. Features include exclusive Master Gain Control for all 4 channels of amplification, and 2 and 4-channel tape recording outputs. The Deluxe SQ-L Decoder is yours for Only $79.95!

**SQ-M SQ DECODER**
The Lafayette SQ-M 4-Channel SQ Decoder will convert your present 2-channel stereo system to play 4-channel SQ records. A conventional 2-channel stereo system requires adding the SQ Decoder, an additional stereo amplifier, and 2 more speakers. Features Master Volume Control and "Composer" circuit. Present 4-channel systems not incorporating SQ circuitry only require an SQ-M Decoder. Only $44.95!

**OD-4 4-DIMENSIONAL ADAPTER**
Add the Lafayette OD-4 4-Dimensional Adapter and two additional speakers to any conventional Lafayette or other 2-channel stereo receiver and experience the exciting richness of derived 4-channel sound from your regular stereo records, tapes, and FM broadcasts. No additional amplifiers are necessary. A dramatic new dimension in your listening pleasure is yours for Only $29.95!

**LA-524 DECODER/AUXILIARY AMPLIFIER**
Lafayette's LA-524 4-Channel SQ Decoder/Auxiliary 60-Watt Amplifier and two more speakers provide your present 2-channel stereo system with universal 4-channel capability! Features a Master Gain Control for all 4 channels of amplification and a built-in SQ Decoder for playing the new SQ 4-channel records. You can also play discrete 4-channel 8-track "Q8" cartridges and open-reel tapes with the LA-524. We've included Lafayette's exclusive "Composer" circuit, too! Only $79.95!

**RK-48A 8-TRACK PLAYBACK DECK**
Lafayette's RK-48A compatible 2 and 4-channel stereo 8-track cartridge playback deck will play the new "Q8" 4-channel cartridges through any 4-channel amplifier stereo system. It will also play conventional 2-channel stereo cartridges. The RK-48A features a "Continuous/Repeat" selector button to repeat only one particular track, or continuously repeat all program tracks. All this and more for Only $97.95!

LAFAYETTE RADIO ELECTRONICS
111 Jericho Turnpike Dept. 19062
Syosset, L.I., N.Y. 11791

Please send me my FREE 1972 Summer Catalog #724 to:
Name ..............................................................
Address ...........................................................
City .................................. State ....... Zip ......

(Please Include Your Zip Code)

NEW!
FREE!
1972 SUMMER CATALOG #724

CIRCLE 37 ON READER-SERVICE CARD
recitals and miscellaneous

**MARTIN BERINBAUM:** "Four Trumpet Concertos." Martin Berinbaum, trumpet; English Chamber Orchestra, Johannes Somary, cond.; Vanguard/Cardinal VCS 10098. $3.98

**HUMMEL: Cello Concerto in E flat; ALBINONI: Concerto in C; BEETHOVEN: Cello Concerto in A flat; ACHENBACH: Cello Concerto in D major." Perlman, cello; VPO, Kondrashin, cond. Decca 432 853-2. $25.42

A young American trumpeter confirms his New York concert successes in a recording debut that immediately wins him a ranking with the best of the new generation of Generations and Pop artists. Berinbaum's program features one very familiar work (Haydn), two occasionally heard (Mozart, Torelli), and one—Thibaud's transcription of the otherwise unidentified "Saint Marc" sonata da chiesa originally for violin and continuo by Albinoni—which I haven't encountered before.

The liner notes, which are set on source specific and even key designations, do helpfully specify instruments used: a "Bach" E flat trumpet for the Haydn and Hummel, a "Sibelius" piccolo trumpet for the Albinoni and Torelli, and throughout they are used with notable restraint as well as skill. Interpretatively, Berinbaum can "sing" a melody without sentimentalizing it and endow his bravura passages with humor as well as éclat; tonally, he consistently exercises both tact and good taste. In the fine recorded work he may not be quite as ultrabrilliant as Smithers, nor his accompanying ensemble quite as distinguished as Marriner's St. Martin-in-the-Fields, but this version is scarcely, if any, less delightful. And his Haydn concerto, which has nothing to fear from comparison with the best of the earlier recordings, provides convincing testimony that I had good grounds for judging the Russian star trumpeter, Dusich, as a musical virtuoso. I'll be looking forward to more Berinbaum recordings and I hope that he'll make a particular effort to expand the present boundaries of the virtuoso trumpet repertory.

**DOMINGO SINGS CARUSO.** Placido Domingo, tenor; London Symphony Orchestra, Nello Santi, cond.; RCA Red Seal LSC 3251. $5.98

**LEONCAVALLO: Vesti la giubba; DONIZETTI: L'Africaine; G. VERDI: Oope o paradiso; P. VERRAZZO: Don Carlos; R. STRAVINSKY: Les noces; N. MAESTRO: A vos larmes; R. STRAUSS: Don Juan." Domingo is a remarkably talented singer, one of the most vocally gifted artists to have appeared in the past decade, yet he seems to have started overextending himself at a dangerously early point in his career. The fresh, vital, lyric quality of only a couple of years back seems to have largely disappeared and in its place Domingo now offers a less spontaneous, less dedicated vocalism that tends to make everything sound a bit inflated.

"M'appari" is more overbearing than tender. "La donna è mobile" is without the requisite verve, and "Una furtiva lagrima" lacks melodio. Given Domingo's youth, it is interesting to hear how difficult it is for him to draw a really taut line in lyrical passages (e.g., "Una furtiva" and the "Mammon" excerpt). Domingo seems to be assuming the limitations of a dramatic tenor before actually becoming one. At the moment he certainly lacks grandeur, nobility, and tragic power. "O parride" is inarticulate and "Vesti la giubba" merely incomprehensible. In the latter Domingo emulates not Caruso but Gigli by sobbing his way through the orchestral postlude. But then his approach to almost every aria here is unnecessarily tearful. "Ah! faré" is not so much a prayer as an excuse for self-pity. Like Gigli, Domingo misses emotionalism for feeling. Caruso's disc reveal more faith in the music's expressive power and in his own ability to realize it. On the evidence of this disc, it's clear that Domingo has not listened closely to the older singer's recorded legacy; he has heard only the manner and not the artistic integrity that produced it. Nello Santi's sluggish accompaniments are of little help in disarming the air of stodginess that pervades these performances. For those interested, a color photo of Domingo suitable for framing is included. The liner notes mix press agent's clichés with inaccuracies (e.g., Domingo has not yet sung L'afrique in San Francisco: that is a project for next season). It seems, moreover, unlikely to use the notes so baldly as a pull for the performances inside.

**"HOMAGE TO PAVLOVA."** London Symphony Orchestra, Richard Bonynge, cond. For a feature review of this recording, see page 66.

**HUGUETTE TOURANGEAU: "Arias from Forgotten Operas."** Huguette Tourangeau, mezzo; Orchestra de la Suisse Romande, Richard Bonynge, cond. London OS 26199, $5.98

Here's your FREE
HIGH FIDELITY
“at home” shopping service!

It's easy! All you do is use one of the Reader Service cards at right ... HIGH FIDELITY's Reader Service Department will take it from there. It's as simple as 1, 2, 3!

Just circle the number on the card that matches the number below the ad or editorial mention that interests you.

You'll also find the key numbers for advertised products in the Advertiser's Index.

Then type or print your name and address. Don't forget your zip code, it's important!

Drop the card into the mail. No postage is needed if mailed in the United States.

You'll receive literature, colorful brochures and specifications about the products that interest you ... free and without obligation!

Use HIGH FIDELITY's “at home” shopping service today!
See Reverse Side for FREE “at Home” shopping service!

There’s more pleasure in store for you every month with HIGH FIDELITY...
We Call It
Total Energy Response

At Jensen, our new woofers, tweeters and purring mid-range speakers are really sounding off. They're all part of a new design concept, Total Energy Response. Total Energy Response gives every Jensen speaker a fuller, richer sound than ever before. It improves musical balance throughout a listening area, so your whole component system sounds better.

On our Model 6 Speaker System, you'll hear Total Energy Response at its best. Because there just isn't a better four way, four speaker system on the market at $198.

Model 6 holds a huge 15" woofer, 8" direct radiating mid-range, 5" direct radiating tweeter and Sonodome® ultratweeter.

It uses our trademarked Flexar® suspension system that improves clarity. And an exclusive crossover network to optimize tonal blend. Our 5 year parts and labor warranty speaks for itself. And so do these specifications.

- Power Rating — 75 watts
- Frequency Range — 27-30,000 Hz
- Crossover — 300/1,000/4,000 Hz
- Dispersion — 170°

Then we put all this sound together in a beautiful hand rubbed walnut cabinet with black console base. So when you take in a demonstration of Jensen's new Model 6, you'll get the maximum response.

Model 6 Speaker System.

JENSEN SOUND LABORATORIES
A DIVISION OF PEMCOR, INC. SCHILLER PARK, ILLINOIS 60176

CIRCLE 34 ON READER-SERVICE CARD
The extension of the operatic repertoire initiated some time ago by Maria Callas has brought to light many unjustly neglected titles. "Il Pirata, Beatrice di Tenda, Anna Bolena," while not masterpieces, are worthy and often touching operas which, for one, am grateful to see restored to at least phonographic currency. The present disc extends our operatic knowledge (and our musical pleasure) even further. Despite the title, however, not everything here is entirely forgotten. The "Héroïdille" aria—like the opera itself—turns up from time to time, as does the piece from "Les Dragons de Villars." But of course the rest of this music has been engulfed by silence for many years.

