Records Reviewed Include
George Harrison's 3-disc
"All Things Must Pass"
Beverly Sills as Lucia

LAB TEST REPORTS
AR-6 bookshelf speaker
Miracord 770H changer ■ Dynaco SCA-80 amplifier kit ■ Empire
1000 ZE/X cartridge ■ Altec Lansing Acousta Voicette "room tuner"
Harman-Kardon Citation Eleven preamp ■ Electro-Voice Landmark
100 compact system ■ Ampex cassette cleaner/degausser

THE COLOR OF SOUND

Disney Newton

Scriabin (Hilde Somer Recital)
Big, acoustic-suspension woofers.

All Fisher speaker systems use larger-than-you’d-expect acoustic-suspension woofers. An exclusive free-piston design, coupled with an extremely compliant butyl rubber or butyl-impregnated surround and a specially treated cone, allows for fundamental bass response down to 30 Hz without doubling or distortion.

As an additional measure of their quality, the free-air resonance of Fisher woofers ranges from 38 to a remarkable 10 Hz.

The voice coil is specially designed to handle plenty of power. Loud-music lovers appreciate that feature.

Our mid-range is better by definition.

Virtually all the definition or ‘presence’ of musical-instrument occurs in the middle frequencies. Fisher speakers have better definition because, very simply, we use the best mid-range speakers. In addition to utilizing specially developed magnets (see further below), all of our mid-range speakers incorporate a butyl-impregnated half-roll surround for extra-high compliance (and therefore extreme clarity and smoothness of reproduction).

To prevent interaction with the woofer, each mid-range driver is sealed off from the rest of the system in an air-tight enclosure. This, naturally, costs more to do. But we’ve found that it’s essential to the characteristic natural sound Fisher speakers are identified with.

Now, about transient response.

There are many people who believe that the ability of a cone to respond quickly—or transient response—is the single most important determinant of a speaker’s sound. That’s why we’re pleased to tell you that by using newly developed super Alnico magnets with high flux density, Fisher woofers and mid-range speakers achieve faster, more positive control of their cones than any other speakers being manufactured today. Fisher transient response is absolutely unsurpassed in the industry.

The reasoning behind our tweeters is also clear.

Specially designed, sealed-back tweeters provide excellent frequency response to beyond the limits of human hearing. By using a low-mass voice coil, highs are natural sounding as well as unusually clear and transparent. For wide dispersion, Fisher tweeters incorporate a soft dome diaphragm. Their impregnated cotton or formed-nylar construction eliminates parasitic high-frequency resonances and the resultant coloration of sound.

Even the crossover networks and enclosures are special.

In a Fisher speaker system nothing is taken for granted. We know that unless each speaker does exactly the job it was designed to do, no more, no less, the overall sound will suffer somewhat. So we’ve designed band-pass filters which, when used in place of conventional roll-off networks, assure that each speaker will handle only the frequencies within its optimum range. Furthermore, special quality capacitive and inductive elements are used to achieve lowest losses and smooth transition at each of the crossover points. The sharp-cutoff 6 to 12 dB per octave networks prevent interactions at the crossover points.

All the time and effort we take getting the internal components of our speaker systems just right would be fruitless if we put it all into an ordinary speaker cabinet.

That’s why we’ve designed a better cabinet. It’s constructed entirely of non-resonant compressed flake board rather than vibrant plywood, to eliminate the boxy speaker sound so common in even the most expensive plywood-cabinet systems. Our speakers systems are tightly sealed and completely filled with AcoustiGlas® to provide a high degree of damping.

These design innovations and this preoccupation with quality holds true for the least expensive as well as the most expensive Fisher speaker system.

Fisher speakers sound best when driven by Fisher stereo receivers.

1. The Fisher XP-60B, the world’s best $79.95 bookshelf speaker. If you want outstanding bass, and you won’t pay more than $80 for it, this is the only speaker for you. Its massive 10-inch woofer delivers fundamental bass response extending down to 35 Hz. A 3-inch extended bandwidth tweeter provides pure treble tones to 20 kHz without coloration or breakup.

2. The Fisher XP-66B, the world’s best $99.95 bookshelf speaker. The XP-66B offers life-like reproduction of the most complex musical passages at an ordinary bookshelf price. This 3-way system uses a big 12-inch free-piston woofer and a 5-inch midrange driver made of a new resonance-free cone material. A 3-inch cone tweeter is used for extremely wide dispersion and smooth upper treble. (Shown here with latticed wooden grille, $10 extra.)

3. The Fisher XP-78, the world’s best $149.95 speaker. The reason that the XP-78 sounds so smooth is that it’s a 4-way system. There’s a massive 12-inch acoustic-suspension woofer, and not one, but two 5½-inch drivers, each assigned a different section of the midrange. And there’s a pair of 3-inch wide-dispersion cone tweeters.

4. The Fisher XP-9C, the world’s finest bookshelf speaker. The Fisher XP-9C, at $199.95, is a true 4-way speaker system, as the world’s finest bookshelf system positively must be. (Crossover takes place at 500, 1,200 and 5,000 Hz.) The woofer is huge: 15 inches in diameter, with a 12-lb. magnet. There’s a pair of matched 5½-inch midrange drivers. A hemispherical dome tweeter delivers the lower treble frequencies. A dome super-tweeter finishes the job smoothly, to the limits of audibility.

5. The Fisher WS-70, the world’s best $79.95 omnidirectional. The WS-70 is a 2-way omnidirectional speaker system with an 8-inch woofe pointing up and firing out in a 360-degree circle. There’s also a 3-inch tweeter pointing up and firing out in a circle as well as up. The result is a pair of speakers that can be placed almost anywhere in a room and still deliver maximum stereo separation.

6. The Fisher WS-80, the world’s only 3-way omnidirectional. Put one WS-80 next to the sofa, near the middle of the room (for example). Put the other under a lamp in a far corner. The result: perfect stereo separation. And great sound. Each WS-80 at $99.95, has an 8-inch acoustic-suspension woofer firing through the slot in a 360-degree circle. Plus a 5-inch midrange driver firing up and out, inside which there’s a 3-inch tweeter.

The Fisher
We invented high fidelity.
Model for model, dollar for dollar, Fisher speaker systems have a wider frequency range, lower distortion, cleaner transients, better dispersion and less overall coloration than any other brand, regardless of design features or engineering claims.

The number of different loudspeaker designs offered to the prospective buyer today is nothing short of staggering. There are almost as many engineering approaches as there are manufacturers, and each particular design philosophy is affirmed to be the one true faith.

Even the sophisticated audiophile who knows his amplifiers and cartridges stands bewildered amidst the permutations and combinations of driver designs, speaker configurations, crossovers and enclosure types.

Our advice is: stop, don’t panic, listen. Because the only justification for a new and different engineering feature is the sound.

Fisher takes a completely pragmatic approach to speaker design. We say yes to anything that makes a speaker sound better. We say no to anything that only makes a speaker read better. As a result, when you buy a Fisher speaker, you’re buying sound, not some intangible hi-fi mystique.

Let’s face what the politicians would call the gut issue here. When a man puts down, say, $149.95 for a speaker system, the nagging question on his mind is: “Am I getting the very best sound this kind of money can buy?”

Fisher can confidently answer “Yes!” to that question, no matter which particular Fisher speaker is the case in point. We know all the alternatives in each price category and have evaluated them in our laboratories. We are putting our reputation as the world’s largest component manufacturer on the line with each speaker model we offer. If there were a better way of making any one of them, that’s the way we would make it.

Now let’s examine some of the engineering features that are meaningful in terms of actual sound and relate them to the specific performance characteristics of Fisher speaker systems.

If you want something done right, you do it yourself.

The Fisher philosophy of speaker production is to let one engineering team retain full control of the speaker design, from concept to shipping carton. (The alternative would be to buy woofers from one supplier, mid-range drivers from another, tweeters from still another, and install them all in a cabinet ordered from a furniture factory. There are some good speakers made this way, but we don’t think it’s the best possible method. Fisher is a high-fidelity manufacturer, not a contractor.)

Prices slightly higher in the Far West. Overseas and Canadian residents please write to Fisher Radio International, Long Island City, N.Y. 11101
Once and for all, let's clear up all the technical confusion about loudspeakers.
What good is a cartridge that tracks at 3/4 of a gram but delivers less than 3/4 of the music?

Great. For tracking—but not for listening. To provide great sound, a cartridge should be able to deliver 100% music power, especially at higher frequencies. Like Pickering XV-15 cartridges do. Because our XV-15’s give you 100% music power, you enjoy complete instrumental definition in those critical ranges as well as throughout the entire audio spectrum.

And Pickering XV-15 cartridges give you two other extra features. The exclusive DustaMatic brush that cleans record grooves. Plus a Dynamic Coupling Factor (DCF) rating system that helps you select the right XV-15 model for your record player.

Improve your high fidelity music system with a Pickering XV-15 cartridge—priced from $29.95 to $65.00. Write for free catalog and DCF rating chart to Pickering & Co., 101 Sunnyside Blvd., Plainview, New York 11803.

"The 100% Music Power Cartridge for those who can hear the difference."
music and musicians
Leonard Marcus NONMUSICAL ASSOCIATIONS
Edward Greenfield BEHIND THE SCENES: LONDON
Conrad L. Osborne SPEAKING OF RECORDS
Robert Long THE COLOR OF SOUND

audio and video
TOO HOT TO HANDLE
NEWS AND VIEWS
EQUIPMENT IN THE NEWS
EQUIPMENT REPORTS

recordings
FEATURE REVIEWS
CLASSICAL REVIEWS
Peter G. Davis REPEAT PERFORMANCE
R. D. Darrell THE TAPE DECK
POP REVIEWS
JAZZ REVIEWS

etc.
LETTERS TO THE EDITOR
PRODUCT INFORMATION
ADVERTISING INDEX
Nonmusical Associations

Dear Reader:

The sole feature article in this issue, offsetting all those practical equipment reports—double our usual number—and record reviews, is Bob Long's theory-filled exposition on "The Color of Sound." Personally, I have never been able to associate particular notes with particular colors, although I can appreciate that there are sounds that can be described metaphorically as "bright" or "dark," "hot" or "cool," and thus translated, via the metaphor, into similarly describable colors. I also seem to have an attitude toward certain keys, dependent mainly on how far away they are from the basic "neutral" C major, but this has little or nothing to do with any associative colors.

I do, however, find one sort of nonmusical association constantly intruding into my musical thoughts: I associate composers with other creative artists. For instance, Stravinsky is obviously Picasso, and Le Sacre du printemps is Les Demoiselles d'Avignon. Both men revolutionized their arts savagely after establishing themselves in an older tradition; both then turned to neoclassicism; both were enormously influential in creating a half century of "modern" art and "modern" music; both continually deserted their innumerable imitators by switching styles, planting new schools of art with the flair of a pair of Johnny Appleseeds, but always remaining ten steps ahead of their followers—the parallels could fill a book.

Then I equate Bartók with Paul Klee. Each brought creative playfulness to a pinnacle. While Klee would start with a line and see where it went or what he could do with it, Bartók would invent a new scale, or synthesize a chord, and see all the possible uses he could put it to. The result for each was a unique combination of intellectual and childishness, a sort of sophisticated innocence. Just examine Bartók's masterpiece Mikrokosmos and almost anything by Klee and you'll see what I mean.

With Debussy, I find myself thinking of any number of Impressionist painters, most often Monet, sometimes even Seurat. But whereas the painters seem to be more concerned with the sparkles of light, Debussy always has some low rumblings going on underneath. I don't consider these indistinct murmurings as much a wash as the composer's need to paint his own canvas on which to offset his higher-pitched and unmixed "brighter colors." Take away Debussy's canvas and what do you have? Despite their differences in structural intent, I get Webern.

Shakespeare has been compared to both Mozart and Beethoven many times, but the comparisons always seem farfetched. The exquisitely Mozart seems to me without parallel in any of the arts, including music. Beethoven's music is too full of his own personal struggles, his own inner visions to make him music's Shakespeare. Shakespeare, to use a recent term, was more outer-directed. But the great playwright, healthy and omniscient, who saw all, knew all, and could encompass in the most subtle and poetic ways all human attitudes and feelings—he can be equated only with Bach.

Space limitations prevent my going on. But I wonder how many readers have similarly nonmusical associations with music.

Next month High Fidelity will be twenty years old. We will examine the developments of the past two decades as reflected in our pages, and we will also look at the differences between the audiamniac of the early Fifties and the musically oriented record and tape collector of today in High Fidelity—The Second Generation. Included will be a recapitulation of The Best Records and Tapes of the Decade.

Leonard Marcus

Leonard Marcus
Editor
Norman Eisenberg
Audio-Video Editor
Peter G. Davis
Music Editor
Shirley Fleming
Editor, Musical America Section
Robert Long
Associate Audio-Video Editor
Edith Carter
Sheila Schultiz
Assistant Editors
Roy Lindstrom
Art Director
Robert Maddocks
Associate Art Director
Ruth W. Dunton
Production Editor
Morgan Ames
R. D. Darrell
Alfred Frankenstein
Harris Goldsmith
David Hamilton
Paul Henry Lang
Gene Lees
George Mowshon
H. C. Robbins Landon
Contributing Editors
Milton Gorbulew
Circulation Director
Stanley Binder
Circulation Manager
Claire N. Eddings
Assistant Publisher and Director of Advertising Sales
Warren B. Syer
Publisher

Cover credits: Disney Productions, Robert Long, Eugene Cook

ADVERTISING


Frankfurt/Main: Alte Florastrasse 69, Frankfurt/Main, West Germany. Telephone: 06111 590805-6.

Japanese Edition:

For 901 owners and for those who have not yet experienced the sound of BOSE 901

You can now read

THE ULTIMATE REVIEW

by the owners themselves

You have probably read the unprecedented series of rave reviews that the BOSE 901 Direct/Reflecting® Speaker System has received from the leading music and equipment critics and, if you are interested in the background of the 901, you have probably read the Audio Engineering Society paper by Dr. A. G. Bose.®

HOWEVER, the relevance of the research and the value of the reviews rest solely upon your ultimate appreciation of the product. Every day we receive letters and comments from owners expressing an appreciation that goes far beyond the expected reaction to just another good product.

We decided to share these owner observations with you in a 68 page booklet that we believe makes some of the most fascinating reading in the field of high fidelity. It is entitled "The Owner Reports on the Bose 901". Included are letters from owners, warranty cards, and survey replies.

In it you can read the words of the owners on:

1. How different owners describe the aesthetic experience of music and the sound of the 901.
2. What equipment owners use with the 901.
3. What equipment owners traded to buy the 901.
4. What happened when a customer tried to buy the 901 from a dealer that was not franchised.
5. What owners would like us to develop next.
6. What owners would like to see improved about the 901.
7. The influence owners have in selling the 901.
8. Candid remarks on many topics by people who, just like you, are searching for the best in stereo.

If your reaction is similar to the response of those who have already seen the booklet, you will read every page before putting it down.

And when you finish, you will know why we get much more satisfaction from our work than could ever be derived from profits alone.

Copies of "The Owner Reports" are available from BOSE Corporation for one dollar.

BOSE 901 DIRECT/REFLECTING® Speaker System. $476 the stereo pair including Active Equalizer. Pedestals and Walnut Facings optional extra. Slightly higher south and west. Covered by patent rights issued and pending.

® Circle the reader service card for complimentary reprints of the nine rave reviews and a list of Bose dealers in your area.

® The paper entitled 'ON THE DESIGN, MEASUREMENT AND EVALUATION OF LOUDSPEAKERS' is available from BOSE Corporation for fifty cents.

You can hear the difference now.

BOSE

Natick, Massachusetts 01760

March 1971

CIRCLE 9 ON READER-SERVICE CARD
letters

New Music for Quadriphony

With quadriphony we have passed the threshold of yet another major development in sound reproduction. Thus far, discussions of it have been largely confined to the engineering level, while scant consideration has been given to the kind of music which will benefit most from the new technique. Quadriphony's primary object, one gathers, will be an additional refinement to the recording of standard works, conveying the most perfect illusion of concert hall realism. Hence we will get a slightly improved Beethoven's Fifth. If this is the extent of it, though, might not quadriphony come to be viewed as mere gimmickry—and might not the public at large dismiss it accordingly? If so, a tremendously potent new dimension in music will have been lost.

The survival of four-channel sound will depend upon rehashes of the standard repertory, but upon the recording of music which cannot properly be experienced through mere stereophony. Prior to our time, there has been little music of this sort. The antithetical works of Gabrielli, Hassier, and Schütz, for instance, have been amply served through stereophony. Works suitable for quadriphony, such as the Berlioz Requiem and Mahler's Eighth Symphony, are exceedingly few. Hence today's composers must bend their efforts toward the creation of new works designed specifically for the spatial possibilities of the new medium, and record companies should encourage these undertakings.

Such works by contemporary composers already exist, of course. Henry Brant has written music for multiple groups. Stockhausen's Gesang der Junglinge, originally conceived for five-channel tape but available only on stereo, would be a natural; and his Carré, for four spatially separated groups, would fare even better. Such electronic composers as Morton Subotnik would have a field day exploiting these new possibilities.

Certainly the listener who hears a piece in sound created specifically for four-channel sound, music which uses the four sound sources in an imaginative, functional way, will embrace the technological advances as vital, meaningful, important, and pregnant with possibilities for staggering musical experiences in the future. The crucial point is this: composers should grasp the need for furnishing this technique with works commensurate with its potential. In a very real sense, the success or failure of quadriphony is their responsibility.

George Heussenstamm
Altadena, Calif.

Ring Around the Tarnhelm

"Wagner for Three-Year-Olds?" asks Leonard Marcus [December 1970], and my response is "Yes, indeed!" I became acquainted with Wagner's Ring at five through a magnificent series of records on the Victrola label: twelve 12-inch, 78-rpm records on which Robert Lawrence related the story of the Ring, including illustrations of the music's leitmotifs. Through hours of repeated listening I learned the whole story by heart. I did not, as Mr. Marcus' sons did, act out the Rhinemaidens—my ring was Brunnhilde, complete with spear, shield, helmet, cape, long sheet, long hair made from paper, etc. Because of this experience I am an avid Wagner buff, and have tried to pass my enthusiasm on to the next generation. I introduced Wagner's Die Meistersinger to my current second grade class via music and a filmstrip put out by the Metropolitan Opera. The children responded with great enthusiasm. Beckmesser was their favorite character. I plan to try Lohengrin in a unit on fairy tales later in the year. Any other ideas, Mr. Marcus?

Susan Walker
Plymouth Meeting, Pa.

Yes. Try Stravinsky's Firebird. I.M.

Ludwig and Dr. Lang

I wish to compliment High Fidelity for its fine series of Beethoven discographies. The December installment, Paul Henry Lang's discography of the symphonies, is especially fine. Dr. Lang's task was probably the most difficult of all, due to the vast number of Beethoven symphony recordings. Yet he was able to analyze many of the recordings movement by movement, giving the reader a critic's personal judgment without stating the meaningless "first choices" so often found in surveys of this kind.

John L. Wright
Madison, Wis.

One expects Dr. Lang to hold definite views on how the symphonies should be played. But in an article of this kind, it is indispensable to show at least a tolerating understanding of other interpretive viewpoints. Dr. Lang, however, insists so continually and so exclusively on a classical approach to the symphonies that his article turns into a militant manifesto against romanticism.

It would take pages to document this charge, but a fair summary of his position is his remark on Toscanini, who "burst upon a musical scene dominated by sentimental German (and German-trained) conductors, more interested in 'expressive interpretation' than in stylistic faithfulness, orchestral discipline, and precision."

Elsewhere he makes it clear that by "expressive interpretation" he basically means new techniques: varying tempos within in a movement, imposing ritards unasked for by the score, and inserting Luf

Continued on page 8

HIGH FIDELITY MAGAZINE
These long playing cartridges will outperform any long playing records you own.

Here are two exciting stereo cartridges that barely touch your records yet track them like radar. Here are cartridges you can play on the most ear splitting orchestral crescendo you know. Send them "down the rapids" of the wildest record groove you can find at forces so low that your records will be good as new after years of use.*

There are lots of sound reasons why the Empire long players "outperform." Empire cartridges are based on a patented four pole, four coil, three magnet design resulting in the most efficient magnetic cartridge system available today. A tapered stylus lever system keeps the weight low out front where it counts. The lightest moving mechanism yet developed, the stylus lever is made of aluminum one thousandth of an inch thick.

1000ZE/X "Measurement Standard"—Tracks as low as 0.1 gram when mounted in laboratory playback arms. List Price $99.95.

Each 1000ZE/X and 999VE/X cartridge is individually adjusted to have a flat frequency response within ±1 dB from 20-20,000 Hz. Stereo separation is better than 35 dB at 1 kHz and remains 25 dB or better all the way out to 20,000 Hz. Overall frequency response a phenomenal 4-40,000 Hz. There are no electrical or mechanical peaks and total TMR distortion at the standard 3.54 cm/sec groove velocity does not exceed .05% at any frequency within the full spectrum. Uses a .2 x .7 mil hand polished miniature diamond for exceptional low mass.

999VE/X "Professional"—Recommended tracking force ¼ to 1¼ grams. List Price $79.95.

*Based on Empire's play tests (more than 50 times the normal lift usage of a record).

Write for your free copy of: "1971 Guide to Sound Design" Empire Scientific Corp., 1055 Stewart Avenue, Garden City, New York 11530

EMPIRE

CIRCLE NO. 96 ON READER SERVICE CARD
surprising that HIGH FIDELITY published me.

Evidence exists, though, which indicates Dr. Lang's position to be as arbitrary, subjective, and willful as some of the conductors he criticizes. A letter by Beethoven's contemporary Schindler documents the many tempo changes, ritards, and use of expressive devices that Beethoven employed in his playing of his Op. 14 sonatas. It is also well known that when the composer tried to conduct his own works, his conducting was full of mannerisms and exaggerations so grotesque that even his own contemporaries were startled. Thus, in trying to anathematize "expressive interpretation" in the performance of Beethoven, Dr. Lang is being more Catholic than a Pope who was himself something of a Protestant.

Harry Wells McCraw
Hattiesburg, Miss.

Paul Henry Lang's appraisal of the Beethoven symphonies is so poor it is surprising that *High Fidelity* published it. Here are some of the errors that I noted:

The second movement of the First Symphony cannot have a meter of seven measures, since meter is a measure not of the number of measures, but of the rhythmic division within the measure. And Krips's set of the nine symphonies is on seven records, not on eight. Dr. Lang hears the metronome ticking away in the Klemperer Eighth, even though this long-discredited myth has no relation to historical fact. And since when are Mercury's Wing recordings (the Kiesewalter set) subject to "import duties"? Dr. Lang doesn't even mention Leibowitz's set from *Reader's Digest*, presumably because it is a cheap set available only by mail—but he does review another cheap mail-order-only set, that by Klezki. Krips's Ninth doesn't omit repeats in order to fit it on one disc, since it was originally released on three sides. Boult's "Eroica" is not one recording on two labels, but rather two different performances with different orchestras. Wing picked up the Dorati Fifth from Mercury, of course. And if Beethoven's Fifth by Boult is on "several labels," they're neither listed in the article nor familiar to me. Rodzinski's Fifth is not reprocessed mono, but rather true stereo.

Mark Koldys
Dearborn, Mich.

What I object to are Dr. Lang's premises that the standards of execution and particular instrumental tone of American orchestras are to be taken as the paragon against which all performances should be measured. Thus, the only orchestras held up for praise are those of Cleveland, Philadelphia, Chicago, NBC, Boston, and Pittsburgh. Soloists are castigated merely because they fail to sound like their American counterparts—maybe German performers and listeners, who should have some idea how Beethoven should sound, prefer less powerful winds, mellower horns, and orchestras not dominated by the high winds and strings.

Robert D. Miller
Durham, N.C.

Vocal Discographies

I have prepared seven discographies of vocal music that I believe would interest your readers. They are: Schubert Lieder (revised), Wolf's complete works, Schumann Lieder, Brahms choral music, Mendelssohn's vocal music, and Strauss Lieder. The Schubert and Wolf discographies are $2.00 each, the remaining five $1.00 each: they may be purchased from the address below.

J. F. Weber
1 Jewett Place
Utica, N.Y. 13501

Rx: Music

"Music Is No Drug," responds Leonard Marcus in his editorial [January 1971], to an anonymous letter writer's advocacy of drug use. But I fear, Mr. Marcus, that you have gone too far in denigrating your correspondent's "parade of individ-

Continued from page 6

Continued on page 12

Get closer to the music than ever.

Now see the music you hear.

The first and only true high fidelity audio-color organ. No compromises or trick gimmickry. Completely solid state, *EICO's Sound 'N Color* 3450 is the only color organ with 4 audio-responsive channels in hues of red, blue, green and yellow, 4 active filter networks for positive audio-to-color discrimination, and 4 individual sensitivity controls for maximum creative flexibility by the audiophile. Only the 3450 captures every subtlety of harmony, every nuance of music dynamics and extends their full beauty into the limitless riches of radiant colors ... to bring you intimately closer to the music than ever possible before.

Place two 3450's alongside your speakers. See them at your nearest *EICO* dealer. Write for catalog. *EICO*, 283 Malta St., Bklyn, N.Y. 11207.

*CIRCLE 64 ON READER-SERVICE CARD*
"The Advent Model 200 holds a special position among cassette decks. It is the most expensive ($260), the most 'professional' in its operating features, and—although it is very difficult to rank the tested machines in any order of quality—our test data and listening evaluation clearly indicated that the Advent Model 200 is 'the best' of the currently available cassette decks."

JULIAN HIRSCH—in his comparative review of all 17 current "top-of-the-market" cassette tape decks in the November, 1970, issue of STEREO REVIEW.

In March of 1970, Advent demonstrated for the first time the high-performance potential of cassette recording. In a special demonstration for the audio press, we showed that by combining the Dolby® System of noise reduction, chromium-dioxide tape (with special equalization), and the right recording control system, we could produce sound quality that was in every way the equal of the best LP records.

The Advent Model 200, the product that resulted and combined the factors we had demonstrated, is as different as the headline quote indicates. It is as different from previous cassette machines as a good component system is from a phonograph.

For a reprint of the full review of the Model 200, please send in the coupon.

Mail to:
Advent Corporation
377 Putnam Avenue
Cambridge, Mass. 02139
Gentlemen:
Please send full information on the Advent Model 200 Tape Deck.

Name ____________________________
Address __________________________
City ______ State ______ Zip ______

ADVENT Corporation, 377 Putnam Avenue, Cambridge, Massachusetts 02139

"Dolby" is a trademark of Dolby Laboratories.
The trend setter...

Read what the experts say...

From the pages of leading audiophile magazines came these words of praise for the audio world's most advanced stereo receiver... the Heathkit® AR-15:

- ..."an audio Rolls Royce."
- ..."a new high in advanced performance and circuit concepts."
- ..."performs considerably better than published specifications."
- ..."cannot recall being so impressed by a receiver."
- ..."it's hard to imagine any other amplifier, at any price, could produce significantly better sound."
- ...engineered on an all-out, no compromise basis."

Heathkit AR-15... years ahead in design, features, and performance

The AR-15's trend-setting ways start with a thoroughbred solid-state circuit... including 69 silicon transistors, 43 diodes, and 2 IC's. IC's are used in the IF amplifier section for hard limiting, better temperature stability, long life and reliability. Crystal filters replacing transformers provide ideally shaped bandpass and 70 dB selectivity... an impossible feat for conventional IF transformers. And eliminating coils means the end of alignment or adjustment problems. FM reception is unexcelled. The specially-designed FET FM tuner features cascode 2-stage FET RF amplifier, FET mixer, 4-gang variable capacitor and 6 tuned circuits... boasts sensitivity of 1.8 uV or better. The powerful 150-watt stereo amplifier (100-watts RMS) effortlessly delivers peak power when needed without clipping or distortion... the result of 4 conservatively rated, individually heat sunk and protected output transistors powered by a giant power transformer and filter capacitor. Other plus-performance features include: built-in circuit protection; automatic stereo threshold control; automatic noise-operated FM squelch; stereo phase control; automatic stereo indicator; stereo-only switch; mag. phono inputs with 98 dB range; loudness switch; 2 stereo headphone jacks; built-in volt-ohm metering; capacitor coupling to speaker terminals; built-in AM rod antenna; die cast chrome-plated panel and machine anodized aluminum knobs; Black Magic panel lighting hides dial markings when not in use; choice of installation — wall, custom cabinet or Heath walnut wrap-around cabinet with vented top.

Kit AR-15, (less cabinet) 35 lbs. 349.95*
Assembled ARW-15 (less cabinet) 35 lbs. 540.00*
AE-16, walnut cabinet, 10 lbs. 24.95*

Ask for a demonstration at one of the following Heathkit Electronic Centers:


Retail Heathkit Electronic Center prices slightly higher to cover shipping, local stock, consultation and demonstration facilities. Local service also available whether you purchase locally or by factory mail order.

CIRCLE 24 ON READER-SERVICE CARD
The AR-15 "stereo separates" ... out front in versatility, too

Heathkit AJ-15 Stereo Tuner
The tried and true tuner found in the AR-15 ... with identical outstanding features: integrated circuits equivalent to 8 conventional IF stages; field effect transistors (FET) for outstanding sensitivity and selectivity; crystal filters for optimum IF bandpass shape; all-silicon transistor circuitry; 2 calibrated tuning meters; automatic noise-operated FM squelch; stereo threshold control; stereo only switch; stereo indicator light; multiplex phase control; 2 stereo headphone jacks; external antenna connectors.

Kit AJ-15 (less cabinet) 18 lbs. 189.95*
AE-18, walnut cabinet. 8 lbs. 19.95*

Heathkit AA-15 150-watt Stereo Amplifier
Identical to the stereo amplifier section of the famous AR-15, with the same unexcelled performance ... 150 watts of dynamic music power; individual input level controls for each channel of phono, tape, tuner, tape monitor and aux. inputs; ultra-wide response (± 1 dB from 8 Hz to 40 kHz at 1 watt), less than 0.5% harmonic and IM distortion at 50 watts continuous output; recessed input and output jacks; both main and remote stereo speaker switches and connections; 2 stereo headphone jacks; tone-flat switch; positive circuit protection; loudness switch; tape monitor switch.

Kit AA-15 (less cabinet), 28 lbs. 179.95*
AE-18, walnut cabinet, 8 lbs. 19.95*

FREE NEW 1971 CATALOG
Featuring these and dozens of other exciting new kits for home, hobby, test and service, education and recreation ... over 300 easy-to-build, fun-to-use electronic kits in all. Get your FREE copy now ... use coupon or write: Heath Company, Benton Harbor, Michigan 49022.

HEATH COMPANY, Dept. 8-3
Benton Harbor, Michigan 49022

□ Enclosed is $__ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ ___ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __ __
It takes a lot of guts to say a new stereo cassette deck is the greatest ever made.

Wollensak can say it.

The new Wollensak 4750 stereo cassette deck brings true hi-fidelity to cassette listening.

Here's why: It has one of the lowest wow and flutter characteristics of any deck available. The precise heavy-duty tape transport mechanism is considered by independent audio experts to be the finest in the industry. A mechanism that includes the only full-size flywheel and capstan available to assure constant tape speeds and eliminate sound distortion.

Record-playback frequency response is truly exceptional: 60 - 15,000 Hz ± 3 db. Fast-forward and rewind speeds are about twice as fast as any other.

A massive, counter-balanced bi-peripheral drive means years of dependability. Interlocked controls allow you to go from one function to another without first going through a stop or neutral mode. The Wollensak 4750 features end-of-tape sensing which stops the cassette, disengages the mechanism and prevents unnecessary wear. The Wollensak "Cassette Guardian" automatically rejects a stalled cassette in play or record position. The 4750 complements your present component system by providing cassette advantages. American designed, engineered and built. Styled in a hand-rubbed walnut base with Plexiglass® smoked dust cover.

All of these features add up to the truest stereo sound with reel-to-reel quality from a stereo cassette deck. Become a believer. Hear and compare the new Wollensak 4750 deck at your nearby dealer.

Wollensak 3M
3M CENTER, ST. PAUL, MN 55101

LETTERS
Continued from page 8

ual sensations" in favor of your own "enlightening thrill ... based on understanding." I have loved music ever since early childhood; it was the powerful emotional and physical impact of great music that got me "hooked." Only later did I begin to acquire the analytical facility to approach music for "understanding." I am positive that people who cannot feel a visceral response to music will never love it, not even intellectually. Even that master craftsman Stravinsky has advised listeners to relax and "dig" when Boulez' Marteau sans maître eludes their cognitive abilities.

The joys of music are too great to be hoarded. Hence the error in anyone's claiming his own rarefied appreciation to be intrinsically better or truer than another's. To those of my brothers who must use chemicals to encounter music I hold out my hand and say, "Welcome aboard!"

Leonard B. Pack
Washington, D.C.

Mr. Marcus replies: I did not mean to denigrate the visceral response to music in my editorial. My point was simply that there is much more to great music than momentary sensations, and that to equate music with drugs does a major dis-service to music, to the still passive music-hearer, and to the drug-taker who thinks his grass or acid an adequate substitute for a total response to Bach or Mozart. Personally, I possess hedonistic viscera that are veritable gluttons for sensation.

Luciano Berio
In his "Behind the Scenes" piece on Luciano Berio [September 1970], Edward Greenfield stated, "One hopes that Laborintus II, a more recent work, will be recorded."

Actually, Laborintus II has been available for several months in Europe. The performers are members of the Swingle Singers and the Musique Vivante Ensemble, with the composer conducting; the labels are Harmonia Mundi 30764 (Germany) and Arcophon AC 695 (Italy).

Stephen Peter Lawson
London, England

In Defense of Elena

I find George Movshon's arbitrary review of the London Anna Bolena [December 1970] little more than a slanderous barrage. He seems so obsessed with his dislike of Souliotis that his praise for Horne and Ghiaurov becomes excessive and unrealistic. Mr. Movshon fails to mention that while Ghiaurov does indeed have a beautifully resonant voice it is so inflexible that he is forced to slow down all rapid or difficult passages. Furthermore, the bass sounds as though he is reading through the score for the first time. Marilyn Horne has serious vocal production difficulties at
RABCO INTRODUCES THE ST -4
A COMPLETELY STRAIGHT-FORWARD APPROACH TO PLAYING RECORDS.

All the experts agree. The ideal way to play a record is exactly the way it was cut, in a straight line. But until Rabco introduced the SL-8, no one had been able to devise and manufacture a straight-line tone arm, which could completely realize this theoretical ideal.

In achieving this design breakthrough, Rabco was able to avoid all of the problems and limitations inherent in the conventional pivoted tone arm.

The result: a tone arm that performs so well that Stereo Review was moved to comment, "... it (the Rabco SL-8) is probably the closest approach to perfection in a record playing arm . . ."

Now this nearly perfect approach to playing records has been incorporated in a new playback system, the Rabco ST-4. The Rabco ST-4 is an integrated tone arm and turntable combination that offers all the advantages of straight-line playing in a convenient, moderately priced unit. In addition to servo-controlled straight-line tracking, the ST-4 boasts a number of other unique operating features including feather-touch push button cueing; automatic end-of-record lift; simple balance and tracking adjustments; and an "easy-on" plug-in cartridge holder with fool-proof overhang adjustment.

As for the turntable, it does everything a good turntable should do. A hysteresis synchronous motor maintains absolutely constant speed regardless of fluctuations in line voltage. And a special instant-start mechanism brings the turntable up to speed in less than one revolution. Rumble, wow and flutter are virtually undetectable, thanks to a simple but effective belt-drive system. And finally, a convenient lever allows you to change speed, either 33 or 45 rpm.

The Rabco ST-4 is $159 and that includes a beautifully finished heavy walnut base. A rather modest price to pay for perfection.

RABCO
1907 Tech Road, Silver Springs, Maryland 20904.

CIRCLE 35 ON READER-SERVICE CARD
Wait till you get your pause on a TEAC A-1230

You'll be making the cleanest tapes on the new TEAC A-1230. Thanks to TEAC's unique symmetrical control system with Edi-Q. This advanced system allows you to edit while recording — instantaneously. In a flash, before that unwanted FM commercial is upon you, flick — and you're in PAUSE mode. Your tape stops silently, instantaneously. Record amps are fully fired and at standby for the first note of your recording restart. End of commercial and you toggle deftly back to "PLAY." You are off to a clean new recording start.

But Edi-Q is only one of a whole host of professional features on the A-1230. It also incorporates the same kind of advanced design and new-features engineering philosophy that established TEAC's famous Model A-1200 as the best value in various consumer tests.

There's a record bias switch for both high-output, low-noise tape and standard tape alike. So you get the fullest dynamic range with any type of tape. It also ensures the TEAC A-1230's high-performance characteristics.

So much for new refinements. Remember those other advanced A-1230 features: three-motor solenoid operation, three heads; tape/source monitoring, mic and line mixing, independent record mode switches for ¼-track stereo/mono operation, independent stereo headphone monitor, tape tension and spring-loaded automatic shutoff arms.