Some pieces, indeed, are remarkably obscure. The aria by Michael Balfe, the Irishman who wrote The Bohemian Girl, seems to have been inserted into an opera composed by :Amato Aurelio Mariani, and dates from 1837. The Donizetti is from a work that has otherwise sunk without a trace: Both are large-scale bravura numbers obviously designed for expressive, virtuoso singers. Both are commendably elegant. Both leave an impression of brilliance and variety. Together they make a fascinating contrast with the similarly devised aria from "Oberon," the first of Verdi's surviving operas. Verdi, from the very beginning of his career, possessed an individuality that marked him out from the run of his contemporaries. Even in music of only limited inspiration and refinement like this, one's attention is immediately caught up in the specifics of the dramatic situation. Leonora's plight—she has been seduced and then abandoned—can be vividly felt in every bar she sings. By comparison, the Balfe and the Donizetti are hard to identify emotionally, though the music is very agreeable. The tomb scene from "Vaccini's Giulietta e Romeo," which like Bellini's opera on the same subject has also been somewhat generalized. Nevertheless, the music has a striking elegant charm, and as befits the work of a great singing teacher, it lies beautifully in the voice.

Other pieces are even better. They exemplify several of French virtuosity: spontaneity, gracefulness, elegance. They are totally lacking in self-importance, and are as a consequence disarming. Even the minor composers here create a mood of ease and confidence. The "Auber" and "Maillart" selections, for instance, have an annulling that is hard to resist. Their amiable operatic manner yields a ghazal of languorous charm. Massenet's biblical opera a scena in which the composer's feminine sensibility is finely distilled. The inclusion of the Massenet leads one to hope that the repertoire, both in the opera house and on records, can be further extended in his direction. Clearly there is still a lot of opera for Richard Bonynge to bring to our attention. His commitment to the music here is very evident, as is his skill in projecting it.

All the more unfortunate that his soloist is so inadequate. Whereas lovers of opera are likely to be grateful for the repertorial enterprise of this disc, those who are also lovers of singing are likely to be disgruntled by the amateurishness of its vocal execution. Huguette Tourangeau is a young mezzo of more daring than accomplishment. Here she has been given a formidable range of musical styles and techniques to encompass: cantilena, bravura numbers obviously designed for ex-

The Orchestre de la Suisse Romande gives an agreeable, sumptuous, noble impression of weight and resonance. Much of the music needs a really sensitive vocal quality. Tourangeau changes gears as she moves up and down the scale, producing on these occasions an impression of heroic gargling. She also uses her chest register with dismaying regularity. Occasionally her vowels tend to come out as "ah." In sum, she is to my ears distressingly unfitted for this oftentimes an impression of heroic gargling. She also uses her chest register with dismaying regularity. Occasionally her vowels tend to come out as "ah." In sum, she is to my ears distressingly unfitted for this other-

In the "Auber," "Tourangeau" delivers a single line ("et Manezelle Friquet va devenir maman!") in a light head tone of delightful quality. But that is the only time on the entire recital that voice ever sounds unforced and natural. Everywhere else Tourangeau is hard pressed, ill at ease, overextended. Often her voice seems to be bottled up at the back of her throat, with the result that it has a very artificial kind of weight and resonance. Much of this music needs a really sensitive vocal quality. Tourangeau changes gears as she moves up and down the scale, producing on these occasions an impression of heroic gargling. She also uses her chest register with dismaying regularity. Moreover, though her French is good, she enunciates so few consonants that she sounds like somebody struggling with a speech problem. Matters are not helped by Tourangeau's seeming inability to shape her phrases. As a result, at the ends of phrases tend to come out as "ah." In sum, she is to my ears distressingly unfitted for this other-

The Orchestre de la Suisse Romande gives adequate support, though there is some rather unpleasant horn tone and a few slips. The recording is a hit oversized for my taste. Notes, texts, and translations. D.S.H.
It could be their performance.
The professional reviewers' findings may be best summarized by a respected test engineer who said, "In the nearly twenty years I've been evaluating audio components, Scott units have consistently met, and in many cases, substantially exceeded, their published specs." No one should be surprised at this. Hermon Scott and his colleagues planned it that way from the very beginning. Scott components are intentionally rated conservatively to provide a safety margin, so that, even with normal tolerances in piece parts and production techniques, every Scott product shipped will meet or exceed its published performance claims.

It could be their advanced design features.
When the present Scott line of audio components was first shown to dealers and the press, a reviewer from a non-audio-buff magazine commented, "My readers and I are more interested in what the equipment does than in how it does it. These Scott components seem to me to have all the controls and convenience features the serious listener needs." That, too, should be no surprise, for H. H. Scott is traditionally the first to use advanced design concepts in circuitry, function and appearance, but only where such advances contribute demonstrably to user convenience and satisfaction.

It could be their value for the price.
Reviewers have the edge on audiophiles, and even most dealers, because reviewers get the opportunity to critically evaluate virtually every product on the market, and compare it with everything else in its price class. After they've made a spec-for-spec and feature-for-feature comparison of everything available, they know which products represent the best value to the buyer. When a reviewer says of a Scott product, "This receiver offers an unexcelled value for the price," the audiophile can purchase the unit with the certain knowledge that he is getting his money's worth.

Professional audio equipment reviewers like H. H. Scott components for their performance, advanced design features and value for the price. But aren't these the very qualities you look for when you purchase an audio component or system? You'll find these qualities in every Scott tuner, amplifier, receiver and speaker system now on display at your Scott dealer's.
**in brief**

Four short works by younger Latin-American composers. The three best are of the genus "study in sonority," and the most interesting is Gerardo Gandini's Fantasie-Improvisation, which takes over many themes from Chopin and explodes them into a Xenakis-like cloud of sonar atoms. The composer is his own soloist and a very good one. The pieces by Jesús Pinzón and Hector Quintanar are the shortest on the disc; they are both full of rich, ear-filling, mind-involving orchestral effects without much formal interest. The symphony by Gustavo Becerra is a routine, academic, 12-tone affair.

A.F.

**BECERRA:** Symphony No. 1. PINZÓN: Study for Orchestra. GANDINI: Fantasie-Improvisation for Piano and Orchestra. QUINTANAR: Sideral II. BEETHOVEN: Symphony No. 2 (London). VATHLA. BIZET: L'Arlesienne: Suites Nos. 1 and 2. OFFENBACH: Gaffe Parisienne (excerpts, Rosenthal hallet score (Bernstein's reading runs about half as long as Munch's). Then both conductor and engineers apparently got out of their beds the wrong side. The playing—in the Bizet at least as often excessively slapdash, while the sonorities themselves (except for some delectable low-level woodwind passages) are often intolerably harsh and suffer in addition from decidedly boxed-in acoustics. If you're seeking anything in the way of Gallic grace and delicacy here, forget it!

R.D.D.

**BLOW:** Venus and Adonis. Margaret Ritchie, guitarist. So strong is her drive, so purposeful are her intentions that she borders on the strenuous. Every phrase is highly inflected, striking out with the thrust of a serpent's tongue; and every work also a musician to the bone, and everything she does has a reason. She may tire you out, but she will hold your attention while doing it. In the last analysis you may prefer, as I do, the more seasoned approach of Julian Bream in the Britten Court/Watson category. This is one of Godfrey's more spirited conducting jobs and the early stereo sound is still first-rate.

P.H.L.


The program here is consistently attractive, and the five-minute piece by Duarte, who is superb at his art, is a very palatable tiller on the twentieth-century side of the disc. The playing—in the Bizet as well as the Offenbach—is often excessively slapdash, while the sonorities themselves (except for some delectable low-level woodwind passages) are often intolerably harsh and suffer in addition from decidedly boxed-in acoustics. If you're seeking anything in the way of Gallic grace and delicacy here, forget it!

R.D.D.


These are youthful works. More interesting for what they promise than for what they are. Mozart uses the arsenal of clichés the century produced in abundance, something he did all his life, but as yet without the grace of genius. Still, in the Adagio of K. 156 the sixteen-year-old strikes an astonishingly adult, pensive, almost Sturm-und-Drang tone. Here the record provides a real and pleasant surprise, giving us both versions of this Adagio, the second written seven months later. The first is a good piece, but the second version is unmistakably the work of a master. Incredible what a few months of maturation means in the development of a genius. The members of the Quartetto Italiano play well and with good intonation, and they have a nice tone. But then these little pieces are hardly a touchstone for judgment. The sound is very good.

P.H.L.

**OFFENBACH:** Galîe Parisienne (excerpts, Rosenthal hallet score (Bernstein's reading runs about half as long as Munch's). Then both conductor and engineers apparently got out of their beds the wrong side. The playing—in the Bizet at least as often excessively slapdash, while the sonorities themselves (except for some delectable low-level woodwind passages) are often intolerably harsh and suffer in addition from decidedly boxed-in acoustics. If you're seeking anything in the way of Gallic grace and delicacy here, forget it!

R.D.D.


More of the usual mileage on the old baroque odometer, but if this is the kind of trip you want to take you could worse. The second movement of the Richter E minor shows some inventiveness in the dialogue between flute and orchestra, and the Précis of the G major Stamitz is decorated with elaborate ornamentation, presumably the brainwork of flutist Linde, who is superb throughout.

S.F.

**VAUGHAN WILLIAMS:** Symphony No. 2 (London). London Philharmonic Orchestra. Sir Adrian Boult, cond. Angel S 36838, $5.98.

Comparing this release with the only other version of the same work in the current Schwann catalogue—by the Hallé Orchestra under Sir John Barbirolli—is futile, since the Barbirolli is listed with one of Schwann's black pips, meaning death. Hail and farewell! That record has served us well for years, but the new one brings out many things that were totally inaudible or insufficiently audible in the old, especially the very elaborate role of the percussion in this magnificently colorful work. Boult's performance is more dramatic and emphatic than Barbirolli's, his tempos are slower, his contrasts of dynamics more marked. Boult is the foremost of all the Vaughan Williamsians, and his London Symphony is in his great tradition.

A.F.


Alice Artzt is a twenty-eight-year-old graduate of Columbia University, and she is not a restful guitarist. So strong is her drive, so purposeful are her intentions that she borders on the strenuous. Every phrase is highly inflected, striking out with the thrust of a serpent's tongue; and every work abounds in multiple color changes with a leaning toward the hard, metallic cutting edge that drops like acid through the mellow "pretty" tone color of surrounding passages. Alice Artzt is also a musician to the bone, and everything she does has a reason. She may tire you out, but she will hold your attention while doing it. In the last analysis you may prefer, as I do, the more seasoned approach of Julian Bream in the Britten Court/Watson category. But you will also wish, as I do not, to miss further performances of Miss Artzt when aging has done for her what it does to a good Bordeaux. The program here is consistently attractive, and the five-minute piece by Duarte, dedicated to the artist, is a very palatable tiller on the twentieth-century side of the disc.

S.F.
After the monthly breakthroughs and revolutions in speaker design, how come the Rectilinear III still sounds better?

Figure it out for yourself.

More than five years ago, without much fanfare, we came out with a very carefully engineered but basically quite straightforward floor-standing speaker system. It consisted of six cone speakers and a crossover network in a tuned enclosure; its dimensions were 35” by 18” by 12” deep; its oiled walnut cabinet was handsome but quite simple.

That was the original Rectilinear III, which we are still selling, to this day, for $279.

Within a year, virtually every hi-fi editor and equipment reviewer went on record to the effect that the Rectilinear III was unsurpassed by any other speaker system, regardless of type, size or price. (Reprints still available.)

Then came about forty-seven different breakthroughs and revolutions in the course of the years, while we kept the Rectilinear III unchanged. We thought it sounded a lot more natural than the breakthrough stuff, but of course we were prejudiced.

Finally, last year, we started to make a lowboy version of the Rectilinear III. It was purely a cosmetic change, since the two versions are electrically and acoustically identical. But the new lowboy is wider, lower and more sumptuous, with a very impressive fretwork grille. It measures 28” by 22” by 12 1/4” deep (same internal volume) and is priced $20 higher at $299.

The new version gave Stereo Review the opportunity to test the Rectilinear III again after a lapse of almost five years. And, lo and behold, the test report said that “the system did an essentially perfect job of duplicating our “live music” and that both the original and the lowboy version “are among the best-sounding and most ‘natural’ speakers we have heard.” (Reprints on request.)

So, what we would like you to figure out is this:

What was the real breakthrough and who made it?

For more information, including detailed literature see your audio dealer or write to Rectilinear Research Corp., 107 Bruckner Blvd., Bronx, N. Y. 10454.
the lighter side

reviewed by
MORGAN AMES
R. D. DARRELL
HENRY EDWARDS
MIKE JAHN
JOHN S. WILSON

NRBQ: Scraps. Frankie Gadler, vocals; Jody St Nicholas, vocals and bass; Al Anderson, guitar; Terry Adams, keyboards, Tom Staley, drums. Howard Johnson's Got His Hojo Workin' on Me; Accentuate the Positive; Ain't It All Right, eleven more. Kama Sutra. KSBS 2045, $4.98.

NRBQ was always known as a good-time, hard-rock band which frequently indulged in 1950s material. Occasionally the group would throw in a version of a Thelonious Monk song, but basically its identification was with loud, straightforward rock. NRBQ's two Columbia albums, "NRBQ" and "Boppin' the Blues," the latter with Carl Perkins, set this mood. Now the band is with Buddah/Kama Sutra, and Al Anderson, who was largely responsible for the excellent folk-rock Wildwides album on Vanguard, is guitarist. Perhaps he inspired the softer sound NRBQ displays in "Scraps." the band's first Kama Sutra outing. At any rate, "Scraps" is half soft rock, a bit like the old Lovin' Spoonful. One particularly lovely song by Jody St. Nicholas sounds rather like Daydream. The other half is hard rock, Ain't It All Right being an old-style NRBQ song. Within the hard rock are several genuine clinkers, notably Howard Johnson's Got His Hojo Workin' on Me, a bad idea whose time has come, and a horrid thing about sniffing glue. A version of Accentuate the Positive fares no better, despite the piracy of a line from Blue Monk for the second bridge. Over-all, "Scraps" has a casual, easygoing sort of continuity which perhaps seeks to reproduce the feeling of a live concert. Still, it's a disappointment. NRBQ's best remains its first, on Columbia. M.J.

LINDISFARNE: Fog on the Tyne. Si Cowe, vocals, acoustic, electric, and twelve-string guitars; Ray Jackson, vocals, harmonica, and mandolin; Ray Laidlaw, drums; Alan Hull, vocals, keyboards, acoustic, electric, and twelve-string guitars; Rod Clements, violin, electric bass, acoustic, electric, and twelve-string guitars. Meet Me on the Corner; Alright on the Night; Uncle Sam; seven more. Elektra EKS 75021, $4.98. Tape: ♦ E 85020, $6.98; ♦ TC 55021, $6.98.

Lindisfarne is an almost uninhabited, relatively primitive island off the English coast best known as a Monk's retreat during the Middle Ages. It is also the name of a five-man English band that is well known in its native country and has just begun to make friends in the United States. Lindisfarne plays an unusual blend of acoustic and electric music with a refreshing dependence on the mandolin. Folk, rock, and the blues blend together and the result is intriguing. Band-member Alan Hull's words and music reflect a basic optimism about being alive and a firm belief that people do need people. These attitudes are best reflected in Hull's January Song with its expressive chorus line that states "you need me you need him needs everyone." Hull's Passing Ghosts pictures life as a series of love-making experiences between couples who hopefully will die together and lie side by side in death. The title song, also a Hull composition, is an engaging bit of whimsy, depending on the amusing use of a number of poetic devices in order to achieve its ends. Lindisfarne is worth watching. H.E.

EDGAR WINTER'S WHITE TRASH: Roadwork. Edgar Winter, keyboards, saxophone, and vocals; Jerry LaCroix, saxophone and vocals; Jon Smith, saxophone and vocals; Rick Derringer, guitar and vocals; Randy Hobbs, bass, Bobby Ramirez, drums; Marshall Cyril and Mike McLelland, trumpets; Johnny Winter, guitar and vocals. Save the Planet; Jive, Jive, Jive; I Can't Turn You Loose; Back in the U.S.A.; Rock and Roll, Hoochie Koo; Tobacco Road; Turn on Your Lovelight; three more. Epic KEG 31249, $9.98 (two discs).

Edgar Winter looks like a Fellini nightmare; Jerry LaCroix is still mourning the death of Otis Redding; Rick Derringer is still mourning the death of the McCoys; Johnny Winter now has a beard and resembles an albino OTIS REDDING. The whole outfit has an aura about it, no doubts there. The high points of this two-LP live recording come either during the instrumentals—in an otherwise tasteless seventeen-minute version of Tobacco Road, or when LaCroix is making like the Otis Redding Show, volume two (which he does rather well, to his credit). Rick Derringer's attempts to sing rock-and-roll, as in Back in the U.S.A., fall flat; Johnny Winter does make a decent cameo appearance singing Rock and Roll, Hoochie Koo and though the entire production is marred by an excess of emotion, it does succeed in capturing the essence of a performance by an impulsive, dirty, and aggressive band. If that's what you want. M.J.


Frank Sinatra, Jr.'s history is carried in his name, and surely there have been times when it had to be worn like a crown of thorns. So strong is the name and its implications that no one, possibly not even its owner, has ever had a chance to know who F.S., Jr. really is. Remember him the next time you think you have an identity problem. Daybreak Records, distributed by RCA, should be shot for the record cover, straight out of the '50s and tacky at that. It displays F.S., Jr. in a golfy cardigan sweater that could have been given to his father by Dean Martin in any of their movies. F.S., Jr.'s haircut is unbelievable: parted and barber-clipped, totally unrelated to the present.

The album was produced by Dad's longtime producer, Sonny Burke, and its arrangements bear the distinctive stamp of Dad's arranger, Nelson Riddle, who conducts. Songs include Trolley Song, to which nothing new is added, and a minor Arlen-Gershwin-Harburg fun, Fun to be Fooled—an ironic title. Who's having fun and who's being fooled? In short this is not F.S., Jr.'s album. It is Sinatra, Sr.'s album, leaning on past momentum, supported by past associates, relying on their authenticity Golden Age. I have always had great compassion for this specific show-business dilemma. But patience wears thin. Even Sinatra, Sr. has made a break with the past. Will there not be one more? We are left with the same cruel question: Who is this young man whose very name negates his uniqueness? He's a good singer, that's for sure. He could be anything. Everyone knows the ways in which he is like his father. How is he different? Does he even want to be different? Will he ever have the strength and the chance to be different? And what would any of us have done in such a like dilemma, short of moving to Tokyo, changing names, and opening an electronics company? It all can be sadly summed up in the title of a song written by Frank Sinatra, Jr. and included in the set: Believe in Me. Many of us would like to, if the artist would give us the chance. M.A.

WAYNE COCHRAN & THE C.C. RIDERS: Cochran. Wayne Cochran, vocals, Do You Like the Sound of the Music; Somebody's Been Cuttin' in on My Groove; Boogie; six more. Epic E 30989, $5.98.

To quote a passage about this band on the inner sleeve of the album: "Wayne Cochran & The C.C. Riders have gone funky. They are digging into the roots, the blues. They have gone back to the beginnings of jazz and riverboat sounds and New Orleans funeral marches—the basics—to build fluid, fresh, and soul-stirring music. To dig up a funky description—they can't." Better than they play, I hope. After hearing Wayne Cochran yell "Lord Have Mercy" for the nineteenth time in front of the same old unison horn riffs, one comes up with the title of a protest song: What Have They Done to the Blues? They have gone funky. They have gone Vegas, it's a Vegas band gone funky. Keep digging, boys. M.J.
ELLEN McILwAINE: Honky Tonk Angels. Ellen McIlwaine, vocals and guitar; vocal and instrumental accompaniment. Toe Hold. Weird of Hermiston: Up From the Sky; Losing You; Ode to Billie Joe; five more. Polydor PD 5021. $5.98.