And the price, too, will give you pause; it's sensible.
Eighteen months of preparation and all when Large went down to the army base to film outside the Maltings. That was for the whole cast. One scene only was most a month of detailed rehearsal work to solve them—though of his eager staff managed somehow to crammed everything into the shape of the Maltings. Instead of candles they celebrated the recipient's age by measuring the exact weight in pounds. Evidently no one realized just how large a fifty-eight-pound cake would be, and so everyone on the project was feasting on it right through the recording sessions.

Immediately after completing the film, the cast, the English Chamber Orchestra, and the Wandsworth School Boys' Choir went down to London and, again conducted by Britten, recorded the whole piece for Decca/London in Kingsway Hall. The entire opera—approximately two hours—was taped in only six sessions owing to the intensive rehearsals already held for the television production. Each singer was carefully chosen by Britten in order to fit the individual character to the proper voice. The part of the hero is taken by baritone Benjamin Luxon, who last summer sang the difficult part of Tarquinius in Britten's _The Rape of Lucretia_, both in live performances at the Maltings and for the new recording.

Lucretia on those occasions was taken by Janet Baker, and again in _Owen Wingrave_ Miss Baker has a particularly exacting part: Owen Wingrave's fiancée, who is forced to accuse the hero of cowardice when he rejects his military upbringing. Fortunately Decca/London managed to persuade EMI to waive their exclusive contract with Miss Baker for this special assignment. Another notable performance promises to be that of Sylvia Fisher, best known on record for her fruity performance as Lady

Continued on page 20
Marantz makes
the most expensive
stereo equipment
in the world.

Including
a $219 receiver.
The model 26.
When you come right down to it, you buy a speaker system because you like the way it sounds. And if you're like most people you want to hear music that sounds like the original performance. The full natural sound. Uncolored. Unadulterated. You can't want the bass to blast you out of your armchair or highs that sound like chalk squealing on a blackboard. You want proper balance and a distinct separation of lows, midrange and highs. And that's precisely what you get with Pioneer's speaker systems.

Employing Pioneer's newly developed Free Beating cone, both the CS-A500 and CS-A700 recreate music that sounds as clear and natural as the moment it was born. To keep it that way, Pioneer has added a refinement: An easy-to-use level control on both models enables you to adjust the tone of the middle and high frequencies to match the acoustics of any room.

Specifically designed with low crossover frequency points, both systems offer distortion-free sound and superb directivity.

The CS-A500 and CS-A700, housed in hand-rubbed walnut cabinets, incorporate Pioneer's latest speaker designs. They are the culmination of three decades of trend-setting audio research to achieve realism in sound. Hear them today at your Pioneer dealer.

U.S. Pioneer Electronics, 178 Commerce Rd., Carlstadt, N.J. 07072
Some time ago, Sansui engineers were given a blank check. "Create the finest receiver in the world today," they were told. "Put in everything you ever wanted to see in your own equipment." And that's what they did. Today the Sansui EIGHT is a reality—the proudest achievement of a company renowned the world over as a leader in sound reproduction.

Take the features. Take the specs. Compare the Sansui EIGHT to anything you have ever seen or heard. Go to your franchised Sansui dealer today for a demonstration of the receiver that will become the standard of excellence by which others are judged. $499.95.
1. Ultrasonic Sensitivity. FM Front End Two RF amplifiers and one mixer amplifier use three costly, low-noise, dual-gate metal-oxide silicon field effect transistors (3 MOSFET's) and a 4-gang frequency-linear tuning capacitor. These combine to give the EIGHT its great edge in subtle areas as FM intermodulation distortion, sensitivity (1.7 microvolts IHF), signal-to-noise (better than 65 db) and image-frequency, IF and spurious-response rejection (all better than 100 db).

2. Three-IC IF Amplifier with Crystal/Block Filter A three-stage differential amplifier, executed with integrated circuits, is combined with a sharply selective crystal filter and a block filter to give steep-sided response. This helps keep distortion very low (FM harmonic distortion is less than 0.5%), improves capture ratio (1.5 db) and stereo separation (better than 35 db at 400 Hz) and minimizes phase shift.

3. Sharp-Cut Multiplex Carrier Filter A two-stage IC, sharp-cut-off filter really keeps the subcarrier out of the audio circuits. Where some leaks through, as in most FM receivers, you get increased intermodulation distortion and interference with the bias oscillator of tape recorders, which then mars all the audio home recordings.

4. Muting Switch and Adjuster The switch cuts off all interstation hiss during tuning, if you wish. The level adjuster permits precise setting of cutoff (or avoid cutting off) weak stations, as desired.

5. FM Linear-Scale Wide-Dial Design The linear scale is uniformly graduated in 250-kHz steps. The blackout feature features a smoked glass throw that eliminates squinting, when the tuner is in use. The illuminated dial pointer also black out during non-use of the tuner.

6. Large Tuning Meters For pinpoint accuracy, one meter indicates signal strength (on FM or AM); a second meter indicates exact FM center channel for minimum distortion and noise.

7. Dual Impedance Antenna Terminals The usual 300-ohm balanced antenna input, plus a 75-ohm unbalanced input for the coaxial cables used in remote or noisy areas, or in master antenna distribution systems.

8. FET AM Tuner Most receiver designs ignore AM capability. The EIGHT uses two FET's along with a 3-gang tuning capacitor for high sensitivity and selectivity. A high-impedance antenna circuit also helps reduce interstation interference.

9. Unique Pantograph Antenna A dual swivel arm mount, exclusive with Sansui, lets you draw the large AM bar antenna away from the chassis and orient for best reception or fold it into the back panel to protect it against mishandling.

10. Smooth-Tuning Dial Pointer A large fly wheel plus a precision nylon gear permit accurate, velvet-smooth tuning action and prevent shipping or jamming.

11. Three-Stage Equalizer Amplifier Emitter-negative feedback is utilized in a three-stage amplifier realized with silicon transistors chosen for their low noise. The results: improved stability, excellent signal-to-noise ratio, negligible distortion, high stability and extremely large dynamic range—it will handle cartridges with very high and very low output levels.

12. Multi-Deck Tape Capability Two tape monitor circuits, each with output jacks and choice of pin-jack and 3-contact phone-type terminals on the front and rear panels. Play, record and monitor on either deck. Or copy from one deck to the other via the Tape Monitor Switch.

13. Negative-Feedback Control Amplifier to minimize distortion, the tone-control circuit is driven by a two-stage circuit using both AC and DC negative feedback.

14. Triple Tone Controls Separate controls for bass, treble and midrange. And they're not regular continuous controls. Each is an 11-position switch carefully calibrated in db steps of boost and cut for the same adjustment precision used in studio work.

15. Sharp-Cut High and Low Filters Both high and low-frequency filters, use special transistors in emitter-follower negative-feedback circuits to provide extremely sharp filters (1.5 db/octave).

16. Direct-Coupled Power Amplifier A two-stage differential amplifier is directly coupled to a complementary Darlington amplifier that uses no output capacitors and is driven by two power supplies, positive and negative. Negative feedback is uniformly effective at all frequencies, beyond the upper limits of audio and down into the DC range—and the damping factor holds up very steadily down to the extremely low frequencies. The result: drastic reduction of intermodulation distortion not only in the amplifier itself, but in any speaker system connected to it.

17. Jumbo Filter Capacitors Two enormous power-supply capacitors—8000-microfarads each—contribute to the extraordinary specifications of the EIGHT: 200 watts of IHF music power, 80 watts continuous power per channel. Distortion factor of 0.3% at rated output. Power bandwidth (at levels of normal use, way down to 5 Hz and up to 50,000 Hz, ±1 db). Even when driven to maximum output, the EIGHT will deliver the cleanest, most distortionless sound you have ever heard.

18. King-Size Heat Sink No overheating transistors even with continuous drive to maximum output.

19. Total Protection Extra transistors are used in a sophisticated circuit, especially for temperature compensation. A special stabilizing circuit polices the differential amplifier. A power-limiting circuit and six quick-acting fuses protect the power amplifiers against overcurrent. And a completely separate circuit, using a silicon-controlled rectifier (SCR), safeguards your speakers against any possible damage.

20. Separable Pre- and Power Amplifiers Not only can you detach the preamp and power amplifier be electrically separated, but the option can be used simply by flicking a front-panel switch. Use them separately to connect electronic crossovers for speaker systems. Or separate them to use the preamp as a versatile control amplifier for tape recording or studio-type work while the power amplifier acts as a line or main amplifier.

21. Three-System Multi-Mode Speaker Capability Connect up to three speaker systems and switch-select any one or two different combinations of two. A special mode switch for one of these outputs permits it to drive two monophonic speakers for monitoring, or it can be used for a center-channel output.

22. Stereo Balance Check Circuit Turn on the Balance Check Switch and this tuned meter becomes a zero-center balance meter for precise matching of left and right channels.

23. Independent Power-Supply Circuits There's one each for the output stage, driver, control amplifier, head amplifier and tuner, with the last four separately stabilized to eliminate power fluctuations. This isolation blocks the interaction between one section and another that degrades performance in most integrated receivers. The Sansui EIGHT thus performs like a combination of separate tuner, control amplifier and power amplifier.

24. Plug-In-Board Functional Construction Each functional section is on its own printed-circuit board that plugs into the main chassis. This simplifies service—that is, if you should ever need service.

25. Mode Switches Flick a switch to change from stereo to mono. Flick another to choose between normal and reverse stereo.

26. Two Phone Inputs Accommodate two phonographs at the same time, or choose either input for ideal match to one cartridge.

27. Separate Input Level Adjusters Back-panel controls for FM and AM allow you to set level of phone output so that all functions reproduce at the same level for a given setting of the volume control.


29. Universal Supply-Voltage Adaptability A changeover socket for power-supply input voltage adjusts to eight different a-c supplysource levels, for use anywhere in the world.

30. Detachable AC Line Cord

31. Program Indicators Illuminated legends on a dark background indicate all selected functions—except AM and FM. For the latter two, the tuning dial and pointer both light up.

32. FM Stereo Indicator Illuminated legend lets you know when the FM source is transmitting in stereo, even when you've selected FM mono.

33. Integral Walnut Cabinet No need for a separate cabinet. The EIGHT comes inside its own furniture-finished wood cabinet. And it has legs that can be adjusted for a custom fit to the shelf or other furniture on which it is placed.

The Sansui Great EIGHT. The receiver for connoisseurs. Now on demonstration at your franchised Sansui dealer.
Vocal Reissues, Italian Style

by Conrad L. Osborne

In the late '50s and early '60s, a number of operatic recitals by important Italian singers of the between-wars era appeared over here on an import basis under the Italian Odeon label. The first were 10-inchers devoted to such singers as Rosetta Pamparini, Riccardo Stracciari, Apollo Granforte, and Nazzareno de Angelis; later there were 12-inchers, among which I recall recitals by Totti dal Monte and Mafalda Favero, a couple of Gigli records (one of which featured his daughter, Rina), and a couple of potpourris, such as a Mascagni disc, drawn primarily from material found elsewhere in the catalogue.

The interest in the series lay chiefly in its representation of singers whose careers had been principally or exclusively European, and who in many cases had only scant LP representation in this country. The weaknesses were that the selection of material was often less than ideal (many of the Gigli selections, for instance, dated from his declining years, while the Stracciari record drew heavily on his complete recordings of Rigoletto and Il Barbiere—marvelous singing, but among the most available of his many recordings), and the prevailing low standard of technical work: most of the bands sounded dim and muddy, and few did justice to even the standards of the 78 originals.

The series pretty much vanished from the domestic market in the mid-'60s, but has more recently reappeared, and to altogether better effect. The selections tend to be more representative of the singers' best work, and the "reconstructions" have been done with far greater care—the bulk of the material sounds fresh and clean, even when the originals date back into the '20s.

The series remains valuable for the overview it affords of the Italian operatic scene during the second quarter of this century. Of the eight singers in the new series at hand, only Giacomo Lauri-Volpi spent any important portion of his career in the U.S. and his final Metropolitan performance (as Edgardo) occurred in 1933, a year before the earliest selection on the current disc. So, while most of these singers were amply represented in the domestic catalogues at some point—several, indeed, had large followings here—they tend as a group to be considerably less well known to Americans than Metropolitan-based artists of smaller standing.

Four of these singers are tenors, among whom the most familiar to Americans will be Lauri-Volpi, who can fairly be ranked just below Gigli and Martinelli among the Italian tenors of his era. He had a brilliant, glinting voice, of good masculine resonance from bottom to top, plenty of temperament, and an above-average sensitivity to niceties of phrase. In the early years, the voice had an engaging spin and sweetness when it was needed; later, as the instrument started to labor a bit, he seems to have had trouble with the softer dynamics, with turning the voice over on top, and with intonation. He was one of those hardy, taut types who come to sing, so that long after his good singing days were behind him he did not hesitate to sally forth as Calaf, Manrico, or Radames, let the chips fall as they might.

Regrettably, he recorded no complete roles in his prime years (and his LP-era Trovatore, Luisa Miller, and La Bohème hardly make a case for him, though the Manrico has authority and moments of brilliance). But he recorded singles by the carload, and is represented by fourteen sides on QALP 5337 (there is another Lauri-Volpi volume in the series, which I have not heard). Five of the bands date from 1934, and are really splendid. There is an "O Paradiso" of true dolcezza, with lots of ring in the climaxes and a fine mezzo-voce attack on some opening notes. There is an excellent Ch'io mi tradis, straightforward, without any raffling, and a very good "Parmi veder le lagrime." The Butterfly and Manon Lescaut excerpts are also effusively sung.

Then we move into the '40s, and matters become rather uneven. There is a surprisingly youthful "Quando le sere," remarkably lyrical for a fifty-one-year-old tenore di forza, and a firm "Ch'ella mi crede." Even the Tosca arias, recorded in 1948 when Lauri-Volpi was fifty-six, are quite satisfactory, if a shade heavy. But "Cielo e mar" (an especially tough piece) is hard work, and there is a "Di quella pira," with a couple of desperate lunges at the C, that should never have been released, to say nothing of "reconstructed." The disc certainly contains enough prime Lauri-Volpi to justify it, and of course there is a certain interest in hearing an accomplished singer fence with the problems of advancing years, too. The sound is extraordinarily good.

Second in point of interest among the tenors is probably Francesco Merli, not as well known or as highly rated by American collectors as he should be; he has some points of similarity with Lauri-Volpi—a top of unusual brilliance and an almost bull-like strength. His middle and lower ranges were more baritonal than Lauri-Volpi's, and the vowel coloration generally darker. He was evidently an in-and-out singer, perhaps wildly so, for he made some extremely exciting records cheek by jowl with dolefully rough ones, in which the voice almost seems to come unknit and the intonation rides off in all directions. He recorded several roles complete (Manrico, Canio, and Puccini's Des Grieux, on Columbia over here, and Calaf for Cetra) and made a large number of singles. Fortunately, the selection on QALP 7378 has been well chosen and includes some of Merli's very best recordings. Most impressive of all is a vial, sure-footed "O mio babbino" from Guglielmo Tell, with the octave leaps beautifully launched. This is very close to Martinelli's among Italian-language versions of the aria. Also of unusual interest are a group of Otello excerpts, including the first-act duet with Muzio, the "Dio mi pares," and the "Non mi tema." The only regret here is that the third-act duet with Muzio is not also included. Although Merli sings the first one well, he is truly memorable in the "Dio ti godo," and in both scenes Muzio sweeps the field clean: for full realization of the vocal and dramatic possibilities—in short, for making a woman of Desdemona—she has no competitor on records, even from the young Tebaldi. Both these scenes were included on a long-deleted Columbia LP with other Muzio material; the sound of the Odeon is so much superior it seems a shame to be without the other scene. Merli goes on to a fine monologue (everyone suffers here by comparison with Martinelli, especially in the opening section, but Merli is first-rate) and to a

Continued on page 26
Choice not chance

The difference between a professional photographer and the average amateur is that the professional knows what kind of picture he wants and has the technique and the tools to produce that picture. Too often the amateur sees the picture in the viewfinder but because of faulty exposure, he depends on chance and discovers another picture in the print.

Getting the correct exposure every time is simple, if you use the proper exposure measuring system. A meter built into a 35mm SLR camera simplifies exposure measuring. But when you have a back or side lit subject, the usual "averaging" type of meter will give you a false reading. You need a "spot" reading of the most important area in the picture. Other times when there are many dark and light areas in the subject and all are equally important, an "averaging" meter will save the highlights and keep detail in the shadows. All fine 35mm SLR cameras have one of these exposure reading systems. But the Mamiya/Sekor DTL has the Creative Switch which allows you a choice between two systems and a guarantee of the correct exposure every time. The DTL is priced from less than $180 plus case. See a demonstration at your dealer or write for folder.

Ponder & Best, Inc.
Corporate Offices: 11201 West Pico Boulevard,
Los Angeles, Calif. 90064.
**Marantz makes the most expensive stereo equipment in the world.**

Including a $449 receiver. The model 22.

© 1971 Marantz Co., Inc., A subsidiary of Superscope, Inc. P. O. Box 99A, Sun Valley, Calif. 91352. Send for free catalog. CIRCLE READER SERVICE CARD 43

---

**The Great Russian Singer was a Master of German Song.**

Alexander Kipnis could perform in almost any idiom. But he made his reputation singing German opera. And in the highly specialized field of German lieder. This 18-song collection shows the distinguished basso at his best: An international star very much at home in the music of a foreign nation.

**On Columbia Records**

Continued on page 24

---

**SPEAKING OF RECORDS**

Continued from page 24

somewhat less gripping, but still above-average, Death Scene. There are also two good Chénier excerpts and a "Non pungere Lui" which is most effectively sung, but transferred nearly a half-step low—one of the few instances of sloppy technical work in the series. I can do without two lengthy duets, one from Loreley and one from Guarnieri (the one recorded by Caruso and Dessì), with the wary-voiced Bianca Scacciati. The music is of the most modest interest, Merli is only intermittently good, and Scacciati is one of those sopranos only an Italian can love. But some collectors may welcome this less familiar repertoire, and the rest of the disc is quite fine.

Antonio Cortis, a Spaniard, is less well known than either Lauri-Volpi or Merli, but has always owned a high reputation among vocal collectors. Most of his records show a voice of considerable projection—a bright, compact tone, quite consistent over the normal tenor range. There is also a kind of tense drive in it that closes out the soft-grained beauty that a really great tenor can call into play. The result, on an Lp recital, is a certain insistence that fatigues the listener after a time. And while his interpretations were vital, there was no great imagination or grace to them—his "Salve dimora" (Faust) sounds awkward indeed alongside McCormack's (the most elegant of the Italian-language versions).

Still, there's lots of good, ringing tenorizing here. An older Rocco disc includes some of his best items (a fine "Or son sei mesi" and some excitingly sung extracts from La Cena delle belle) and perhaps makes a stronger case for him. The sound of the present release (QALP 5354), though, is substantially better.

What to say of Aureliano Pertile? He was widely worshiped in Italy and the great favorite of Toscanini—a singer of undeniable power, owner of a great voice, striver after the big effect. But I just don't like him. I find him a willful singer, forever pushing the music past its limits, tearing passions to shreds. A ranter, a hater of simplicity, he huffs after emotion. Though the native voice is splendid, it is seldom listenable, for he nasalizes it and spreads it so that its real quality emerges only toward the top. The phrasing is often brutal, with great explosions of his, and almost every sustained tone driven sharp. What he does to an aria like "M'appari" (Faust) sounds almost insane.

In fairness it should be allowed that he is not represented at his best by this disc, except perhaps in a cut version of the final Chénier duet with Sheridan, where he seems content with the music's own hyperbole and just sings (well). His Italian-language Lohengrin also has its merits, but the rest of QALP 10414, including Otello and Forza scenes ("Si pet ciel" and "Invena, Alvano") with the dark-voiced Benvenuto Franci, I will

Continued on page 28

HIGH FIDELITY MAGAZINE
To each his own.

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 Avenue, Evanston, Illinois 60204.
here are the facts:

We've been making premium quality tape for over 25 years. That's know-how! Irish is a professional quality 20-25M cycle wide range—low noise tape. No hiss, no distortion. Just sharp, clear, dynamic sound reproduction. We include, at no extra cost, 30" color-coded leader, trailer and reversing strip. Every good tape should have it. A leatherette "library" binding is also included for handsome storage and easy identification.

Irish is available in reel and cassette sizes as well as video tape. Try Irish just once. One test will prove to you that Irish is the finest quality tape money can buy or your money back!

Irish Tape 270-78 NEWTOWN RD. PLAINVIEW, N.Y. 11803 EXPORT: MORNAN EXPORTING CORP. CIRCLE 25 ON READER-SERVICE CARD

For cartridges that can track as low as 0.1 gram

- Features all new Empire 990 . . . world's most perfectly balanced playback arm.
- No acoustic feedback even when you turn up gain and bass.
- World's finest turntable motor—hysteresis synchronous type maintains speed accuracy with zero error.
- Lowest rumble of any turntable tested, 90dB (RRLL), wow and flutter, .01%.
- Exclusive pneumatic suspension lets you dance, jump or rock without bouncing the stylus off the record.
- Tone arm floats down or lifts up from a record surface bathed in light. Pick out the exact selection you want, even in a darkened room.

New Troubadour 598
record playback system

$199.95—less base and cover/walnut base and plexiglas cover—$34.95


SPEAKING OF RECORDS

Continued from page 26

leave to those who enjoy this sort of bombast.

The one baritone among this group is the leather-lunged Gino Bechi, a potentially great singer whose best years fell during and immediately after World War II. He made a number of complete opera recordings with Gigli (currently available in the Seraphim series), and his Alfo. Renato, and Geraldo are still the best recorded versions of those roles. The voice was an open, colorful one, with something of a snarl in it, big and rock-steady, the top very resonant and commanding. He rather overemphasized this side of his singing, so that the quiet beauty needed for so many of the great cantabile arias never became a reliable part of his singing, and by the time he recorded his complete Barbieri in the early '50s (with De Los Angeles), his tone, while still impressive at times, had become too much of an unvaried yell. The "balen" impressive on this record (QALP 10410), though it dates from 1941, more than hints at these problems.

Most of this disc is Bechi at his best, though and for a sheer, open-throated outpouring of fine dramatic baritone sound, there are few records more impressive than his "Tutro ben io" from La Rival (those who have heard it sung only on the recent complete recording should listen to this to hear how it can sound), or the splendid "Nemico della patria," evidently drawn from the complete set. There are two Forza scenes with Lauri-Volpi: the "Solve me in questura" and the whole "Invano, Alvare" scene. In the latter, Bechi is really overwhelming and Lauri-Volpi, though no longer at his freshest, brings a good deal of excitement to the music too. There are Otelio and Falstaff excerpts, and three Rigoletto scenes, one of which affords the great Tancredi Pasero as Sparafucile (there is a Pasero disc in this series, incidentally, and I regret having been unable to obtain a copy, for it should be among the finest of the items) Again, the transfers are first-class.

Among the ladies, some interest attaches to the dramatic soprano Giannina Arangi-Lombardi, an important and interesting singer of the '20s and '30s who retired at the height of her career. She is best known to Americans for her roles in several complete Columbia recordings (Aida, Giacanto, Caratteri, Mefisto fele), all of which, except the Giacanto, were briefly on domestic LP in the Entire series. She had a big, dark voice of wide range, sometimes bothered by some flutter and traces of edginess. But unlike many singers of approximately that description, she did not severely overload the sound in the middle—the top of her voice often has a lovely shine, and she is able to float some very pretty, open-throated pianissimos. Among the best items here is an excellent "O cieli ascol-ri," in which the long fermata on the high C is beautifully attacked, then even.

Continued on page 30

HIGH FIDELITY MAGAZINE
The new KLH Thirty-Two is the best speaker you can buy for the money.

Bravado has never been our bag. But after carefully comparing the new model Thirty-Two with our competitor's best-selling loudspeaker, we're going to break our rule.

Our product is superior.

You see, the Thirty-Two sounds like a very close relative of our now famous Model Six.

With good reason.

It's designed like a Six. It's built like a Six. And it shares many of the Six's finest listening qualities. Bass response that curls your toes. A mid-range that seduces you with its smoothness. And an overall sound quality that finally puts an end to listening fatigue.

But the Thirty-Two not only sounds like an expensive speaker, it looks like one, too. It is unquestionably the best looking loudspeaker in its price range.

The price?

Almost as amazing as the sound. Just $47.50 ($95 the pair).†

Make sure you hear—and see—the new KLH Thirty-Two soon. And compare it with the best-known speaker in its price range. We are sure you will agree that there's never been anything like it for the money.

Anybody's money.

For more information on the Model Thirty-Two, write to KLH Research and Development Corporation, 30 Cross St., Cambridge, Mass. 02139. Or visit your KLH dealer.
When was the last time you saw a round piano?

Or a round violin or guitar?

You haven't. Because these instruments have acoustical sounding boards with irregular shapes. They produce sound with a bending motion. Natural sound.

And that's why our Yamaha Natural Sound Speaker isn't round. It's irregular in shape like the sounding board of a grand piano.

So when sound comes out, it comes out with a bending motion. The way it was originally produced.

With Yamaha, you don't have to get bent out of shape to get the most natural sound. It comes to you naturally. Write for complete technical information: The Yamaha Natural Sound Speaker.

YAMAHA

YAMAHA INTERNATIONAL CORPORATION
AUDIO PRODUCTS DIVISION
7733 TELEGRAPH ROAD
MONTEBELLO, CALIF. 90640

CIRCLE 58 ON READER-SERVICE CARD

Marantz makes the most expensive stereo equipment in the world.

Including a $1000 receiver.
The model 19.

© 1971 Marantz Co., Inc. A subsidiary of Superscope, Inc., P. O. Box 954, Sun Valley, Calif. 91352. Send for free catalog.

CIRCLE READER-SERVICE CARD 43

SPEAKING OF RECORDS

Continued from page 28

ly swelled in a fine example of the true messa di voce.

There is nothing else here of quite that quality, but all the selections have stylistic command and authority, and the advantages of a true dramatic soprano voice employed with above-average technique. She does a good job with the effective prayer from I Lombardi, and gives a solid rendition of "Selva opaca." It is interesting to hear her apply herself to the "Come è bello" and "M'odi, Ah! m'odi" from Lucrezia Borgia. She does not have quite the pure prettiness or finish of Caballe; the voice is rougher and less flexible. On the other hand, it is refreshing to hear an instrument of true dramatic timber and color in the music, and a somewhat more direct, less manneristic style. She makes a good stab at it, gets all the notes, and comes surprisingly close to the final scene. Otherwise, there are two Ballo arias, Tosca, Cavalleria, Giocanda (the analetta duet, with the young Stignani), and a wild version of the Trovatore terzet (end of Act I) with Merli and Galeffi, all hands puffing away to crowd it onto a single 78 side. Merli gets off a wonderful D flat at the end. The catalogue number is QCX 7379.

Ebe Stignani was certainly the outstanding Italian mezzo of the '30s and '40s. A large, round voice, with a glowing soprano top and authoritative chest tones, is harnessed to a style built on the grand, long line. She began her career very early, and possibly never did straighten out one or two technical matters, for the voice deteriorated at a time when she should have been in her prime. On the later selections here, one can notice, in the midst of generally impressive singing, a weakness at the lower-middle juncture; the tone does not hold steadily, and the vowel changes.

However this may be, she was awfully good while she was good. She recorded extensively, though the only complete roles made during her prime years are the Preziosilla on the excellent wartime Cetra Forza and the mezzo part in Verdi's Manzoni Requiem, a worthy contribution to what is still the best solo quartet on records for the Manzoni (Caniglia, Gigli, and Pinza are her partners). On QCX 10510, there is an "O mio Fernando," with cabaretta, that is practically a model for this great scene; a fine "Condotta ell'era in ceppi" (Trovatore—she must have been a memorable Azucena); a splendid "Stella del marinac" and other well-sung extracts from Carmen, Samson, Cavalleria, Fedora, Forza, and L'Arlesiana. There is also a "Mira o Norma," with Arangi-Lombardi, that has its good moments. It doesn't come close to the Ponselle-Telva version, but then, neither does any other.

This is a valuable series, for it fills in an interesting corner of recent singing history that is otherwise only dimly illuminated. There's plenty more material where this came from, so it is to be hoped that American collectors will show at least the modest response necessary to justify carefully restored historical issues.

Marantz makes the most expensive stereo equipment in the world.

Including a $1000 receiver.
The model 19.

© 1971 Marantz Co., Inc. A subsidiary of Superscope, Inc., P. O. Box 954, Sun Valley, Calif. 91352. Send for free catalog.

CIRCLE READER-SERVICE CARD 43

HIGH FIDELITY MAGAZINE
Extravagance in the pursuit of excellence is no vice.

At first blush, $225 for a record playing instrument would appear to be rather expensive. That is about $50 more than today's acknowledged standard in record playing instruments, our own Miracord 50H. But, if you're one of those people who derive great satisfaction from an instrument that is precise in every detail and offers meaningful features not available anywhere, then the new Miracord 770H is designed for you.

The 770H takes for granted all features that exist in the finest of turntables available today. It shares all of the important exclusive 50H features — Papst hysteresis synchronous motor, external stylus overhang adjustment with built-in gauge, massive, dynamically balanced turntable and cueing in both manual and automatic modes. To these features, the 770H has added several that are new, that never existed before, and that will contribute to flawless play and greater enjoyment from your records. Such features include TRU/TRACK, an adjustable head that can be set so that the cartridge assumes the precise 15 degree vertical angle for any number of records when used automatically, or for a single record when used manually. There's a variable speed control with digital stroboscopic speed indicator. Not only can you adjust the speed of the 770H over a 6% range, but you can restore it to the precise originally selected speed (33 or 45 rpm) with the help of a built-in illuminated stroboscopic speed indicator. Digital readouts of the exact speed are always visible on the rim of the turntable.

Another breakthrough is the built-in ionic elapsed time stylus wear indicator which keeps tabs, by the hour, of precisely how long your stylus has been in use. It even reminds you to check your stylus.

So, you see, the rewards of the 770H for the music lover more than compensate for the enthusiasm of our engineers. See it at selected audio specialists or write for full color brochure. Benjamin Electronic Sound Corporation, Farmingdale, New York 11735/a division of Irstrumnet Systems Corp.
"Too Hot To Handle" [January 1971] mentions only DGG in answering a question about multirecord sets pressed in manual sequence—that is with Side 1 backed by Side 2, Side 3 by Side 4, and so on. Well, I have sets on both the Philips and Seraphim labels that are pressed in that sequence. So there!—Linda Barrett, Evanston, Ill.

Good for you. As a matter of fact, all Philips sets are pressed in manual sequence. And some recordings from the Angel/Seraphim group are arranged that way—specifically, collections of shorter recordings rather than extended works like operas. Anybody got any more?

I own a Kenwood KT 7000 tuner with which I'm generally very pleased since even when using the simple dipole included with it I can pick up stereo stations up to 75 miles away. But I notice that when I am tuned to the center of any station the dial reads 0.2 MHz high (a station at 91.3 shows up at 91.5 for example) and that as I tune back toward the correct dial reading the signal strength rises although the center-tuning meter moves off center. Tuned for peak signal—approximately at nominal frequency—reception often seems slightly unstable. Is this an alignment problem, an antenna or multi-path problem, or no problem at all?—L. V. Grant, Lexington, Ky.

If you're pulling in stereo at 75 miles with an indoor dipole, you can't have much of an alignment problem! While you are correct in assuming that unstable reception at maximum indicated signal strength might tend to suggest multi-path, we see no reason to worry about it if you're satisfied with reception on indicated center-channel tuning. If the dial discrepancy bothers you, simply open up the case and slide the pointer along the dial cord to the correct position. Whether a directional outdoor antenna or a careful alignment job would improve the disparity between center tuning and maximum-signal tuning is hard to tell; but under the circumstances why worry about it?

If a sleeve were to be placed on the capstan of a cassette recorder to make it operate at 3 1/2 ips, would a modification in the equalization circuits be the only change necessary? Why don't any of the manufacturers have provision for this for people who want extra fidelity? And with that in mind, would it be possible to use the Dolby circuits in any of the cassette recorders with another recorder—perhaps an open-reel deck?—D. G. Driver, APO, San Francisco, Calif.

Teac has shown a prototype of a cassette deck that would permit 3 1/2 ips operation, but so far Philips has been reluctant to allow cassette-equipment licensees to alter speed from the standard 1 7/8 ips. Presumably Philips has two reasons: it would cause confusion among prospective purchasers and slow down the critical primary objective of establishing cassette wares in the marketplace (an objective that, in our opinion, is now largely achieved), and it would open the door to licensees who would like to introduce 15/16-ips cassette hardware—a speed that would almost certainly undermine the quality advances made in cassette sound up to this point. But don't give up hope; decks that allow home recordings at 3 1/2 may yet appear. If you want to devise your own, the speed-change sleeve and equalization alteration are all that would be necessary. But don't get carried away by do-it-yourselfism. Adapting a built-in Dolby circuit for use with another recorder is an operation comparable to open-heart surgery, to be attempted only by the experienced specialist.

Your January "Too Hot to Handle" contains an error. The Stanton 500E cartridge can indeed be used in the KLH 20 because its output is a lot higher than the 0.8-millivolt figure you quote. This rating is for a recorded velocity of one centimeter per second. At 5.5 cm/sec its rated output is 4.4 mV.—Barney Jacobs, Los Angeles, Calif.

We've received several letters on this, and each gives a different figure for the "realistic" output of the Stanton 500E. But on one point they're all correct: the Stanton 500E can be used in the KLH 20, although it requires a higher volume control setting than the original cartridge would for equivalent output levels. The magic number in rating pickup voltage is 3.54 (centimeters per second) which is an rms average for commercial disc recordings. Thus, a cartridge rated for 0.8 mV at 1 cm/sec should furnish an average of 2.83 mV in normal use.

I have an old Bogen integrated amplifier with a volume control plus a continuously variable loudness control. The feature adds greater flexibility to my unit, and I have been trying to find a comparable control in shopping for a new receiver. Why has this feature been deleted in favor of a loudness/volume switch in current equipment?—Edward J. Dehmer, Woodside, N.Y.

We agree that separate loudness and volume controls give you much greater flexibility in matching loudness compensation characteristics to varying program-source levels and that the simple volume/loudness switch represents an unsatisfactory compromise. We are to assume that loudness compensation has virtue in the first place. We—that is, purchasers and commentators alike—must share the responsibility for the disappearance of the continuously variable loudness-plus-volume scheme. We have been too hung up on the problems of linearity and distortion and monitor switching and all the other things that make a significant difference between a fine audio product and one that is merely acceptable that we've paid little attention to loudness. The interest in linearity is particularly to the point: the majority of users mistrust any departure from "flat" response and scowl even legitimate use of tone and loudness controls. Thus while manufacturers started using the less expensive loudness control so that they could afford an extra flourish in the speaker selector or front-panel tape recorder jacks nobody complained. From the manufacturers' point of view more versatile switching would help sell the product, a more versatile loudness system wouldn't, and a higher sales price certainly would inhibit sales. So the more elaborate loudness controls had to go. Result: if you use the loudness switch you get more than ideal compensation on signal levels higher than those for which the loudness action is designed, less compensation on weaker signals. Not one of the major issues in high fidelity, perhaps, but something worth thinking about, particularly for apartment dwellers who want concert-hall realism and good neighbor relations too.

I take it you are familiar with the Quad FM and AM tuners. They are not self-powered. What sort of power supply is needed to use them or to couple them with a Quad amplifier?—M. L. Kress, Piney Flats, Tenn.

Au contraire. Mr. Kress, the present Quad tuners are self-powered. You must have one of the older models that rely on an internal power supply in a Quad amplifier. While buying a separate power supply to drive one of those models probably would cost as much as the tuner itself is worth on the second-hand market, it can be done. Send the model number to the manufacturer.—Acoustical Manufacturing Co. Ltd., Huntingdon, Hunts, England—and ask for voltage specifications.

32

HIGH FIDELITY MAGAZINE
preamplifier

"I started off heaping praise on the Citation Eleven. That praise is unqualified. Granted, there are not too many separate preamplifiers left on the market. But of these, the Citation Eleven must be the best — and more important — it will not be bettered in the near future. At $295, it represents the culmination of a purist's dream."

(Stereo & Hi-Fi Times)

Then the Citation Twelve amplifier

"... an ability to handle normal listening levels in a "coasting" state of operation, imparting to the music a sense of utter ease, clarity, transparency and openness — which in sum makes you feel as if you are listening through the amplifier back to the program source. Subtle nuances of definition, of attack, of inner musical fabric are more clearly presented — and suddenly you want to stay up all night rediscovering all the old records that you thought you had heard enough of."

(High Fidelity Magazine)

Now the Citation Thirteen a revolutionary omnidirectional speaker system

When Harman-Kardon decided to develop a speaker system worthy of the Citation name, it was clear that the approach had to be totally uncompromising. It had to meet the Citation philosophy to the effect that faithfulness of reproduction is not merely a compilation of impressive specifications, although the Citation Thirteen specs are impressive indeed! Final judgment must be made by the listener — by the ability to thoroughly enjoy many hours of listening without strain or fatigue.

Such realism in sound reproduction had been the elusive goal of musical artists, audiophiles, designers and engineers from the earliest days of the industry.

Over the years, some fine speakers have been produced. But often, such speakers have added characteristics to the music — characteristics not intended by the composer or the performer and certainly not desired by the exacting music lover.

Now here is a profound statement of the utmost significance to lovers of music:

The Harman-Kardon Citation Thirteen Speaker is neither brilliant, sweet, deep-throated. It reproduces sound as you would hear it at a live performance in the concert hall — spacious, transparent and with total dimension.

A simple statement and a claim made by many, with varying degrees of accuracy. Yet, it's one we make proudly in full confidence that when you listen to the Citation Thirteen Speakers just once — you will be in enthusiastic agreement.

See and hear Citation Thirteen at your Harman-Kardon dealer. And, where possible, in combination with Citation Eleven and Twelve. We're eager to forward complete details. Write to Harman-Kardon, Inc., 55 Ames Court, Plainview, N.Y. 11803.

Citation Thirteen
$295.00

harman kardon

A subsidiary of Jervis Corporation
IBM (International Business Machines) and BMI (Broadcast Music Incorporated) have more in common than a set of initials these days. Not that music and computer technology haven't had something going between them for some time: there have been the elaborate synthesizers for "programming" musical sounds, the various experiments in computer-composition techniques, and even applications of the computer-logic syndrome to the "random" structuring of nonelectronic music. While it might be argued that some of the "computer technology" involved is less than state-of-the-art by IBM standards—and it certainly is argued that some of the music is less than hot stuff commercially by BMI standards—such matchmakers as Milton Babbitt, Robert Moog, and John Cage have fostered between technology and music a liaison apparently as lasting (and as unlikely) as that between, say, Bud Abbott and Lou Costello.

It's got so that the music department of a university—or even high school in some cases—relies more on its Moog than on its marching band to impress parents and prospects: instructors are passing up Sousaphones to get synthesizers into the budget. And now the boom is coming to home entertainment. Moog itself has a home model (the Mini-Moog, Model D; $1,195), and logic techniques are beginning to show up in other home instruments.

But the product that really got us on this subject is a mini-computer that will compose tunes to order. It's a $300 home unit called the Muse, and once you've programmed it for things like tempo, pitch, and basic thematic parameters it will sing you a song within the limits you've set—continuing for as long as thirty years in working out a single musical pattern, according to John Johnson, the president of Triadex, which makes the Muse.

Want harmony? You can buy four of the gadgets, hook them together, and they'll comply—though apparently without changing key, since the Muse has only the diatonic scale: no sharps or flats. With accessories comparable to those for electric guitar you can alter the sound of one or more of the lines in the counterpoint; or you can add color displays. There's no telling how far you could go with this once you're hooked.

So Prince Esterhazy had his Haydn. You too can have a resident muse—and one that won't go running off to London when a better offer comes along!

---

**video topics**

**WHAT EVER HAPPENED TO VIDEO CASSETTES?**

Our headline is more or less a paraphrase of several recent letters from readers who seem to think that just because new video cassette recorders continue to be announced with a great deal of fanfare there should be some evidence of the "boom" in local shopwindows. Not so. Or at any rate not yet.

While the trade press (particularly) has been burbling about all the videotape goodies that lie just around the corner for the more acquisitive in our society to snap up, it's been obvious to curmudgeons like us that if every announced product were to come on the market the whole idea could go down the drain. With perhaps a dozen video cassette systems to choose from—no two of them compatible with each other—the available market would be spread so thin that nobody could survive the confusion and counterclaims (and the high cost of touting those claims) as all struggled for supremacy. Would you buy the system that offers the most convenience, or the one with the best picture quality, or the one that does the best job of recording off the air, or the most compact (perhaps to double as a movie camera), or the best value, or the one with home-tape rights to all the Busby Berkeley musicals, or what? Probably you wouldn't buy any, but instead would let the manufacturers fight it out and then go with what's left of the winner (if any) when the smoke cleared. Or

Continued on page 36
Kiss purple ear goodbye!

Amazing new Sony recording tapes keep your ear from being assaulted by "purple noise"—that annoying undercurrent of alien noise produced by ordinary tapes.

Sony's new Ultra High Fidelity (UHF) Cassettes and Low Noise, High Output (SLH-180) reel-to-reel recording tape mark a fantastic breakthrough in recording tape.

UHF cassettes give owners of cassette tape players recording and playback performance heretofore only possible in reel-to-reel machines. For those who own reel-to-reel recorders, SLH-180 is superior to any other tape in remarkably clean, distortion and noise free sound. In addition, at 3 3/4 ips Sony SLH-180 tape provides performance comparable to standard tape at 7 1/2 ips.

Enjoy a richer, cleaner, truer sound from your cassette tape recorder or reel-to-reel machine.

Sony UHF cassettes, in 60- and 90-minute lengths, and Sony SLH-180 tape on 7-inch reels are available now at your Sony/Superscope dealer.
you could buy a losing system at remainder prices—and eventually find you may not be able to get it repaired.

That kind of disaster is not something the home entertainment industry is particularly in need of these days. Nor are the men who make the industry’s decisions very likely to march quite so blindly into Armageddon.

No, our own private suspicion—which we’ve voiced in this column before—is that many of the more recent video tape recorders have been announced not so much in the hope of presenting a strong frontal attack on the budding market as in the attempt to establish a strong bargaining position at the truce talks that seemed most likely to proceed and therefore pre-empt, the battle. And in recent months the comments of manufacturers themselves have indicated that a truce was at hand.

These talks have produced some results, but at this writing they appear to have broken down—temporarily, we hope—short of full accord. Interim agreements have been reached that would divide manufacturers into relatively few camps: but between those camps there is an uneasy no man’s land of uncommitted independents.

The first agreement, from a European bloc, settled on something like the Philips Video Cassette. Besides Philips, it included Telefunken, Grundig, and Blaupunkt, among those names familiar to U.S. buyers. This European cassette has its ‘reels’ mounted side by side within the casing and uses ½-inch tape. A Japanese group including Sony, Matsushita (Panasonic in the U.S.), and JVC, while they plan to go along with Philips for the European market, have since declined to adopt this scheme for products that will be distributed here.

stead they have chosen a system resembling the Sony Videocassette: it uses ¾-inch tape, which feeds from one end of the housing to the other—as in an audio cassette. That leaves Ampex and Toshiba with their Instavision system as one of the major in-betweens.

If magnetic video recording in the home were a closed system unaffected by outside forces, present alliances might harden into commercial battle lines. But there are two major nonmagnetic systems waiting and watching on the sidelines. Should producers of the magnetic product become embroiled in mutually destructive infrasound it’s just possible that the CBS film system (EVR) or the RCA holographic one (SelectaVision)—or both—might find the home market left to them by default. Now we hold no brief against either of these; but the ability of the magnetic media to record off the air or even from one’s own camera is exceedingly attractive, and it would be a pity if we were denied that capability by commercial power politics.

But curmudgeons though we may be, we take a brighter view. We believe that the canny gentlemen in whose control the situation rests are acutely aware that none can afford the head-on collision that commercial production of unreconciled magnetic systems would entail. While the stakes are very high—higher perhaps than some of the companies involved have ever played for before—so is the price of overoptimism and miscalculation. To be successful, a producer of home videotape equipment must be armed with a system that is not only attractive and efficient, but fail-safe from a competitive point of view. And the producers know it.

---

**equipment in the news**

Scott’s computer-style FM tuning

An apparently unique feature of the new Scott 433 Digital Synthesizer stereo FM tuner is station selection by programmed cards. In this mode, the card for the desired station is removed from the storage compartment and inserted in the tuning slot. The tuner does the rest. Stations may also be chosen using manual dial-scan controls, in which case the synthesizer circuit can be made to select any channel, whether it contains an appreciable signal or not. In automatic scan, it will choose only those stations strong enough to trip the unit’s muting circuit, or it can be set to select only stations broadcasting in stereo. The 433 is equipped with an accessory multiplex adapter which allows use of an outboard quadricast multiplex adapter when one becomes available. Though Scott says it hopes to market the unit this spring, on-sale date and price have not been announced.

**CIRCLE 153 ON READER-SERVICE CARD**

Arm-and-turntable combination from Rabco

After some time as basically a one-product (the SL-8 straight-line tracking tone arm) company, Rabco is offering the ST-4 ensemble: a new tone arm design, a two-speed turntable, and base. The turntable is belt-driven from a synchronous motor. The straight-line tracking arm, which is equipped with cue control and a photoelectric end-trace feature, rides on a revolving rod whose motion drives the arm bearings and overcomes their friction, leaving the arm free to follow the record groove. The ST-4 costs $159: an optional dust cover opens from the center and is hinged at the two sides so that it requires relatively little clearance in the fully open position.

**CIRCLE 150 ON READER-SERVICE CARD**
it's funny-you pay more for a TDK cassette and you get so much less

less tape noise . . . exclusive TDK SD Gamma Ferric Oxide affords better signal-to-noise ratios, wider dynamic range too.

less distortion . . . TDK's SD high coercivity oxide permits higher recording levels, low harmonic distortion (0.7%*) at standard recording levels, clearer sounds.

less mechanical problems . . . precision slitting means no "scalloped" tape edges, accurate track alignment; virtually no jamming or binding of reel hubs to adversely affect wow and flutter.

less "dropouts" and head wear . . . mirror finish of oxide side prevents "shedding", abrasive action.

TDK ELECTRONICS CORP.
LONG ISLAND CITY, NEW YORK 11103

World's leader in tape technology since 1932.
De luxe Sansui receiver

Sansui's latest receiver, the Eight, combines features of previous products of the company into an unusually versatile single package designed for high performance. Among the features: switching and monitoring for two tape recorders (one can be connected through front-panel phone jacks), triple stepped tone controls (bass, midrange, treble), dual-meter tuning, stereo-balance metering, pantographic AM antenna allowing positioning for best reception, independent preamp and power amp sections, adjustable FM muting, adjustable multiplex pilot filter, output connections for three sets of speakers. Price is $499.95.

CIRCLE 151 ON READER-SERVICE CARD

Heath speaker with choice of drivers

Two new speaker systems from the Heathkit people have the same outward appearance: a preassembled cabinet of Mediterranean styling finished in pecan. But the speakers supplied with them are different. The AS-101 includes Altec drivers (a 15-in. woofer and an 18-in. sectoral horn) while the AS-102 uses a three-way Bozak system (a 12-in. woofer, 6-in. midrange, and two 2½-in tweeters). Either version is priced at $259.95 per system.

CIRCLE 152 ON READER-SERVICE CARD

Latest Telex audiometric headphones

The Model 325 stereo headset uses drivers based on the audiometric design announced by Telex last summer, modified for music reproduction. The model, which was designed with the needs of music educators in mind, is in the medium-price bracket: it sells for $49.95. It is equipped with a twelve-foot coiled cord and has earpiece housings made of high-impact plastic similar to that used in the manufacture of telephone sets. The 325 is covered by a two-year guarantee.

CIRCLE 154 ON READER-SERVICE CARD

Kenwood compact “designed for audiophiles”

The Kenwood KS-505P is a single unit housing a stereo FM/AM receiver and a PE 2010 changer equipped with a Pickering V-15/AT-3 cartridge with its Dustamatic brush. The unit sells for $269.95. The Optional S-505 two-way speakers cost $29.95 each; an optional dust cover, $19.95. The receiver has connections for tape recorder and for remote as well as main speakers; it is rated for 20 watts of continuous power per channel.

CIRCLE 155 ON READER-SERVICE CARD

New name in electrostatic tweeters

Micro/Acoustics Corporation is a new company whose first product is an electrostatic tweeter unit “specifically designed to improve the performance of AR and KLH speakers.” The Microstatic, as the unit is called, contains four electrostatic drivers in a multifaceted enclosure. It also contains a high-pass filter with a switchable crossover point (above 3.5 or above 7 kHz) and tweeter level control. It is available at $77 through selected dealers.

CIRCLE 156 ON READER-SERVICE CARD
What is the most expensive component in your stereo system?

Wrong.
Assuming that you picked one of the component types pictured here.
Although these three components form the typical stereo system, no system is actually complete without number four: records.
And no matter what you may have paid for your receiver, speakers, or turntable, chances are you’ve spent even more for your records. Or will before long.
Your records are not only your biggest investment, but the most vulnerable as well. They can remain as good as new for years or begin to wear the first time they’re played. In which case they become even more expensive.

How to protect your investment.
Which brings us to the turntable, the one component that actually contacts your records and tracks their impressionable grooves with the unyielding hardness of a diamond.
What happens then is up to the tonearm. It must apply just the right amount of pressure to the stylus, keep this pressure equal on both walls of the groove, and follow the stylus without resistance as the groove spirals inward.
Then the stylus will be able to respond freely to all the twists and turns in the record groove, without digging in or chopping away.

How the Dual does it.
Dual tonearms are designed with great ingenuity and engineered to perfection. For example, the tonearm of the 1219 pivots exactly like a gyroscope: up and down within one ring, left and right within another. All four pivot points are identical, and nothing moves with the tonearm except the inner ring. If you can imagine 0.015 gram, that’s the maximum resistance this tonearm offers to the stylus. This suspension system is called a gimbal, and no other automatic arm has it.

Another unique feature of the 1219 tonearm is the Mode Selector, which shifts the entire arm to set the correct stylus angle in either single or multiple play.
Also, the longer the tonearm, the lower the tracking error. Thus, the 1219’s arm, 8 3/4" from pivot to stylus, is the longest of all automatic arms.

Other things to consider.
In addition to preserving records, a turntable must also bring out the best in them.
The record must rotate at precisely the right speed, or pitch will be off. The motor must be free of vibration, or rumble will be added to the music. The platter must weigh enough to provide effective flywheel action to smooth out speed fluctuations. And, of course, the stylus must get to and from the groove as gently as possible.

The professionals’ choice.
All this is something to think about the next time you buy a record or play your favorite one. It’s why Dual turntables have been the choice of professionals for so many years.
Not only for the way Duals get the most out of records (without taking anything away) but for their ruggedness, reliability and simplicity of operation.
If you’d like to know what independent labs say about Dual, we’ll send you complete reprints of their reports. Plus an article on what to look for in record playing equipment, reprinted from a leading music magazine.
But if you’re already convinced and can’t wait, just visit your authorized United Audio dealer and ask for a demonstration.
You’ll find Dual turntables priced from $99.50. It’s not the least you can spend. But when you consider your investment in records, you may agree that it’s the least you should spend.
Who can deny the majestic beauty of the concert grand piano and the fulfillment of its promise as commanded by the articulate fingers of a truly accomplished artist? So it is with the Wharfedale W60E, the latest and finest version of a loudspeaker system with a reputation for excellence and a heritage of consummate pleasure going back over 20 years.

And for good reason; for beneath the appealing cabinet design, craftsmanship and fine furniture finish, the W60E is the product of acoustical and electrical engineers whose talents and skill enjoy world recognition.

A 12½" woofer is used, with heavy, cast alloy chassis to maintain original gap and cone suspension tolerances. Its molded one-piece cone has a new high excursion neoprene surround and provides extended, distortion-free bass; while a massive 9½ lb. magnet assembly ensures excellent transient response. A new 5" midrange, mounted in an isolated nonreflecting cylindrical chamber, has a high compliance suspension with a four layer voice coil for greater power handling and exceptionally clean, smooth, uninterrupted response over a wider range of octaves. The system is completed by a new 1" mylar dome super tweeter with a phase compensating diffuser and extra-heavy magnet for properly balanced, crystal clear, wide-angle dispersion of treble tones. Measuring 24"x15"x12", the W60E is ideal for both shelf or floor use. At $153.00 list each, it is the same "best buy" it has always been.

For catalog, write to Wharfedale Division, British Industries Co., Dept. HX-10, Westbury, N.Y. 11590.

The new W60E looks great... sounds greater

COMMENT: In this pushbutton "let George do it" world, it is satisfying to be able to report that a man still can build his own amplifier and come up with a unit that rivals factory-built counterparts costing considerably more. Dynaco's SCA-80 combines a very clean, low-distortion, versatile front-end or preamp-control section with an equally clean, low-distortion basic amp, the latter using essentially the same circuit response more than spanned the audible range by a healthy margin at low and high ends. Sensitivity and signal-to-noise figures were uniformly excellent on all inputs; damping factor was comfortably high; tone controls, filters, loudness contour, and disc equalization were all very satisfactory. Square-wave response was similar to that measured on the Stereo 80, showing good, clean bass and excellent transient response for a well-aired effect in middles and highs.

Controls include five knobs for: a five-position input selector (special, phono, tuner, tape, spare); volume; channel balance; bass; treble. The "special" position on the selector refers to a second phono input that normally accepts an additional magnetic pickup. This input also may be wired for direct tape-head playback, or as a microphone input. These and other possible uses are explained in the owner's manual. Treble and bass controls regulate both channels simultaneously.

Besides the knobs, the front panel contains several rocker switches for: power off/on (this one lights up when power is turned on); tape monitor; loudness contour; filter; mode; speakers main and remote. Each of the last three switches has three positions. The filter offers "narrow band" (the highs and lows are rolled off), "rumble" (only the lows are rolled off), and "flat" (no filter action at all). The mode switch has a "mono" position. It also has a "blend" position (6 dB of channel separation recommended by Dynaco for use with its proposed three- or four-speaker hookup, or simply to reduce any two-channel separation that you may find excessive—for instance, a normal pair of stereo speakers spaced too far apart for certain program material, or possibly when listening over headphones). For full channel separation, just place this switch on "stereo." The speaker switch lets you choose either or neither of two pairs of stereo speaker systems connected at the rear and nominally designated as main and remote. A standard headphone jack on the front panel remains live at all times.

The rear panel contains the inputs corresponding to the front panel selector, plus a pair of jacks for feeding signals to a tape recorder. Screw terminals permit connecting the main and remote speaker systems. There's also one unswitched and one switched AC convenience outlet, the set's fuse holder, power cord,
and a system grounding screw. The amplifier is protected, in addition to the fuse, by special current-reducing circuits. Although the speaker selector chooses only one pair of speakers at a time, you can drive both main and remote speakers at once by connecting a jumper-wire between the hot lugs of each channel on the rear panel; the selector switch then serves only to choose or silence both pairs. You also can make an internal wiring change to run the SCA-80 on power lines that supply 100, 220, or 240 volts AC.

Aside from its normal use in powering and controlling a first-rate home stereo system, we had some extra fun using the SCA-80 to try Dynaco's multi-speaker hookups which involve the use of that 6-dB blend control to help create a sense of quadrophonic ambience and front-to-rear (in addition to left-to-right) directionality. Four speakers, naturally, provided this effect more dramatically, but we found that adding a third speaker behind the listening area also enhanced the presentation and did lend a new note of realism to familiar stereo recordings.

As with the Stereo 80, we found the most difficult and fascinating chore, when building the amplifier, to be the winding of the huge coils of wire that get wrapped around the enormous coupling capacitors. Since the SCA-80 includes a rather sophisticated preamp-control section, over-all wiring and assembly were more complex and time-consuming than when building the basic amplifier. As we said, we hit no snags but there were a few places where we had to use a little common sense: e.g., in step 4 of the front-panel wiring we decided to put sleeving over the resistor leads just to play safe. Another place we chose to use "spaghetti" was on the resistor nearest to the ground lugs on PC-19 (page 26 of the manual). Total work time was 9¼ hours, of which ½ hour was spent unpacking and sorting the parts. A day well spent, we'd say.

**Dynaco SCA-80 Additional Data**

<table>
<thead>
<tr>
<th>Input characteristics (for 40 watts output)</th>
<th>Sensitivity</th>
<th>S/N ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>phono</td>
<td>2.9 mV</td>
<td>63 dB</td>
</tr>
<tr>
<td>special</td>
<td>2.9 mV</td>
<td>63 dB</td>
</tr>
<tr>
<td>tuner</td>
<td>130 mV</td>
<td>82 dB</td>
</tr>
<tr>
<td>tape</td>
<td>130 mV</td>
<td>82 dB</td>
</tr>
<tr>
<td>spare</td>
<td>130 mV</td>
<td>82 dB</td>
</tr>
</tbody>
</table>
THE LATEST COMPONENT—A "TUNED" ROOM


COMMENT: Altec Lansing’s claim for Chester Ave., Anaheim, Calif. 92803. $799. unit, test record, frequency graph paper, and cables): Dimensions: 183⁄8 by 51⁄4 by 7 inches. Price (including equalizer for insertion in a stereo playback system. Stereo Equalizer, an active thing but flat response for to understand. Since a listening area may offer any- thing who "tuned" our specimen living room had only ters, and recording studios. The unit itself is a direct offspring of the much more expensive and sophisticated commercial "Acousta-Voicette" system developed in 1967 by Altec Lansing to cure the often massive acoustical problems of such environments as churches, auditoriums, music centers, and recording studios. In fact, the able technicians who “tuned” our specimen living room had only the night before performed the same operation on the new National Airlines Terminal at JFK Airport in New York City. The theories involved are not difficult to understand. Since a listening area may offer anything but flat response for all the reproduced frequencies of the musical spectrum, Altec has designed a device that compensates both for the unique problems of an individual room and for the particular manner in which loudspeakers perform in that room. Furniture, drapes, windows, pictures, books, bookshelves, and the walls themselves—to name but a few possibilities—all to some degree collect, absorb, and reflect sound. The end result is erratic response caused by standing waves, holes, peaks, and valleys in the frequency spectrum. These effects not only can degrade the sound of the best reproducing equipment, but they can cause a speaker system to sound different—and often in an unpredictable way—from one room to another or even from one location to another in the same room. These effects also can mask a portion of the music, especially the inner details of heavily textured passages.

The Acousta-Voicette is a two-channel active-filter critical-band equalizer with a frequency response from 20 Hz to 20 kHz (± 1 dB) at less than 0.5 total harmonic distortion. The equalization center frequencies are from 63 Hz to 12.5 kHz at 1⁄3 octave centers. There are forty-eight active filters (twenty-four per channel) Each is designed for a maximum cut of 14 dB. Their “skirts” (the sloping sides of their responses) cross each other at a 7-dB level down, which permits the total filter action to provide a continuous shaping effect for a smooth overall frequency contour characteristic. To recover any signal loss due to the filtering, the 729A also provides some circuit gain. The device, by the way, will work satisfactorily if it is simply patched in between a separate preamp-control unit and a basic amplifier, but the preferred “location” is ahead of a stereo system’s master gain or volume control which—in most home equipment—translates to the tape-monitor facility commonly found on receivers or amplifiers. The reason for this is to avoid any possible increase in the system’s noise level.

Front-panel controls include the forty-eight sliding tuners for all the filters (twenty-four per channel), plus a gain control for each channel, and a three-position “tape/in/out” switch that serves to reinstate the tape-monitor function if it has been pre-empted by the hookup, and also permits an A/B comparison of how the system sounds with and without Acousta-Voicette. When equalizing has been completed, and you are satisfied with the results, a glass cover may be screwed over the front panel to prevent accidental rearrangement of the critically adjusted slide controls. The rear of the unit contains stereo pairs of signal jacks for tape input, tape output, regular input, and regular output—in addition to the line cord and fuse holder.

While in theory you can tune your listening room without professional help, Altec doesn’t recommend it and neither do we. We asked the Altec technicians to tune our room in two ways: first, by using the Altec-supplied test record (which contains material of one minute’s duration for each of the 1⁄3-octave bands as well as wide bands of pink and white noise) plus a $700 Hewlett-Packard sound-level meter, with built-in calibrated microphone; next, by using a signal generator in conjunction with a real-time spectrum analyzer. Because of the high cost of the analyzer (a $9,000 Hewlett-Packard unit that graphically displays the full audio spectrum in 1⁄3 octaves) most dealers probably will use the meter method, which is a good deal slower and, unless very carefully utilized, perhaps a bit less accurate than the analyzer technique. The latter unit possesses the excellent facility of showing instantly the effect on adjacent bands when a single
Setup for real-time spectrum analysis is shown above. White noise from generator is fed to speaker on far side of room, picked up by microphone on tripod, and fed into analyzer at left. Scope shows all 1/3-octave bands simultaneously; buttons choose individual bands for visual emphasis in pinpointing peaks or dips that must be corrected on the Acousta-Voicette.

band is in the process of adjustment. According to A-L, a lower-cost version of the real-time analyzer is being designed now; it is expected to cost under $3,000 and may find fairly wide acceptance among many audio dealer-installers.

Whether a real-time analyzer or a sound-level meter is used, if the test record (rather than the signal generator) is run as the source of signals you should ask the technician to first check the actual frequency response of the playback cartridge, noting its output before the signal enters the Acousta-Voicette. If any serious peaks or dips are discovered (4 or more dB departure from flat response), best results for Acousta-Voicing—and indeed for playback generally—will require replacing the pickup with one that has a demonstrably smoother response. Otherwise, the Acousta-Voicing will of necessity have to compensate for significant peaks (or dips) in the cartridge, and the resultant system compensation may prove to be well off linear response for other program sources, such as a tape deck or FM tuner, you may play through the system. For that matter, and for the same reason, the signal generator must be in top working order and should be calibrated.

Incidentally, there is no standard cost for installing a Model 729A when tuning a room; most dealers have been charging $40 to $50 for this service (above the price of the device itself), but a few have charged as high as $75. The reason for this charge becomes apparent when you consider what is involved if the job is done conscientiously.

The first step is to plot right- and left-channel curves as they exist in the listening room. The “house curve” resulting from this initial plotting gives the necessary clues to where the individual filter adjustments will begin. The technician, starting with the left channel, locates the highest peak in the frequency response. He then plays that band back on the system while adjusting the filter for that frequency and watching the results on the sound meter (or real-time analyzer). The first attempts will smooth only the highest room peaks (no more than three and probably fewer than that). At this point an entirely new complete frequency response curve should be run in order to see the over-all effect of the initial adjustments. This pattern of gradually setting the filters and running and rerunning the frequency-curves is followed until the desired uniformity of response (generally within plus or minus 2 dB across the musical spectrum) is reached. The process is one of painstaking touching-up, of trimming and retrimming, with an eye on the instruments and an ear cocked for any audible signs of “protest” from the loudspeakers (the better they are, the more successful the room-tuning can be). There is, in short, a good deal of craftsmanship—call it art—ininvolved in the work. The use of the real-time analyzer simplifies and speeds the work, but still demands a high level of skill and care on the part of the technician.

Because Acousta-Voicing represents a considerable investment the question comes up: “Is it worth the $800 plus labor?” That question, it seems, is rather
like asking if it is worth paying for first-class accommodations on a twelve-hour flight. Once you've tried it, if you can afford it, you wouldn't go any other way. Similarly, if you have first-class listening equipment, once your room has been tuned, the improvement in sound is absolutely dramatic; you can feel that your original setup is almost poor when you switch the Acousta-Voicette out of the system. A good deal of this effect, of course, depends on how poor the room was to begin with—but even in a good room, Acousta-Voicing makes a difference. With it, for instance, the second movement of Leinsdorf's Mozart Jupiter Symphony displays a delineation of individual instrument timbres in a way all too uncommon even in the concert hall; Bach organ fugues have a new clarity which, in at least one case, resulted in hearing a line of counterpoint previously well hidden; the vocal quintet toward the end of the first act of DGG's Tannhäuser took on the special impact of each of the minstrels speaking separately, yet together, as never before. The balalaikas of the Red Army Band surrounded their splendid choristers just as we remember them doing in Royal Albert Hall. The Mormon Tabernacle Choir sounded as big as it should and yet the Budapest Quartet sounded as small as it should.

Obviously, then, the total listening experience is affected. The key criteria are clarity, balance, true stereo effect (think how much poor stereo effect you've heard), warmth, and—most of all—a feeling of unblemished reality. There's another important factor: with the listening room itself correctly tuned—i.e., its deleterious acoustic effects eliminated from the playback—the true acoustic quality of the program material can emerge and be more clearly perceived. In this regard too, then, Acousta-Voicing enhances the realism of high fidelity reproduction.

We can understand the sales logic of the New York City dealer who is advertising that he will rent Acousta-Voicettes for trial periods at $25 a week. Don't let him fool you! There's every possibility that once you've relistened to favorite recordings (and don't forget that Acousta-Voicing works just as well with your FM tuner) in a properly "tuned" room, you won't let the unit out of your house short of a court order. And maybe not even then.

CIRCLE 141 ON READER-SERVICE CARD

While operating the analyzer with one hand, the operator adjusts Acousta-Voicette with the other. Adjustment took longer than necessary in our case because we kept interrupting with questions (below). Acousta-Voicette, here perched atop preamp for accessibility, was installed permanently in cabinet once tuning process was complete.

COMMENT: E-V's Landmark is something more than just another compact. For one thing, its loudspeakers are multidirectional and their construction permits positioning them for different bounce-and-reflect patterns, depending on the room and your own listening tastes. Moreover, the loudspeakers are controlled by an electrical feedback correction system built into the amplifier. The feedback helps smooth the response generally and supplies low-frequency power "as needed" so that these speakers furnish much stronger and cleaner bass than you might expect from their less-than-one-cubic-foot-each size. E-V also has introduced, in the Landmark, a magnetic pickup which heralds an entirely new line and which—judging from the sound of the model used here—ought to do very well for itself in the several versions that will be offered by E-V for use in other turntables and changers.

These innovations aside, the Landmark's electronic section shapes up as a very competent tuner/amplifier that offers, for its format and cost, surprisingly high performance. FM sensitivity came in at an impressive 1.6 microvolts; the tuner reaches a quieting level of -54 dB for 100 microvolts input signal, and has an ultimate signal-to-noise ratio of 68.5 dB, which is excellent. Mono distortion is very low; it rises somewhat on stereo. Audio response in either mode is linear across the band; stereo channels are about perfectly balanced and amply separated. In our cable-FM test, the set logged a total of 47 stations of which 33 were judged to be suitable for critical listening or off-the-air taping. This score compares favorably with that made by many a separate receiver costing, in proportion, more than the E-V receiver. The tuning dial is accurately calibrated, although the channel markings are closely spaced—you should tune this set carefully and slowly or you may go right past a station. AM performance is about average.

The Landmark's amplifier is very good news indeed, but it is designed to drive the Landmark speakers only (or headphones, but not both together) and is not recommended for any other speakers. Since the Landmark speakers each have a nominal impedance of about 6 ohms, that was the load CBS Labs used for checking amplifier performance. The results, shown on the accompanying graphs, add up to a first-rate 20-watt-per-channel amplifier. Harmonic distortion remained very low across the audio band at full-rated power and half-rated power levels. At the 1/100th power level (200 milliwatts output) THD still ran under 0.45% on the left and under 0.24% on the right channel. IM distortion to beyond rated power output was so low we had to expand the vertical scale of the graph to display it. The set's power bandwidth was amazing; for a very low 0.15 per cent THD, it ran from below 10 Hz to 80 kHz, actually exceeding the 20-watt limit across most of that range. Frequency response was a ruler-flat line from 40 Hz to 20 kHz, and was down only 1.5 dB at 10 Hz and way out at 100 kHz.

In this design, the amplifier is tied to the speaker (on each channel) by what is known as a "motional feedback loop." That is, the motion of the speaker cone sends a signal back to the amplifier; if the signal "tells" the amplifier that the cone is not responding linearly to the program signal, the amplifier compensates accordingly. A plot of the feedback circuit itself (see graph) shows that its maximum effect is in the bass region, which explains how the system's small speakers can project the amount of realistic bass that they do. Moreover, the speakers—thanks to this feedback and also to their ability to disperse the sound in a broad pattern—provide a sense of solidity and "bigness" that thoroughly belies their petite dimensions. In our tests we found the entire range of the speakers to be unusually smooth. The bass begins rolling off gently at about 80 Hz, and some doubling (less than average, by the way) begins at about 50 Hz. No increase in doubling is evident below 50 Hz; the output just diminishes gradually but is still faintly audible to just above 30 Hz. Dispersion through the midrange and highs is excellent, with no sense of beaming at any test frequency. Tones well above 10 kHz are clearly audible from any spot in the listening room. One tiny peak was noted at about 7.5 kHz. Response continues to beyond audibility, with a slope noted at 13.5 kHz.

Each Landmark speaker system, by the way, houses four drivers; three full-range cones and one tweeter, the last unit driven via a built-in high-pass filter that provides frequency crossover at 5 kHz. The several cones are mounted on the nominal front and angled.
sides of the small enclosure so that by shifting its position you can vary the acoustical pattern presented, broaden or narrow the stereo image, compensate for difficult room locations, and so on. There are eight reflective sound patterns available; these are shown and explained in the owner's manual.

The true mettle of the Landmark speakers (and their associated feedback system) becomes quickly evident when listening to music. Try, for instance, the opening of Mehta's Zarathustra (London CS 6609) if you want to hear sounds that "can't come out of a box as small as that." Play the Dies Irae from Bernstein's recording of the Verdi Requiem (Columbia M2 30060) if you need more convincing—although by now you'll probably agree with our office wag who says that the Landmark speakers "are really Patricians that have been shrunken in size by a new process."

Styling of the Landmark is neat and straightforward.
ward. The control panel slants back and its top half is given over to the station tuning dial (AM and FM markings plus a 0 to 100 logging scale, a channel tuning meter, a stereo FM indicator, and the tuning knob. Controls below include five more knobs for bass, treble, channel balance, volume, and signal selector (phono, FM, AM, and auxiliary). There are four pushbuttons for loudness contour, mono/stereo mode, tape monitor, and power on/off. Next to the buttons is a heterophone jack; plugging in a headset automatically mutes the speakers. The tone controls handle both channels simultaneously. The rear of the set contains the inputs for tape playback and any additional auxiliary (high-level signal) source plus a pair of jacks for feeding signals to a tape recorder. Speaker connectors are special sockets that accept the plugs on the cables to the speakers (these are supplied running directly into the speakers and properly terminated at the hookup end). A pair of speaker fuses sits under a plastic cover. For the antenna, a pair of screws accepts FM twin-lead; an additional ground screw, together with the adjacent FM screw, accepts 75-ohm coaxial cable directly. A fourth screw permits connecting a long-wire AM antenna.

The changer fitted atop the receiver is the Garrard Model 3000, a reliable automatic that has been used in many compact systems and is, actually, a slightly modified version of the Garrard AT60 originally tested in HF, November 1965. Briefly, it's a four-speed intermix type that runs smoothly, has very low rumble, negligible wow and flutter, and a well-balanced tone arm. With the E V cartridge supplied we found that it tracked perfectly at 2.5 grams, including the most demanding passages of our loudest records. All told, considering its test measurements, its features, and above all-its sound, we'd say that E V has done a remarkable job of engineering in putting together a superior compact stereo system that truly merits the name of Landmark chosen for it.

CIRCLE 143 ON READER-SERVICE CARD

E-V Landmark 100

<table>
<thead>
<tr>
<th>Tuner Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capture ratio</td>
</tr>
<tr>
<td>S/N ratio</td>
</tr>
<tr>
<td>IM distortion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THD</th>
<th>mono</th>
<th>ch</th>
<th>r ch</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 Hz</td>
<td>0.42%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>400 Hz</td>
<td>0.22%</td>
<td>0.76%</td>
<td>0.93%</td>
</tr>
<tr>
<td>1 kHz</td>
<td>0.23%</td>
<td>0.37%</td>
<td>0.56%</td>
</tr>
<tr>
<td>19-kHz pilot</td>
<td>1.40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38-kHz subcarrier</td>
<td>-53.5 dB</td>
<td>-73 dB</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Amplifier Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input characteristics</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>phono</td>
</tr>
<tr>
<td>aux</td>
</tr>
<tr>
<td>tape in</td>
</tr>
</tbody>
</table>


COMMENT: The Eleven is the second in the new Citation series of high-performing components offered by Harman-Kardon (the Twelve, a stereo power or basic amplifier, was reviewed here in September 1970). A self-powered preamplifier-control unit, it may be used with any separate basic amplifier. Its performance is superb; instead its ultrawideband response and extremely low distortion again call to mind (as they did for the Model Twelve) the phrase "straight wire with gain" that was applied to the first Citation amplifiers in pre-transistor days.

Front panel styling is distinctive, good-looking, and functionally organized into three groups. At the left are the speaker selector and two headphone jacks. To the right of this group are five sliders, known as the "audio equalizers," which replace the conventional treble and bass tone controls. Finally there's the largest group of controls, consisting of four knobs and six pushbuttons. The knobs handle volume, channel balance, mode (stereo, stereo reverse, mono, left only, right only), and function or signal selection (phono 1, phono 2, tuner, aux 1, aux 2, aux 3). The pushbuttons are for: audio equalizer defeat, tape monitor 1, tape monitor 2, high-cut filter, subsonic filter, and power off/on. A red pilot lamp next to the last switch lights up when power is turned on.

The speaker selector is an unexpected convenience. A separate preamp/power amp setup normally requires that speaker switching be accomplished at the output of the basic amplifier; the other end terminates in a five-pin plug that you insert into a special socket on the rear of the Eleven. You then connect your speaker lines to a speaker terminal board on the
Eleven, which accepts two separate stereo speaker systems. You may use the Eleven's front-panel selector to choose either, both, or none of the stereo speaker systems. For headphone listening (two pairs of headphones can be driven at once), you must move the selector to "phones" position which mutes the speakers.