I suppose Ellen McIlwaine is a case of jack-of-all-trades, master of enough to make people notice. On this album she sings soul (Toe Hold), a folksy sort of jazz (Weird of Hermiston), blues (Losing You), country (Honky Tonk Angels), and gospel ( Wade in the Water). Her singing is highly stylized and tends to drift into scat. She clearly is the most distinctive female vocalist on the pop scene since Janis Joplin started denting microphones. Powerful. Indeed. Even her guitar playing has an edge of brutality. How many girl slide guitar players can you name? This is, at times, a slight problem. She sometimes does use power and the unusual nature of her style as an excuse not to sing real emotions. She can't find Mr War-mid at all. And I find that the mixed material on this debut LP makes for a much more amorphous songs like a stun-glass-a group you want to get excited about and never quite do. They play genteel, old-English type rock featuring dulcimer and mandolin. Promotion to the contrary, they don't grow much. To discern changes from one album to the next requires exhaustive unbroken concentration or marriage to one of the group members. Over to you.

Bernie Taupin has made a predictable error in judgment based on an ego trip, all of which has happened a hundred times before on record with the same results. Taupin is Elton John's lyricist and the team has had enormous success due to John's strength as a singer/pianist. Since Taupin is a word man, and neither a singer nor musician, he felt compelled to make his own statement just like the other guys, especially Elton John. Never mind the media conflict, the fact is that poetry always strikes a chord. That's the deal, folks. Eddie drinks Alka-Seltzer when she suspects that God is watching her, Edith "does a little commercial for her phone operator Ernestine. Her repertoire also includes Susie Sorotomy and five-year-old Edith. She needs a pick-up. She sends out for Chicken Delight and wonders if vegetables get upset when people eat them. She is clever, persistent, and very ingenious. It does not take long for her to become boring.

ELLEN McILwAINE—most distinctive since Joplin.

ROY YOUNG: Mr. Funky. Roy Young, vocals; rhythm accompaniment. Kapp 3662, $4.98.


DAVID BROWN: I Want to Be With You. David Brown, vocals and guitar; rhythm accompaniment. Atlantic 8303, $4.98.


BERNIE TAUPIN: Poetry Reading. Elektra 75020, $4.98.

HOWARD TATE: Howard Tate, vocals; rhythm accompaniment. Atlantic 8303, $4.98.

DONNY HATHAWAY: Live. Donny Hathaway, vocals and keyboards; rhythm accompaniment. Alco 33 368, $4.98.

It's a big month for definite maybe. Nothing but crushing competence from disc to disc. Everyone reeks of potential. All the above albums cling carefully to the glossy top edge of mediocrity, with an occasional up over the top. Here's a brief breakdown.

Roy Young is billed "Mr. Funky." All right, he's funky. He also does a fine imitation of David Clayton-Thomas and appropriately the backup band does a fine line, Blood, Sweat & Tears (New Sun, New Horizon). If you prefer prints to originals, you'll love this.

Jeffrey Shurtleff ("State Farm"): on to the country field. Here is one more slick copy of a copy of country pop. Shurtleff, who has a nice little talent, is produced by his friend Joan Baer—perhaps this is how he gets recorded in the first place.

David Brown ("I Want To Be With You"): Brown is closer to mainstream pop (as of this moment). Like all other albums mentioned, this is backed by excellent musicians, including guitarist David Spinozza and pianist Ken Ascher, ex of Woody Herman's young band. Since this is my favorite area of pop music, I like it better than the others.

Fairport Convention ("Babacombe Lee") is a group you want to get excited about and never quite do. They play genteel, old-English type rock featuring dulcimer and mandolin. Promotion to the contrary, they don't grow much. To discern changes from one album to the next requires exhaustive unbroken concentration or marriage to one of the group members. Over to you.

Bernie Taupin has made a predictable error in judgment based on an ego trip, all of which has happened a hundred times before on record with the same results. Taupin is Elton John's lyricist and the team has had enormous success due to John's strength as a singer/pianist. Since Taupin is a word man, and neither a singer nor musician, he felt compelled to make his own statement just like the other guys, especially Elton John. Never mind the media conflict, the fact is that poetry always strikes a chord. That's the deal, folks. Eddie drinks Alka-Seltzer when she suspects that God is watching her, Edith "does a little commercial for her phone operator Ernestine. Her repertoire also includes Susie Sorotomy and five-year-old Edith. She needs a pick-up. She sends out for Chicken Delight and wonders if vegetables get upset when people eat them. She is clever, persistent, and very ingenious. It does not take long for her to become boring.

There's just so much of this jabber that one can take. Miss Tomlin's live audience does not seem overwhelmed either. There is very little spontaneous applause for a brilliant line or a very perception. Instead, the audience seems to be responding warmly to an old friend. Old friends of Miss Tomlin's will probably adore this recording. Those who are not friends will probably become enemies.

LILY TOMLIN: And That's the Truth. Lily Tomlin, concert narrations. Hey Lady; My Sister Mary Jean; Look in the Sky; fifteen more. Polydor PD 5023. $5.98.

Lily Tomlin of "Laugh-In" has become a successful coffee house and concert hall comedienne. Audiences are totally familiar with and adore her characterization of the telephone operator Ernestine. Her repertoire also includes Susie Sorotomy and five-year-old Edith, a Baby Snooks oofsk. This LP, recorded live at the Ice Palace in Pasadena, California, is devoted in its entirety to a running dialogue between Edith, husky-voiced and precocious, and Miss Tomlin, a slightly distraught straight woman. Edith believes that air pollution is caused by "angels frying hamburgers." She tells Miss Tomlin that she ate Humpty Dumpty for breakfast. She believes that God has a TV set and uses it to monitor the human race. When she suspects that God is watching her, Edith "does a little commercial for herself." Edith drinks Alka-Seltzer when she needs a pick-up. She sends out for Chicken Delight and wonders if vegetables get upset when people eat them. She is clever, persistent, and very ingenious. It does not take long for her to become boring.

There's just so much of this jabber that one can take. Miss Tomlin's live audience does not seem overwhelmed either. There is very little spontaneous applause for a brilliant line or a very perception. Instead, the audience seems to be responding warmly to an old friend. Old friends of Miss Tomlin's will probably adore this recording. Those who are not friends will probably become enemies.

KENNY ROGERS AND THE FIRST EDITION: The Ballad of Calico. Mickey, Jones, drums; Terry Williams, guitar and dobro; Kin Vassy, guitar; Michael Murphy, guitar; Larry Cansler, keyboards; John Hamford; Kenny Rogers, bass; Doyle Grisham, pedal steel guitar; vocal and instrumental accompaniment. Sunrise
This thematic album—written by Michael Murphey and Larry Cansler—is a semidocumentary about the birth and death of a California silver-mining town in the last part of the nineteenth century. It’s a serious work, much more convincing in its sincerity and polish than most other “concept albums” or “rock operas.”

Aside from an occasional excess—the bit about the dog, for one—the songs are understated and lyrical, complimenting the listener for his intelligence (quite the opposite of Jesus Christ Superstar). It is also the only rock opera with neither a Messiah nor a Messiah figure—that improvement alone earns this double-LP set serious consideration.

M.J.

**GRAND FUNK RAILROAD:** E Pluribus Funk. Mark Farner, guitars, organ, harmonica, and vocals; Mel Schacher, bass; Don Brewer, drums, percussion, and vocals. Foothill Music. People, Let’s Stop the War. Upsetter. four more. Capitol SW 653. $5.98.

**LED ZEPPELIN:** Fourth Album. John Bonham: drums, timpani, and backing vocals; Robert Plant, lead vocals and harmonica; Jimmy Page, guitars and backing vocals; John Paul Jones, bass, organ, and backing vocals. Black Dog; Rock and Roll; The Battle of Evermore; five more. Atlantic SD 7206. $5.98. Tape. Capitol SW 8530. $6.95. Capitol SW 8520. $6.95.

**MOUNTAIN:** Flowers of Evil. Leslie West, guitar and vocals; Felix Pappalardi, bass and vocals; Corky Laing, drums; Steve Knight, keyboards. Flowers of Evil; King’s Chorale; One Last Cold Kiss; four more. Windfall 5501. $4.98.

Here are three of the world’s loudest and most successful bands. Grand Funk Railroad sold out New York’s Shea Stadium faster than the Beatles ever did; Led Zeppelin was the first band to replace the Beatles in the international popularity polls; Mountain has just received Melody Maker’s most recent “Brightest Hope” award. Only Led Zeppelin has consistently been able to turn out records which duplicate the ingenious excitement of their live performances. Nevertheless, these three new releases prove anew that high energy rock-and-roll is still a prevailing characteristic of pop scene.

Terry Knight, mastermind behind Grand Funk Railroad, Michigan’s three-man noise machine, once said: “Grand Funk is not there to soothe you; they are there to rape you. Their sound is not intended to be pleasing. It’s intended to tear your guts out if possible.”

You’re stoned; you’re dizzy; you can’t walk straight; you’re nervously perspiring, and you feel great!”

Grand Funk attempts to accomplish Mr. Knight’s intentions by playing long selections, each with a recognizable and easily repeated musical phrase. Predictable guitar breaks and predictable tempo changes also predominate. Uncomplicated lyrics are usually screeched over the din. People, Let’s Stop the War and Save the Land are two selections that faithfully illustrate the basic Grand Funk technique. It all goes to prove that even noise can be taken in one’s stride.

The official title of the new Led Zeppelin album consists of four runic symbols. Led Zeppelin has not issued an official translation, and I know of no scholar of the ancient Germanic alphabet who has ventured a public opinion. Led Zeppelin fans will not find the album contents puzzling however. It is a representative collection of the musical skills that have made this band an international sensation.

Most of the activity on the album centers around Robert Plant’s voice. Plant has the most piercing voice in rock-and-roll, and he gives his all to two typical Led Zep rockers, Black Dog and Rock and Roll. Jimmy Page’s 12-string guitar solos, John Paul Jones’s flashy keyboard arrangements, and John Bonham’s throbbing drums contribute to the over-all effect. Led Zeppelin also incorporates enough acoustic rock to minimize the monotony that may occur from the band’s basic approach. For example, Going to California is a pleasant, nonelectric ballad with an interesting Plant vocal. Led Zeppelin’s music may not have the sputtering intensity it once had, but the band is doing its best to sustain itself.

Mountain’s “Flowers of Evil” do not refer to Charles Baudelaire; they refer instead to poppies, the poppies that produce the heroin that American GIs became addicted to during their stay in Vietnam. The title song on the album explains this observation, and it makes for an obvious rather than dramatic expression of protest. Most hard-rock bands seem to feel that they must make social statements. Mountain are one of the few bands to realize the futility of such attempts.

The album consists of four runic symbols. Led Zeppelin has not issued an official translation, and I know of no scholar of the ancient Germanic alphabet who has ventured a public opinion.
NEW! MUSIC LISTENERS' BOOK SERVICE

VARESE. A LOOKING-Glass DIARY. Louisa Varese. Illus.

One of the great pioneers of 20th-century music, the late Edgar Varese was a central figure in the artistic and intellectual life of both Europe and America. His every work caused a storm of controversy, yet those works have become classics of 20th-century music, and directly influenced a large body of the music of today.

In this personal memoir, Mrs. Varese brings to life not only the brilliant and hypnotic composer—his moods, passions, inspirations, his family, friendships; his struggles against apathy and critical incomprehension—but evokes as well the unique ferment and excitement of the time and places in which he lived and developed.

The period covered in this first volume: From his birth in Paris in 1883 through the mid-1920s.

Louise Varese has received the Officier de l'Ordre des Arts et des Lettres in recognition of her services to French literature.

No. 261...$8.95


An engrossing exploration of musical culture and activity in the Soviet Union since the October Revolution, a half-century of enormous accomplishments and immense suffering, and a crucial period for one of the world's most musically creative nations. As well as discussing the music Dr. Schwarz describes the many and varied institutions that foster and propagate it: the opera and ballet theaters, the orchestras, the libraries and museums of "musical culture," the conservatories and research institutes.

No. 262...$13.50

MUSIC FACE TO FACE. Andre Previn and Antony Hopkins.

This is not a book of solemn debate, but rather a thoughtful and often wily dialogue between two brilliant, deeply committed, musicians speaking one another off as they compare points of view on all kinds of music: classical, contemporary, jazz versus "serious," conducting, and composing for the movies. Previn's career—he is now conductor of the London Symphony Orchestra—has encompassed all aspects of music; Hopkins broadcasts on music for the BBC.

No. 263...$4.95

TWENTIETH CENTURY VIEWS OF MUSIC HISTORY. William Hays, Editor.

Explanatory and critical essays covering Western music from Gregorian chant to electronic music and rock. Includes works by internationally recognized musicologists such as Paul Henry Lang, Hugo Leichtentritt and Leo Schrade. Each of the 34 selections has a lengthy introduction by editor Hays, well known musician, recitalist and lecturer, and is followed by a bibliography. General introduction by Richard French of the Union Theological Seminary.

No. 264...$12.50

THE MENDELSSOHNS—THREE GENERATIONS OF GENIUS. Herbert Kupferberg. Illus.

A lively history of a fascinating family, which could be described as the Rothschilds of culture. Like the banking family they emerged from the ghetto to become one of the preeminent German-Jewish families, with widespread influence in each succeeding generation. Felix is the best known. His grandfather Moses was a distinguished philosopher in late 18th century Germany, whose influence helped to create Reform Judaism. The children of Moses included banker sons and some remarkable daughters who were in the forefront of the women's liberation movement of their time.

No. 265...$8.95

THEME AND VARIATIONS. Yehudi Menuhin. Illus.

One of the world's outstanding musicians writes engagingly of music—its contribution to humanity, its public, the amateur musician, new music, the critics' role, the violin, improvisation and interpretation, individual composers and musicians ranging from Bach to Ravi Shankar. The book reflects the breadth of his interests—education, environment, contemporary problems—his passionate and articulate humanity.

No. 266...$6.95

MUSIC AT THE CROSSROADS. Abram Chasins.

A brilliant appraisal of the music scene in a time of enormous change, an analysis of contemporary instrumental music—classical, pop, jazz, soul, electronic, and mixed-media—by a man who has spent his entire life in music as pianist, composer, critic, author, lecturer. Where are we? And what choices to where we go?

No. 267...$5.95


The story of the rise, glory and decline of America's big bands, the exciting scene, the enraptured public, and 70 long profiles of great personalities, among them Basie, Cab Calloway, the Dorsey, Duke Ellington, Benny Goodman, Harry James, Woody Herman, Glenn Miller, Paul Whiteman. Stimulating, nostalgic, authoritative, this book reconstructs an exciting and romantic era in American musical history.

No. 268...$9.95


350 Music Examples. The final volume of this monumental study by one of Britain's leading musicologists of the life and works of Richard Strauss, eagerly awaited because of the extraordinary critical responses to the first two. It begins with the death of Hugo von Hofmannsthal in 1929, and tells of Strauss's collaboration with Stefan Zweig, who was librettist for Die Schaweigsame Frau. This opera resulted in the Nazi government discrediting Zweig and forcing Strauss to resign as President of the Reichskammer. Del Mar deals with Strauss's involvement with the Nazis, and the unfolding of that tragic story, along with his last operas. The core of this volume is the chapter on Strauss's songs, the most comprehensive, indeed the first of its kind, ever to be published in English.

No. 269...$13.95

Also available:

VOLUME I (1864-1912) No. 2610...$12.50

VOLUME II (1912-1932) No. 2611...$12.50


In examining Brahms's Lieder—among the most lyrical ever written—Harrison takes into account the history of European music in general, the specific development of the Lied, main currents of artists thoughts in Brahms's day, and the composer's personality and opportunities. This is the third in a series of books which any lover of art songs would find of enormous help toward deeper understanding and enjoyment of his cherished music.

No. 2612...$7.95

Earlier books in "THE LIEDER OF . . ." series:

STRAUSS. Alan Jefferson. No. 2613...$6.95

SCHUMANN. Stephen Walsh. No. 2614...$6.95

HAYDN. H.C. Robbins Landon. Illus. Music Examples. Haydn was "the first to work out the possibilities of the symphony and the sonata and to show what their special qualities are . . . among the first to establish the orchestra as we know it." This book is an excellent introduction to the composer's life and work. The author is a world-renowned Haydn authority.

No. 2615...$6.95

THE RECORDINGS OF BEETHOVEN. As viewed by the Critics of High Fidelity.

To celebrate the Beethoven Bicentenary, High Fidelity published the most immense critical discography ever undertaken by any magazine, appraising every available recording of the composer's works. At the end of the year, these separate discographies were completely revised and updated and are here collected into one convenient book. It is hard to imagine any record collection without it on an adjacent shelf. Index to performers.

No. 2616...$6.95

A new and simple way to get those books you want, carefully selected from available lists. Circle the number(s) you want, send the coupon with your remittance. We do the rest.
hand in concert. On record, their sound isstudgy. Still, one can hear the intricate guitar duels between Felix Pappalardi and Leslie West, and the harsh Pappalardi-West vocals that distinguish this band from its less successful competitors.

The James Taylor-Carole King success stories tend to make people think that the age of soft rock is totally upon us. There's plenty of high energy rock-and-roll still being recorded, and plenty of it is still being sold. It cannot be ignored.

H.E.

BILL COSBY TALKS TO KIDS ABOUT DRUGS.
Bill Cosby, narrator. International Children's School and Jimmy Joyce Children. UNI 73101. $4.98.

In this album, comedian Bill Cosby is neither clever, fascinating, nor particularly funny. He is only heartfelt, sitting around talking to a group of children about all forms of drugs.

Bill Cosby seems to have become bored with grownups lately and who can blame him? His interests are children and education, and he spends much time and energy with National Educational Television. For all we know this album may have spun out of such a television project.

It is "Recommended by the National Coordinating Council on Drug Education, Washington, D.C." a group that is absurd and helpless at street level, which is the only level that counts. Where any "drug council" has to fail, Cosby succeeds. He gives ghetto kids a no-dope hero to identify with.

The album is aimed exclusively at young children, the pre-teens. Album titles include: 

"Bill Talks About Pushers and Other Bad Things," plus songs such as Dope Is For the Dopes. The kids on the album are obviously having a fine time and so might yours. Cosby means to reach the kids before street dope does, and to give them someone real with whom to align their attitudes. Parents can't do it, much less drug councils. The idea is to protect them until they are old enough to sort things out for themselves. Thus the album is a blanket statement against all drugs. Let them consider the subtler sides of the marijuana blanket statement against all drugs. Let them things out for themselves. Thus, the album is a

The question of drugs is more complicated for the teenager. But Cosby has not gone after that group in this set. A city teenager might laugh at this effort, but a city pre-teen will join in it.

Bill Cosby is to be thanked for this album.

M.A.

JOHN STEWART: The Lonesome Picker Rides Again. John Stewart, vocals and guitar; vocal instrumental accompaniment. Just an Old Love Song; The Road Shines Bright; Bolinas; Swill Lizard; Little Road and a Stone to Roll; Daydream Believer; six more. Warner Brothers WB 1019 North Dearborn Street Chicago, Illinois 60610 312-664-0020.