The audio equalizer controls, which handle both channels simultaneously, divide the frequency spectrum into five main bands, with nominal centers at 60 Hz, 320 Hz, 1 kHz, 5 kHz, and 12 kHz. Each provides up to better than 12 dB of boost or cut, and their overlap or crossover points fall about midway above or below the total dB range so that a smooth, continuous shaping effect is possible even when all controls are moved to their extreme positions. This form of tone adjustment, while not as sophisticated as an all-out separate unit "environmental equalizer," is a definite step in that direction and is far superior to conventional treble and bass knob adjustments. Its maximum range is plotted in the accompanying graph; note how it can contour any of five segments of the audio band without affecting the others appreciably. In this way you can compensate for individual program sources, room acoustics, and speaker differences far more effectively than you could with normal tone controls. At a push of the equalizer-defeat button, you can remove all contouring and return the system to perfectly flat response—this "A-B" facility should prove most enlightening to critical listeners. For outright noise, of course, the Eleven provides both high and low-frequency filters which can remove such annoyances as record scratch, tape hiss, and rumble without appreciably affecting the musical range.

Another unusual feature of the Eleven is its two tape monitor facilities. By hooking in two tape recorders—using the various combinations of tape monitor, tape output, and auxiliary jacks at the rear of the Eleven—you can record on both and monitor either; you can dub from one to the other directly; or you can dub from one to the other while adding your own volume, tone, and filter adjustments via the Eleven's controls.

The total jack-complement at the rear includes stereo pairs for signal inputs from two magnetic phono pickups, tuner, three auxiliary sources (of varying signal level), and the two tape monitors. Stereo jacks are also provided for two preamp outputs (you can drive two stereo amplifiers at once, if desired!), and the two tape feed outputs—in addition to the special power amp/speaker socket and speaker terminals mentioned earlier. Four AC convenience outlets (one unswitched), the preamp's fuse-holder, the line cord, and two grounding posts complete the rear picture.

Testing the Citation Eleven was virtually a matter of simply confirming the manufacturer's specifications for the unit. Distortion ran so low, it was just about nonexistent; the tiny values that were measured could be displayed only on an expanded graph. Square-wave response was just about perfect; frequency response—except for its being a mere 0.25 dB down at 100 kHz—was a ruler flat line clear across the graph. The test data, incidentally, was taken at CBS Labs using a load on the preamp of 100 k-ohms/1,000 pF which corresponds to 50 feet of audio cable; this indicates that the Eleven has the ability to deliver its rated performance under very exacting load conditions and marks it as a truly professional instrument.

Using and listening to the Eleven is a music-lover's delight: the unit does nothing to the source material that you don't want it to do. It is one of those superior...
audio devices that functions without seeming to be in
the circuit; it lets you listen through the system back
to the program material. We have no doubt, in fact,
that the performance capabilities of Citation equip-
ment exceed the response capabilities of commercial
program material. Just to nail home this point we
played a stereo tape that had been dubbed from mas-
ter tapes containing a variety of orchestral and vocal
selections which we could now hear several genera-
tions earlier than we normally would in their com-
mercial-release versions. Their superiority was clearly
audible on Citation equipment, once again demonstrat-
ing that “Citation sound” is nothing more or less
than accurate reproduction of musical sound.

CIRCLE 144 ON READER-SERVICE CARD

THE EQUIPMENT: AR-6, a compact full-range speaker
system in enclosure. Dimensions: 19 1/2 by 12 by 7 1/2
inches deep. Price: $81. Manufacturer: Acoustic Re-
search, Inc., 24 Thorndike St., Cambridge, Mass.
02141.

COMMENT: With its newest model, the AR-6, Acoustic
Research enters the “under $100” price class of book-
shelf speakers with a really terrific performer. The
AR-6 has a clean, uncolored, well-balanced response
that delivers some of the most natural musical sound
yet heard from anything in its size/price class, and
which indeed rivals that heard from some speakers
costing significantly more. The speaker does not reach
as far down into the bass as its larger and costlier
contemporaries (such as AR’s own higher-priced
models), but it does provide plenty of heft and foun-
dation for most music at output levels that would
be more than ample for the normal-size room in which
a pair of Sixes would logically be installed.

A two-way system, the AR-6 houses within its neat
walnut cabinet an eight-inch woof and a small dome-
center tweeter. Nominal crossover at 1,500 Hz is han-
dled by an internal network. The system is an acous-
tic-suspension, direct radiator fronted by a neutral-
tinted grille cloth. Connections at the rear are made
via the knurled-nut binding posts familiar on AR speak-
ers (including the option of disconnecting the tweeter
and woofer for special applications). A continuously
variable control permits varying the level of the tweeter.
The system may be positioned horizontally
or vertically and is recommended for use with am-
pifiers capable of delivering 20 watts or more (con-

Output Level (dB) 80 Hz 300 Hz
% 2nd % 3rd % 2nd % 3rd
70 0.8 0.4 1.6 0.4
75 0.8 0.43 1.5 0.4
80 0.6 0.45 1.75 0.45
85 0.9 0.6 1.5 0.35
90 0.95 0.7 1.2 0.3
95 1.4 0.8 1.0 0.4
100 3.0 1.2 1.1 0.4

*Distortion data is taken on all tested speakers until a level of 100 dB
is reached, or distortion exceeds the 10-per-cent level, or the speaker
produces the spurious output known as buzzing, whichever occurs first.

from just below 60 Hz to about 2,300 Hz. The upper
middles and highs roll off gradually and smoothly;
the low end drops off more steeply although tones
as low as 40 Hz are still very much “in the ball park.”
Over-all response, with an output level of 76 dB-SPL
taken as the zero dB reference, can be stated as with-
in plus or minus 6.5 dB from 40 Hz to 15,000 Hz—
which is a good mark for any speaker system and
especially good for one as compact and inexpensive
as this model. Directional effects through the treble
region, as evidenced by the average of 2 dB that
separates the three response curves, are actually
less pronounced than we’ve seen in some costlier
systems. Tests made of the effect of the tweeter level
control show that it can vary the response from com-
pletely minus the tweeter to a steady increase in
tweeter output of about 2 dB across its range. The
design in this particular area is just about perfect: the
maximum tweeter response parallels the normal set-
ing response to the last wiggle, and there is no

ANOTHER GREAT BOOKSHELF

SPEAKER FROM AR
spurious crossover effect such as may often be observed in multiple-driver systems. Harmonic distortion remains very low throughout the system's normal operating range and levels of up to 100-dB output can be reproduced quite cleanly. Pulse tests indicate virtually no ringing; in fact the AR-6 seems better than average in this regard too.

The new speaker "listens" very easily for long periods of time. It sounds smooth but not "reticent" or "remote." For someone seeking compact speakers that can fit readily on a shelf (or be hung on the wall with the mounting hardware supplied by AR) and can reproduce most of the musical range cleanly and accurately, a pair of AR-6s would be an excellent choice.

CIRCLE 147 ON READER-SERVICE CARD


COMMENT: The 770H is the most elaborate and expensive record player yet brought out by Elac. While measurable performance is about the same as it is for the previous top-of-the-line Miracord—the Model 50H reported here in June 1967—the new unit offers several new features, such as a built-in illuminated strobe speed indicator with digital read-out of the 33- and 45-rpm speeds, an associated vernier adjustment, and a built-in elapsed-time stylus-wear indicator. The tone arm is Elac's familiar square-sectioned metal model fitted with an adjustable rear counterweight for initial balance, an accurate stylus-force dial and gauge system, an effective antiskating adjustment, and a very smooth-acting cueing device. The pickup end is correctly offset for minimum lateral tracking angle error and additionally is fitted with a front-screw adjustment which, in conjunction with a small needle-point gauge on the chassis plate, can adjust the position of the pickup for correct stylus overhang. When this adjustment is made, you then can slip a brush (supplied) over the gauge which converts it to a stylus-cleaner. Yet another pickup adjustment is provided for tilting the vertical altitude of the stylus in the groove, with markings for up to eight records. Inasmuch as CBS Labs found that the indicated calibration of this particular adjustment did not optimize the middle record in a given pile with regard to vertical angle, their advice is to use this adjustment to align the bottom of the cartridge to the record surface; this will then permit the cartridge's vertical angle to prevail. The arm itself has a latch that locks the arm securely when the unit is not being used. As on the older Miracord, the latch is color-coded for "go, no-go."

The platform for installing a cartridge slides forward out of the arm head. It is easy to use although, oddly enough, we found that the sleeves soldered to the pickup leads were too narrow to fit over Elac's own cartridge; we thereupon clipped them off and soldered on the sleeves supplied with the Elac cartridge.

In addition to the adjustments mentioned, the turntable has two main operating controls. One, at the lower left of the platter, is the speed selector (33, 45, or 78 rpm). The other is the set of four pushbuttons at the lower right: one each for starting the unit with regard to different diameter records (12, 10, or 7 inches), and one for stop. There are four options for playing the unit. With the single-play spindle inserted the 770H can be used to play a single record either manually or automatically. For manual play you lift the arm; as you bring it over the platter it trips a switch that starts the turntable motor. You then can cue the disc by hand or with the damped cueing lever. To play a single record automatically, you press the appropriate button; the arm will then lift and cue itself. With either method you can stop the turntable by lifting the arm and returning it to its rest, or by pressing the stop button to accomplish the same thing. Or you can just let the record play to the end.

THE NEW DE LUXE MIRACORD
at which time the automatic-stop sequence will be triggered. Another use for the manual spindle is repeat-play: you insert the spindle upside down (point up), start the turntable automatically, and a single record will be replayed continuously until you shut off the unit manually or by pressing the stop button. This spindle, incidentally, turns with the record to eliminate possible enlarging of the record hole.

For automatic change of up to ten records (of the same diameter), you can use the "magic wand" spindle which supports the pile of records on its three small extending arms. During the change cycle these arms retract into the spindle to permit the next record to slide gently into play position. The cycle time takes nine seconds; the record handling goes very smoothly—and silently, thanks to the muting action that takes place. During automatic play you can reject a record any time or turn everything off by pressing the appropriate button.

The stylus-wear timer works somewhat like a thermometer; a small dark spot (energized by a tiny amount of current as the motor turns) moves up the narrow gauge which is marked and color-coded to indicate 500, 1,000, and 1,250 hours of use. Once the marker reaches maximum, it must be removed and returned to the factory for a $1.00 replacement element.

With the vernier speed adjustment set for exact speed at the 33-rpm setting, accuracy at the other two speeds was extremely high—measured as 0.6 per cent slow for 45 rpm, and 0.4 per cent fast for 78 rpm. Of course, a slight adjustment of the vernier control permits on-the-nose accuracy at 45 and 78 rpm too. The 33 and 45 settings can be read directly from the built-in illuminated strobe. While there is no marking for 78, this omission is hardly important inasmuch as the departure from true speed at 78 would be extremely small. The ultracritical user who has a vast 78-rpm collection can, of course, obtain a separate strobe disc and zero in on this speed perfectly too. Thanks to the hysteresis motor, speed remains constant regardless of changes in line voltage from 105 to 127 volts AC. The total range of adjustment provided by the fine speed control, incidentally, is plus or minus 3 per cent which is an ample margin for this type of adjustment.

The platter itself weighed in at CBS Labs at six pounds, twelve ounces, and is a well-balanced, carefully made nonferrous casting. It is covered with a ridged rubber mat and a decorative centerpiece. Total audible rumble by the CBS standard was measured at minus 54 dB, a mark that compares favorably with that scored by other top automatics. Flutter at 33 rpm averaged an insignificant 0.06 per cent; arm resonance showed an 8-dB rise at 6.2 Hz. Arm friction, laterally and vertically, was negligible (less than 10 milligrams). For automatic trip the lowest stylus force required was 0.5 gram. The built-in stylus-force gauge was accurate to the extent shown by the following gauge numbers versus the actual forces measured: 1, 1; 2, 1.9; 3, 2.8; 4, 3.9; 5, 4.8; 6, 5.9. The antiskrating adjustment was found to be correctly calibrated for the various stylus forces: for tracking forces below 2 grams where typical elliptical or small-radius spherical stylus would be used, the antiskrating force is a larger percentage of the tracking force than it is for tracking forces above 2 grams. The cueing device, which operates with absolutely no side drift, is about the best of its kind we've seen.

Elac is, of course, asking a premium price for the 770H; at $225 it is the costliest automatic player now on the market. For the man who wants a smooth-running and versatile automatic with such unique features as digital readout of speed and built-in elapsed-time indicator, it may well be worth it. In terms of basic performance characteristics such as rumble, speed accuracy, and arm refinements the 770H is on a par with the best of the automatics yet tested. It comes supplied with cables, one cartridge-mounting insert, the manual and automatic spindles, and a single-play 45-rpm doughnut adapter. Optional accessories include an automatic 45-rpm spindle (Model SA 383, $6.50); additional cartridge inserts ($15 each); a handsome walnut base (Model WB 700, $15); and a dust cover that is high enough to permit operating the unit with the automatic spindle inserted (Model DCP 4, $14.95).

CIRCLE 148 ON READER-SERVICE CARD

EMPIRE'S $100 PHONO CARTRIDGE


COMMENT: It has been a high fidelity rule of thumb for some years that since transducers—such as pickup cartridges and loudspeakers—are inherently the least linear of audio components, even the best ones tend to differ far more in sonic personality than a sampling of quality amplifiers would, for example. An enthusiast might therefore have favored the sound of a pickup or loudspeaker regardless of how it was measured. To a great extent, this still applies to speakers, but the best recent cartridges—of which the 1000 ZE/X certainly is one—do seem more and more to sound as good as their measurements indicate they ought to.

For instance, the Empire's response curve looks far more like that of an amplifier than it does like that of a speaker. It is flat within a couple of dB over most of the audible range; even at the extremes it deviates by only 3 dB from the 1-kHz response level. The curves shown here, incidentally, were made with a 300-pF input capacitance, shunted by the normal 47,000-ohm resistor. Those who read our report on the Shure V-15 Type II improved will remember that a similar capacitance was required before the cartridge would perform up to its full potential. This capaci-

High Fidelity Magazine
tance normally is supplied in a home system by the leads from cartridge to preamp input and by the preamp circuit configuration itself. (Without the capacitance, the 1000 ZE/X exhibited some 20-kHz resonance and a slight dip in response below that resonance, and consequently fell a bit short of meeting its response specifications.)

Other performance data confirm that the 1000 ZE/X is unequivocally within that small but growing group of the very best cartridges. Compliance, for instance, was better than average; 35 (x 10^-6 cm/dyne) laterally, 25 vertically. The measured output of 4 mV for a 5 cm/sec velocity at 1 kHz is well suited for the magnetic phono input sensitivity of most modern amplifiers or receivers. Distortion figures were excellent. Channel separation came to 25 dB or better over most of the critical mid- and high-frequency range, decreasing normally in the bass and extreme highs.

The stylus tip is listed as an elliptical, 0.2 x 0.7 mils; in the lab it was measured as 0.3 x 0.7 mils. The difference is negligible, and perhaps more apparent than real considering normal manufacturing tolerances and the limitations of the measurement techniques themselves. To track the most demanding test cuts of the CBS test records the cartridge, in the SME arm, required 1 gram of tracking force. In home listening, however, lower tracking forces proved entirely adequate with all but visibly warped records; we finally settled on 0.75 gram using the arm on a Lenco L-75 turntable. Vertical angle measured by CBS Labs was 20 degrees.

One detail that bears special mention is the pickup's stylus guard. If you like to keep several cartridges handy in plug-in shells for interchangeability as the recording or your mood dictates, the guard should prove valuable protection. It swings upward, out of the way, when the cartridge is to be used. How did it sound? Superb. Like other fine cartridges, the 1000 ZE/X shows its quality more by what it doesn't do than by what it does; that is to say, it adds no spurious sounds of its own, and it does seem eminently capable of eliciting all that has been engraved in a record groove.

According to Ampex, the strength of the magnet and its placement have been matched so the field will be strong enough at its nearest position and weak enough at its farthest to equal the performance of professional head-degaussing devices. And of course it operates without wires or batteries. But if you use it, note the directions: do not rewind it after it has run through. If you do, the magnet will be repositioned near the head and re-magnetize it. Save the rewinding until just before the next use.

CASSETTE-POLLUTION FIGHTER


COMMENT: This is one of the cleverest little gadgets we've seen in some time. It looks pretty much like a regular cassette—and indeed to use it you slip it into your recorder and push the "play" button. When it has run through, the recorder has been cleaned and degaussed. That's it.

Instead of magnetic tape, this "cassette" contains a length of cleaning tape, wrapped around a wheel made out of a permanent ceramic magnet. As the tape moves, the wheel turns, subjecting the record/play head to its fluctuating field. And the more the feed hub of the tape is emptied, the farther the spring-loaded magnet retreats from the head.
by Robert Long

The Color of Sound

Aristotle and Newton anticipated today’s “psychedelic” lightmen.

There is a presence in musical history that has stood in dim corners of the imagination, sometimes beckoning, sometimes impasive, but almost always wraithlike: elusive and indistinct, more felt than understood. Long before “pot” and “acid” took on their current vernacular meanings, it spooked composers as diverse as Jean Philippe Rameau and Oliver Messiaen into believing that there must be some relationship between our musical perceptions and our sense of visible color. And more recently it has assumed the proportions of a poltergeist within those halls sacred to the acid-rock ethos.

Are those who feel the presence and do its bidding deluded? Or are there intrinsic bonds between our perceptual faculties that would link the sensibilities, making natural partners of sound and color? Literal minds tend to reject the idea as an unscientific, if possibly charming, belief akin to spiritualism and astrology—though with it they must dismiss one of history’s greatest scientists as a credulous fool. On the other hand mystical minds that seek unity under the heterogeneity of temporal experience will welcome a spirit veiled in a web of cross-relationships—though such an enveloping unity is hard to reconcile with the patently divergent manifestations defined by those who claim to see the vision.

Colors in the Mind

Consider the matter of synesthesia. As usually defined these days, synesthesia is the perception of an effect by one of the five senses when another of the senses is stimulated, particularly the perception of visual effects in response to aural (usually musical) information. An older generation used the word “synaesthesia” as the generic term and called color responses to sound stimuli “chromaesthesia” or “color hearing.”

Even today some physiologists say that synesthesia does not exist as an objective phenomenon, preferring to relegate it to the purview of psychologists (or even parapsychologists). Still, music teachers, doctors, and clinical researchers have been statisti-

The Color of Sound

Aristotle and Newton anticipated today’s “psychedelic” lightmen.

There is a presence in musical history that has stood in dim corners of the imagination, sometimes beckoning, sometimes impasive, but almost always wraithlike: elusive and indistinct, more felt than understood. Long before “pot” and “acid” took on their current vernacular meanings, it spooked composers as diverse as Jean Philippe Rameau and Oliver Messiaen into believing that there must be some relationship between our musical perceptions and our sense of visible color. And more recently it has assumed the proportions of a poltergeist within those halls sacred to the acid-rock ethos.

Are those who feel the presence and do its bidding deluded? Or are there intrinsic bonds between our perceptual faculties that would link the sensibilities, making natural partners of sound and color? Literal minds tend to reject the idea as an unscientific, if possibly charming, belief akin to spiritualism and astrology—though with it they must dismiss one of history’s greatest scientists as a credulous fool. On the other hand mystical minds that seek unity under the heterogeneity of temporal experience will welcome a spirit veiled in a web of cross-relationships—though such an enveloping unity is hard to reconcile with the patently divergent manifestations defined by those who claim to see the vision.

Colors in the Mind

Consider the matter of synesthesia. As usually defined these days, synesthesia is the perception of an effect by one of the five senses when another of the senses is stimulated, particularly the perception of visual effects in response to aural (usually musical) information. An older generation used the word “synaesthesia” as the generic term and called color responses to sound stimuli “chromaesthesia” or “color hearing.”

Even today some physiologists say that synesthesia does not exist as an objective phenomenon, preferring to relegate it to the purview of psychologists (or even parapsychologists). Still, music teachers, doctors, and clinical researchers have been statisti-

The Color of Sound

Aristotle and Newton anticipated today’s “psychedelic” lightmen.

There is a presence in musical history that has stood in dim corners of the imagination, sometimes beckoning, sometimes impasive, but almost always wraithlike: elusive and indistinct, more felt than understood. Long before “pot” and “acid” took on their current vernacular meanings, it spooked composers as diverse as Jean Philippe Rameau and Oliver Messiaen into believing that there must be some relationship between our musical perceptions and our sense of visible color. And more recently it has assumed the proportions of a poltergeist within those halls sacred to the acid-rock ethos.

Are those who feel the presence and do its bidding deluded? Or are there intrinsic bonds between our perceptual faculties that would link the sensibilities, making natural partners of sound and color? Literal minds tend to reject the idea as an unscientific, if possibly charming, belief akin to spiritualism and astrology—though with it they must dismiss one of history’s greatest scientists as a credulous fool. On the other hand mystical minds that seek unity under the heterogeneity of temporal experience will welcome a spirit veiled in a web of cross-relationships—though such an enveloping unity is hard to reconcile with the patently divergent manifestations defined by those who claim to see the vision.

Colors in the Mind

Consider the matter of synesthesia. As usually defined these days, synesthesia is the perception of an effect by one of the five senses when another of the senses is stimulated, particularly the perception of visual effects in response to aural (usually musical) information. An older generation used the word “synaesthesia” as the generic term and called color responses to sound stimuli “chromaesthesia” or “color hearing.”

Even today some physiologists say that synesthesia does not exist as an objective phenomenon, preferring to relegate it to the purview of psychologists (or even parapsychologists). Still, music teachers, doctors, and clinical researchers have been statisti-
stopped a great many people from trying. Aristotle drew the basic parallel (in *De Sensu et sensilibi*) between musical chords and harmonious combinations of colors. But most authors who have followed his lead have lapsed into relative oblivion. Only the concept—the presence—persists.

Spectral Music

The concept persists above all in the idea that sound and light can be made to work together, assaulting the senses and touching the emotions in a way that either cannot alone. In its most extreme form it postulates that colored light can even form an exact analog of music and produce the same emotional response. Ignoring some earlier theorizers (like the sixteenth-century painter Archimboldo), the ground-work of the practical approach to music-plus-color was laid by Sir Isaac Newton, whose claims as praeclarus genius are recognized in several disciplines of modern science. Among these of course is color theory itself. Newton was the first to conceive that if a prism could split white light into a rainbow, then all the colors of the rainbow must be contained within the white light.

He also appears to be the first to assign color values to notes of the musical scale. The prime frequency relationship in musical harmonics is the 1:2 ratio of the octave, representing the difference between the fundamental tone (first harmonic) and the first overtone (second harmonic). The frequencies of light within the compass of the visible spectrum reflect this relationship since the highest (extreme violet) is very nearly twice the frequency of the lowest (extreme red). Hence the concept that ruled color-sound theory for two centuries from Newton's promulgation of it about 1700 right up to Rimington's work at the turn of the present century: that the spectrum could be fitted into the notes of the octave and repeated octave by octave over the range required for the music, and that the result—properly accomplished—would embody some sort of objective relationship between the music and the colors representing it.

The first practical instrument to make use of Newton's theory appears to have been that of Father Louis Bertrand Castel, a Jesuit priest, mathematician, and philosopher who was born in Montpellier in 1688. In 1720 he published *Musique en Couleurs*, which appears to have been no more than a theoretical treatise of the subject. In 1725 he announced in the *Mercure* a project to build a color organ, the *clavessin oculaire* as he called it most frequently. A pilot model capable of playing only one note at a time and having a range of but a single octave was completed on December 21, 1734, and its operating principles were made public the following year.

A rambling description of the *clavessin oculaire* was published posthumously in *Esprits, Sillies et Singularités du Père Castel* (1763)—what we might call today *The Wit and Wisdom of Father Castel*—but here we enter somewhat difficult ground. The Reverend Father, in his expansiveness, is not altogether consistent in his description of the design. At times he writes of it as an instrument containing both the strings for making audible music and the mechanism for coloring the light of candle flames. Alternately he seems to be talking only of a color organ. And it is difficult at times to tell whether he is describing the single-octave model he produced or the full-keyboard (or perhaps even dual-manual) instrument he envisioned.

Be that as it may, the basic mechanism consisted of a cylinder surrounding the candle and enclosed in a slotted box. Ports in the cylinder were to be covered with tinted paper that cast an appropriately colored light through the slits when the cylinder revolved in response to keyboard action, lining up a port with a slit. Presumably whole ranks of these rudimentary color projectors would have to be built for the full-scale *clavessin*. Indeed, Castel expounds on the loveliness of seeing a *rigaudon* projected onto the tapestries while hearing the lilt of the music. A single candle glimmering through a paper-covered slit could hardly be expected to make much effect when used this way.

Although some writers have said that Castel built the organ he described, this appears not to be the case. Castel himself implies that such a task should be left to the mandolin makers rather than undertaken by a philosopher with higher matters on his mind. Nonetheless, his anonymous editor asserts that the inventor labored in vain during his remaining years to accomplish the feat. The *Musical Times* in 1815 makes reference to the public display of Castel's color organ but the instrument probably was either the pilot model or a subsequent realization by other hands of Castel's scheme. Diderot described the *clavessin* in the *Grand Encyclopédie* of 1753, and one English commentator on Castel's design is said to have built and exhibited an instrument with Newtonian modifications. Color organs along those lines were built in France during the nineteenth century and later used for public entertainment at the Expositions Universelles.

Before leaving the subject of Castel altogether, mention must be made of his editor's comments on the *clavessin*. In a passage both prophetic and unusually succinct as a summation of the subject he says:

Is this thing basically possible? And from the demonstration that there are between colors proportions analogous to those of sounds does it follow that the color organ can affect the eye as the musical instrument affects the hearing, though the soul experiences from these two a sensation that is hardly equal? We doubt not that one might likewise demonstrate that odors
and flavors are susceptible to a combination and comparison similar to that of musical tones; must we therefore admit the possibility of a keyboard instrument for the sense of taste and another for the sense of smell?

Castel's work appears to have aroused the interest of Rameau, Grétry, and perhaps Rousseau (who was a composer as well as a philosopher, of course) though there seems to be little evidence to suggest that any might have had first-hand familiarity with his clavecin itself. Newton continued to arouse interest too; his color theories prompted Goethe to castel himself. Newton continued to arouse interest though there seems to be little evidence to suggest that any might have had first-hand familiarity with his clavecin itself. Newton continued to arouse interest too; his color theories prompted Goethe to consider the Farbenlehre of 1810, considered by Goethe himself as his most important work. It is, however, only marginally concerned with color-sound correspondences.

From the Napoleonic era to the Second World War there appeared innumerable books and articles dealing with some aspect of the subject, from synesthesia through various schemes for audio-visual devices, to treatises on the possibilities of painting with light—often claiming it to be the new art form. But few had showed much staying power. The color scales of Guert Gunsevoort Finn and Edward Marvon (shown in the first table) are derived from relatively obscure sources. But a book by A. B. Klein, published in the Thirties under various titles but usually referred to as Colour-Music, has become something of a standard text. Among its most provocative statements is one quoted from a 1900 manuscript written by E. G. Lind, a Baltimore architect:

and fluors are susceptible to a combination and comparison similar to that of musical tones; must we therefore admit the possibility of a keyboard instrument for the sense of taste and another for the sense of smell?

Castel's work appears to have aroused the interest of Rameau, Grétry, and perhaps Rousseau (who was a composer as well as a philosopher, of course) though there seems to be little evidence to suggest that any might have had first-hand familiarity with his clavecin itself. Newton continued to arouse interest too; his color theories prompted Goethe to consider the Farbenlehre of 1810, considered by Goethe himself as his most important work. It is, however, only marginally concerned with color-sound correspondences.

From the Napoleonic era to the Second World War there appeared innumerable books and articles dealing with some aspect of the subject, from synesthesia through various schemes for audio-visual devices, to treatises on the possibilities of painting with light—often claiming it to be the new art form. But few had showed much staying power. The color scales of Guert Gunsevoort Finn and Edward Marvon (shown in the first table) are derived from relatively obscure sources. But a book by A. B. Klein, published in the Thirties under various titles but usually referred to as Colour-Music, has become something of a standard text. Among its most provocative statements is one quoted from a 1900 manuscript written by E. G. Lind, a Baltimore architect:

REPRESENTATIVE COLOR SCALES

<table>
<thead>
<tr>
<th>Note</th>
<th>Newton</th>
<th>Castel</th>
<th>Finn*</th>
<th>Lind</th>
<th>Maryon</th>
</tr>
</thead>
<tbody>
<tr>
<td>1700</td>
<td>red</td>
<td>blue</td>
<td>red</td>
<td>259 Hz, red (476)</td>
<td>red</td>
</tr>
<tr>
<td>C#</td>
<td>sea green, blue-green</td>
<td>vermilion</td>
<td>289 Hz, orange (511)</td>
<td>red-orange</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>green, bright green</td>
<td>orange</td>
<td>yellow</td>
<td>orange</td>
<td></td>
</tr>
<tr>
<td>D#</td>
<td>olive, yellow-green</td>
<td>yellow</td>
<td>yellow-green</td>
<td>orange-yellow</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>yellow</td>
<td>apricot, yellow-orange, aurora</td>
<td>green</td>
<td>322 Hz, yellow (546)</td>
<td>yellow</td>
</tr>
<tr>
<td>F</td>
<td>blue-green</td>
<td>purple</td>
<td>342 Hz, green (588)</td>
<td>yellow-green</td>
<td></td>
</tr>
<tr>
<td>F#</td>
<td>orange</td>
<td>blue-green</td>
<td>385 Hz, blue (630)</td>
<td>green</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>red</td>
<td>turquoise blue</td>
<td>he</td>
<td>blue-green</td>
<td></td>
</tr>
<tr>
<td>G#</td>
<td>crimson</td>
<td>indigo</td>
<td>427 Hz, indigo (665)</td>
<td>blue</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>violet</td>
<td>violet</td>
<td>485 Hz, violet (721)</td>
<td>blue-violet</td>
<td></td>
</tr>
<tr>
<td>A#</td>
<td>aigue, blue-violet,</td>
<td>purple</td>
<td>violet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>indigo</td>
<td>violet</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is interesting to note that only in the scale of Father Castel does the frequency of the light decrease as the frequency of the sound increases. The multiple color listings in his column may reflect slight alternations apparently made by Castel between publication of his basic theory and the detailing of practical principles for the organ scheme itself. (Others may be caused by equivocation over such words as "relation," which Castel assigns to C sharp.) Among the other scales—all of which appear to be based on Newton—the small discrepancies in color values may be accounted for to some extent on the basis of the improvement of color terminology. (hence Lind's numerical specification of colors as explained in the footnotes). More important, however, are two somewhat antagonistic principles that influenced attempts to derive a color scale: the spacing of tone assignments across the visible spectrum should be even as possible, without significant gaps and avoiding colors so closely contiguous that visual differentiation would be difficult; and the well-recognized "primary" colors should be fitted as much as possible to the whole-tone scale, with the in-between colors falling on the sharps and flats. Endless minor adjustments are possible in trying to attain these two ends simultaneously. The word "primary" is used in quotes here because of conflicting ideas about just what the primaries are. Theoricians with experience as painters often took them to be red, yellow, and blue. Newton's primaries were contradicted by Goethe, who was criticized by Helmholtz for confusing additive with subtractive primaries. The well-recognized complementary tris of red, green, and blue for additive (light) colors and magenta, yellow, and cyan for subtractive (paint and ink) colors have established themselves only in the twentieth century.

*Lind presumably derived the full chromatic musical scale, though Klein, from whom this listing is reproduced, does not give the half tones. The first figure represents the pitch of the original tone; the second (in parentheses) the frequency characteristic of the light color. (For instance, the 546 listed for yellow would indicate a center frequency of 54.6 billion Hz for the band-pass characteristics of the yellow filter.) While all the light frequencies are specified in numbers that are evenly divisible by seven and Klein comments that the sound frequency given for G appears to have been altered from 388 to make it divisible by seven "for mystical reasons," the frequencies for D, F, and B are not. They could easily have been made uneven, allowing for the half steps between E and F, and B and C.

Notes:

- Lind presumably derived the full chromatic musical scale, though Klein, from whom this listing is reproduced, does not give the half tones. The first figure represents the pitch of the original tone; the second (in parentheses) the frequency characteristic of the light color. (For instance, the 546 listed for yellow would indicate a center frequency of 54.6 billion Hz for the band-pass characteristics of the yellow filter.) While all the light frequencies are specified in numbers that are evenly divisible by seven and Klein comments that the sound frequency given for G appears to have been altered from 388 to make it divisible by seven "for mystical reasons," the frequencies for D, F, and B are not. They could easily have been made uneven, allowing for the half steps between E and F, and B and C.
worsted placed in a vessel convenient to re-
ceive the rays, sound will be emitted, louder or
fainter according to the color of the rays di-
rected upon them, the green ray upon the red
worsted, or the red upon the green worsted, giv-
ing the most powerful sounds, thus demonstra-
ting that colored sounds are not so speculative
after all.

The most interesting of the remaining major works
on the subject unquestionably are those by public
practitioners of the art. A. Wallace Rimington, pro-
fessor of fine arts at Queens College, London was
such a one. His color organ, completed in 1893,
was built along Newton/Castel lines in that colors
were the same from octave to octave, the difference
in each octave being one of brightness, with darker
colors in the lower range and brighter colors above.
He did not conceive of an objective music-light re-
lation ship however; that is, he considered the assign-
ment of a particular color to a particular note to be
arbitrary and, apparently unlike Castel, did not ex-
pect that a musical composition played on the color
organ would produce a visual effect comparable to
the aural effect of the music.

The earliest public concert on record using his
instrument was one (possibly a series) he played
with an orchestra in St. James Hall in 1895. According
to Klein, the audience found that music and light
enhanced each other. But most subsequent perform-
ances took place in Rimington's studio before an
invited audience. The cause of this inertia, perhaps,
was that his equipment was extremely bulky, using
an organ console and a series of fourteen arc lamps
that required a power source capable of delivering
150 amperes. The lamps projected through filters
onto a fabric hanging that Rimington would arrange
in careful folds to catch the colors precisely as he
wanted.

Prometheus

By the time that Rimington's book appeared in 1911,
Alexander Scriabin appears already to have heard
of his color organ; Scriabin's Prometheus: A Poem of
Fire—still the only work of a major composer speci-
fying a part for color organ in the score—was con-
ceived with Rimington's instrument in mind, though
composition was completed by 1910.

Scriabin's sense of the relationships between color
and sound was far more complex than any we have
mentioned so far. In the first place he was a mystic,
who perceived abstruse influences where others
might be aware only of naked facts. Between the
completion of Prometheus and his death on April
27, 1915, he grew increasingly concerned with total
involvement of the audience's faculties, trying to
create musical, visual, and even olfactory imagery
that would convey his vision.

Furthermore, he made strong connections between
keys (as well as individual notes) and colors, as have
a number of other composers. In the comparison be-
tween his correspondences and those of Rimsky-
Korsakov, shown in the second table, it is interesting
to note the many similarities—as well as the con-
trary view they take of both A major and F major.
Beethoven is credited with having described one key
as black. Arthur Bliss—whose Colour Symphony has
four movements, each devoted to a different color
and its associations—always experienced color sen-
sations while composing (though the dissonance of
the Colour Symphony makes any key-color relation-
ships problematical). Like Bliss and Scriabin, Mes-
sieu has expressed elaborate sensory and mystical
correspondences. Conductor Serge Koussevitzky, a
sometime friend of Scriabin's, once told British musi-
cologist Percy Scholes, "Surely for everybody sunlight
is C major and cold colors are minors. And F sharp

### MUSICAL KEYS AND COLOR

<table>
<thead>
<tr>
<th>Key</th>
<th>Rimsky-Korsakov</th>
<th>Scriabin</th>
</tr>
</thead>
<tbody>
<tr>
<td>C major</td>
<td>white</td>
<td>red</td>
</tr>
<tr>
<td>G major</td>
<td>brownish-gold, bright</td>
<td>orange-rose</td>
</tr>
<tr>
<td>D major</td>
<td>yellow, sunny</td>
<td>yellow, brilliant</td>
</tr>
<tr>
<td>A major</td>
<td>rosy, clear</td>
<td>green</td>
</tr>
<tr>
<td>E major</td>
<td>blue, sapphire, sparkling</td>
<td>bluish-white</td>
</tr>
<tr>
<td>B major</td>
<td>somber, dark blue shot with steel</td>
<td>bright blue</td>
</tr>
<tr>
<td>F sharp major</td>
<td>greyish-green</td>
<td>violet</td>
</tr>
<tr>
<td>D flat major</td>
<td>dusky, warm</td>
<td>purple-violet</td>
</tr>
<tr>
<td>A flat major</td>
<td>greyish-violet</td>
<td>steel color with metallic luster</td>
</tr>
<tr>
<td>E flat major</td>
<td>dark, gloomy, bluish-grey</td>
<td>red</td>
</tr>
<tr>
<td>B flat major</td>
<td>green</td>
<td></td>
</tr>
<tr>
<td>F major</td>
<td>green</td>
<td></td>
</tr>
</tbody>
</table>
is decidedly strawberry red." Hardly a confirmation of Scriabin's view.

The importance of Prometheus to the present subject is that it marks the high point—or perhaps the last great manifestation—of the concept that there are precise and fairly objective correlations possible between music and color. Although he moved toward a more flexible view in the last years of his life, Scriabin has left an elaborate account of the effects he wanted from the color organ. The score itself has the organ part written out in standard notation. It may be some index of the capabilities of Rimington's organ that there are nowhere more than two notes indicated at any one time and that many of the notes are sustained for bars at a time, even though the orchestral material is moving much more rapidly.

Specific colors were assumed for each note of the color-organ part (C is red, D is yellow, and so on, analogous to Scriabin's own key-color correspondences). Though there is some disagreement on the point today, this arrangement was followed in the first full performance of the work, played by the Russian Symphony Society under Modest Altschuler in Carnegie Hall on May 20, 1915—less than a month after Scriabin's death. Sir Henry Wood had conducted the work in 1914, but without a color organ; a performance with Rimington and his instrument was planned for 1915, but World War I caused its cancellation. Rimington's name is linked to a performance of the work in 1916, and there have been several in the Soviet Union more recently (the Harvard Dictionary of Music to the contrary notwithstanding). But the most significant—and mysterious—surely was Altschuler's.

He and the Russian Symphony had collaborated with Scriabin during the composer's U.S. tour as a pianist in 1906 and 1907, though the two drifted apart in the intervening years and, according to Faubion Bowers (Scriabin's most recent biographer), there is no hint in the correspondence that Scriabin was consulted during preparations for the 1915 concert. Since Scriabin never returned to the U.S. after 1907 (two years before he began writing Prometheus), it is difficult to understand the persistent story that he worked with the Chicago Edison Company in developing a transportable color organ that was used in Carnegie Hall. Scriabin was in Chicago during his tour and did conceive some ideas for the work while he was there; but the instrument used by Altschuler was designed by Preston S. Miller and built by the Electrical Testing Laboratories in New York, using lamps made by General Electric for the purpose.

The organ had a short keyboard the keys of which were fitted with contacts in a low-voltage DC circuit. When a key was pressed, closing its contacts, the DC triggered a relay that in turn closed the 110-volt AC circuit to one of the projector lamps, whose
MUSIC MADE VISIBLE

Two passages from first act prelude to Wagner's Lohengrin are seen in score on facing page and displayed on Eico 2450 "color organ" above. High, quiet opening bar (to the left on both pages) is played only by violins and upper winds and delivers barely enough signal to trigger upper frequency bands (yellow and green lights), none in lower bands (blue and red lights). Full orchestra climax some fifty bars later drives all four circuits to full brightness levels.

Color organ devised for 1915 performance of Scriabin's Prometheus: A Poem of Fire is shown (in contemporary illustration) on facing page and described in detail in the text. Entire upper section of projector revolved; colors were determined by notes played on keyboard at right.

At left on this page are two of Walt Disney's visualizations of orchestral sounds, taken from frames of his Fantasia. Upper frame represents sound of harp arpeggio, lower one that of bassoon in its deepest register.
Clark Kent.

The JBL 4310 is especially designed for mastering, control room installations, mix-down facilities, portable playback systems. It's full of good things like:

- Wide range response. Full 90° dispersion for vertical or horizontal placement. Power handling capability, 50 watts program material. Front panel controls for separate adjustment of presence and brilliance.
- 12-inch long-excursion low frequency loudspeaker, massive mid-frequency direct radiator, separate ultra-high frequency transducer.

Only available through Professional Audio Contractors.

Beneath this mild mannered charcoal gray exterior, is the finest compact studio monitor money can buy. It should be. The JBL 4310 was developed with the enthusiastic assistance of leading recording engineers. (And they're the only ones who can buy it.)

Now, guess what else the professionals have been doing with the 4310's for the last two years. You're right. They've been taking them home, using them as bookshelf speakers. That's why we decided to get even.
It's the new JBL Century L100. It would be the finest professional compact studio monitor money could buy except it's not sold to studios. (If that sounds like the JBL 4310, there's a reason. They're twins.)

JBL started with a definition of sound. It's the sound the artist creates, the sound the microphone hears, the sound the recording engineer captures.

Then they added oiled walnut and a new dimensional grille that's more acoustically transparent than cloth but has a texture, a shape and colors like Ultra Blue or Russet Brown or Burnt Orange.

Oh, yes. The JBL Century L100 is the only speaker you can buy with individual controls under the grille so that you can match the sound to the room—just the right presence, just the right brilliance.

And then they checked the rule book. There's absolutely no law against professional sound looking beautiful.
THE REALITY OF MARANTZ

You feel you could light your pipe when you hear the scratch of a match through a Marantz stereo system. The sound is that real.

Marantz makes the most expensive stereo equipment in the world. Our Model 19 FM receiver costs $1000. But money isn't the point. Our $219 Marantz stereo receiver gives you the same exciting immediacy of sound.

That's because Marantz built its reputation on building the best line of stereo equipment on earth. It's so perfectly put together that when you listen to a Marantz system, it's as if there is nothing between you and the New York Philharmonic, you and the Blood, Sweat & Tears, you and the Obernkirchen Children's Choir. You're there. Really there. And isn't that what stereo hi-fidelity is all about?

Visit your Marantz dealer. Get into reality with the most expensive stereo equipment in the world. From $219. Marantz. Damn well worth it at any price.

marantz
We sound better.
filaments were specially formed for this use. Each lamp was fitted with a filter—the C projector had one of ruby glass, the others of colored gelatin enclosed in clear glass—and threw its tinted light onto a gauze screen of varying textures. The entire projector assembly was made to rotate back and forth through 180 degrees, moving the patches of colored light back and forth on the screen to take advantage of the textures.

Some doubt has been expressed about the operation of the projector. One story has it that the projector sputtered and broke down early in the performance, and *Prometheus* was completed without benefit of visual effects. It has even been suggested that the projector was found unsuitable before the concert and never used publicly. But neither account appears to be accurate. Esther Mipaas, whose recently prepared manuscript for a book dealing with the entire field of color organs has not yet been published, says that contemporary evidence confirms the use—if not the unqualified success—of the color organ in the 1915 concert.

Its color effects may have been somewhat vague by comparison to the more controlled light from the Rimbington equipment. On the basis of critical reviews, Bowers has described the color organ as a failure; but he adds, "When it comes to color and light everyone expects to be knocked off their seats and that doesn't often happen. Besides any realization of an idea must fall short of expectations." Considering the cosmic prose in which Scriabin had described the effects he wanted ("tongues of flame," "fountains of fire," "lightning bursts"), it is indeed hard to see how a performance of *Prometheus* could match the ideal.

New Horizons

After the First World War, experimentation began afresh—but with a difference. New technology was fast opening up a vast array of techniques impossible before the war, and those who used them almost invariably abandoned the attempt to construct a literal translation of music in the new visual vocabulary. In concert work, two figures dominated the postwar period: Mary Hallock Greenwalt and Thomas Wilfred.

Mrs. Greenwalt was a concert pianist who demonstrated her first color organ at a recital in Philadelphia's Egyptian Hall in 1912 and was active well into the Thirties. Her book on the subject, *Nourathar*, published in 1947, reveals her as extremely mystical and somewhat embittered in her struggle for recognition. Edith J. R. Isaacs, reviewing the book in the *New York Times*, divides the objects of her complaints into four categories: untalented or imitative competitors, the Electrical Stage Worker's Union, sycophantic patent attorneys who sacrifice an individual's rights in favor of big business, and greedy big business itself. As for the mysticism, the following passage from *Nourathar* speaks for itself:

Even the play of expression on a face cannot pretend to reach the fields that *Nourathar* [defined as the art of light-color-painting] may and does exploit. In it we grasp the centre of centres. To explore such innermosts within the being's face, his flesh; there where these hitch-on-to-kernels of the Universe, through the light that helped make him—this is the purpose of this work and its writing about here.

Thomas Wilfred may have been one of the imitators that Mrs. Greenwalt had in mind, though from contemporary accounts his color-organ concerts must have been extremely effective. He was born Richard Edgar Nöström in Denmark in 1889 and died only three years ago in Nyack, New York. He too was trained as a professional musician and came to this country immediately after the war as a lutenist and singer.

His first concert on the Clavilux—the name he gave to several color-organ designs of varying complexity—was in January 1922 at the Neighborhood Playhouse in New York. In the years that followed he toured as a concert performer on the Clavilux. During these concerts and in his later regular performances at New York's Grand Central Palace it was the light show, featuring his own compositions for the instrument, that was pre-eminent, though he sometimes combined light with music—as did Mrs. Greenwalt.

It must be understood that neither her instrument nor the Clavilux was an organ in the sense of having a conventional keyboard. The banks of controls on the largest Clavilux contained an admixture of dimmers and mechanical devices. The instrument could project a wide variety of abstract shapes, causing them to move and alter their forms at the performer's bidding. Some forms were the result of specially

Mystic at the keyboard: Mary Hallock Greenwalt, a pianist and leading color organist of the Twenties, sought to express the infinite through her art.
Practical practitioner: Thomas Wilfred, also a musician concerned himself with stage lighting and pictorial effects, as well as with abstract color.

shaped filaments in lamps that Wilfred had ordered built to his specification. Specific lantern-slide images could be projected and altered as well. Over-all colors could be laid in as a background and modulated in various ways. The imagery—both abstract and concrete—and the rhythms and interplay with which they were handled produced in many viewers an emotional reaction as satisfying as that experienced from aural music, and enthusiastic applause followed many compositions.

Wilfred apparently made only one sally into the big-time musical concert field. In 1926 he appeared at Carnegie Hall with Leopold Stokowski and the Philadelphia Orchestra, in a performance of Rimsky-Korsakov's Scheherazade. Reactions to that concert were mixed. While individual effects appear to have been extremely effective, many in the audience found the color projections to some extent an intrusion into the prescribed concert-hall experience.

Stokowski's other major foray into the area where color and music overlap was of course Fantasia. Many other films could be cited as well, some dating from much earlier. Artists as eminent as Fernand Léger and Man Ray worked in the medium, combining music with moving images. So did Len Lye in this country and Norman McLaren at the Canadian National Film Board. And in 1965 a color film of Scriabin's Prometheus was made in the U.S.S.R.

The great bulk of performances in the first category are associated with rock music and are often dismissed as "psychedelic lighting effects." Considering the ingenuity, the flair, and the devotion that is lavished on the medium by such light artists as Thomas Shoesmith, Rudi Stern, Jackie Cassen, and a number of others, relegation of their work to the category of ephemeral frills is grossly unfair. Shoesmith, for example, describes his use of color projections as a response to the music, its performance, and the audience. He seeks to complement the music, rather than mimic it; and the emotional reactions that control his hand at the projection equipment are influenced not only by basic musical content but by the way the individual performance is going. Like a Broadway actor, his sense of audience reaction helps to determine the precise way he articulates his basic material. And like a jazz musician, he chooses repetitive patterns when the musical action is most interesting, saving his most telling effects for music that is relatively static.

While he is associated with the Joshua Light Show and Fillmore East, he was (with Bill Schwarzbach) the light artist of Hilde Somer's mixed-media Scriabin piano recital in New York's Alice Tully Hall on December 17, 1969, and of a more recent concert in Miami, Florida. Scriabin again! Although he was born a Capricorn, his music is making a big bid for a comeback in the age of Aquarius—largely because of his interest in color and in the involvement of the total consciousness. Prometheus has received four major performances recently in this country: one in Rochester using light effects designed by Alex Yshkoss with technical assistance from the Eastman Kodak Company; one with the New York Philharmonic under Ozawa and lighting by Peter Wexler; a third by the Yale Symphony Orchestra in New Haven with lighting, perfumes, smoke effects, and even special silver tunics to be worn by the audience, all provided by the Yale Environmental Design Program and Richard Gould; and finally a pair of performances at the Edwardsville campus of Southern Illinois University with the St. Louis Symphony Orchestra under Walter Susskind and lighting by the Electric Rainbow. The effect of the New Haven performance was described (once again by Faubion Bowers, writing in the Village Voice) this way:

People jumped to their feet, cheering, clamoring, whistling, stomping. . . . It was a massive mixture of high art, high spirits, high-mindedness, and a high time for everyone. This was what the music is all about—the opening of the senses to enjoyment. As Scriabin would phrase it, "To the new . . . ever the new."

The second class of contemporary music-and-light phenomena is huge, diverse, and—since it overlaps both creative light shows and automatic devices for generating color effects directly from music—exceedingly vague in its outlines. The mechanically

Color and Music Today

By now the field has been split into three main areas of endeavor: unique lighting performances that aim at the greatest expressiveness, usually in conjunction with music; relatively "canned" or mechanized audio-visual displays of one sort or another; and lighting effects and devices totally (and electronically) controlled by music.
produced audio-visual presentations that are a feature of everything from "Expos" to white sales these days are not particularly new, however. The color organs used at the French Expositions Universelles have been mentioned already; P. T. Barnum owned a similar unit built by Bainbridge Bishop of Essex County, New York and appears to have used it both in his Bridgeport home and in the circus. Such undertakings sired an endless race of "dancing waters" displays tinctured with colored lights and brass band or amplified orchestra at just about every world's fair within memory. During the Twenties and Thirties, color organs of sorts entertained along with the Wurlitzer between features at movie palaces, and spawned cretin offspring in the gaudy juke boxes of the Forties and Fifties. The examples—and the variations—are endless.

Much more interesting are the many devices in the third class—usually, and inexcusably, called color organs—that seek to derive color displays directly from music. Mrs. Greenwalt invented "a device for playing color in connection with talking-machine records" (Fenn Germer, an associate of Wilfred's, writing in Musical America in 1926). Since the device is differentiated from her color organ, it might perhaps be the prototype of the automatic-color instruments used today. But how it managed to do so in the days before modern circuitry—indeed, on the eve of electrical recording itself—is hard to imagine.

The current boom began with the Los Angeles high fidelity shows of the early Sixties, at which a "color organ" was used as a promotional display. That device, which was the direct antecedent of most of the equipment of its type available for purchase today, looked like an audio amplifier. And essentially it was a three-channel amplifier fed by a three-way crossover network. The network divided the audio fed to it into the usual three bands (bass, midrange, and treble). The amplifier section for each band drove lights of one color or another, the intensity of a particular color depending on the loudness of the music in the corresponding frequency band.

The only major changes that have overtaken this type of equipment recently are the shift from standard lighting fixtures to light-display boxes looking a little like loudspeaker systems with some sort of diffusing or diffracting translucent cover instead of a grille cloth, and the introduction of gating circuits that cause a sharp on/off action to the lights instead of the fading and brightening of the earliest model. A classic example of this gating technique was its use by the Canadian National Film Board in the Labyrinth pavilion at Expo '67. An unusually wide variety of equipment for generating color effects is available from Edmund Scientific Corporation. Among those companies selling consumer color organs in the narrower sense are Eico, Bowman Leisure Industries Corporation, The Psychedelic Shak, APM Enterprises, Benjamin Electronic Sound, Allied Radio Shack, Castle Lighting, Curtis-Electro Lighting, Olson Radio, Creative Leisure, ATC Electronics, Wald Sound, CesCo Research, and several others.

What colors represent which frequency bands? That's a matter that each manufacturer works out for himself. As if to sum up the situation, a representative of one of these manufacturers once pointed to a four-band unit flashing red at high frequencies, yellow in the mid-highs, green in the mid-bass, and blue in the lowest register and said that though he has the same unit at home, he has reversed the order of the bulbs. "Deep bass is warm to me," he said, "and the high frequencies cool. Anybody can change these things around so that they work best for whoever's doing the looking. But they do work. I don't care about why they work; I just know that when I'm listening with that thing turned on I get an extra feeling out of the music—an extra element that isn't there when it's turned off."

In other words—and in spite of the direct cause-and-effect relationship between music and light display—we can't say that these devices represent any more of an immutable relationship between sound and color than Father Castel's color organ did. Perhaps their function, like that of every successful experiment in the field, is to turn the consciousness back upon itself by assaulting two or more senses simultaneously with related material, much as we comprehend a man's meaning from both the expression in his voice and that on his face.

Let There be Light

In discussing with me my plans for this article—then almost complete—Esther Mipas exclaimed, "But you're omitting so much: everything that happened in Eastern Europe..." She is kind. There are literally dozens of names in my notes that have not found their way into the article; and many avenues of inquiry, while piquing my curiosity, had to be abandoned as beyond its scope. Because this represents all too brief and personal an overview, I'm indebted to Mrs. Mipas for her comments on the manuscript. Anyone who has dipped into this fascinating subject can only hope that her book—presently titled The Electronic Media: The Art of Light—will appear soon.

With that, let me end (as Germer begins) by quoting from the last act of Shelley's Prometheus Unbound:

But now, oh weave the mystic measure
Of music, and dance, and shapes of light,
Let the Hours, and the spirits of might and pleasure,
Like the clouds and sunbeams, unite,—Unite!
See, where the Spirits of the human mind
Wreathe in sweet sounds, as in bright veils,
approach.
struck an almost ideal balance with an interpretation that is both absorbingly conceived and beautifully executed. The three male principals are somewhat more conventional but never less than satisfying. Bergonzi’s Edgardo is familiar from the RCA recording and his musicianly performance not only falls pleasantly on the ear but seems a bit more involved than before. Especially commendable is the duet with Lucia: Bergonzi’s answer to "Verranno a te" emerges with a lovely liquid tone and a seamless legato. The Tomb Scene might be more imaginatively handled and the voice here does lack color; a solid and eminently enjoyable performance nonetheless. Cappuccilli has also recorded his role before—with Calas on her second version. He phrases rather dully and occasionally sounds a bit muffled, but again these drawbacks are hardly overriding in view of his attractive baritone and virile delivery. Ideally one would wish for a more weighty, sonorous Raimondo with a more commanding sense of line; Justinó Diaz sings neatly although he remains something of a cipher, making little of the character’s sanctimonious hypocrisy.

If there is a major flaw to the recording it lies with the orchestra, and I'm not sure whether the problem originates with the conductor or the engineers. Schippers has proven himself often enough in this repertory and even here, especially in the marvelous second-act finale, he paces the music superbly. But the over-all sound is murky and bloated: the bass booms unnaturally, woodwind lines pop out suddenly from nowhere, the accompaniments are often gummy, and orchestral balances imprecisely judged (the horn introduction to "Fra poco a me ricovero" is a particularly painful example). A treble adjustment helps but does not cure—nor can much be done about the generous amounts of pre-echo.

To conclude on a positive note: William Ashbrook’s notes on the opera’s background are both scholarly and interesting; he even footnotes the libretto, pointing out some of Cammarano’s lines that Donizetti did not choose to set. Barring the unfortunate cover photo, the entire production of the album provides a worthy frame for its prima donna.

DONIZETTI: Lucia di Lammermoor. Beverly Sills (s), Lucia; Patricia Kern (ms), Alisa; Carlo Bergonzi (t), Edgardo; Adolf Dallapozza (t), Arturo; Keith Erwen (t), Normanno; Piero Cappuccilli (b), Enrico; Justino Diaz (bs), Raimondo; Ambrosian Opera Chorus; London Symphony Orchestra, Thomas Schippers, cond. ABC Audio Treasury ATS 20006-3, $17.94 (three discs).

by John Gabree

The Heaviest Beatles of Them All

NOT UNEXPECTEDLY, quite a lot of Beatles fans expressed disappointment when the group, after years of rumors, finally broke up. And while it’s true that the quartet had brought a lot of musical happiness, there seemed to be no reason why they couldn’t be as successful singly. Moreover, the solo albums promised to answer an interesting question: namely, which Beatle was really responsible for what.

Paul, it had been conceded, was the creator of all those delightful tunes and probably, in effect, the leader of the band. He had a very nice voice. John was the wordsmith, the humorist, and a good rock singer and guitar player. Ringo wasn’t bad for a rock drummer, but was generally considered to be overshadowed by his compatriots. And George was something of a mystery: almost from the beginning he offered a series of remarkably good songs, one or two to an album; but since he wasn’t nearly as prolific as Lennon/McCartney, he failed to establish a presence beyond his obvious seriousness or, as it sometimes seemed, lack of humor. Still he must have had something if his songs were good enough to dominate the album "Abbey Road." Would Harrison, some wondered, turn out to be the heaviest Beatle of them all?

The questions began to answer themselves with the arrival of the solo albums and of the movie Let It Be. In the latter Ringo was good old Ringo and George barely appeared at all (except to be put down by Paul), but the personalities and potentialities of McCartney and Lennon began to emerge. Paul was petulant, childish, and egocentric; John was cool, deep, and self-assured. The first solo album was Ringo’s collection of pop tunes from the ’30s and ’40s, more off-key than offbeat. Then Paul released "McCartney," a surprisingly self-indulgent album, in which Paul played all the instruments and sang what were, by and large, boring songs. Paul’s collection was far inferior to any Beatle LP, and even the Beatle mystique couldn’t propel it into popularity.

Which left John and George, neither one of whom has let his champions down. "All Things Must Pass" is the big album of the year, not only in impact but quite literally in size. George went about his business with

George and John strike out on their own with two extraordinary albums.

HIGH FIDELITY MAGAZINE
by Harris Goldsmith

Recordings by Rachmaninoff, Lhevinne, Hofmann, and Schnabel reissued on Victrola.

Old Masters Remastered

when RCA brought out its low-priced Camden label in the mid-1950s, one of their most praiseworthy projects was a series of reprints entitled "The Art of..." dedicated to the foremost recitlists of yesteryear. Many of us, not realizing that those reissues were to be given but a single pressing, failed to acquire the complete set. Needless to say, we later paid for the mistake (and I do mean "paid"; these cut-outs brought as much as $50 per disc in collectors' shops).

All of which is a prelude to the fact that the powers at RCA have decided to give us one more chance. The price is a little steeper than of yore, a dollar more than the old Camden series' face value of $1.98; but the difference is all but pruned away for those who purchase their records in the big discount stores. I assume that Victrola intends to keep these items in the catalogue longer than Camden did, but don't wager on it. These discs—all of them—should be bought without delay!

The Victrola records overlap, but do not entirely duplicate the repertoire of the earlier Camden or Victor incarnations. Rachmaninoff's Chopin sonata, previously revived in a coupling with Schumann's Carnaval, now shares its vinyl with a series of Chopin waltzes, nocturnes, and mazurkas (some of which were available in other Rachmaninoff collections). The Schnabel Stock Emperor used to be listed on RCA Victor LCT 1015 but has been unavailable for many years (and never sounded as vibrant as now, except in its original shellac form). Similarly, the Josef Lhevinne Victrola disc is a down-the-line reprint of the older Camden. But recently, some collectors, noting the Chopin Berceuse and Andante Spianato and Grande Polonaise included here, may mistakenly confuse these 1938 performances for the 1937 ones contained in Columbia's once available Hofmann "Golden Jubilee" recital.

Piano buffs can be as partisan and almost as opinionated as their counterparts in the opera house, but despite the pros and cons, it should be emphasized that Hofmann, Schnabel, Lhevinne, and Rachmaninoff were all titanic pianists. Yes, Schnabel too: he could be cavalier in some respects, and he did not care to practice very much in his later years. Still, his fingers could execute some of the peerless runs and trills ever heard from a keyboard, and perhaps the most melting legato too. Even from a purely pianistic standpoint, Schnabel (one of the greatest musical thinkers of all time) produced effects from the supposedly "percussive," nonsustaining instrument that defy all laws of possibility. Between the years 1932 and 1947, the celebrated Beethoven specialist made three recordings of the Emperor Concerto. This central one—which dates from 1942—is the most controversial...
of the lot. The performance is a lot more erratic rhythmically and even a bit sloppy technically. On reacquaintance, though, I also find it quite the most temperamental and exciting of all. Schnabel storms the citadels of this extrovert music with a wild, blazing intensity that he chose to underplay on other occasions. His playing may not be to everyone's taste, but the experience is unforgettable. The sound quality, incidentally, is considerably more vivid and consistent than that heard on the recently issued G major Concerto by these same artists: though the recordings date from the same vintage, evidently these originals were in better condition. It is to be hoped that Victrola will now circulate the never issued performances of Beethoven's Opp. 109 and 111 which Schnabel made for RCA at the same time as these concertos. Even if the performances turn out to be inferior to the ones made for the Beethoven Sonata Society in England (now available on Seraphim), it would nonetheless be useful to have different Schnabel performances as foils for the better-known—and much imitated—earlier ones.

The Rachmaninoff Chopin sonata sounds fuller here than ever before: an excellent transfer of a most engaging performance. Purists will, as before, throw up their hands in alarm at the "mad scientist" liberties Rachmaninoff takes with Chopin's music. He alters the dynamics literally, he rephrases, he inserts all sorts of jagged angles, misterioso rubatos and distortions. It is not really Chopin's sonata at all, but the effect is one of unfitted genius: here is a performance that compels, hypnotizes, and shatters the emotions. Rachmaninoff had unbelievable concentration and intensity, plus the pianistic ability to make child's play out of the most grueling difficulties (listen, for example, to the light filigree and utter accuracy of the scherzo, taken at breakneck speed). I am rather less convinced with Rachmaninoff's treatment of the shorter pieces. The man was a colossus, not a miniaturist, and his overpowering style lacked grace and charm. When he played Chopin's E flat Nocturne, Op. 9, or one of the tender little waltzes, the effect was somewhat akin to plugging a transistor radio into a huge generator! Much of the overside playing is overstressed and brutally angular. But it is pure Rachmaninoff, and for that we should all be grateful. Two of the waltzes—in G flat, Op. 70, No. 1; and in F, Op. 34, No. 3—are issued for the first time, incidentally. Harold C. Schonberg is right, by the way, in asserting that acoustical recording served the piano almost as well as the early electrical process: I could find precious little difference between the pre-1925 sound and that of 1927-30. In some instances, the earlier material was warmer, sweeter in timbre, and less harsh. Each selection has been exceptionally well processed: RCA has decided to keep the highs without filtering the surface scratch excessively—I applaud their decision wholeheartedly.

To many piano devotees, Josef Hofmann is considered the ne plus ultra, the supreme keyboard artist who could do no wrong; the aristocrat, the perfect synthesis of emotion and intellect in music. Hofmann was a supreme practitioner in many ways, and I grant that he made pitifully few recordings for so important an artist (and even fewer that do him reasonable justice). Still, I think that a dissenting opinion is long overdue and I am going to seize this opportunity to present it. Hofmann evidently be-
but without the acuteness and flair of Rachmaninoff's 1942 version. There is considerable surface noise on these never before released experimental discs, but the sound, dullish though it is, has clarity and weight and none of the unpleasant shattering distortion I have come to expect from Hofmann recordings. The overside, all restored from private acetates taken from a 1938 recital given in the Philadelphia Academy of Music, captures the all too notorious nasty blazing sound and wild shenanigans of Hofmann in front of an audience. In Mendelssohn's Spinning Song, he opts for the same precipitation that marks Rachmaninoff's version and even inserts that artist's tasteless little comma at the return of the theme. But where Rachmaninoff's rhythmic exactitude produced a feeling of inexorable drive, Hofmann's rendition is scrambled, cloying, and agitated. The Minute Waltz, on the other hand, avoids running into overtime and does sound rather airy and stimulating. He teases the F sharp major Nocturne, making it into overtime and does sound rather airy and stimulating. He teases the F sharp major Nocturne, making it sound fitful, petulant, and glibly sectionalized, while the Grande Polonaise (following the unfortunate Andante Spianato) is full of explosive, pelting accents; it reminds me of those old war movies where the enemy is shooting down one of our planes. Exciting? Certainly. But the music ends up in flames! For all its perfection and poetry of execution, I detect a certain sameness and blandness of tone in this supervirtuosity. But it is the playing of a master, nonetheless, and also of an unusually honest (though somewhat naive) musician. Incidentally, the annotations on all these albums are informative and reflect a pleasing departure from the usual sycophantic gush.

Now dare we hope for the two Harold Bauer discs, and representative ones by Rosenthal and Paderewski?

BEETHOVEN: Concerto for Piano and Orchestra, No. 5, in E flat, Op. 73 ("Emperor"). Artur Schnabel, piano; Chicago Symphony Orchestra, Frederick Stock, cond. RCA Victrola VIC 1511, $2.98 (mono only, recorded in 1942).


BACH: Cantata No. 21: Ich hatte viel Bekümmerniss. Edith Mathis, soprano; Ernst Häßler, tenor; Dietrich Fischer-Dieskau, baritone; Munich Bach Choir and Orchestra, Karl Richter, cond. Archive 2533 049, $5.98.

*SUSAN THIEMANN SOMMER*

Ich hatte viel Bekümmerniss was written in Weimar in 1714 (although parts of it may be adaptations of even earlier works) and might be considered a transitional work between the few "old" style cantatas of Bach's earliest years and the newer type characteristic of all the Leipzig cantatas. In common with the older style, its text contains many more direct quotations from the Bible instead of the sentimental, pictorial poetry of the later works; also one notes the larger, more varied, and more expressive role assigned to the chorus. Here we find four large-scale, elaborate choruses which often have the archaic flavor of the seventeenth-century motet with its frequent emotional contrasts between slow and fast, solo and tutti, forte and piano. Chorus No. 9, "Sei nun wieder zufrieden," for instance, is a motetlike movement in the style of the Pachelbel organ chorale with the cantus assigned first to tenor, later to sopranos while the other three voices—first solo, later tutti—sing an elaborate counterpoint. The chorus is accompanied here by oboe, strings, and four trombones, all playing strictly in unison with the voices. Chorus No. 6, which closes Part One of the cantata, is also a remarkable architectural creation in the form of a four-part prelude capped by a stunning fugue. Both the first section of the prelude and the exposition of fugue begin with a quartet for the first section of the prelude and the exposition of fugue begin with a quartet for the first three soloists who are tops in this field; and by a thoroughly rehearsed, perfectly responsive instrumental ensemble. Throughout, however, it is Richter's powerful personality that dominates to produce alternately almost unbearable poignancy, intense excitement, or brilliant jubilation. He often takes chances—the fast tempos are very fast, the slow ones very slow, the dramatic pauses very long—but the effects are always successful. In other words, all the hallmarks of Richter's familiar style are here, and they add up this time to the finest cantata performance on my record shelf.

There is, of course, not a single technical flaw in this entire production, but one interpretive decision does seem poorly judged. In spite of Bach's clearly marked intentions regarding solo chorus and tutti chorus, Richter never reduces his forces to solo proportions except for the arias and recitatives. Readers may recall that in his most recent recording of Cantata No. 4, "Christ lag in Todesbanden," I criticized him for an opposite decision: assigning Fischer-Dieskau a solo aria which should probably have been given to chorus basses. I can find no explanation for these decisions save for simple perversity.

What we have, in fact, is a sort of the compelling recorded versions of this cantata? They are now clearly eclipsed. If you own either the (recently deleted) Lehmann monophonic version on Archive or Werner's on the Musical Heritage Society label, you own decent, accurate, albeit monochromatic performances of a master-piece. But if your record collection has room for only one version of this cantata, by all means, Richter's new recording is the one to get.

C.F.G.


Surely, in the year 1971 we have no need of Bach performances such as this. If the composer were anyone but Bach, such an empty recital of notes from a printed page would be intolerable; as it is, the only pleasure to be derived here is in hearing a large orchestra play accurately; all that might have been done with those notes is left to the imagination. Klemperer's purpose seems to be simply to play every note, every rhythm, and every ornamental device exactly as it appears in the score—no more, no less. The first-movement grave sections don't even resemble rhythmically what Bach certainly intended. Similarly.

**TAPE FORMAT KEY**
The following symbols indicate the format of new releases available on prerecorded tape.

- **OPEN REEL**
- **8-TRACK CARTRIDGE**
- **CASSETTE**

High Fidelity Magazine
This used to be just a dream.

With the Altec Acousta-Voicette, it's now a reality.

For the first time, we can accurately "tune" the frequency response of your complete component system including your listening room to a single flat acoustic response at your ears. Right in your home by a factory trained Acousta-Voicette dealer. Guaranteed to ±2.0 dB. With the revolutionary new 729A Altec Acousta-Voicette Stereo Equalizer. You'll hear the original acoustic environment of the recording hall—and not the acoustics of your listening room.

The new Altec Acousta-Voicette is built to work in your home. It costs $799.00. And note it's not just another broadband equalizer. Instead, the Altec Acousta-Voicette utilizes 24 fully-adjustable, critical bandwidth rejection filters per channel—48 in all. It lets us put all sound frequencies into perfect balance.

Altec Acousta-Voicette.
For the perfect balance of sound.

Mail this coupon for a free brochure.

To: Altec Acousta-Voicette, Altec Lansing,
1515 South Manchester Avenue, Anaheim, California 92803

Please send me your new brochure describing the Altec Acousta-Voicette Stereo Equalizer and how an Altec Acousta-Voicette dealer can accurately "tune" my component system—including my listening room—to a ±2.0 dB final acoustic response.

Name
Address
City
State Zip

Attn: HF-3

CIRCLE 59 ON READER-SERVICE CARD
each ornament from the score is carefully (and usually accurately) reproduced, but how much imagination does it take to see that there are parallel passages that should also be ornamented in the same manner, or even more elaborately? Tempos are usually realistic; only a few of the dance movements degenerate into a ponderous dirge, but of course, elephantine ritardis are generously applied. Recorded sound and balance are generally very good except for considerable pre-echo; and, indeed I say—the harpsichord is inaudible.

C.G.F.

BARTOK: Concerto for Violin and Orchestra, No. 2; Rhapsody for Violin and Orchestra, No. 1. Henryk Szeryng, violin; Concertgebouw Orchestra, Bernard Haitink, cond. Philips 6500 021, $5.98.

Bartók’s Violin Concerto No. 2 is, of course, the one which used to be called the "second" concerto (before a second concerto was published posthumously). It has become one of the staples of the repertoire and is now common fare even for the stars of the concert circuit. This was to be expected, for beneath its mildly dissonant exterior lies an immanently "popular" work. It has all the trappings of the soloist’s vehicle: beautiful tunes of folklke simplicity, dramatic contrasts in character, and above all a brilliantly virtuosic solo part. This should not be taken as adverse criticism, of course. There is certainly a place for such pieces, and this concerto ranks qualitatively with the very best.

It should come as no surprise, then, that Henryk Szeryng, who has certainly not been particularly active as an exponent of twentieth-century music, should now offer us a recording of the concerto. Szeryng is a fine violinist and he gets around the piece very well. He makes a lovely sound, possesses an impeccable sense of intonation, and boosts technique to burn. My only qualification is that his reading tends to be a bit on the "straight" side and is consequently somewhat bland. It seems to me that this is the sort of music that demands a very forceful, individual kind of performance, and in this regard I feel that Szeryng misses the mark. The same criticism can be made of the Concertgebouw Orchestra under Haitink: they play the piece well, yet the performance seems to lack a strong sense of conviction.

There are several excellent recordings of this concerto that the prospective buyer might wish to consider for comparison with the present one. My own favorite is the Stern/Bernstein reading on Columbia, where both soloist and orchestra (particularly the latter) seem much more at home with the music. The result is a more assertive rendering, generating a sense of real excitement. Still, the present disc will be of considerable interest to Bartók enthusiasts, and the 1928 Rhapsody is a very nice bonus.

R.P.M.
4-Dimensional Stereo

with the Dynaco SCA-80.

The Dynaco SCA-80 is a high quality two-channel stereo control amplifier incorporating patented circuitry* so you can enjoy the Dynaco system of four dimensional stereo (front and back as well as the usual left and right) by adding just two more loudspeakers... just two more speakers.

In addition to recordings made specifically for the Dynaco system, many of your existing stereo recordings (disc and tape) already include the phase relationships required for four dimensional playback. You can use present stereo phonograph cartridges or tape recorders without any modifications. Four dimensional programs are now being received by existing FM stereo tuners.

*U. S. patent #3,417,203

The Dynaco four-dimensional system fully utilizes material already on stereo recordings. It faithfully reproduces in your own listening room the acoustical environment in which the recording was made.

Dynaco four-dimensional sound can be played back through the SCA-80 (or the PAT-4 or PAS-3x preamplifier and any stereo power amplifier) with a total of four loudspeakers, connected as Dynaco specifies. This configuration is completely compatible with playback of all stereophonic and monophonic recordings, and enhances virtually all stereophonic material.

Write for full details on how you can connect four speakers to enjoy Dynaco four-dimensional stereo.

Dynaco A-25 speakers ($79.95 each—assembled only)

In Europe write: DYNACO A/S, HUMLUM, STRUER, DENMARK

March 1971
Certainly that is what happens in this set, which for many may prove to be the most thrilling new edition of the sonatas for a decade or so. The effect is enhanced by the elevated standards of DGG’s engineering, which offers the highest degree of presence and sonic fidelity that anyone has secured in this music. And the musical force is further intensified by the presence of Kempff, who proves a most congenial collaborator and gives us the opportunity of hearing these sonatas as well-balanced entities in which the two performers are both artists of great achievement. Their work together provides the interplay of strong with flutter-tongued flutes, continuously rolled percussion, and so on, and increases the tension. Chemins III, under
neath which the viola figures of Sequenza VI and Chemins II run like a subterranean river, branches out into some of the most fantastic, nerve-racked sounds you will ever hear from your loudspeakers, all the while sawing away toward its brief, relaxing allegro. Then is Chemins III as approachable as Berio’s Sinfonja, but the same obsession with extension and interrelation is evident in both pieces. Berio is preternaturally sensitive to the somber strands that tie Now to Then, to the Viconian recirculation of ideas and energy.