The James Taylor-Carole King success stories tend to make people think that the age of soft rock is totally upon us. There's plenty of high energy rock-and-roll still being recorded, and plenty of it is still being sold. It cannot be ignored.

H.E.

BILL COSBY TALKS TO KIDS ABOUT DRUGS.
Bill Cosby, narrator. International Children's School and Jimmy Joyce Children. UNI 73101. $4.98.

In this album, comedian Bill Cosby is neither clever, fascinating, nor particularly funny. He is only heartfelt, sitting around talking to a group of children about all forms of drugs.

Bill Cosby seems to have become bored with grownups lately and who can blame him? His interests are children and education, and he spends much time and energy with National Educational Television. For all we know this album may have spun out of such a television project.

It is "Recommended by the National Coordinating Council on Drug Education, Washington, D.C." a group that is absurd and helpless at street level, which is the only level that counts. Where any "drug council" has to fail, Cosby succeeds. He gives ghetto kids a no-dope hero to identify with.

The album is aimed exclusively at young children, the pre-teens. Album titles include: 

"Bill Talks About Pushers and Other Bad Things," plus songs such as Dope Is For the Dopes. The kids on the album are obviously having a fine time and so might yours. Cosby means to reach the kids before street dope does, and to give them someone real with whom to align their attitudes. Parents can't do it, much less drug councils. The idea is to protect them until they are old enough to sort things out for themselves. Thus the album is a blanket statement against all drugs. Let them consider the subtler sides of the marijuana blanket statement against all drugs. Let them things out for themselves. Thus, the album is a

The question of drugs is more complicated for the teenager. But Cosby has not gone after that group in this set. A city teenager might laugh at this effort, but a city pre-teen will join in it.

Bill Cosby is to be thanked for this album.

M.A.

JOHN STEWART: The Lonesome Picker Rides Again. John Stewart, vocals and guitar; vocal instrumental accompaniment. Just an Old Love Song; The Road Shines Bright; Bolinas; Swill Lizard; Little Road and a Stone to Roll; Daydream Believer; six more. Warner Brothers WB 1019 North Dearborn Street Chicago, Illinois 60610 312-664-0020.

The James Taylor-Carole King success stories tend to make people think that the age of soft rock is totally upon us. There's plenty of high energy rock-and-roll still being recorded, and plenty of it is still being sold. It cannot be ignored.

H.E.

BILL COSBY TALKS TO KIDS ABOUT DRUGS.
Bill Cosby, narrator. International Children's School and Jimmy Joyce Children. UNI 73101. $4.98.

In this album, comedian Bill Cosby is neither clever, fascinating, nor particularly funny. He is only heartfelt, sitting around talking to a group of children about all forms of drugs.

Bill Cosby seems to have become bored with grownups lately and who can blame him? His interests are children and education, and he spends much time and energy with National Educational Television. For all we know this album may have spun out of such a television project.

It is "Recommended by the National Coordinating Council on Drug Education, Washington, D.C." a group that is absurd and helpless at street level, which is the only level that counts. Where any "drug council" has to fail, Cosby succeeds. He gives ghetto kids a no-dope hero to identify with.

The album is aimed exclusively at young children, the pre-teens. Album titles include: 

"Bill Talks About Pushers and Other Bad Things," plus songs such as Dope Is For the Dopes. The kids on the album are obviously having a fine time and so might yours. Cosby means to reach the kids before street dope does, and to give them someone real with whom to align their attitudes. Parents can't do it, much less drug councils. The idea is to protect them until they are old enough to sort things out for themselves. Thus the album is a blanket statement against all drugs. Let them consider the subtler sides of the marijuana blanket statement against all drugs. Let them things out for themselves. Thus, the album is a

The question of drugs is more complicated for the teenager. But Cosby has not gone after that group in this set. A city teenager might laugh at this effort, but a city pre-teen will join in it.

Bill Cosby is to be thanked for this album.
but the vision is clear. Stewart sings in a solid, evocative manner.

Best are the slow ballads like Just An Old Love Song, but there are several exceptional uptempo songs too: Wolves in the Kitchen is one. Stewart has come a long way from Scotch and Soda and striped shirts and is easy to recommend.

M.J.

FLYING BURRITO BROS.: Hot Burrito. Chris Hillman, vocals, bass, mandolin, and guitar; Sneaky Pete Kleinow, pedal steel guitar and bass. Bernie Leadon, guitar, dobro, and banjo; Rick Roberts, vocals and guitar. Michael Clarke, drums; vocal and instrumental accompaniment. Cody, Cody, Tried So Hard; To Ramona; Wild Horses; Sin City; Colorado; five more. A&M SP 8070. $4.98.

SWAMPWATER. Stan Pratt, drums; Gib Guilbeau, fiddle and guitar; Thad Maxwell, bass; John Beland, guitar and dobro. Ooh-Wee California; Headed For the Country; Back On the Street Again; Dakota; Back Porch Harmony; six more. RCA Victor LSP 4572, $5.98.

The Flying Burrito Bros., an offshoot of the Byrds, was one of the first country-rock bands to become prominent. It remains one of the best. This new album consists largely of songs from the group's first two LPs, with four new compositions.

Through the old and the new the hand remains calm, mellow, relying largely on vocal harmonies for their trademark. It's less slick and more intelligent than Nashville country aristocracy. It's less slick and more intelligent than Nashville country aristocracy. Stewart has come a long way from Scotch and Soda and striped shirts and is easy to recommend.

M.J.

ARTHUR FIEDLER: Arthur Fiedler Superstar. Boston Pops Orchestra. Arthur Fiedler, cond. Jesus Christ Superstar (Overture and Everything's Alright); What They've Done to My Song, Jesus Christ Superstar (Overture and Every thing's Alright); What They've Done to My Song, Jesus Christ Superstar (Overture and Everything's Alright). CBS vol. 5008, $5.98.

Yes, I know that Dick Hayman and six arranger colleagues have symphonically inflated these hit pop tunes to Zeppelin size, and that the lusher examples (like the Love Story theme) would be almost grotesquely obese if it weren't for the seductively sensuous beauty of the tonal coloring and sonorities themselves. But when Fiedler combines sonic splendor with the kind of superbly controlled rhythmic vitality and driving momentum of which only he and the Pops Orchestra are capable— as in Richard Goldstein's scoring of Mah-Na, Mah-Na, John Woodbury's of Gentle on My Mind, and Al Woodbury's of Love Me Tonight—we're given unforgettable, exhilarating listening experiences.

R.D.D.
This is a sentimental journey by Earl Hines through the repertory of his old friend Louis Armstrong and recorded in the full flush of emotion just twelve days after Armstrong's death. Despite their two periods of association—in the Twenties and again after World War II—at least half of this album takes Hines into territory he might not otherwise touch. A Kiss to Build a Dream On, Pennies from Heaven, and Blueberry Hill are not likely Hines material, but he tackles them with a brief how to Armstrong's approach before moving into his own interpretation.

On other pieces—notably Struttin' with Some Barbecue and Some Day You'll Be Sorry—Hines indicates how far he has come since his Armstrong days in the fresh aspects he puts on these tunes (Armstrong scarcely varied his interpretations at all). Possibly the most striking aspect of this side is Hines's flexibility, his ability to simultaneously pay tribute to both Armstrong through his choice of material and to himself by making it, despite its source, very definitely a Hines program.

At the age of eighty-nine, Eubie Blake became one of the most ubiquitous concert artists of the 1972 winter season in New York as well as one of the most lively and entertaining. But that was just part of this remarkable man's activities as he approached ninety. He was also composing and publishing new material and launching his own record company. This disc sums up a good deal of this activity—it is the first release on the Eubie Blake label, it includes one of his latest compositions, Melodic Rag, and Blake's solo portion of the record (on one side he serves as accompanist for singer Ivan Harold Browning) is a representative portion of his concert programming.

He is still a positive and sure-fingered pianist—even more so in person than on this recording because, after more than seventy years in show business, he reacts to an audience like a fire horse to an alarm. On the disc, he recalls one of his early show pieces (his ragtime version of the Merry Widow Waltz), demonstrates a lively result of his encounter with the Schillinger system at the age of sixty-five (Dichter on 7th Ave.), shows how rich his melodic creativity has remained (Melodic Rag, written in the fall of 1971), and sings with exquisite expressiveness the old Cole and Johnson song Sugar Baby.

Ivan Harold Browning, who sings on the second side, was in Eubie Blake's 1921 show, Shuffle Along. He is a mere sampling of eighty-one, but like Eubie Blake his performing talents have remained surprisingly intact. His songs come from black show business in the early years of the century and he sings them with an intimate knowledge of the style of those times, with occasional vocal assists from Blake. Both as representation of the period covered by Browning’s songs and for its presentation of Eubie Blake's definitive performances, this is a significant collection. And it's also a delight to listen to.
In addition, Van Peebles' own brand of brooding, moody, aggressive Sprechstimme does become wearisome. Those who have not seen the play will probably not be able to listen to the two-record set in one sitting.

The nineteen actors on the disc, however, are all exemplary. Arthur French's 'Just Don't Make No Sense (and Parade), the play's opening, aptly states the case. While waiting for a bus, French says plaintively, "Just don't make no sense when you are black even waiting ain't easy." Jimmy Hayes' ancient junkie has a scratchy, piercing voice that the LP can hardly contain. Minnie Gentry, an ancient crone who delivers the play's finale, Put a Curse on You, is thoroughly harrowing. Miss Gentry, in applying a voodoo curse to her white audience, prays that their children will grow up to be junkies and that rats will eat their babies too.

'Ain't Supposed to Die a Natural Death' is obviously a powerful and special theater experience. This disc makes a worthwhile effort to capture that experience.