Mr. Trampler, of course, plays pheno
mronally in music of any period or style, and here his perfect technique is put to the test of close listening that exposes his breathing and yet discloses amazingly few of the mechanical cracks and rattles that could be expected of any virtuoso at such micrographic range. The sound in all three pieces could hardly be more brilliant or lifelike.

Berio’s Anguished Trinity by Donal Henahan

These three works—or, we could say, this trinity of a work, since it is difficult to insist either on their separateness or on their actual oneness—were written at the request of Walter Trampler in 1968, and follow the sequenza for flute, harp, voice, piano, and trombone, in each of which Berio took up a different problem. Sequenza VI, the germ cell of the viola series, is a ten-minute piece for solo viola, performed by tremolo devices that Berio and Trampler treat in every possible way.

Berio’s approach to music is, as he has put it, “serial in spirit,” if not in method, and in all three pieces there is a serial texture, much as we say that Bach’s fugue is a texture, not a rigid form. The difficulties for the listener, however, are not that the pieces sound complex but that they sound monotonously simple, the tremolo buzzing away incessantly and leading to vague concerns that Mr. Trampler’s bowing arm will not hold out. As we move on from solo work to Chemins II, however, the intelligence behind the idea gradually becomes fascinating. With his dedication to multiplicity and to the possibility of many roads, Berio sets off on Road II, but he takes Sequenza VI along as a map, or compass. The solo viola work thus serves as skeleton to the later pieces, Chemins II fleshing out the ideas to chamber-orchestra size, and Chemins III enlarging the scope to full orchestra. As the work grows, additively and synergistically, the solo viola loses its prominence and sinks into the general tremulant mass, often being buried entirely.

A line of sorts can always be deduced from the tremolo, relentless buzz, though one also gather that Berio is not intent on stressing a line in this music. Chemins II, the chamber expansion, ends the tremolo device to all the instruments, ing make the Op. 23 sonata a notable experience. And Menuhin is excellent in the Spring Sonata, although others (Goudsmit, for a start) make a little more of its long, soaring phrases.

In the Op. 30 group, Menuhin’s gifts for rhythm and accent are well revealed in the Sonata in A. The Op. 30, No. 2 is another sonata Heifetz plays extraordinarily well and, again, Menuhin is a powerful challenger with the kind of radiant playing in which song is charged with lightning. The real confrontation awaits in Op. 30, No. 3 in which Heifetz (fifteen years Menuhin’s senior) plays with exceptional refinement. It is recorded at roughly the same point in his career, matches Heifetz’ achievement with an interpretation in terms of his own distinctive personality. And at this point the perception of Kempff as a collaborator, plus advances in recording technology, are also decisive.

The Kreutzer naturally makes a performance of the highest virtuosity a matter of noblesse oblige. Menuhin spares nothing to provide it, and Kempff joins him at the same level. The results fairly crackle. And in the passages where the Heifetz performance has defined a standard for some time, Menuhin adopts much the same interpretive viewpoint and offers results that are equally forceful musically and more effective sonically because of the advances in recording technique. If Heifetz would find a pianist of Kempff’s stature and return to the recording studio to remake these works in stereo he probably could equal Menuhin’s accomplishments right along the line; but his complete edition of the sonatas betrays its age and thus, to a degree, betrays him.

Menuhin’s portion of this release is therefore something every serious collector of the Beethoven violin literature will want to add to his holdings. The Fournier Kempff and Menuhin recordings of Beethoven’s cello and piano literature was released previously. It is an excellent group of performances, seriously challenged only by Casals and Serkin in an edition from the 1950s. Some, of course, may already have this material and regret the need to duplicate it to acquire the violin and piano sonatas.

A final note. Menuhin plays two of the Beethoven encore pieces, the Rondo, WoO. 41 and the Variations, WoO. 40. And he does them in such a delectable manner that you know you will have to buy this album anyway.

R.C.M.


Having gone over the entire available discography devoted to Beethoven’s symphonies [HP, December 1970], Boulez’ Fifth, a newcomer, provided the biggest surprise in the whole lot. This musician of stature, a leader of the avant-garde, has a naive and sentimental conception of Beethoven, a case of generations' gap.
To maintain the uncompromising standard of Garrard automatic turntables, we mass produce them.

Garrard of England is the world's largest producer of component automatic turntables.
A mass producer, numerically speaking.
Especially curious, since Garrard remains a staunch foe of mass production methods.
At our Swindon works, final assembly of the Garrard SL95B is in the hands of nineteen men and women.
Hands, not machines.

A modest record
As Brian Mortimer, Director of Quality Assurance, sees it, "In top form they turn out twenty units an hour. A rather modest record in these days of mechanized production lines.
"But if we were to speed it up, we'd pay for it in quality. And, in my book, that's a bad bargain."

At Garrard, we insist that each person who assembles a part test that finished assembly.
If it isn't up to standard, it's corrected on the spot—or set aside to be made right.
And then we test our tests.
Four of our nineteen final "assemblers" do nothing but testing.
Before each unit is packed in its carton, it must pass 26 final checks that cover every phase of its operation.
Is all this fussbudgetry really necessary?

By hand.

Brian Mortimer answers it this way. "It would be sheer folly to give up the precision we'd achieved in manufacture through imprecise assembly."

The case for fussbudgetry

Of the 202 parts in a Garrard automatic turntable, we make all but a handful ourselves.
We can be more finicky that way.
For instance, in the manufacture of our Synchro-Lab motor we adhere to incredibly fine tolerances.
Bearings must meet a standard of plus or minus one ten-thousandth of an inch. Motor pulleys, the same.
To limit friction (and rumble) to the irreducible minimum we superfine each rotor shaft to one microinch.
And the finished rotor assembly is automatically balanced to within .0008 in.-oz. of the absolute.

The case for fussbudgetry

From Swindon, with love

For fifty years now Garrard has been important to the people of Swindon, and they to us.
Many of our employees are second and third generation. (Mortimer's father hand-built the first Garrard.)
And 256 of them have been with Garrard for more than 25 years.
We've been in good hands.

Today's SL95B is the most highly perfected automatic turntable you can buy, regardless of price.
Its revolutionary two-stage synchronous motor produces unvarying speed, and does it with an ultra-light turntable.
Its new counterweight adjustment screw lets you balance the tone arm to within a hundredth of a gram.
And its patented sliding weight anti-skating control is permanently accurate.

$44.50 to $129.50

There are six Garrard component models from the 40B at $44.50 to the SL95B (shown) at $129.50.
Garrard standards, nonetheless, do not vary with price. Only the degree of refinement possible.
The choice is yours. However, your dealer is prepared to help.
The first movement is painful—six frames per second, slower than the slowest Klemperer. The second is somewhat better, but the articulation is pedantic and old-fashioned. The scherzo has no vigor whatever, the trio moves with the speed of a perambulator, and its ending is a real French minuet. The finale, though it flows better, is without any feeling of jubilation. It is quite obvious that though it flows better, is without any feel-

BIZET: Carmen (excerpts). Maria Pellegrini (s), Frasquita; Gwyneth Griffiths (s), Mercedes; Marilyn Horne (ms), Carmen; Michele Molese (t), Don José: David Bowman (t), Remendado; Fran-

cis Egerton (t), Dancario; Royal Philharmonic Chorus and Orchestra, Henry Lewis, cond. London Phase 4 SPC 21055, $5.98. Tape: L 75055, 7½ ips, $7.95; M 95055, $6.95; M 94055, $6.95.

Miss Horne has one of the juiciest voices around, a hallowed, thoroughly even tone extending from the low contralto territory to above-the-staff notes that daunt the canary specialists. She has, however, a richness of pitch, ideal legato, the gift of tongues, and a wealth of temperament. But Carmen is not for her, at least on the evidence of this record.

Listening to the Habanera and Segu- dillos, you might be led to a different conclusion, for these much-recorded arias have rarely been sung with such accuracy and plumpness of tone: every note is in place. But as soon as we move on to the multidimensioned material, the Card Scene and the final duet, there is apparent a fatal lack of the characteristic elements that are Carmen's essence. Here Miss Horne just goes through the motions, passing the emotions by. There is no foreboding in the Card Scene; no cold, proud dignity in the finale.

Michele Molese generates some of the right spirit as Don José, but his voice sounds tight and pinched. The orchestra plays alertly under the guiding hand of Miss Horne's husband and the other singers do their work well. Succulent sonics.

G.M.


of this and other historical piano recordings, see page 71.

DELIUS: Requiem; Idyll. Heather Har-
er, soprano; John Shirley-Quirk, baritone; Royal Choral Society (in the Re-

ques), Royal Philharmonic Orchestra, Meredith Davies, cond. Seraphim 60147, $2.98.

The verdict on the Delius Requiem came in even before the jury had been in-
structed: when Thomas Beecham first looked through the score, with its pre-
Christian hymns to sensual love and its refusal to sanction war as a glorious hu-
man activity, he remarked: "This is the most curious flight of futility that ever

misled the intelligence of a great artist." That sentence summed up the verdict on

this wartime (1914–16) work in Delius' day and has continued to be the opinion of many experts—Charles Reid, a Delius

lover, writing in 1963, called the music "nebulous and bleak" and added, "Leading

champions of Delius are agreed that the music fails." R.I.P., Mr. Delius. Thus

prepared to hoot, it is a welcome surprise to discover from this first stereo

recording (released some time ago in England and based on a 1965 perfor-

mance in Liverpool) that the Requiem does not fail by all that much. It emerges to-

She graces Aida. Orfeo.

And Carmen.

"What a stupendous, bewitching Carmen," wrote one critic. And from another, "We never dared hope to see or hear a Carmen like Grace Bumbry's."

All through her St. Louis childhood, she intended to win this kind of acclaim. During the 1960's, her mezzo and her dramatic flair conquered the opera stages of Europe: Paris, Bayreuth, Covent Garden, Salzburg, La Scala, Basel, Vienna.

Her "lustrous, sable-colored voice" (Newsweek) comes alive on Angel Records. She is spectacular as Amneris. A magnificent Orfeo. Glorious in Mozart's Requiem.

Now we offer (in both cassette and album) the Carmen that is captivating two continents. Listening, you will understand part of the reason. A glance at the 33-year-old beauty on the cover explains the rest. "Ole!"
Supreme Achievement

Bozak stands alone in the achievement of superior loudspeaker systems of the highest fidelity whether for indoor or outdoor use, live or recorded performances, in your home or in the concert hall. Bozak builds loudspeaker systems in styles and price ranges to fit every demand — from the Tempo 1 bookshelf speaker to the famous Concert Grand — the finest loudspeaker system available.

Bozak gives you the best of everything... the best buy, the best in sound reproduction and the best finely crafted cabinetry... because at Bozak supreme achievement is part of the daily routine.
Carter's Concerto for Orchestra,
A Gripping Musical Experience

by David Hamilton

From its opening subterranean rumble of percussion, Elliott Carter's Concerto for Orchestra traverses as broad an expressive range as any musical experience as any musical work of the last two decades. Composed for the New York Philharmonic's 125th anniversary, and first performed in January 1970 (immediately prior to the session that produced the present first recording), it has been heard only twice in performance. I heard not only those three performances and two rehearsal run-throughs but also the recording session—as a less "difficult" piece than either the Double Concerto or the Piano Concerto. Carter's characteristic wealth of detail seems here to be clearly subordinated to the larger expressive gestures; it isn't that less is going on, but rather that the function of events is more explicitly hierarchized, the major motion of the piece closer to the surface.

That surface, in the Concerto for Orchestra, is laid out in terms of an orchestra of groups—the kind of role-assignment that Carter has pursued in other works, but here extended throughout the orchestra in much greater depth (in the Piano Concerto, for example, the basic opposition was between soloist and orchestra mass, rather than within the orchestra itself). Each of these groups is formed around (and matched in dynamic range) the various elements seem to collide—like a kind of large-scale counterpoint—and the recording matches more closely, if not exactly, the specified instrumental layout than did the concert performances. Carter's Concerto for Orchestra demands serious attention of anyone who believes that the virtuosic treatment of the sound groups, the constant flux and interplay of color, tempo, and density are obviously governed by an over-all rate of change function—dynamics (although the players may not always be at fault here; to judge from some of the fortissimo page-turns that obtain upon the concrete picture, some very close microphoning was used). At one important point the recorded sound lends us down: that last great climax to which I referred above does not make the overpowering effect that one heard in the hall, and there is even a momentary suggestion of overloading. But the shape of the piece is clearly here. And the recording matches even more closely, if not exactly, the specified instrumental layout than did the concert performances. Because of the vividness of its orchestral charactereur, the power of its expressive language, and the flexibility of its interplay among disparate elements, Carter's Concerto for Orchestra demands serious attention. Its opening passage for brass and a brittle concluding scherzo frame the extensive development of a wide-ranging melody for strings. The composer's command of the orchestra is at all times in evidence, although the gathering-up of earlier matters toward the end does not quite reach a convincing climax. The performance is extremely proficient and appropriately intense.

Notes by the composers are provided on the liner and the compact disc's handsome reproduction of Shahn's Hand of Creation.

CARTER: Concerto for Orchestra.

There have been almost 50 recordings of the famous Tchaikovsky overture. From acoustic versions to 10-inch 78's to long-play versions.

Now Columbia Records announces an exciting new version that Tchaikovsky himself would have appreciated.


Listen to the new 1812 Overture. It's the freshest sound in 159 years.

THE 1971
1812
OVERTURE.

ON COLUMBIA RECORDS AND TAPES.
The people that walked in darkness has its mystery replaced by pseudo realism. In general, Bonynge's tempos are sure, for he changes the pace whenever he can create a taut situation. "He shall feed his flock" is insufferably sentimental, the glorious melody is scooped and sobbed while the basses growl and mumble. And so it goes throughout the performance. With the exception of alto Tourangeau, whose lower range is strikingly different from her upper register (I have never heard such a cor anglais sound emanating from a woman), Bonynge has excellent soloists, a capable chorus, and a first-class orchestra; but all of them are misdirected. Bonynge, making much of the music lifeless and limp, I simply cannot understand how, in the face of at least three great recordings of Messiah, London dared to let this travesty go out into the world.

The Varese/Cardinal recording is a bird of a different feather. It is directed by a musician who knows that directness of communication, euphony, full-bodied singing, and healthy rhythm are the essential qualities to be brought to Handel's music. He makes his distinguished soloists, a nondescript "sacred" chamber orchestra, and chorus sing out openly, without sanctimonious inflections, ritards, or agonizing cadences. This is a very good recording, though not the equal of the best. Some of the drawbacks are the engineers' responsibility; while on the whole the sound is good, the choral forces are a bit raw. Somary's tempos are prevailingly correct, but he is so intent on clear choral diction that occasionally he takes a slower tempo to accommodate his choristers. But he does achieve good clarity even in the complicated fugues, and at times a fine conversational tone with pleasantly light give-and-take ("But thanks be to God"). There is no bellowing anywhere. The phrasing is sometimes a little fussy ("Oh thou thatdestest"); sending some ornamentation into single notes, and in a few instances the staccatos are a little forced, making the continuity jerky, but by far the better part of the oratorio is very well done.

Now we come to the musical bonuses that are considered de rigueur these days. Somary also embellishes, though nowhere to the extent Bonynge does, nor are his additions and changes as poor and unmotivated as the Australian conductor's, but there are some that hurt. To change the vocal line in pieces like "The people that walked in darkness," sending his inspiration into single notes, and in a few instances the staccatos are a little forced, making the continuity jerky, but by far the better part of the oratorio is very well done.

Now we come to the musical bonuses that are considered de rigueur these days. Somary also embellishes, though nowhere to the extent Bonynge does, nor are his additions and changes as poor and unmotivated as the Australian conductor's, but there are some that hurt. To change the vocal line in pieces like "The people that walked in darkness," sending his inspiration into single notes, and in a few instances the staccatos are a little forced, making the continuity jerky, but by far the better part of the oratorio is very well done.

Now we come to the musical bonuses that are considered de rigueur these days. Somary also embellishes, though nowhere to the extent Bonynge does, nor are his additions and changes as poor and unmotivated as the Australian conductor's, but there are some that hurt. To change the vocal line in pieces like "The people that walked in darkness," sending his inspiration into single notes, and in a few instances the staccatos are a little forced, making the continuity jerky, but by far the better part of the oratorio is very well done.
Introducing the AR FM tuner... 
the tuner section of the AR receiver

"AR's FM tuner section was the finest CONSUMER GUIDE has ever reviewed."
CONSUMER GUIDE   November 1970

"We have yet to find a component tuner anywhere near that price that can
compare to the tuner section in the AR receiver."
STEREO REVIEW  May 1970

Both of these comments are taken from re-
views of the AR receiver. The tuner section
of that unit is now being made available as
a separate component. It is an excellent
choice for anyone with a well-made ampli-
fier, such as the AR amplifier, who desires
to add FM to his system. For the person
making his initial purchase of stereo equip-
ment, however, we would recommend the
AR receiver.

Suggested retail price of tuner, $210 / optional walnut case, $15
Suggested retail price of receiver, $420 / optional walnut case, $20
5% higher in West and Deep South.

Acoustic Research, Inc.
24 Thorndike St., Cambridge, Mass. 02141, Dept. HF-3
Please send a free copy of your illustrated catalog, as well as
technical specifications on the AR FM tuner and AR
receiver, to

Name ____________________________
Address __________________________

MARCH 1971
with a lot of rouge and paint, puts violent contrasts in places where the composer leaves dynamics to the performer's taste, but paradoxically smooths away the ones specified in the score. The early B flat sonata and the lyrical variations are lively and pianistically elegant, with only an occasional touch of unwanted anachronistic bravura (and, I might add, Gilelis's trills are deliciously fluent).

The dramatic D minor Fantasy and the turbulent A minor Sonata, on the other hand, are both works which could stand a degree of romanticizing, but Gilelis disappoints by becoming not more romantic but more sentimental and flashy. He doesn't sustain the slow movement of the later named sonata and transforms its scempering presto finale into a sticky, mincing allegretto. He also fails to differentiate between the clipped appoggiatura and the later lengthened note in the two statements of the first movement's principal theme. Like Ashkenazy—who recently made a far superior version of this K. 310 for London—Gilelis observes every last repeat (both halves in the maestoso, and in the first part of the andante). In the Fantasy, he immediately goes away by taking the few bar of introductory material at a laborious adagio rather than the prescribed andante. He also interprets the music in an overblown and pedestrian manner, curling his insipid phrases as if they were false eyelashes and burdening the natural flow of the writing with all sorts of decorative effects. Moreover, the pianist's tone tends to be rather laborious and adagio—a delay rather than a true singing quality.

Deutsche Grammophon's sound is excellent. The taping was done at an actual recital in the Salzburg Mozarteum on January 28, 1970, but only an occasional cough betrays that fact. European audiences, unlike their noisy American counterparts, really listen.

H.G.


For most American Max Reger (1873–1916) is one of those shadowy figures from the turn of the century whose music is just beginning to emerge on the current wave of the Romantic revival. Only 66 compositions, with a lot of rouge and paint, puts violent contrasts in places where the composer leaves dynamics to the performer's taste, but paradoxically smooths away the ones specified in the score. The early B flat sonata and the lyrical variations are lively and pianistically elegant, with only an occasional touch of unwanted anachronistic bravura (and, I might add, Gilelis's trills are deliciously fluent).

The dramatic D minor Fantasy and the turbulent A minor Sonata, on the other hand, are both works which could stand a degree of romanticizing, but Gilelis disappoints by becoming not more romantic but more sentimental and flashy. He doesn't sustain the slow movement of the later named sonata and transforms its scempering presto finale into a sticky, mincing allegretto. He also fails to differentiate between the clipped appoggiatura and the later lengthened note in the two statements of the first movement's principal theme. Like Ashkenazy—who recently made a far superior version of this K. 310 for London—Gilelis observes every last repeat (both halves in the maestoso, and in the first part of the andante). In the Fantasy, he immediately goes away by taking the few bar of introductory material at a laborious adagio rather than the prescribed andante. He also interprets the music in an overblown and pedestrian manner, curling his insipid phrases as if they were false eyelashes and burdening the natural flow of the writing with all sorts of decorative effects. Moreover, the pianist's tone tends to be rather laborious and adagio—a delay rather than a true singing quality.

Deutsche Grammophon's sound is excellent. The taping was done at an actual recital in the Salzburg Mozarteum on January 28, 1970, but only an occasional cough betrays that fact. European audiences, unlike their noisy American counterparts, really listen.

H.G.


For most American Max Reger (1873–1916) is one of those shadowy figures from the turn of the century whose music is just beginning to emerge on the current wave of the Romantic revival. Only 66 compositions, with a lot of rouge and paint, puts violent contrasts in places where the composer leaves dynamics to the performer's taste, but paradoxically smooths away the ones specified in the score. The early B flat sonata and the lyrical variations are lively and pianistically elegant, with only an occasional touch of unwanted anachronistic bravura (and, I might add, Gilelis's trills are deliciously fluent).

The dramatic D minor Fantasy and the turbulent A minor Sonata, on the other hand, are both works which could stand a degree of romanticizing, but Gilelis disappoints by becoming not more romantic but more sentimental and flashy. He doesn't sustain the slow movement of the later named sonata and transforms its scempering presto finale into a sticky, mincing allegretto. He also fails to differentiate between the clipped appoggiatura and the later lengthened note in the two statements of the first movement's principal theme. Like Ashkenazy—who recently made a far superior version of this K. 310 for London—Gilelis observes every last repeat (both halves in the maestoso, and in the first part of the andante). In the Fantasy, he immediately goes away by taking the few bar of introductory material at a laborious adagio rather than the prescribed andante. He also interprets the music in an overblown and pedestrian manner, curling his insipid phrases as if they were false eyelashes and burdening the natural flow of the writing with all sorts of decorative effects. Moreover, the pianist's tone tends to be rather laborious and adagio—a delay rather than a true singing quality.

Deutsche Grammophon's sound is excellent. The taping was done at an actual recital in the Salzburg Mozarteum on January 28, 1970, but only an occasional cough betrays that fact. European audiences, unlike their noisy American counterparts, really listen.

H.G.

SATIE: Parade; Gymnopedies; No. 1; No. 3 (orch. Debussy); Relache. Royal Philharmonic Orchestra, Philippe Entremont, cond. Columbia M 30794, $5.98. Tape: MT 30294, $6.98.

Since all of the Satie works offered here are already available in a number of fine versions, it seems pointless to dwell on this hapless undertaking. Philippe Entremont's recorded debut as a conductor results in one of the worst interpretations ever of the Debussy-orchestrated Gymnopedies and a solid and mediocre Parade. Parade is essentially a kind of cubist collage that features unexpected juxtapositions of everything from Charlotta's rags and ragtimes (with sirens, steamer whistles, and a typewriter thrown in for good measure) to a truncated fugue. And while there is an underlying arch-like form in which Satie has managed to weave his way back to the opening chord of the work, by the time the last measure arrives each of Parade's disparate elements has a strong individuality which Entremont has almost totally ignored. While he starts off well enough with the opening chorale and fugue, Entremont continues in a deadly serious fashion, plodding through the "pop" elements and creating a monotonously unvaried, heavy-handed romantic gloss that is the aesthetic antithesis of what is needed for this work. Much to be preferred is the Dorati recording which, unlike the Entremont performance, features real sirens, a virtuoso typist, and a genuinely belchy steamy whistle—not to mention a witty and completely "with-it" interpretation.

As for the Gymnopedies, these are, in their piano version, extremely subtle pieces with the surrealistic transparency of the sky in a Magritte painting. Although Debussy's orchestrations of the first and third Gymnopedies (recorded in reverse order on my review pressing) give these pieces an added weight they

CORRECTION

In Donal Henahan's review [February 1971] of the AR Contemporary Music Project, the price of each record should have been listed as $2.00, not $5.98. This includes the cost of handling and postage in the United States and Canada. The records are not available in record stores. They can be obtained only by mail from ARCMP, 24 Thurlowside Street, Cambridge, Mass. 02141.

AR further informs us: "The project is not a commercial venture in any normal sense. Acoustic Research provided a financial, technical, and administrative back-up of operations. The program committee—David Epstein, Earl Kim, Donald Martino, and Seymour Shifrin—made all musical decisions, free of pressure or constraint from Acoustic Research. In light of these facts, it would be an error to make such assumptions as 'the composers are encouraged to think of quadraphonic effects, that any sort of 'commercial pioneering' through the medium of the project was even a possibility, or that there is a valid parallel between the project and CRI. "We are not necessarily dedicated to 'discovering a large new audience for American academic music.' That would please us, of course, but a company of AR's modest size could not hope to pull off such a coup at this single fell swoop. It is of primary concern to us that other commercial firms (record companies, component manufacturers, etc.) evaluate what AR has accomplished through this approach, with a view toward lending their own support to the arts in a similar fashion. If this should happen on any significant scale, we would consider our efforts amply rewarded."
For people who want a receiver and a tape system:

A receiver with a tape system.

We've put the receiver and tape system into one compact package that saves space and gets rid of a lot of wiring. What's more, we've given you a choice of two different tape systems.

Our HST-399 has a cassette recorder that lets you make off-the-air recordings and play pre-recorded tapes, too. With its optional F99B microphone, you can also make home recordings in full stereo sound.

If you are a hi-fi buff, our HST-388 is the choice for you. It has an 8-track cartridge player that will get the most out of any tape.

Both stereo tape receivers include the same fine FM/AM stereo tuner and high-quality amplifier. And both have jacks for connecting things like record players, stereo headphones or even an additional tape deck.

So, the only choice you have to make is which tape system you want. No matter which you pick, you'll get a receiver and a tape system for a lot less money than you'd expect.

SONY stereo tape receivers.

© 1971 Sony Corp. of America. Visit our Showrooms: 585 Fifth Avenue, New York City, N.Y.
hardly need; these versions can make pleasant listening if they are played properly. But in Entremont's absurdly lethargic interpretations, Satie comes out sounding like a puffy Reynaldo Hahn straight from the musty salons of some jewel-beleeked patroness of the arts.

Surprisingly enough, Entremont's Rêllic has a good deal of life to it, although the music itself does not stand up as well as does Parade when divorced from the quasi happening for which it was written. Even here, however, Entremont tends to make the whole thing sound like more of a traditional ballet than Satie must have intended, even allowing for the obvious irony involved. And compared with Abravanel's incisive version, which also benefits from some truly brilliant engineering and stereo-phony, Entremont's recording, with its rich but overly reverberant sound, just doesn't make it.

Schubert: Symphony No. 9, in C, D. 944. Berlin Philharmonic Orchestra, Wilhelm Furtwängler, cond. Turnabout TV 4364, $2.98 (mono only, recorded in 1942).

By common consent, even among non-admirers of his art, Wilhelm Furtwängler's 1951 recording of Schubert's C major Symphony is regarded as one of the great recordings. (Last listed domestically as Heliodor 23074, it is currently available from Germany as Heliodor 88006, a pressing superior to the domestic one.) Now, under the auspices of the Furtwängler Society of Great Britain, Turnabout has issued one of the conductor's concert performances of this work, apparently dating from 1942. The sound is not bad, with a decent frequency range, but the timpani are prone to mask virtually everything when they enter; it isn't good enough to make this the recording of choice, as the 1951 version (even in the absence of stereo) might still be, were it readily available.

Those who know the later performance and are interested in the interpretation of this rather special symphony will nevertheless find Furtwängler in 1942 a fascinating comparison with Furtwängler in 1951, for these are strikingly different readings (not as different, however, as they may seem if your turntable cannot adjust for pitch variations: the Turnabout mastering is approximately a half tone sharp). While 1951 is exquisitely detailed, and paced at tempos that allow characteristic deviations without loss of the basic pulse, 1942 seems very much concerned with actively using tempo variation as a fundamental strategy; accelerandos begin sooner, are more extreme and once or twice seem near to getting out of control. Phrases are less clearly set off one from the next: the playing is far less subtle, particularly on the part of the first oboe. Students of performance style will also note proportionately greater use of portamento in the strings and some alteration in the conductor's occasional touching-up of Schubert's scoring (mostly in matters of brass and timpani).

I would not deny that the Turnabout issue contains some exciting moments, notably the whirlwind finale (which begins rather oddly, however, with a striking series of Luftpausen inserted among the opening gestures—as if to set them off, in the manner of an introduction, from the body of the movement). But I would also argue that this approach reveals far less of the special qualities of this symphony, notably its reaching for a longer, almost Brucknerian breadth of phrase, which demands more elbow room for larger-scale articulation. In this respect the 1951 performance remains supreme, and it also boasts some of the finest orchestral playing on record: note especially the gorgeous wind chording in the Trio, an exceptionally weak spot in the 1942 version (which also omits the repeat of the Trio's first section).

In sum, definitely worth examination by specialists in Furtwängler and Schubert; others should beg, borrow, steal, or import a copy of the later recording. As usual on the Turnabout Furtwängler issues, there are no liner notes whatsoever.

D.H.

SCHUMAN: In Praise of Shahn—See Carter: Concerto for Orchestra.

Worth Looking Into
Series 100
The Incredible Growing Color Organ
by A.P.M.

The 100 is A.P.M.'s unique Master/Slave Series—The systems that offer total versatility.

The MASTER—A complete unit in itself.
Rated at 2,670 watts, it is capable of operating up to 28 separate slaves.

The SLAVES—Like the Master, available in seven different illusions, and deliver years of trouble free performance.

Master units $64.95 each.
Slave units $34.95 each.

A P M COLOR ORGAN™
Wherever fine components are sold.
Send for free color brochure and growing instructions.
A.P.M. SYSTEMS CORPORATION, P.O. Box 9159,
San Jose, California 95117

CIRCLE 4 ON READER-SERVICE CARD
After you've introduced the world's finest $500 tape deck*

What do you do for an encore?

You make the world's finest popularly priced tape deck.

When our Tandberg 6000X was reviewed by Hirsch-Houck Laboratories, they said it set a new standard for others to aim at.

Well, we're not about to rest on our laurels, because we've got another winner in our 3000X.

For a start, you'll probably never use its 7½ ips speed—except to play back your old tapes. After all, at 3½ ips you can record everything from 50 to 16,000 Hz with perfect fidelity.

At a signal-to-noise ratio of better than 60dB.

That's because the 3000X gives you Tandberg's uniquely-engineered Cross-field bias head in addition to separate erase, record and playback heads. With full monitoring facilities, three speeds, cueing lever to locate recorded passages during fast-forward and rewind...and just about everything you're likely to need this side of getting your own professional studio.

At $299 the Tandberg 3000X is just plain unbeatable.

Prove it by testing it out at your nearest Tandberg dealer.

*"It is difficult to imagine how the Tandberg 6000X could be improved."—Stereo Review, June 1970.
World renowned London ffrr quality recordings
at only $2.98

RICHMOND OPERA Treasury SERIES

Tchaikovsky:
THE QUEEN OF SPADES
Valeria Heykalova; Melanie Bognarovic; Alexander Marvinovitch; Dushan Popovich; Orchestra of the National Opera, Belgrade—Kreimhir Baranovitch STS 65316 (3 records)

Wagner:
LOHENGRIN
Eleanor Steber; Wolfgang Windgassen; Asbrt Yarnay; Hermann Uhde; Orchestra of the Bayreuth Festival—Joseph Keilberth RS 65003 (5 records)


While Mercury Records' promotion for this disc has been quick to stress the passion and mysticism of Scriabin's music, there is precious little of either element in Hilde Somer's cold and almost mechanical approach to the piano music recorded here. I found myself, in fact, paying much more attention to Somer's pianism than to the music itself. Her delineation of the many cross-rhythms in these Scriabin works, for instance, is disquietingly accurate and precise. But it is this very precision that seems to stand between Somer's playing and the underlying depth of both Scriabin's musical and extramusical intentions. At the end of the Ninth Sonata, for instance (starting with the Alla marcia passage), there is neither the deliberate dryness of Vladimir Horowitz most recent recording of the work for Columbia nor the magnificent romantic sweep created by Ruth Laredo on her new release for Connosseur Society (reviewed in these pages last October): and while there is certainly room for additional interpretations. Somer does not manage to bring about the contrasts that are essential to the Scriabin mystico-aesthetic and which characterize both the Laredo and the Horowitz performances (albeit in totally different manners). As another example, Somer's straightforward version of the second of the Op. 73 Dances (Flammes sonores) seems almost lifeless particularly in contrast with the organic treatment this same piece receives from Vladimir Sofronitsky (MK 1562). On the other hand, the first of these Dances, the much more cold and subdued Guirlandes, fares quite well in Somer's interpretation. Two more purely pianistic details—the broken chords and the trills—might also be mentioned here, since they form an essential part of Scriabin's keyboard sound and since they represent some of the best and worst aspects of Hilde Somer's playing. The case of the broken chords, Somer is in a class by herself in creating beautifully rich sonorities that are perfectly integrated into the rhythmic balance of the work (this is particularly evident in her performance of the Seventh Sonata). On the other hand, Scriabin's prominent, noncadential use of trills requires absolutely even execution, and Somer's lack of smoothness here is one of the few flaws in her otherwise excellent technique.

While the piano sound is more than adequate on this release, it comes in a poor second to the extraordiary richness and resonance that characterize the engineering on Ruth Laredo's recent recording, which also features infinitely more compelling inter-

preations. Furthermore, the loud passages at the beginning of both sides of the Mercury release are marred, at least on my reviewer's copy, by distortion that makes it sound as if the needle is running over sandpaper. I might add that an important reason—almost a mere detail—was apparently edited out toward the beginning of the Seventi Sonata by a careless technician. On the other hand, Arthur Cohn's elaborate program notes are something of a rarity, in that they offer an excellent analysis of what is going on musically with which, I'm sure, a most welcome change from the endless biographical squibs one usually finds.

R.S.B.

STANLEY: Concertos for String Orchestra, Op. 2: No. 1, in D; No. 2, in B minor; No. 3, in G; No. 5, in A minor; No. 6, in B flat. Hurwitz Chamber Orchestra, Emanuel Hurwitz, cond. Oiseau-Lyre SOL 315, $5.95.

Some years ago, when the first recording of William Boyce's eight symphonies was released, I was besieged with inquiries from friends about the composer. Who was he? Where could they find more of his delightful music? Since I predict the same reaction to this disc of engaging concertos by another unknown English composer, I have been brushing up on the answers. John Stanley was, like Boyce, primarily an organist who dabbled in instrumental music. The dates of the two men are almost identical; Stanley, who was three years younger, succeeded Boyce after his death in 1779 as Master of the King's Band and spent the last seven years of his life in that post. And since, as is the case with Boyce, there isn't much of Stanley's infectiously cheerful instrumental music around today, we must thank Emanuel Hurwitz for resurrecting the concertos of this genial Englishman. Incidentally, one reason for Stanley's meager output was that he was blind; faced with the cumbersome task of dictating his music, he spent more time as a performer than as a composer.

Stanley was apparently universally popular with his friends for those qualities that were endearing in any eighteenth-century gentleman: graciousness, good humor, and taste shine through his music as well. Never long-winded or arcane. the ingratiating tunes make their points with wit and charm, then step aside to let a fresh idea have its say. Handel and Corelli were Stanley's models, but his cheerful airy melodies breathe the spirit of London's fashionable Vauxhall Gardens more than they recall the formal traditions of the Italian violin school.

The elegance of Emanuel Hurwitz' approach and the fact that his chamber orchestra should please the most discriminating classicist. The harpsichord continuo, undoubtedly played originally by the composer himself, is brilliantly realized by Charles Spinks. Stanley's emotional range was limited; he did not attempt to either stir the emotions or...
Sleek, black and omni-directional, the 5303 virtually eliminates tight polar patterns on the upper highs. Gives you deep, ful timbered bass on the ultra lows. Banishes that bothersome "hole in the middle." Ends nailing your chair down to that one "best" spot common with conventional speakers. Gives you the freedom to roam around your own room, enveloped in rich stereo sound.

The 5303 utilizes four woofers and four horn tweeters. Flawlessly reproduces the 20 to 20,000 Hz range. Handles up to 80 watts input with ease. Can be mounted on stand (included), or hung from ceiling to give you more living space.

If your tastes are more traditional, then check out JVC's Model 5340. It handles up to 87 watts. Integrates a cellular horn in its powerful 4-way speaker system. There are many other fine speakers in the JVC line. See and hear them at your nearest JVC dealer. He will be proud to demonstrate them, just as you will be proud to own them.

JVC Catching On Fast

JVC America, Inc., 50-35, 56th Road, Maspeth, New York, N.Y. 11378

March 1971
The two sides of this record are 3,000 miles apart.

On one, Paul Robeson sings live at the A.M.E. Zion Church, New York. On the other, at the Royal Albert Hall, London. But Robeson’s stirring presence makes the two concerts seem a lot less than an ocean apart. And you get the feeling that, no matter where he’s singing, an artist with the power and depth of Paul Robeson will always bring you to the same good place.

On Columbia Records®

What started out as a romance in Los Angeles...

A salesman in Los Angeles recommended a Concord receiver to a couple from Phoenix, the couple from Phoenix told their lawyer in Colorado Springs, the lawyer from Colorado Springs told an oil man from Tulsa, the oil man from Tulsa told his lodge brother from Peoria, the lodge brother from Peoria told a druggist from Cleveland, the druggist from Cleveland told a truck driver from Philadelphia, the truck driver from Philadelphia told his stock broker from New York, and the stock broker from New York loved the Concord stereo receiver.

...has ended up as a love affair in New York!

And this is the reason for the love affair. The Concord Mark 20 AM-FM stereo receiver is 300 watts of beauty. It can deliver enough distortion-free power to fill an auditorium. Or it can whisper sweetly. Solid state circuitry utilizing field-effect transistors and integrated circuits provides maximum station pulling power, superb performance on records, tapes and broadcast. A turning meter for F.M. signal strength meter for A.M., provide pinpoint tuning. And it has all of the audiophile controls—tape monitoring, speaker selector switch, stereo headphone jack, loudness contour controls, calibrated slide pots for tone, balance and volume, interstation muting and automatic stereo switching. All of this wonderful performance is wrapped up in a handsome solid-walnut cabinet with a back-lit, smoke-black plexiglas front panel. The price is under $300. Other Mark Series receivers starting at under $200 for Mark 10, under $240 for Mark 12.

Concord Mark Series Receivers

Concord Electronics Corp., 1955 Armorial Avenue, Los Angeles, Calif. 90025 A Subsidiary of Ehrenreich Photo-Optical Industries, Inc.

CIRCLE 11 ON READER-SERVICE CARD

astonish, but to entertain. As one who appreciates small favors in a rather gloomy world, my thanks go to Oscar-Lyce and John Stanley for a very enjoyable disc.

S.T.S.

TAVENER: The Whale. Anna Reynolds, mezzo; Raimund Herincx, baritone; Alvar Lidell, speaker; London Sinfonietta Chorus; London Sinfonietta, Dean Atherton, cond. Apple SMAS 3369, $4.98.

John Tavener is a very young (twenty-seven) English composer who has been making quite a name for himself in the past few years. (Among other things in his favor is his name—John Tavener was one of the most important English composers of the sixteenth century.) The Whale was written in 1968 when the composer was all of twenty-four, and in many ways it is a remarkable achievement.

The work is a kind of dramatic cantata, lasting some twenty-five minutes and based on the Vulgate text dealing with the story of Jonah and the Whale. The piece adds up to more than a simple setting of this text, however; as the composer indicates, it is really a "fantasy" built around the text—"a fantasy which grew and perhaps at times nearly "swallowed" the text." There are three sections of "pure fantasy," each of which is completely instrumental. All three are "deliberately monotonous," characterized by melodic ostinatos and repetitive, highly regular rhythmic patterns. Significantly, these form the most original sections of the piece, although artistically they are also the most "dangerous." When they work, they work very well. Particularly effective is the way the initial one—the first music to be heard—emerges out of an opening narration, a reading of an encyclopedia article on whales. This reading is done in standard BBC fashion, only slightly manipulated electronically by using an inordinate amount of echo. The narration is then gradually absorbed into the piece, first by being combined with pure electronic sound (one of the rare uses of such material in the work) and then through the combination of both narration and electronics with the opening instrumental section. Also effective is the music depicting the storm at sea, which consists of jangling bells, tinkling piano, and the like, all pianissimo—surely a storm scene unprecedented in all musical literature! It is a bold stroke—rather like the proverbial "storm in a teacup." yet it is surprisingly effective in context.

Occasionally, however, Tavener's ideas backfire. The music depicting the belly of the whale, for example, seems to me to be a real miscalculation. It is made up mainly of short melodic "bits" with strong jazz-rock-pop overtones, all repeated unmusically. But the composer fails to transform these sufficiently to integrate them into his score and consequently, they appear as rather uncouth intruders from the outside world.

Yet all in all Tavener reveals a re-
THE CRITICS HAVE PUT THE
COMPETITION
IN THEIR PLACE

Specifically, the leading consumer testing publications have continually top-rated Sherwood receivers over all others. Our S-8900 shown here leading the pack is no exception.

Of course, we worked hard to get those ratings.

The S-8900 has a powerful 225 watt (± 1dB) amplifier (48 watts RMS per channel at 8 OHMS). FM distortion is the lowest in the industry—0.15%. There's an impressive 3 year parts warranty, plus 1 year labor, too.

The S-8900 features solid-state ceramic FM IF filtering. Exclusive FET FM interchannel hush control. A zero-center tuning meter. There's an extra front panel tape record/dubbing jack. And six pushbuttons for every effect you could possibly want.

At $399.95, our S-8900 gives more top-rated quality than any comparable or lower priced model.

That's what we've always said. Only now you don't have to take our word for it.


SHERWOOD SOUNDS EXPENSIVE


A well-known critic once described one of the late Hermann Scherchen's performances as "opinionated." The term seems particularly suitable to describe that small group of re-creative musicians whose individualistic notions about this or that work can be justified by citing certain indications in the score, but which nevertheless sound willful and unconvincing.

It seems to me that conductor Karajan's views vis-a-vis Tchaikovsky's music in general—and this concerto in particular—are "opinionated." He has already superimposed his strange, slow-motion tempos on the music in a DG recording made with Sviatoslav Richter in Vienna. Richter's playing on that disc was leaden, square-toed, and lifeless, without the elegance, lift, and note-to-note continuity heard in his other two versions of the piece with Ančerl and Mravinsky.

Weissenberg, in many ways a less exceptional virtuoso than his Soviet colleague, seems less thrown by the podium domination and manages to turn in a relatively animated, uncomplicated statement of the piece. But at a few crucial points (e.g., the broad first-movement introduction and the triumphant conclusion to the finale) he is too crushed under the lugubrious tonnage of Karajan's Teutonic deliberation. What was undoubtedly intended to be great breadth and nobility ends up sounding lethargic and laborious. Angel's engineering is acceptable but not exceptional: the orchestral heft has a lot of billowing reverberation at the bottom, a woolly quality above, and the piano sound is rather bleak, thin, and lackluster (partly, one suspects, the soloist's own doing to be sure, but he is not exactly helped by the prevailing sonic conditions). Maybe Karajan is right—perhaps this is the way Von Bülow played the concerto at its premiere: I'll take a straight, red-blooded approach any day of the week.

The Davis/Lewis effort also has its willful moments, but at least they are helped by the lucid, ultrasleek Phase-4 engineering. True, one would never hear such voluptuous, pulsating string sound as this in the concert hall, nor would one get all those woodwind close-ups with such analytical sensationalism. Even so, as a phonographic experience, the effect is both pleasurable and educational. Conductor Lewis also illuminates some felicities of interpretation. For one thing, he has the solo flute play B flat rather than F on the third note of its second-movement solo. This variant (which makes the orchestral statement conform to that of the solo pianist) comes to light very rarely these days. Goehr used it, as I recall, in his ancient shellac version with Egon Petri, as did Pierre Monteux in a Lewisohn Stadium performance c. 1953 with Monique de la Brucholertie. Davis, I might add, has his pet notions too—but they are never over-bearing enough to warrant the opinionated tag. I am not overly fond of his way with the piece. He has a very finished, fleetly patrician type of pianistic...
An Alternative For The Discriminating

You like good sound but can't decide which component system is best. Lafayette offers a choice of an all-in-one award winning receiver or a separate amplifier or tuner of equivalent quality. Each is designed to meet your requirements for space, top notch sound and best of all, durability at an award winning price.

AM/FM SOLID STATE STEREO RECEIVER

The LR-1500TA the award winning receiver by acclamation of the critics. This all-in-one unit has a powerful 240 watts of power ± 1db. "Acritune" provides for precision, no guess work tuning and Computor-Matic T.M. gives you automatic overload protection. The LR-1500TA has all the controls you will ever need for superb performance. Reliable sophisticated electronic circuits. Distinctively styled to enhance any decor. Stock No. 99-01950WUX $299.95

SOLID STATE STEREO AMPLIFIER

The LA-125B solid-state stereo amplifier with 160 watts of power ± 1db is powerful enough to drive two sets of stereo speakers at the same time. The LA-125B has many deluxe features including: front panel headphone jack, high and low gain phono and tuner inputs, a speaker mode switch, front and rear tape output jacks, and special remote speaker terminals. The LA-125B is beautifully styled and comes complete with walnut finish metal case. Stock No. 99-02305WX $129.95

SOLID STATE STEREO TUNER

The LT-725A, a solid-state AM/FM stereo tuner with its distinctive styling will complement the LA-125B stereo amplifier. The LT-725A is priced within the budget of the music lover. Buy it now or add it to your music system later. High (1.7mV) sensitivity and 1.5db capture ratio assures pulling in stations near and far. Includes: front and rear panel tape output jacks, illuminated signal strength tuning meter, automatic stereo switching and stereo indicator light. Stock No. 99-022907W $99.95

LAFAYETTE

FREE! Golden Jubilee 1971 Catalog 710
Over 460 Pages

Your Complete Buying Guide to Everything in Electronics

- Hi-Fi — Stereo Equipment • Radios
- Tape Recorders • Cassettes • Speaker Systems

LAFAYETTE RADIO ELECTRONICS CORP.
Dept. 19031 Box 10, Syosset, N. Y. 11791

Send me FREE 1971 Catalog 710

CIRCLE 29 ON READER-SERVICE CARD
THE FIRST CROWN PREAMPLIFIER

What would happen to a preamplifier design, if the design engineer could free himself from stereotyped ideas and start fresh with only a list of customers' requests? Well, at CROWN that has just happened, and the result is the IC150, an exciting "new concept" control center with simplified circuitry, controls that are easy to understand and use, several exclusive features, unsurpassed quality, and to top it all off—a lower price tag.

Crown Engineers discovered that preamp switches don't need to pop...that there is something better than the stereo mode switch...that the phono preamp can be dramatically improved and, that by using IC's, a versatile high-quality advanced-performance preamplifier can be priced to beat inflation.

Of course, the true uniqueness of such an innovative design cannot be appreciated by reading about it. The only answer is to experience the IC150 yourself. Let us tell you where CROWN's "new concept" is being introduced in your area. Write today for a list of locations.

The world's quietest phono preamp
Infinitely variable stereo panorama control
Silent switching and automatic muting at turn-on and turn-off
Integrated circuit modules
Industry's lowest distortion levels
Full range tone and loudness controls
Guaranteed phase response
3-year parts and labor warranty
Will drive any amplifier
$239. Walnut enclosure $33

Ask your dealer about Crown's new companion D150 power amplifier, which delivers 200 watts IHF output at 8 ohms or 350 watts at 4 ohms. No amp in this power range — however expensive has better frequency response or lower hum, noise or distortion. It offers performance equal to the famous DC300, but at medium power and price. It's worth listening into!

Exported as AMCRON

CROWN BOX 1000, ELKHART, INDIANA, 46514, U.S.A.
CIRCLE 13 ON READER-SERVICE CARD

THE FIRST CROWN
PREAMPLIFIER

IC 150

ROBERTO D'ALESSIO and AURORA BUADES: "Opera Recital!" BELLINI: I Puritani; A te o cara. DONIZETTI: Don Pasquale: Com'e gentil; La Favorita: E fia vero? (with Ezio Pinza, bs); Aht mio bene; O mio Fernando; Spirito gentil; Vieni, ah vieni. PUCCINI: La Boheme. Che gelida manina. MASCAGNI: Cavalleria rusticana: Addio alla madre. BOITO: Mefistofele: Dai campi. DELIBES: Lakme: Cantilena. BIZET: Le Pecheurs de perles: Mi par d'udir; Della mia vita. MIESENET: Werther: Ah non mi ridar. SAINT-SAENS: Samson et Dalila. A. aprile foriero. Aurora Buades, mezzo; Robert d'Alessio, tenor; orchestral accompaniments. Rocco 5317, $5.95 (mono only).

These two singers, the Spanish mezzo Aurora Buades and the Italian tenor Roberto d'Alessio, were man and wife. Together and separately, they appeared on most of the important Italian stages in the interwar period, and they both appeared on the first integral recording of Falstaff (for Columbia) as Mistress Quickly and Fenton.

Collectors who know their work only from that set will, I think, be surprised by the quality of the singing on this disc. This is especially true of D'Alessio, who was undoubtedly the more important of the two, and whose many records were widely sought by collectors. He has the lion's share of the selections here, with his wife singing only one aria from Samson and one from Favorita. And joining his husband in these two Favorita duets.

D'Alessio's records were made in the 1920s and early 1930s, but his singing is really a throwback to an earlier, one-generation, having a good deal more in common with the vocalism of Anselmi, Bonci, or even De Lucia than with that of most of his contemporaries. He was an aristocratic singer of great elegance, capable of sustaining a long, clear legato with almost pinpoint dynamic control. He was not, however, a "good field, no hit" tenor; there were plenty of players in the voice, and no hint of compromise with the full-throated top. The voice betrays an occasional hint of the kind of quick tremolo—almost a bleat—that also characterized his predecessors. It is not strong enough to be disturbing, at least for me.

All these selections are fine examples...
ROBERTS 808 D makes you a cartridge pro!

The sensational ROBERTS 808D 8-TRACK CARTRIDGE STEREO RECORDER/PLAYER DECK puts you in the professional recording class. You can now record 8-track cartridges for your auto stereo yourself...and play them back in your car or through your hi-fi system or console...for hours of uninterrupted stereo music. Equipped with solid state preamplifiers. Handsome genuine walnut cabinet.

Outstanding features!

- FAST FORWARD CONTROL...selects desired portion of tape on any channel in a matter of seconds!
- 1-MICRON GAP PLAY HEAD...makes possible superb frequency response, and is guaranteed for the life of the recorder to the original owner. (Replacement installation charges not included.)

Plus...Two Linear Action Music Level Controls • Automatic Stop • Automatic Channel Indicator Lights • Continuous Play Button • Stereo Headphone Jack • Record Indicator Light • 2 VU Meters • Microphone & Radio/Phono Inputs • Stereo Line Outputs

Specifications include: Tape speed: 3-3/4 ips. • Fast Forward Speed: 15ips • Frequency Response: 50-15,000Hz ±3db • Distortion: less than 4% • Signal-to-Noise Ratio: better than -44db • Channel Separation: better than 40db • Sensitivity: MIC better than 0.5mV @4.7K impedance. Line better than 50mV.

HIGH PERFORMANCE ROBERTS MODEL 808 8-TRACK CARTRIDGE STEREO TAPE RECORDER SYSTEM...same as Model 808D except with built-in power amplifiers and separate walnut-enclosed air suspension speaker system.

For complete information, write

The Pro Line
ROBERTS
Div. of Rheem Manufacturing Company
Los Angeles, California 90016

CIRCLE 42 ON READER-SERVICE CARD
of his singing, though for demonstration of his greatest strengths. I think the "Spinto gentil," the "Dai campi" (the best version I know), and the "Mi per d'udit," are the most interesting. The refinement of his treatment also makes the difficult little Lakmé song into quite a special moment, and his firm, blandishing "Che gelida manna" has very few rivals.

Huades gives the impression of a solid, musical performer of good temperament, with an imposing, if not really beautiful, voice. Despite some harshness of tone, her stylish phrasing and intelligent treatment of the music make her contributions enjoyable. Pinza is marvelous in the Favorito scene.

The transfers are on the whole good, having plenty of life and presence. Surface noise from the 78s varies considerably, ranging from the disturbing in a couple of instances to very quiet. One can always take a treble cut.

To add a bit to the good liner notes of Leo Riemens: D'Alessio's debut was in Mignon in 1921. Since his retirement he has taught singing in Florence, where at last report he was still alive and working. Rococo has again performed a service in bringing so fine a singer to the attention of a new generation of collectors. C.L.O.

JOSEF HOFMANN: "Piano Recital." Works by Chopin, Liszt, and Mendelssohn. Josef Hofmann, piano. For a feature review of this and other historical piano recordings, see page 71.

JOSEF LHEVINNE: "Master of the Romantic Piano." Works by Chopin, Schumann, Liszt, Debussy, and J. Strauss. Josef Lhevinne, piano. For a feature review of this and other historical piano recordings, see page 71.


A generation ago, this recording would have appeared under the catch-all title of "Arie antiche," sporting soupy romantic orchestral arrangements and an unburred Beniamino Gigli unashamedly displaying heart on sleeve. Times have changed, and Peter Schreier is far from being another Gigli: his carefully considered, tastefully restrained singing and rather dry tenor (a perfect aural repre-

sentation of the bespectacled, professorial photograph reproduced on the record jacket) is accurately complemented by the earnest chamber-orchestra-with-harpischord accompaniments. Whether or not the gain in authenticity of presentation is matched by equal progress in musical rewards is another matter.

The repertoire here is certainly of interest and sparingly represented on disc. There is Monteverdi's little pastoral from L'Orfeo (rather languidly realized—Orfeo is at his happiest in this aria and the sprightly rhythmic performances in the various complete versions seem more appropriate); two arie difficile by Stef-fani: a floridly heroic "trumpet" aria balanced by a sorrowful oboe-accompanied plaint; Scarlatti's gracious apos-trophe to the violets, perhaps more familiarly known as Le Violette, and half a dozen other selections by less frequently heard but no less melodically inspired composers from opera's earliest years.

Schreier's performances tend to be rather bald not only in essential matters of ornamentation but also with regard to vocal coloration and imaginative phrasing. He handles the coloratura neatly and cleanly and there is nothing really objectionable about his singing except that it all sounds so dutifully dull. Now that the pendulum has made a full swing in the opposite direction perhaps a tenor will appear who can combine voice, scholarship, and musical showmanship to invest these arias with the warmth and excitement that their composers intended.

P.G.D.

"THE STONED GUEST." Lorna Hay-wood, soprano; Marlena Kleinman, contralto; John Ferrante, tenor; Peter Schickele, baritone; et al.; instrumentalists, John Nelson, cond. Vanguard VSD 6536, $4.98.

Peter Schickele's parodies of the baroque style have led to this put-on of a mid-eighteenth-century German opera, loosely connected with the plot of Don Giovanni. The performance is presented in the manner of a Saturday afternoon Met broadcast: there is even an intermission quiz, chaired by "Milton Host," with "Paul Henry Lung" as a panelist.

Heaven knows, there is inherent humor aplenty in the opera-making process and no reason at all why some of it should not be extracted and gently ribbed. There is also a regrettable shortage of musical parody these days, of the sort once provided by Alec Templeton, Anna Russell, and Gerald Hoffnung. I didn't laugh too often at The Stoned Guest, but certainly others will: one man's funny is another man's lead balloon, and vice versa. If you are not put off by seventh-grade puns—we roll our own in my house—you will very probably enjoy the neatly professional singing and playing.

G.M.
Compulsive audio perfectionists! Let our nice $279 speaker relieve you of your agony.

We fully understand how much you're suffering.

Maybe you just took a thousand-dollar loss getting rid of all your six-foot high electrostatic panels because they were blotting out the sun and killing your wife's potted plants.

Maybe you're lusting for a pair of those four-figure corner horns, but your listening room lacks corners.

Or perhaps you're tinkering with the electronic crossover for a quadri-amp speaker system with ionized-air tweeter.

Let us take you away from all this.

For only $279, we offer you an elegantly simple device called the Rectilinear III.

It stands just under three feet tall on one and a half square feet of floor space and its sleek oiled-walnut cabinet houses everything you need: a 12" woofer, a 5" dual-cone midrange driver, two 2½" tweeters, two 2" tweeters and a crossover network, all of them of quite finicky design.

You connect the Rectilinear III to any low-distortion amplifier or receiver of at least medium power, and what you hear will be easily in the same class with the most agonizingly exotic speaker system. We promise.

But, of course, you don't have to rely on our promise. The electronics editor of Popular Science, for example, wrote of the Rectilinear III as "the finest loudspeaker I've ever listened to, regardless of size, type or price."

Stereo Review's equipment tester, Julian Hirsch, wrote that "we have never heard better sound reproduction in our home, from any speaker of any size or price." Okay?

The only drawback of the Rectilinear III is that it may be too uncomplicated and painless for certain audio perfectionists. But just think how much time it can save for other, related hobbies. Like music.

(For more information, including detailed literature, see your audio dealer or write to Rectilinear Research Corp., 107 Bruckner Blvd., Bronx, N. Y. 10454. Canada: H. Roy Gray Co. Ltd., Markham, Ont. Overseas: Royal Sound Co., 409 N. Main St., Freeport, N. Y. 11520.)

The opening night of Marc Blitzstein's The Cradle Will Rock on June 16, 1937, has become something of a legend in theater lore and that colorful event probably accounts for much of the mystique that still clings to this opera/musical. To recount the background briefly: the WPA funds that sponsored the production were locked out of the theater: the performers Recordings CRI SD 266, $11.90 [from Vox PL 7220, recorded in 1944].

Even through the reverberant sonic murk and restricted dynamic range of this twenty-seven-year-old live recording one is bowled over by the extraordinary quality of the performance. Strauss may have been eighty at the time but he conducted with the authority and involvement of a man half his age. Although the Symphonia domestica has never been very popular, the composer always entertained a great affection for the score and he seems to be reliving a typical day in the Strauss household with considerable relish.

It's amazing how much cogent detail actually does emerge here, for Strauss the conductor knew precisely how to balance and emphasize the many themes that weave in and out of his complex orchestral web: the superbly paced and controlled sweep of the adagio Love Scene is particularly impressive. The triple-fugue finale can't help sounding a triple-fugue even in the most symphonic settings (when all three themes get going, in "domestic" terms, is rather like a dishwasher gone berserk). Still, this is an important disc for students of the composer and an example of a great conductor at work as well.

ENRICO CARUSO: "The Young Caruso." Arias by Verdi, Donizetti, Boito, Mascagni, Puccini, Massenet, Ponchielli, Leoncavallo, Giordano, Cilea, and Bizet; songs by Tramarchi, Tosti, Denza, and Leoncavallo. Enrico Caruso, tenor; Salvatore Cottono, piano. Seraphim 60146, $2.98 (mono only) [from various Columbia original discs, 1937].

Caruso's first recording sessions in Milan (1900-04) consisted of a representative cross section from the twenty-nine roles that he has recorded in the house, all culled from earlier recital discs. Tucker's long and faithful association with this label is rather puzzling in view of Columbia's traditional disinterest on behalf of recorded opera, but the half a dozen or so aria collections as well as the tenor's on-loan participation in complete operas for other companies have given us a good documentation of his work over the years.

Few major singers reach the quarter-century mark these days and even fewer give evidence of continuing work past that milestone. But then, how many opera singers have possessed Tucker's technical security or have had the sense to pace their careers so shrewdly? At the very least Tucker's performances can always be depended upon for their vocal honesty and reliability. True, one may take exception to his rather generalized interpretations, the occasional touches of sobbing sentimentality, and such mannerisms as explosive consonants that turn syllables into separate words ("gli occhi bell" in Rodolfo's aria for instance); still, the ringing metal of the voice and the energetic directness of his singing have given much pleasure to opera goers over the years and will doubtless continue to do so in the future. Despite the fifteen years that separate the earliest aria (Ferrando's aria from Cosi fan tutte) from the latest (the Carmen "Flower Song"), Columbia's sound is consistently flattering. PETER G. DAVIS
THE MORE CRITICAL YOU ARE
THE BETTER KLIPSCH LIKES IT

PAUL KLIPSCH likes people who fight back. Who recognize that the KLIPSCHORN is not perfect. He acknowledges that it still does not close the gap between original sound and reproduced sound. Probably no speaker ever will. But the more critical your listening, the more you'll recognize how narrow the KLIPSCHORN has made the gap. Narrower by far than any other speaker.

LISTEN FOR DISTORTION. It takes a critical listener to detect any at all from a KLIPSCHORN. The high efficiency of the horns, low excursion of the drivers, and overall advanced Klipsch design have virtually eliminated distortion.

CHECK THE FREQUENCY RESPONSE. Almost any speaker will reproduce some sort of sound at every audible frequency. But notice how the KLIPSCHORN keeps that response more nearly uniform through the entire range. Try it either in a listening room or an echo free environment.

DISCOVER WHAT TRUE STEREO IS ALL ABOUT. Let your hearing reconstruct the original recording group, placing each instrument and voice in its original position. Not just smearing sound between speakers. That's because Klipsch has probably done more research on stereo reproduction from two or three speakers than anyone else except, perhaps, Bell Telephone laboratories.

GET TO KNOW A KLIPSCH DEALER. It may be a slight task locating one in your area. But it will be worth the effort. You'll find he has solid factual information to offer. He'll have good demonstration facilities. His price will be fair. It will be firm. We feel he is as entitled to his profit as you are to a certain level of performance.

ACQUIRE YOUR OWN REFERENCE LIBRARY. Get more critical. Send $5.00 for a set of Klipsch technical papers, including Paul W. Klipsch's two latest on modular distortion. With the set we'll also send reprints of Symposium on Audio Perspective from Bell Telephone Laboratories and Principles of Stereophonic Sound by William B. Snow.

You see, everything we do is documented by technical papers and supported by objective performance data.

KLIPSCHORN®
Price about $884 in oiled walnut. Other finishes from about $571 to $1,020.

CORNWALL®
Prices from about $342 to $469.

MODEL H 700®
Prices from about $209 to $258.

KLIPSCH & ASSOCIATES
Box 280 H 3
Hope, Arkansas 71801

Please send me complete information on Klipsch speakers and Klipsch Wide Stage Stereo. Also include the name of my nearest Klipsch Authorized Audio Expert.

Enclosed is $5.00 for Klipsch Technical Library.

Name ____________________________
City ____________________________ State ______ Zip ______
Occupation ________________________ Age ______
Sony presents three distinguished professional quality stereo tape decks for the serious hobbyist. Each of these Sony decks has been value-engineered to offer the greatest possible performance capability for the money. Your Sony/Superscope dealer will be glad to help you decide which instrument best suits your personal recording needs.
“Silence With Music In It.” Katherine Anne Porter’s magical phrase is a perfect description of recording (disc or tape) free of surface-noise pollution—a blessing long confined to ideally processed new discs and open-reel tapes derived from masters recorded with Dolby Type A signal-to-noise ratio “stretching.” Now, however, this incalculable advantage has been brought, in large part at least, to the tape format most plagued by surface noise: the cassette.

I have just been listening with immense relish to the first Dolbyized musicscapes (via an Advent Model 101 Noise-Reduction Unit). Unlike most other revolutionary audio advances, this one demands no long debugging developmental period or any aural adjustment on the listener’s part. Try playing one with the noise-reduction circuits “out” and then repeat the same section with the circuits “in.” The improvement in all low-level musical passages will surely be immediately and dramatically evident.

Listening last fall to David Sarser’s technical paper delivered at the Audio Engineering Society convention and his later informal demonstrations had prepared me for the Dolby process’ ability to realize in practice its theoretical potentials. What I had scarcely expected was the ease with which I—or anyone—can obtain exactly the same felicitous results.

Straight from the Dolby Dohhin’s Mouth.

In addition to review copies of the first American Dolbyized musicscapes, I’ve been helpfully provided (by the main Dolby Laboratories in London) with several of the first English Decca examples. These probably will be released here later in London/Ampex productions, but meanwhile they serve as quasi-official “standards.” Indeed one of them, the 1970 Boskovsky New Year’s Concert Strauss program, struck me as the well-ideal of casecloth progress in every respect. Last July I reviewed the disc edition of another, Frühbeck de Burgos’ Albeniz Suite española, so I had the record on hand for direct A/B comparison with the cassette version. By this time I wasn’t surprised to find the latter just as sonically bright as the former. What did amaze me was the extremely close match in surface quietness.

“Foster-Children of Silence and Slow Time.” Believe it or not, another A/B surface-noise comparison gave the Dolbyized-cassette version of Melba’s Tchaikovsky Romeo and Juliet/1812 Overture coupling (London/Ampex M 10227, $6.95) a clear victory over the disc edition! It’s only fair to note, however, that the latter was not up to London’s best standards of surface noise: A more effective all-round Dolbyization demonstration is the advance cassette release of Henry Lewis’ Strauss Also sprach Zarathustra (London/Ampex M 94053, $6.95). Quite apart from the highly individual, ultraromantic reading, this musicscape is not only notable for its wide dynamic range and sonic warmth and brilliance, but also—in Dolbyized playback—for its truly quiet background to such low-level passages as the “Sunrise” opening, the Von der Wissenschaft fugue, and the famous tonally ambiguous ending. By sheer chance I had on hand for immediate comparison the current RCA cassette edition (RK 1168, $6.95) of Reiner’s second (1962) version of the Strauss showpiece. Still the finest reading to my mind (far more magisterially dramatic than Lewis’), it is still mightily impressive sonically, but the previously “normal” (here even smoother than usual) surface noise is unmistakably evident.

Two other London/Ampex special advance releases are M 94042 and M 94055, $6.95 each; respectively, Stokowski’s Beethoven Fifth/Schubert Unfinished coupling, and Marilyn Horne’s Carmen excerpts with unnamed soloists and the Royal Philharmonic Chorus and Orchestra under the direction of her husband, Henry Lewis. There are also, I believe, a considerable number of Dolbyized pops, but the only one of these I’ve heard so far is the Checkfield Orchestra’s program of Simon & Garfunkel and Jim Webb tunes (M 84151, $6.95). In each case these vary in the immediately evident effectiveness of surface-noise reduction, but the improvement is still considerable.

One of the first Dolbyized Vox cassettes, processed under David Sarser’s expert direction, is by programmatic nature exceptionally well-adapted to exhibit the full virtues of quiet surfaces. It includes the pervadingly serene, heart-twisting Satie masterpiece, Socrate (conducted by Friedrich Cerha). Milhaud’s L’homme et son désir ballet, plus several Stravinsky and Ravel songs by Marie-Thérèse Escribano with chamber orchestra (Vox VC 678 030, $6.95). This release also is notable for its doubleplay length (some sixty-nine minutes) obtained by the use of “high-performance” thinner oxide tape stock, which provides—according to a Dolby Laboratories press notice—higher-level high-frequency output among other technical advantages.

But What’s the Catch? Nothing, so far as significant surface-noise reduction is concerned. But if a recording isn’t satisfactory to begin with, quieter surfaces can’t make it any more audibly palatable. Witness Vox VC 678 029, $6.95, which combines the Ponti/Maga performances of the Moscheles G minor and Rubinstein D minor piano concertos—fairly good readings of delightful romantic waltzes, but so inadequately dynamically and sonically that even first-rate Dolbyization can’t save the day. Then, too, musicassette Dolbyization can’t remove surface noise of non-Dolbyized master tapes. Witness the London/Ampex Tosca (with Leonette Price) musicassette setes, $14.95 (libretto on request) and presumably also the companion Norma with Sutherland and Horne, D 31168, two cassettes, which I haven’t yet heard for myself. Nevertheless, the 1963 Tosca sonics still evoke an impressively big opera-house ambiance. And obviously (at least to anyone who has read up on the technical characteristics of the Dolby Type-B process) built-in background noise, modulation noise, low-frequency rumbles, hum from one’s own system, etc., cannot be cured by the new process.

Furthermore there is what might be called a psychological hang-over which may be more or less serious according to the individual listener’s sensitivity to extraneous noise in general. As a veteran of the 78-rpm shellac-disc era, I’m personally an old hand at mentally filtering out surface noise in particular. The “normal” (until now) noise of musicassettes has never bothered me as much as it does many listeners. Nevertheless, after long sessions of Dolbyized listening I find myself more than usually conscious of even the smoothest non-Dolbyized cassettes—but of course that consciousness always wears off as I concentrate on the music, its performance, and the sonics themselves.

Compatibility? Yes—and No! The greatest unsolved problem is how Dolbyized musicassettes will sound in non-Dolbyized playback, i.e., on the vast majority of equipment in general use. There are two diametrically opposed views on this problem—and I find them both right according to the circumstances. An experienced listener, playing musicassettes over a big-speaker stereo sound system will find the uncompensated playback of Dolbyized cassettes entirely satisfactory—primarily by reason of disconcerting high/low-level frequency-characteristic changes. But for undiscriminating listeners, or anyone listening via small-speaker mono equipment, the boosted highs during low-level passages in uncompensated playback are likely to be objectionable, if indeed they are noticeable at all. So the problem resolves itself pragmatically: the discriminating audiophile with a big stereo system is most likely to invest in Dolbyized playback, and listen only (or at least small-speaker) cassette player probably won’t know or care whether the musicassettes he buys have been Dolbyized or not.
THE ROTHSCILDS. Original Broadway cast album with Hal Linden, Paul Hecht, Keene Curtis, Leila Martin, and Jill Clayburgh. Columbia S 30337, $5.98.

The Rothschilds is based on Frederic Morton's panoramic history of the House of Rothschild, not an especially likely subject for a musical. In addition to the sprawl (geographic and chronological) of this story, which recounts the history of Europe's greatest banking family, the building of a fortune does not suggest much in the way of music—not appealing music, at least. But with the help of Sherman Yellen's book, which focuses on the heart of Mayer Rothschild along with his financial ambitions, Sheldon Harnick and Jerry Bock have managed to turn out a score that has a surprising amount of warmth, spirit, and melodic grace.

Mayer's ambitions sometimes get in the way of his heart, as in his plea for sons which his willing wife produces in a seemingly endless stream. But even the chill that might have entrapped Bock and Harnick here is dispelled by the superb performance of Hal Linden, whose vibrant authority rings all through the recording. He has the ability to bring a human, flesh-and-blood quality to almost any situation and to project it even in the austere circumstances of a recording. It is Linden's skillful performance that points up the clever con man in Hal Linden, whose vibrant authority rings all through the recording. He has the ability to bring a human, flesh-and-blood quality to almost any situation and to project it even in the austere circumstances of a recording. It is Linden's skillful performance that points up the clever con man in *He Tossed a Coin* that leads the spirited, bubbling *Rothschild and Sons*, and that makes the sentimental *In My Own Lifetime* a very touching passage.

The first half of the score—at least, the first side of the record—is much more rewarding than the second, which goes limp in the book and, presumably, gave Bock and Harnick less to work with. But that first side is a pleasant surprise—a warm, rich score that shows that it is still possible to write a good old-fashioned musical. J.S.W.

TWO BY TWO. Original Broadway cast album with Danny Kaye, Harry Goz, Madeline Kahn, Michael Karm, Walter Willison, Tricia O'Neil, Joan Copeland, and Marilyn Cooper. Columbia S 30338, $5.98.

At this late date there is no point in wondering why anybody wanted to make a musical out of Clifford Odets' Bronx version of the story of Noah and the Flood, *The Flowering Peach*, or why Danny Kaye wanted to play as dismal a role as this Noah, or why Richard Rodgers wanted to write music for it. (Rodgers apparently talked himself into it because he is also the producer.) Rodgers has been at loose ends since the death of Oscar Hammerstein II. In this score, in which both he and his lyricist, Martin Charnin, seem to be trying to reach for the Rodgers and Hammerstein style, Rodgers' music has little relationship to the dramatic situation, if such a term can be justified. Much of it is run-of-the-mill and it is not helped by most of Charnin's lyrics (notably in the title tune which also suffers from a dreary arrangement by, incredibly, the usually able Eddie Sauter).

Cleaving through the triteness like rays of hope—that Rodgers at sixty-eight still has more of his melodic charm to give us, and that Charnin may have something to offer as a lyricist—are three songs: *An Old Man*, a warm characterization beautifully sung by Joan Cope-land; *You*, another gentle, reflective song that offers Danny Kaye his only believable opportunity, and *As Far As I'm Concerned*, a bright and catchy song that, coming at the tag end of the score, simply serves to underline what a waste of time the whole thing has been. It is the only real spot of fun in the show and it is the only opportunity given Marilyn Cooper and Harry Goz to show their vital comic talents. J.S.W.

GEORGE HARRISON: All Things Must Pass. George Harrison, vocals and guitar; rhythm and instrumental accompaniment.

JOHN LENNON/PLASTIC ONO BAND. John Lennon, vocals, piano, and guitar; Klaus Voormann, bass; Ringo Starr, drums.

For a feature review of these recordings, see page 70.

GRATEFUL DEAD: American Beauty. The Grateful Dead, country rock sextet. (Box of Rain; Operator; Ripple; Friend of the Devil; Attics of My Life; five more.) Warner Bros. WS 1893, $4.98. Tape: 33 M 81893, $6.95; 33 M 51893, $6.95.

KINKS: Lola vs Powerman and the Moneygoround. The Kinks, hard rock quintet. (The Contenders; Ape Man; Rats; Strangers; Got to Be Free; eight more.) Reprise RS 4624, $4.98. Tape: 33 M 86423, $6.95; 33 M 56423, $6.95.

VAN MORRISON: His Band and the Street Choir. Van Morrison, vocals; rhythm accompaniment. (Domino; Blue Money; Virgo Clowns; Sweet Jennie; Gypsy Queen; Street Choir, six more.) Warner Bros. WS 1884, $4.98. Tape: 33 M 81884, $6.95; 33 M 51884, $6.95.