'Inner City', a new rock-blues musical revue about the horrors of New York City life, was not well received by the public, however, received brilliant notices, and the relatively unknown Linda Hopkins became a star overnight. The play consists of a series of musical numbers that deal with rotten schools, mendacious politicians, scheming drug dealers, and insufficient housing. This material may be thin and overworked but the actors are so devoted and ingratrating that the evening becomes more entertaining than one suspects it could be. It is one of the few Broadway shows in which the audience at the play's conclusion rushes up to the stage to shake the hands of the performers. This original-cast recording not only reinforces the fact that the score is undistinguishable, but also proves anew that the 'Inner City' company is magical.

Miss Hopkins' performance is of course the most impressive. An extraordinary vocalist in the black gospel tradition, she has two major solos, the passionate lament Deep in the Night and It's My Belief, a stirring song of faith. They are both unforgettable. Delores Hall almost rivals Miss Hopkins' contribution. Her If Wishes Were Horses is a moving evocation of a better world and represents the best writing the black gospel tradition, she has two major solos, the passionate lament Deep in the Night and It's My Belief, a stirring song of faith. They are both unforgettable. Delores Hall almost rivals Miss Hopkins' contribution. Her If Wishes Were Horses is a moving evocation of a better world and represents the best writing of the song's creator, Eve Merriam and Hele Chadwick. The title, Marshall's Jeremiah Obadiah, a portrait of a dreamer, and Carl Hall's Street Sermon also thrill with vitality. All of these performers are bound to be heard from again. This disc documents their beginnings; that is its major value.

J.S.W.
DISCOUNTS

WASH. D.C.
HAS NO FAIR
TRADE
LAWS!

STEREO
COMPONENTS

PLEASE REQUEST
Prices for your choice of
Changers, Receivers, Tape
Recorders, Speakers, etc.
PROMPT DELIVERY
IN FACTORY
SEALED CARTONS.

DISTRICT
SOUND INC.
2316 Rhode Island Ave. N.E.
Washington, D.C. 20018
202-832-1900

CIRCLE 18 ON READER-SERVICE CARD

in brief

BLOOD, SWEAT & TEARS: Greatest Hits. Columbia KC 31170, $5.98.
BLOOD, SWEAT & TEARS is now a new band. It has
a new lead singer, Bobby Doyle. It has lost
one musician and gained two more. This LP
commemorates the Blood, Sweat & Tears that
is no more, and includes eleven of the band's
most golden oldies.

TINY ALICE. Kama Sutra KSBS 2046, $4.98.
Good-time, jug-band-y sort of rock. Clever at
points, frivolous at others, and without great
staying power. One listening just about does it.

SONNY & CHER: All I Ever Need Is You. Kapp
KS 3660, $4.98.
An engaging set featuring the thoroughly fa-
miliar sound of the couple who were re-
bellious rockers in the Sixties and TV's favor-
itive host and hostess in the Seventies.

JIMI HENDRIX: In the West. Reprise MS 2049,
$5.98.
Discounting short versions of God Bless the
Queen and Sgt. Pepper's Lonely Hearts Club
Band, this is a good collection, recorded at
concerts in England and America. Best is Red
House, a slow blues. Also interesting are ver-
sions of Blue Suede Shoes and Johnny B.
Goode.

HENRY GROSS: ABC ABCX 747, $4.98.
Brooklyn-born Henry Gross, former lead gui-
tarist with Sha Na Na, has a pleasant enough
voice and can write a pleasant enough tune,
but his debut disc is just not distinctive enough
to capture one's imagination. The potential is
there; let's hope the second album is more in-
teresting.

GEORGE CARLIN: FM & AM. Little David 7214,
$4.98.
George Carlin
is definitely a front-runner
among young comics. This album includes his
routines for Divorce Game plus the hilarious
DJ personalities for mythical radio station
WINO ("Wonderful WINO"). An under-
current of Lenny Bruce-ness occurs often.
Carlin is not taking on the Bruce mantle but
rather continuing the fight against bigotry in
his own funny way, bowing to Bruce as he
goes along. Hear it.

THE CRUSADERS: Crusaders I. Blue Thumb
BTS 6001, $5.98.
Formerly the Jazz Crusaders, this band has
been playing together for over twenty years.
Rock bands like Chicago have paid tribute to
them. Now the band is back with a most suc-
cessful fusion of rock and jazz. An easy-listen-
ing album for those who like good music.

GORDON LIGHTFOOT: Don Quixote. Reprise
MS 2056, $5.98.
An absolutely superb new collection of Light-
foot originals. This very special Canadian bal-
ladier has never been in better form. Lenny
Waronker's production job, involving guitar
and strings accompaniment, is simplicity
raised to the level of eloquence. The title song
is an instant classic. Don't miss it!

CIRCLE 11 ON READER-SERVICE CARD

HIGH FIDELITY MAGAZINE
HIGH FIDELITY
CLASSIFIED ADVERTISING
165 W. 46th St., New York, N. Y. • Phone (212) 757-2800

Rates: $1.00 per word. Minimum $10.00. Words in caps at 10c extra ea. Discount 5% for 6 consecutive issues. 10% for 12 issues. Full Payment Must Accompany All Copy for Classified Ads except those placed by accredited advertising agencies.

Please run my ad as shown below:

miscellaneous


OLD RADIO PROGRAMS ON CASSETTES OR REELS. THOUSANDS OF YOUR FAVORITES LIVE AGAIN. LOW PRICES. For catalogue, S & S Audio, 1776 Columbia Road, Washington, D.C. 20009.

GOLDEN AGE RADIO - Your best source for radio programs. Tape Box 8404-F, Olivette, Missouri 63132.

STEREO Hi-Fi SALE. Nationally advertised amplifiers, tuners, speakers, tape decks, etc. Discounting to 40%, since 1959. Arkay National, 1028-05 Commercial Ave., Pittsburgh, Pa. 15229.

BASF, MEMOREX, SCOTCH reels, cassettes, tape library. 5th Ave., Lafayette Hill, Pa. 19444.

ARL, KLH, ADVENT, DYNA OWNERS - low cost electronic equalization for your particular speakers overcomes limitations of bookshelf enclosures, provides full-range performance. Complete specifications from Norman Laboratories, 520 Highland Park Ave., Syracuse, N.Y. 13211.

BASF, MEMOREX, SCOTCH reels, cassettes, tape library. 5th Ave., Lafayette Hill, Pa. 19444.

OLD Radio programs on tape. Six hours, $7.00, catalogue 25c. Nostalgic Radio, Box 29C, Peoria, Ill. 61601.

"Record buff went wild and has too large collection. Send self-addressed envelope. Box 68, New Carlisle, Indiana 46552."

PHASE LINEAR model 700, $797.00. Sent Postpaid. DIT Sound, 2757 Main, Littleton, Colorado 80120.

new equipment for sale

BUY DIRECT FROM ENGLAND'S HI-FI MAIL ORDER SPECIALISTS! Save money on British and Continental units. Write today for free lists and shipping quotes, or send $1.00 bill to include catalog (air post $3.00). Goodwins HIFI, 7 Broadway, Woodgreen, London N. 22, England.

DON'T PAY THE HIGH MAIL ORDER PRICES. THIEVES WAREHOUSE IS COMING TO YOUR AREA FRANCHISES AVAILABLE. THIEVES WAREHOUSE, P. O. Box 8057, Pensacola, Florida 32505.

FREE, discount price list. Nationally advertised components. Box 18123, Seattle, Wash. 98118.

ST. CECILIA, PATRONESS OF MUSIC AND MUSICIANS, seated at the organ. Print of famous painting by Naujok. 11x14, (25) note cards and envelopes (Op. 21) Also Op. 21 - Pipe organ note cards still available. $3.00 set. (Sample 50c) ORGAN ART, Box 26348-F, San Francisco 94126.


OLD Radio programs on tape. Six hours, $7.00, catalogue 25c. Nostalgic Radio, Box 29C, Peoria, Ill. 61601.

"Record buff went wild and has too large collection. Send self-addressed envelope. Box 68, New Carlisle, Indiana 46552."

PHASE LINEAR model 700, $797.00. Sent Postpaid. DIT Sound, 2757 Main, Littleton, Colorado 80120.

services

RENT 4-TRACK OPEN REEL TAPES - ALL MAJOR labels - 3,000 different - free brochure. Stereo Hi-Fi, 57 St. James Drive, Santa Rosa, Cal. 95401.

STEREO TAPE RENTAL FOR PARTICULAR PEOPLE. Free catalog. Gold Coast Tape Library, Box 2257, Palm Village Station, Hialeah, Fla. 33012.

Rent any cassette, cartridge or open reel pre-recorded tape, all labels, catalog 25c. Tape & Tim, 1116 11th Ave. N., Sauk Rapids, Minnesota 56379.

wanted to buy

CASH FOR UNWANTED STEREO LPS AND PRE-RECORDED TAPES. Reder, 81 Forsay Road, Monsey, New York 10952.


BLINDFOLDED, you can still repair and splice recording tape the fastest, easiest, most precise way known.

Write for detailed brochure on complete line of EDITall kits, splicing blocks and EDITabs. Send for "Tape Editing," new 24-page book. A regular one dollar value, enclose 50c for postage and handling.

THE EDITall SYSTEM

ELPA MARKETING INDUSTRIES, INC.
New Hyde Park, New York 11040

Scottsdale, Ariz. 85253 / Canada: Tri-Tel Associates, 53 Brisbane Rd., Downsview, Ont.
Tchaikovsky: Tout de Suite. It's ironic
that many of those earnest music lovers
who complain most bitterly about the
unconscionable duplication of a few
"standard" masterpieces demonstrate little if any support for off-the-beaten-
path recording ventures—even those fea-
turing not difficult avant-garde music
but unblanketed works in an orthodox
idiom by otherwise well-known composes-
ers. Until recent years Tchaikovsky's
first three symphonies were examples of
such repertorial myopia, but once they
began to be more frequently (and skill-
fully) played and recorded, they promptly
won a delighted following. So far, how-
ever, the four Tchaikovsky orches-
tral suites haven't fared as well. Ex-
cept for the theatrically exciting theme-
and-variations movement of the Third
Suite, concert and recorded perform-
ances have been infrequent. The first
disc complete set—first in stereo at least,
and perhaps in any medium—didn't ap-
pear until 1967, and it's only now that
this critically acclaimed but never best-
selling version by Dorati and the New
Philharmonia Orchestra has achieved
tape release (Mercury/Ampex R #018,
two 7\пе/2-ips reels, $21.95).

Fortunately, Dorati's infectiously zest-
ful reading and the NPO's beautifully
colored playing were so warmly and
futile to complain that recording
religious, or religiosity, currents: "Jesus
Loves You—Heavy Hits of Hope, Joy,
and Peace" (RCA Red Seal RK 1208
cassette: R8S 1208 8-track cartridge;
$6.95 each). Actually, the one bow to so-
called freak vogues here is a Japanese
koto-dominated transcription of Bach's
Jesu, Joy of Man's Desiring. The rest is
quite orthodox: delightfully so in several
Robert Shaw Chorale Handel Messiah
and Vivaldi Gloria excerpts, plus a spiritual,
folk song, and hymn; romantically
so in the rich Luboff Choir/Stokowski
Orchestra versions of Bach's Jesu, Joy
(again) and Sheep May Safely Graze,
routinely so in a couple of hymns by
Leontyne Price with church choir and
organ accomplishment.

Then there is Angel's "classical film-
hit" pitch in another reissue (here com-
plete) of the "Elvira Madigan" Mozart
Concerto. K. 467, in the well-nigh ideal
performance by soloist/conductor Dan-
iel Barenboim—now coupled with a de-
lectably small-scaled yet vital version
of Mozart's G minor Symphony, K. 550,
previously only available on a British
disc. Gleamingly transparent recording
and admirably quiet surfaces for a non-
Dolbyized cassette enhance the appeal
of what may well be young Barenboim's
finest recorded representation (Angel
AXS 36814 cassette: 8XS 36814 8-track
cartridge; $6.98 each).

Cornucopia Anthologies. The economic
situation being what it is today, I suppose
it's futile to complain that recording
reissues aren't released at lower prices—
following the not entirely accurate anal-
ogy of paperback reprints. In tape realms
bargain hunters normally have to be sat-
isfied with the only moderate savings of-
ferred by double-play releases—for ex-
ample the "Favorite Brahms Concertos"
coupling of the Robinstein/Krips Piano
Concerto No. 2 with the even greater
Heifetz/Reiner Violin Concerto (RCA
Red Seal RK/R8S 5075, $9.95 each).
That wouldn't be a bad price for two
such masterpieces totaling eighty-two
minutes if it weren't for a jolting editor's
break (again!) in the finale of the piano
work in its cassette edition.

Luckily, there's one double-play cas-
sette this month that's first-rate both mu-
cically and technically (and Dolbyized to
boot) yet priced at only $7.98. Columbia
MGT 30071 couples two 1961–62 disc-
and-reel Copland programs by Bern-
stein and the New York Philharmonic:
Rodeo episodes and Billy the Kid Suites;
Appalachian Spring ballet, El Salon
Mexico, and a Music for the Theater
dance. The once ultrabrilliant recordings
still stand up remarkably well, the read-
ings are passionately alive, and the Dol-
byized surfaces are admirably quiet—in
short, a tape Best Buy if there ever was
one.

mative improvement in that they feature
at least one full-length work as well as
the more usual short pieces and excerpts
from major works. For example, the
"Rachmannonoff's Greatest Hits" pro-
gram includes the complete Cliburn/
Reiner Second Concerto as well as
shorter selections all starring Cliburn
(RCA Red Seal RK 1220 cassette: R8S
1220 8-track cartridge; $6.95 each).
In the same formats and at the same list
price, a Brahms G-H features the Cli-
burn/Reiner Second Piano Concerto
(RK/R8S 1225); the Tchaikovsky G-H
Vol. 1 features the recent Ormandy/
Philadelphia 18/12 Overture, while Vol.
2's major work is the memorable Hei-
feitz/Reiner Violin Concerto (RK/R8S
1186 and 1224); the Debussy G-H fea-
ture is the Munch/Bostonian complete
Nocturnes (RK/R8S 1221). Incidentally,
it's only fair to note that the tape edi-
tor(s), whom I castigated so severely last
April for "barbaric" cassette side breaks,
here warrant only praise for completely
avoiding such lapses.

Varied Remembrances of Things Past—
or Missed. A characteristic recession
phenomenon is a reduction of new proj-
ects and a recultivation of old ones. Hence
the current interest in reissues of all kinds, which compensates to some ex-
tent (in giving many older recordings a
second or even a third chance to find ap-
preciative listeners) for fewer brand-new
recordings. Currently the open-reel rep-
certory is being significantly expanded by
Ampex's Mercury and Philips series of
works denied tape editions when they first
appeared on discs. And the normal
(new-release) growth of the musicscassette
repertory is currently enhanced by many
belated tapings of works previously con-
lined to discs only, to those once but no
longer available in open-reel format,
and to various kinds of repackagings.

One of the most attractive types of
anthology-reissues is an arias collection
drawn from a star vocalist's complete op-
era recordings—ideally exemplified by
the "Portrait of Birgit Nilsson" program
(DDG 3300 188 cassette, $6.98; also L
8098 7\пе/2-ips reel via Ampex, $7.95)
which includes the great Beethoven con-
cert aria Ah, Perfido!; one aria each from
Wagner's Tannhäuser and Tristan und
Isolde; two from Mozart's Don Giovanni
and three from the more recent Weber
Oberon.

Another popular approach is to cur-
null the usual short pieces and excerpts and
measure them subject—e.g., RCA's pitch
to youngsters caught up in contemporary

ADVERTISING INDEX
is on page 94.
READER SERVICE CARDS
appear on pages 17 and 95.

ADVERTISING INDEX
is on page 94.
READER SERVICE CARDS
appear on pages 17 and 95.
TEAC AS-100 and AT-100 expand your system componentially

Just as we make definitive Dolby* equipment at TEAC, we make consummate components. They are designed to be the match of our professional-quality tape decks in every detail. So they must do more qua components than merely frequency-demodulate and amplify. And yet they must be sensibly priced so they don’t make you ear-rich and pocket-poor. Add either or both to your system and the total improvement is infinitely more than a simple sum.

Take the AT-100 Stereo FM Tuner, for example. It's equipped with a new muting circuit to eliminate inter-station noise, and unique multiplex channel-separation circuitry for distortion-free reception, even in fringe areas.

Similarly, the AS-100 Integrated Stereo Amplifier combines the most desirable features and specs of a preamplifier/amplifier control center. Direct-coupled differential amplifiers inspired by computer and instrumentation systems. Electronic protective circuits on outputs to prevent damage from open or short circuit speaker conditions. Front panel tape deck input jacks, headphone jack and switch selection of two speaker pairs and tape/source monitoring. It's time to take a quantum leap with TEAC tape components.

For name of your local TEAC component specialist, write TEAC Corporation of America, 7733 Telegraph Road, Montebello, Calif. 90640.

AT-100

FM Stereo Tuner
Sensitivity 2.0 µV (IHF)
Selectivity Better than 65 dB (± 400 kHz)
Harmonic Distortion Below 0.2% (at 100% modulation)

AS-100

Integrated Stereo Amplifier
Rated Power 65 W (both channels operated THD 0.2%, 8 ohms load)
Freq. Response 5-200,000 Hz ± 2 dB (power amp)
IM Distortion Below 0.2% (rated power)
Performance where you need it most!

KENWOOD KT-7001 • 3-FET • 4-IC • Xtal Filter • FM/AM STEREO TUNER
KENWOOD KA-7002 • 196-WATT (IHF) Direct-Coupling STEREO AMPLIFIER

KENWOOD provides you with two luxury components for unexcelled stereo performance. The magnificent KA-7002 has two differential amplifiers for first and pre-drive stages, output coupling capacitorless complementary-symmetry driver stages, dual-balanced plus-and-minus power supplies and direct-coupling circuitry from input to speakers to produce exceptionally wide frequency range with richer, improved bass response and low distortion. The extraordinary KT-7001 Stereo Tuner has four-element crystal filter, highly integrated ICs and dual-gate FETs to provide exceptional sensitivity, excellent selectivity and capture ratio. A new dual-function signal/multipath meter indicates signal intensity as well as direct or multipath signal characteristics.

KA-7002: 100 Watts (RMS) Continuous Power, 50 watts/channel with both channels operating simultaneously @ 8 ohms at any frequency from 20-20k Hz; Harmonic Distortion 0.5%; IM Distortion 0.3%; Frequency Response 20-50k Hz; Provisions for 3 sets of Speakers, 2 Tape Decks, 2 Phonos, Tuner, 2 Auxiliaries, 4-channel Conversion.

KA-7001: FM Sensitivity 1.5 µV; Capture Ratio 1 dB; Selectivity 90 dB; S/N 75 dB; 2-step Muting Circuit; MPX Circuit; Low-noise FET and Ceramic Filter in IF Stage produce wide frequency and sharper selectivity in AM reception.

For complete specifications, visit your nearest Authorized KENWOOD Dealer, or write...

CIRCLE 36 ON READER-SERVICE CARD

KENWOOD
15777 So. Broadway, Gardena, Calif. 90248 • 72-02 Fifty-first Ave., Woodside, N.Y. 11377
In Canada: Magnasonic Canada, Ltd., Toronto, Ontario; Montreal, Quebec; Vancouver, B.C.