VELVET UNDERGROUND: Loaded. Velvet Underground, hard rock quintet. (Sweet Jane; Rock & Roll, Cool It Down; New Age; Lonesome Cowboy Bill; five more.) Cotillion SD 9034, $4.98. Tape: 33 M 89034, $6.95; 33 M 59034, $6.95.

A few months ago I was considering giving up reviewing, so tedious had become the job of sifting through new releases for the few gems worth saving. Then came the amazing month in which appeared the records reviewed in this issue. I feel like the commuter does when that pack of Fifth Avenue buses finally

THE LIGHTER SIDE

reviewed by
MORGAN AMES
R. D. DARRELL
JOHN GABREE
JOHN S. WILSON

* symbol denotes an exceptional recording
A working musician talks about the new VM professionals.

Ron Steel's newest album is Chicago, for Ovation. He's a first call guitarist for artists like Ella Fitzgerald, Barbra Streisand, Nancy Wilson, Liza Minnelli, Dionne Warwick, and one of the best known behind-the-scenes musicians in films and TV.

"The sound is roomy. Good."
That's the real reason for power as big as ours. It gives sound spaciousness at normal levels.

"Man, no distortion. None!"
Less than 0.5% actually. That's because of the two new 5-pole phase linear toroidal filters in our IF stages. They achieve selectivity and distortion values far beyond crystal filters. It's permanent performance, too, because they're permanently aligned.

"You don't over-control. I like that."
Actually we have about all the controls imaginable. What professionals admire is the ability to get a "master tape" sound. It's possible because certain of our controls are cancellable—Loudness, Balance, and Treble/High filter.

"It's dead quiet. Beautiful."
Our tuner-amplifier is full of complicated electronic reasons for that. ICs in the IF and multiplex circuits, all silicon transistor and printed board circuitry, new 4-section front end with dual gate MOSFETS. We've about eliminated noise, wiped out cross modulation, and our overload characteristics are beautiful.

"How come it doesn't cost more?"
That's our secret. But you compare our specs, listen to our performance, look at our price, and you'll probably go away asking yourself the same thing.

Incidentally, the turntable and speakers in our new Professional Series are equally remarkable. If you would like all the facts and figures write: Professional Series, Dept. 74, P.O. Box 1247, Benton Harbor, Michigan 49022.

If the professionals can please recording studio engineers, sound technicians, and musicians, people who make a living making and reproducing great sound, we're confident they can make you very happy, too.

Made in Benton Harbor, Michigan by VM CORPORATION

The VM Professional 1521: Semiconductor complement: 49 transistors, 30 diodes, 3 ICs, 2 MOSFETS.
FM circuit: four ganged front end with 2 dual gate MOSFETS for lower cross modolation, greater sensitivity and overload; two 5-pole phase linear toroidal filters and 2 ICs for selectivity, sensitivity and limiting that surpasses all previous standards in this price range.

Amplifier: Power output: 40 watts RMS/channel power at less than 0.5% distortion; bandwidth 9-30 KHz; IM distortion: less than 0.5%. Frequency response: ± 1 db 20 Hz-20 KHz.
Tuner: Sensitivity: 1.9 uv for 30 db quieting. Signal to noise ratio: -75 db. Capture ratio: 1.8 db. Selectivity: -75 db. SM 100% MOD distortion: less than 0.5%. Stereo separation: 40 db at 1 Hz. Image rejection: -90 db. IF rejection: -90 db. Spurious response rejection: -100 db.
Cabinet: Comes complete with cabinet of oiled walnut veneer hardwood at no extra cost. (Model 1520, same as above except 25 watts RMS/channel power.)
heaves into sight after a wait that seems at least a year long.

Space does not allow me to enthuse at length about these four albums and since the groups are all relatively familiar—though none of them by any means as familiar as they should be—I will only say that three of these are the brilliant albums that have long been promised and one is an extension of a previous masterpiece. The fourth, the Grateful Dead's "American Beauty," polishes even further the refined country-rock thing that they got into with "Workingman's Dead." One cut, "Truckin'," may also be the number one single they have so long deserved.

Van Morrison has apparently been living as well as working with His Band and the Street Choir and they prove remarkably sympathetic to his introspected, r & b-derived style. Also, Morrison's songs are considerably more accessible than on previous albums, with little of the obsessiveness that so many listeners have found oppressive.

The Kinks have long been recognized as foremost among that group of pop musicians who have dedicated themselves to keeping rock the simple, direct, relevant music that provided its original strength. Although the Velvet Underground hasn't often been equally recognized, they have been. Both groups are led by songwriters—Ray Davies of the Kinks and Lou Reed of the Velvets—who have the knack for catching street and teenage stories in street and teenage language. "Lola vs. Powerman and the Moneygoround" is a "theme" album in which Davies and company recapture some of their own history. "Loaded" is even more to the point: a collection of twelve single-length winners.

I realize that record buying is getting to be an absurdly expensive proposition, but I really don't think any pop fan will want to miss these albums, especially if the performers' earlier work won his approval.

J.G.

**SONGS OF THE HUMBACK WHALE**

Recorded at sea by Dr. Roger S. Payne. Capitol ST 620, $4.98.

First, I would like to say that I find these recordings of humpback whales infinitely more engrossing and valuable than any human album I've heard in months. Second, since I've never reviewed a whale before, there was a temptation to get funny about it, particularly when I read that it was "recorded live." But listening to the album has put me under a calm, clean-smelling, deep-sea spell.

Most of the recordings were made by Dr. Roger Payne of the Institute for Research in Animal Behavior in New York, using a hydrophone (underwater microphone) lowered off the side of a boat. Nothing is heard but the sounds of
Here's your FREE HIGH FIDELITY “at home” shopping service!

It’s easy and fun! 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!

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!

Use HIGH FIDELITY’s “at home” shopping service today!
USE THIS POSTAGE-FREE CARD TO

DOUBLE

YOUR LISTENING

AND READING ENJOYMENT

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 $8.47.

☐ 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 $1.25 for HIGH FIDELITY subscription (15 months).

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

Covers the world of recorded music and stereo equipment

Covers the world of live music—news, concerts, recitals.

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.)
The fifteenth annual collection of record reviews from High Fidelity

This annual brings you in one convenient book hundreds of reviews of records which appeared in High Fidelity in 1969—classical and semiclassical music exclusively—and, for the first time, information is included about corresponding tape releases, whether in Open Reel, 8- or 4-track Cartridge, or Cassette format.

Each reviewer stands high in his field—Paul Henry Lang, for instance, reviews the early classics, Conrad L. Osborne examines opera recordings, Harris Goldsmith the piano literature, Alfred Frankenstein the modern Americans, and Robert C. Marsh and Bernard Jacobson discuss the post-Romantics. Forthrightly they discuss the composition, performance, and sonic quality. And they compare new recordings with earlier releases.

The reviews are organized alphabetically by composer for quick, easy reference—and in the case of composers frequently recorded, further subdivided by such categories as Chamber Music, Vocal Music, etc. Moreover, there's a special section on Recitals and Miscellany and a complete Artists' Index of all performers reviewed during the year, as well as performers mentioned only in the text. With so many records being issued each year, a reliable source of information is a necessity. What better source than reviews from the magazine that has been called "a bible for record collectors!"

Comments on earlier annuals:

"Comprehensive coverage of each year's recordings gives a surprisingly well-rounded picture of what's available on records, and most reviews describe the work as well as the performance, providing each annual with a permanent use."

Saturday Review

"The standard reference work for the review of long play classical and semiclassical records."

Berkshire Eagle (Pittsfield, Mass.)

"... a gratifying wide range... informative and useful..."

Notes (Music Library Association)

"The record collector who is bewildered by the sheer number of discs which are issued each year will find this book valuable as a means of bringing order out of chaos."

Chicago Tribune

"High Fidelity has become something of a bible for record collectors and also for those who are simply interested in listening to music on records. One of the magazine's most attractive features is the long and complete section devoted each month to reviews of the new recordings, reviews that are complete, detailed, and authoritative. They are also honest, which is the best possible recommendation."

The Hartford Times

JUST PUBLISHED!

RECORDS IN REVIEW
1970 EDITION

"A bible for record collectors"

Reviews of new classical and semiclassical records from HIGH FIDELITY

534 pages. 5¼ x 8½ inches $9.95

To order RECORDS IN REVIEW use the coupon below or write to:

WYETH PRESS
2160 Patterson Street, Cincinnati, Ohio 45214

Please send the following copies of Records in Review.

☐ 15th Annual (1970) @ $9.95
☐ 14th Annual (1969) @ $9.95
☐ 13th Annual (1968) @ $9.95
☐ Please enter my standing order for all future annual editions of RECORDS IN REVIEW
☐ Bill when shipped, plus postage and handling.
☐ I enclose payment (Check or Money Order Only) Publisher pays postage and handling. Add sales tax where applicable.

Name

Address

City State Zip
Enjoy Relaxing Background Music at Home with... NO COMMERCIALS!

Our SCA-1 Decoder makes possible reception of this "private" musical programming, transmitted by nearly 400 FM stations around the country. YOUR FM tuner or receiver can recover this "hidden" music with the simple addition of an SCA-1.

Hook-up in minutes—full instructions supplied.

SCA-1 is self-powered... uses all solid-state circuitry (FET's, IC's, NPN's). Works with any quality of FM Tuner or Receiver. Send check or m.o. for either...

SCA-1 (Wired, ready to use) $64.50
SCA-1K (Kit, all needed parts) $49.95
Etched, drilled P.C. Board plus special
IC & full construction plans $12.50

(N.Y. STATE RESIDENTS ADD APPROPRIATE SALES TAX)

We give discounts on Hi-Fi components

Paul Kantner, who plays the second guitar and third vocalist has been the George Harrison of the Jefferson Airplane, demonstrates that he is not a man to be slighted as producer, composer, guitarist, or vocalist. "Blows Against the Empire" can be taken as a rough summation of the philosophy and life style of one influential backwater of the youth revolution. Kantner has assembled a very able collection of West Coast superstars and studio men and he ably mixes them in nearly every track (are as good. The compositions, all but two of which Kantner had a hand in writing, are mostly excellent. They range in style from Rosalie Sorrells' children's song to some elaborate Airplane-style improvising.

The lyrics are not going to be to everyone's taste, even among those who see themselves in basic alliance with the goals of the Starship's crew. At this point in the game there is something self-complacent about rubbing the noses of the straight community—among whose members, after all, are many who are most directly oppressed by the capitalism that is being rejected by youths in general—in the drug, sex, and revolutionary rhetoric trips. Also, Starship's flaunting of cocaine seems almost reactionary in the light of what heavy drugs (despite Attorney General Mitchell, heavy is a category that does not include pot) have done to the drug scene.

Briefly, approach the words with your head; give your heart to the music. J.G.

Peggy Lee: Make It With You; Peggy Lee, vocals; Benny Golson and Mike Melvoin, arr. (Goodbye; You'll Remember Me; That's What Living's About; seven more.) Capitol ST 622, $4.98.

Unfortunately, since Miss Lee's hit Is That All There Is? a lot of people have been trying to copy the song's once-only charm—its tired-child mood, its Brechtian orchestration (by Randy Newman). Naturally, Miss Lee has gone along with the trend, as have disc jockeys who have played each new offering a few times before letting it pass.

Thus, in this album there are a few moments when everyone tries too hard—composer, arranger, and singer. Specifically, Stan Worth and Arthur Hamilton's You'll Remember Me; Sedaka and Greenfield's One More Ride on the Merry-Go-Round; and Shaver and Fried's The Non-Color Time of the Day (beautiful title, crowded and disappointing song).

So much for minuses. Pluses include lovely arrangements by Benny Golson, and several beautiful performances: David Gates's I Want to Make It With You; Lennon-McCartney's Long and Winding Road (this is the best reading since the original); and the title tune from the film, Rider on the Rain, by Francis Lai, hauntingly sung by Miss Lee, who also wrote the lyric. As years pass I find Miss Lee moving on songs she has written.

Over-all, this is the best Peggy Lee album since Is That All There Is? M.A.

Denney Hall: "Alive" at Corona Women's Penitentiary. Denney Hall, vocals and guitar; rhythm accompaniment. (Listen, Listen; Listen; Big Steel Prison Gates; Never Sow, Never Reap; Corona; The Last Meal; eight more.) Capitol ST 647, $4.98.

Denney Hall served sixteen and one-half of his thirty-three years behind the bars of various state and federal prisons. To maintain his sanity during a ninety-day stretch of solitary confinement, he began composing songs. Since his release last year he has been singing them, usually in shows at prisons.

His vocal style, though imperfect, bears a rough similarity to Johnny Cash's, and
Even with a perfect pickup, the distortion from a gramophone record for sounds of equal level increases very rapidly at high frequencies, eventually doubling for every major third increase in pitch.

There comes a point when, to musical ears, the distortion is increasing faster than the musical quality. The QUAD filter system is designed to enable those with ears to hear to obtain more of the music and less of the distortion.

QUAD
for the closest approach to the original sound

Write for full details and list of appointed dealers to Dept. HU, Acoustical Manufacturing Co. Ltd. Huntingdon, England. QUAD is a Registered Trade Mark.
it wouldn't be surprising if the latter had been chosen as a model, given his long identification with the plight of the prisoner. This album includes some solid country guitar playing although there is no indication if it is by Hall himself or a sideman. He has the vocal support of a soul group made up of six Corona inmates (who also offer a composition of their own, Malcolm X), and Phyllis McNeil, a white woman—dubbing a typical fourteen years for forgery—who sings a song of her own about prison life.

The album's strongest element is the obvious honesty of the participants, from the irony of the quotation marks in the title to the bitterness and directness of Hall's introductions. In fact, it is a very painful record to sit through, so stark is the picture it paints of prison life. The degree of political consciousness is also striking, though that may be only because oppressed people so rarely get a chance to make themselves heard so effectively.

Hall also has a knack as a songwriter, though he is much better so far at words than music. He is best when he is being wry, as when he orders "crocodile eggs, over easy" as part of The Last Meal, or when he belts out Uncle Sam Ain't No Woman But He Sure Can Take Your Man, but he is also capable of the lyricism of I Guess I'll Bring My Crazy Head Against the Storm.

A powerful performance. Recommended. J.G.

Biff Rose. Biff Rose, vocals and piano: Richard Davis, bass; Al Gorgoni and Michael Leonard, arr. (Never Mind; Passing Parade, C'Mon Joe; ten more.) Buddah BDS 5069, $4.98.

There was a moment in 1969 when singer-songwriter-pianist Biff Rose could have made it big. After a debut album for Tetragrammation Records, Rose landed on the Johnny Carson Show. He went over so well that he was invited back at least half a dozen times in short order. Such exposure is invaluable. During this period Rose made another album and things were beginning to jump. Suddenly Tetragrammation went out of business, burying Rose in legal and managerial difficulties, wrecking his momentum. Pacing is crucial in career building. Biff Rose was a victim of bad luck.

Now here is Biff Rose again, making a new bid on Buddah. It's a pleasure to say that his talent is as unique and special as it was the last time around.

Rose writes painfully personal songs. Of equal parts humor and sadness. Most are more musical dialogue than conventional song. They're all about love, trying at it, succeeding, failing, laughing, regretting. They tell of what he's doing, what he wishes he had or hadn't done in the past. I haven't found my home yet. But I got an invitation for a home-cooked meal. . . . I don't think I'll go. . . . But I'd like to leave it open. . . . " Technically, Rose's songs are disjointed. Either you feel them or you don't.

Like his earlier albums, this one suf-
come blow
your horn!

Bostonians consider their town to be the Athens of America. In this cultural metropolis, education is a major industry. Managers, engineers and other professional people actively indulge their sophisticated tastes in art, theatre and fine music. The Boston Symphony Orchestra, for example, is so popular that it can not always find enough space for its eager audience in Symphony Hall alone. Fortunately, thousands of symphony lovers can tune their radio to WCRB (1330 am/fm 102.5), sit back and enjoy a live performance of the BSO (made especially exciting in 4-channel stereo).

WCRB is not a pale imitation of any other radio station and our audience knows it. Affluent (71% enjoy an annual income exceeding $8,000), educated (87% have been to college) and discerning (over 70% listen in stereo), this audience (an average weekly CUME of 200,000) is hard to reach through competing media (the majority watches less than 9 hours of TV weekly while listening to 17 hours or more of WCRB programming per week). WCRB is, frankly, the shortest distance between an advertiser and this vital market of careful listeners. We proved this to General Telephone & Electronics who sponsor the WCRB nightly feature, Evening at Symphony.

Let us prove it to you. Call us collect (617-893-7080) and ask for John Donofrio, National Sales Manager, WCRB, Boston 02154. In New York City call 212-725-8585.
furs occasionally from overorchestration. But the arranging is so good, and Rose is so naturally musical, that one doesn’t really mind. Try him. M.A.

RICK ELY. Rick Ely, vocals; Larry Muhoberac, arr. and cond. (Circle Game; Foot on the Hill; Something; six more.) RCA Victor LSP 4443, $4.98. Tape: F 586 1664, $6.95.

Rick Ely is being promoted this season as a personality to tantalize the orange-crush set via television and records (this is his first album). He can’t sing, in the professional sense, nor is he supposed to. He’s being sold as a natural, as much an amateur as the teen and preteen girls who, it is hoped, will identify with him.

One must feel a certain sympathy for these “lucky” youths, chosen at random each year (that’s how long most of them hang on) to be pushed carefully around the showbiz chessboard to see if the public likes. The only way backers can find out if someone like Rick Ely has enough magnetism to catch on is to try it. The campaign is always an expensive gamble. Whether the youth injected into a TV series (surrounded by pros to make him look good) or put into a record album (again co-ordinated by professionals) with appropriate promotion.

At this moment it is probable that the money behind Rick Ely is waiting to see if the investment will pay off. My guess is that it won’t—at least not on this album. The problem is concept. There isn’t any. Poor Rick Ely, with his pleasant, harmless, nothing voice, has been taught to sing a stock series of other people’s hit tunes. The whole thing leaves no impression at all.

The album is notable for one thing, albeit accidentally: it exposes the considerable talent of a young Los Angeles-based arranger-pianist-conductor named Larry Muhoberac, whose work is known only among the California community of studio musicians, arrangers, and producers. While the project didn’t allow Muhoberac much room, he still managed to write with great imagination and feeling.

JOSHUA RIFKIN: Scott Joplin Piano Rags. Joshua Rifkin, piano. (Maple Leaf Rag; Gladiolus Rag; Euphonic Sounds; five more.) Nonesuch H 71248, $2.98.

When piano rags are played today by pianists who are in love with their art and scholarship, one is apt to get the feeling that the performances may be long on accuracy but a bit lacking in interpretation. This comes partly from the fact that since the rags have been so distorted by honky-tonk pianists down through the years, getting the ear adjusted to an idiomatic interpretation can often be difficult. Joshua Rifkin, however, has chosen a program of eight Scott Joplin rags that show the development of Joplin as a composer over a fifteen-year period from 1899 (Maple Leaf Rag) to 1914 (Magnificat Rag). The direct, melodic grace of his earliest work, which can sound a little stiff when played with the stately deliberation that Rifkin uses, gives way in later rags (notably Scott Joplin’s New Rag and Euphonic Sounds) to writing that swings more readily—to use a term that may not have been in vogue at the time.

For all the loving care that Rifkin has brought to these performances, however, I find it hard to believe that pianists such as Joplin did not have a little more sense of freedom in these playing—a looseness, in the best sense, that one can still hear in Eubie Blake’s rags. Yet, since the piano rag is no longer a way of life for contemporary musicians, it is doubtful if any pianist today can quite approach the actual spirit that has been men had—any more than a studio band today can recapture the feeling conveyed by the best swing bands when they were actual working entities in the Thirties and Forties.

Billy Taylor: OK. Billy. Jimmy Owens and Dick Hurwitz, trumpet, and flugelhorns; Morty Bullman, trombone; Frank Wess, Al Gibbons, and George Berg, reeds; Billy Taylor, piano; Barry Galbraith, guitar; Bob Cranshaw, bass; Bobby Thomas, drums; Marty Grupp, percussion. (Tell Me Why; Somewhere Soon; Dirty Ole Man; five more.) Bell 6094, $4.98. Tape: V M 86049, $6.95; V M 56049, $6.95.

This is the David Frost Show band, given a touch of authenticity on the disc by a brief, typical introduction by David himself. It is also one of the most rewarding records Billy Taylor has ever made, an encouraging example that a band that works together regularly (even within the limitations imposed by a talk show) can capture the loose ensemble rapport that could once he expected only of a traveling band. It is also a pioneering comment on what listeners to the David Frost Show are—for brief, sporadic excerpts—missing. The band does most of its playing before the show, as a warm-up or to fill time until Frost arrives, but the evidence on this record indicates that it can get more of a hearing than it does during the actual taping of the show.

Playing arrangements by Johnny Carisi, Frank Wess, and Garnett Brown, this band really swings, spurred by a superb rhythmic section that has been skillfully recorded in balance with the rest of the ensemble. It is filled with
Because nothing sells sound like sound. And WQXR broadcasts some of the finest sound around. To some of the most sound-happy people any hi-fi manufacturer could hope to reach. Affluent people with a high regard for what they hear on WQXR—both the music and the words.

So if you have hi-fi equipment to sell, sound off about it where it will do you the most good. Where hundreds of thousands of high-income prospects will hear it. In the WQXR market.

CONTACT: BOB KRIEGER, VP SALES
WQXR AM AND FM
229 WEST 43RD STREET
NEW YORK, NEW YORK 10036.
TELEPHONE (212) 524-1100.

1560 am
96.3 fm Stereo
for the better part of your day
strong soloists, but it is Taylor who comes through most brilliantly, playing solos that have the quality one usually hears in his trio performances and giving the ensemble a distinctive additional color as his piano flows through the backgrounds. J.S.W.

ZOOT SIMS: First Recordings! Various small groups recorded in Europe in 1950 and 1953. (You Go to My Head; Tickletoe; Dedicated to Lee; twelve more.) Prestige S 7817, $4.98.

AL COHN: Broadway 1954. Al Cohn, tenor saxophone; Hal Stein, alto saxophone; Harvey Leonard, piano; Red Mitchell, bass; Christy Kelbo, drums. (Help Keep Your City Clean; Broadway; Suddenly It’s Spring; Ballad Medley.) Prestige S 7819, $4.98.

Al Cohn and Zoot Sims, who have been more or less inseparable for more than twenty years—dating back to a term together in Woody Herman’s band in the late Forties—even turn up in tandem on reissues. Actually, the Cohn disc is not a reissue—although it was made in 1954, this is the first time it has been released. But, along with the collection of Sims recordings made in 1950 and 1953, it offers an excellent display of the relatively early work of two saxophonists who have proved to be among the most enduring jazz stars who emerged in the Forties.

Both were playing then with a lighter tone than they use today and then, as now, Sims was the stronger, more flowing swinger. Cohn, however, shows how beautifully he could sustain a swinging solo on Broadway. He is playing with a neatly knit quintet, which includes the promising (circa 1954) Stein on alto—who has not been heard from recently. Sims, always consistent, is precisely that. His tone has more body than one usually hears in his performances, and his playing today, despite the monotony of repetition, is an exciting indication of where Thomas is and what he has accomplished. Pharaoh’s Tune, which takes up all of the second side, has its moments but is flawed by Thomas’ tendency to overdo some of his vocal tricks. J.S.W.

RAHSAAN ROLAND KIRK: Rahsaan Rahsaan, Rahsaan Roland Kirk, tenor saxophone, flute, manzello, stretch, and clarinet; Dick Griffin, trombone; Les Young, violin; Bob Burston, piano; Howard Johnson, tuba; Sonelius Smith, celeste and piano; Vernon Martin, bass; James Madison, drums; Alvern Bunn, conga; Joe Texidor, tambourine and sound tree. (The Seeker; Satin Doll; Sweet Fire; two more.) Atlantic SD 1575, $5.98; Tape: M 51175, $6.95; M 51175, $6.95.

The geyser of exploratory sounds and rhythms that billows out of Roland Kirk has lately included an increasing use of his voice, not just vocalizing in his own idiomatic way but talking—also in his own idiomatic way. In a club performance, if it is a legitimate, relaxed setting, Kirk’s discourses can be a provocative element in his presentations. Transferred to a recording, as they are on this disc, the rambling nature of Kirk’s comments and witticisms are far less effective and, in the long run, become a drag. Through the monotony of repetition they deter one from going back to the music for repeated listening. What Kirk has to say could better have been printed on the liner, leaving more space for music on this record.

As it is, when he gets down to the music he seems so intent on gimmickry that there is relatively little opportunity for a display of the powerful, surging, involving music that his group normally produces. This does come through in his lyrical Sweet Fire and it surfaces in parts of his seventeen-minute The Seeker and in the climactic Lover, which finally justifies a medley in which he is “splitting the lobes” as he plays two different saxophone lines simultaneously.

Even under these circumstances, Kirk remains a fascinating individualist with a broader understanding and appreciation of the full jazz spectrum than most of his contemporaries. This is very evident in the development of The Seeker in
which he invokes a line of black musicians that includes not only as obvious a name as Charlie Parker but such a surprising one (and a happy surprise) as Otto Hardwick. He also makes a pitch for the old New Orleans style although his demonstration of it is a bit stiff despite the strong, known trombone work of Dick Griffin. This long piece also includes a remarkably lovely tuba solo by Howard Johnson who has become to that instrument what Adrian Rollini was to the bass saxophone.

J.S.W.

BUDDY RICH BIG BAND: Keep the Customer Satisfied. (The Juicer Is Wild; Groovin' Hard; Winning the West; four more.) Liberty 11006, $5.98.

One of the most encouraging developments in jazz in the past few years is the way in which Buddy Rich's band has progressed. Initially it was carried by Rich's virtuoso drumming, which was to be expected. Then, as it gained solidity, the band began to sport some distinctive soloists. But as the first wave of interesting sidemen moved on, the band returned to ensemble anonymity with Rich once more the sole point of interest to such an extent that its concert appearances amounted to a stage wait leading up to Buddy's big solo. According to the standard formula, the band would then have dragged on in this desultory fashion from year to year, living on Rich's reputation, much as the Basie band has done.

Instead, the Rich band is, as of this recording and its live appearances in the summer of 1970, better than ever, both in the quality of its sidemen and its balance as a unit. On this disc Buddy is less the flashy star than the stimulator. His solos, relatively brief, are only part of a set that has excellent arrangements by Don Piestrup, Roger Neuman, and Bill Holman and a strong line-up of soloists, notably Richie Cole on alto, George Zonce on trumpet and, particularly, Rick Stepton on trombone. Stepton ranges from a dark, burry, funky attack that could be a cross between Bill Harris and Jack Teagarden and a soaring, slippery virtuosity that is reminiscent of some of Phil Wilson's work with Woody Herman. Stepton has a fascinating array of colors and accents and, fortunately, he gets a chance on Long Day's Journey and Everybody's Talkin' to show off a good share of them.

This is a strong ensemble band, a band that hits hard but has a sharp enough sense of dynamics to use subtle shadings even in relation to a Rich drum solo. No small part of the effectiveness of the performances is Buddy Rich's exuberant personality, spurting the band on as he shouts out the downbeats.

J.S.W.

FREDDIE KEPPARD, TOMMY LADNIER: New Orleans Horns. Freddie Keppard's Jazz Cardinals (Stockyard Strut; Salty Dog); Jimmy Blythe and His Ragamuffins (Messin' Around; Adam's
Apple; Jaspar Taylor and His State Street Boys (Stomp Time Blues; It Must Be the Blues); Lovie Austin and Her Blues Serenaders (Travelin’ Blues; Steppin’ on the Blues; Peepin’ Blues; Mojo Blues; Charleston Mad); Ollie Powers’ Harmony Syncopators (Play That Thing). Milestone 2014, $4.98.

Freddie Keppard, the New Orleans “king” of the cornet who reigned between Buddy Bolden and Joe Oliver, is so skimpily represented on records that this disc is something of a landmark. Aside from three sessions with Doc Cook’s orchestra in 1924 and 1926, all of Keppard’s recordings except for a single title with Jimmy Blythe are reissued on one side of this disc.

Keppard had a strong, beautiful tone which comes through with remarkable fullness even in these acoustical recordings (very cleanly reproduced). His attack on the up-tempo Stockyard Strut is buoyant, while he shows a darker side of his playing on the familiar Salty Dog and in the breaks of It Must Be the Blues. He gets invaluable support from Johnny Dodds, whose robust clarinet soars through all these selections.

The other side focuses on Tommy Ladnier, a more limited cornetist than Keppard, although he achieves a tough, gritty drive within a restricted area. Actually, the main point of interest on this side is Lovie Austin whose Blues Serenaders play five of the seven Ladnier pieces. On two selections, Miss Austin leads a trio (her own piano, Ladnier on cornet, Jimmy O’Bryant on clarinet) in which she has voiced the cornet and clarinet in such a way that the trio sounds like a full band going hell for leather. The conception is brilliant and Ladnier and O’Bryant live up to the demands of the situation completely. The addition of drums for the remaining pieces merely serves to muddy the sound, but Ladnier and O’Bryant continue to play with spirit.

J.S.W.

WILLIE SMITH: The Best of Willie Smith. Willie Smith, alto saxophone; Tommy Gumina, accordion; Johnny Guarnieri, piano; Irving Ashby, guitar; Paul Ruhland, bass; Stan Levey, drums (in I Remember You; Never on Friday; Who Can I Turn To; Willie’s Blues); Willie Smith, Stan Levey, and Bill Perkins, tenor saxophones; Jimmy Rowles, piano; Max Bennet, bass (in Uptown Blues; I’m Old Fashioned; Idaho). GNP Crescendo 2055, $4.98.

This is not, as “The Best” in the title might indicate, a collection drawn from various Willie Smith recording sessions. It is simply the product of two dates in August 1965 which for no apparent reason had not been released until now. Harry Lim, producer of the sessions, characterizes the music as “the straight-ahead ‘swing’ variety”—essentially true except that Smith’s alto saxophone is teamed on one side with the accordion of Tommy Gumina, which gives the ensembles a less commonplace texture than those of
WILLIE Smith produced a tone on alto that fell somewhere between the ripe lushness of Johnny Hodges and the singing purity of Benny Carter. On ballads, blues, or swingers his attack was always assertive, full-toned, and completely distinctive. He is in fine fettle on the selections with Gumina, supplemented by Irving Ashby’s guitar and Johnny Guarneri’s piano.

Some of the usual suppleness is missing from his playing in the group with Perkins (Lim points out that this session took place on the morning after the Watts riots of August 15, 1965), but the presence of Jimmy Rowles on piano gives these pieces their own special fascination. His contribution to the final chorus of *Uptown Blues* (the only tune in the set that recalls Willie’s Lunceford days) is both sly and brilliant and his fills behind Willie’s solo on *I’m Old Fashioned* are equally provocative.

A new, stimulating, and highly communicative Horace Silver emerges on this disc without giving up any of the merits of the old Horace Silver. His style—as composer, pianist, and arranger—which has made him one of the most distinctive jazzmen of the past fifteen years, is expanded here to include lyrics. The words he writes are brimming with sunshine, optimism, and good will, and he has linked them with melodies and rhythms that are attractive and lingeringly memorable.

Using two groups made up of different personnel but focused on the familiar Silver style of tight ensembles and rollicking solos, he presents his songs in a delightfully lively and winning manner—spurred by the jumping tenor saxophone of Houston Person on one side and a gutturally tenor played by George Coleman on the other side. Silver’s use of an electric piano gives the group an additional color that it has not had before—one that he uses imaginatively and to excellent effect.

Three distinctly different singers turn up in the course of the disc: Andy Bey, belting his songs out in a strong, urgent voice; Jackie Verdell showing a lighter voice; and Gail Nelson, who has only one song, *Nobody Knows*, but takes the vocal honors for the set with it.

This is a remarkably warm, refreshing collection that reveals that Silver has a highly personal approach to songs with a message.

J.S.W.
in brief

MICHAEL NESMITH AND THE FIRST NATIONAL BAND: Loose Salute. RCA Victor LSP 4415, $4.98. Tape: M 8344, $6.95; PK 1633, $6.95. Former Monkee Mike Nesmith's second solo LP is a continuation of his first; more solid, but also less of a surprise. J.G.

TOM RUSH: Wrong End of the Rainbow. Columbia C 30402, $4.98. Plus: this is Tom Rush's first collection of his own compositions, most of which are quite good. Minus: his relaxed style gets so lackadaisical this time that he seems to be in imminent danger of nodding off. The earlier Colombias are still the best. J.G.

DUNCAN PAIN. Atco SD 33-344, $4.98. Tape: M 8344, $6.95; M 5344, $6.95. Another excellent new songwriter. Duncan Pain sounds like a funkier John Denver. Nice country rock. J.G.

JOHN ROWLES. Kapp KS 3637, $4.98. Tom Jones Lives! Twice. Rowles is the Hawaiian version, described as "the most sexual performer ever to appear on Duke Kahanamoku's stage!" He's got more zetz than Don Ho, but then, who doesn't? M.A.

SOLID GOLD OLD TOWN, VOLUME I. Cotillion SD 9032, $4.98. Tape: M 89032, $6.95; M 59032, $6.95. Atlantic has done better than any other label at keeping alive the pop music of the '50s. This time it's a batch from Old Town, a small Chicago indie. Royal Tones, Solitaires, Keytunes, Robert & Johnny, Billy Bland, Fiestas, Valentines, Harptones, and Ruth McFadden. Right on. J.G.

GRAND FUNK RAILROAD: Live Album. Capitol SWBB 633, $4.98 (two discs). Tape: M 633, 7 1/2 ips, $7.95. I know several million teenagers can't be wrong, but I still find this the most tedious band since Blue Cheer. Sour cream. J.G.


MAY BLITZ. Paramount PAS 5020, $4.98. This album cover outdoes any you've ever seen for bad taste, featuring a line drawing of an ape-faced fat woman with very little on but a hat. On the other hand, the inside graphics are worse. All this introduces a rock group that sounds like fifty others. M.A.

JESSE DAVIS: Jesse Davis! Atco SD 33-346, $4.98. Tape: M 8346, $6.95; M 5346, $6.95. Another good debut for a singer-songwriter. The sidemen are almost a joke:

Eric Clapton, Larry Knechtel, Leon Russell, John Simon, Jackie Lomax, Merry Clayton, Clydie King, and Gram Parsons among them. And Davis doesn't even need that much help. J.G.

DREAMS. Columbia CS 30225, $4.98. The funny thing about the bands inspired into existence by the success of Blood, Sweat and Tears is that they have almost all surpassed the original group. Dreams, a new octet starring the Brecker brothers, is no exception. In fact it shows signs of being the best jazz-rock band yet. J.G.

DANNY O'KEEFE. Cotillion SD 9036, $4.98. Tape: M 89036, $6.95; M 59036, $6.95; MN PK 1633, $6.95. Another new singer-songwriter! Danny O'Keeffe bows with an impressive set; much variety of pace and setting. J.G.


BROWNSVILLE STATION: Warner Bros. WS 1888, $4.98. Tape: M 81888, $6.95; WP M 51888, $6.95. A respectable number of bands earn their keep these days by playing good old-time rock-and-roll and Brownsville Station is one of the best of these. Their repertoire runs from classics like Ricky Nelson's 'Hello, Mary Lou' to their own 'My Boy Flat Top Cool.' J.G.

THE JEFFERSON AIRPLANE: The Worst of the Jefferson Airplane. RCA Victor LSP 4459, $4.98. Tape: M 1653, $6.95; PK 1653, $6.95. This, of course, is really the best of the Jefferson Airplane; fifteen cuts culled from six albums. I'll bet you weren't fooled for a minute. J.G.

HENRY MANCINI: Mancini Country. RCA Victor LSP 4307, $4.98. Tape: M 1552, $6.95; PK 1552, $6.95. Somewhere inside the complicated being of Henry Mancini is one of the finest talents that ever happened to popular music. But you won't find it in any of his recent piano and orchestra albums, grounded out like airplane parts for automated listeners. This one is slightly coun- tried, beautifully arranged, and meaningless. Such is my respect for Mr. Mancini that a hundred of these dumb albums won't make me forget his depth. Nor will he forget. All we can do is wait till this junk bores him to death, and he sits down and writes again. Gou- speed. M.A.

NORMAN GREENBAUM: Back Home Again. Reprise S 6422, $4.98. Tape: M 86422, $6.95; M 56422, $6.95. Norman Greenbaum is an original, quirky songwriter whose 'Sprit in the Sky' was one of 1969's big singles. "Back Home Again" is his second Reprise album, much more inventive and assured than his first. J.G.
HIGHER MATH

Three decks, three capabilities: the Simul-trak® TCA Series from TEAC.

Buy one, add onto it, and you’re up to the next model. Keep going till you reach the top.
Or start at the top, and get everything going for you at once.

All three units feature 4- and 2-channel playback – the only brand with auto reverse. And Models 40 and 41 can be modified to the full 4-channel capability of Model 42 as shown. Meanwhile, any one of these decks is compatible with your present 2-channel equipment without modification.

Other 4-channel tape decks may look like ours. But they either have only one motor – or they cost a king’s ransom. (They don’t sound as good, either.)

And any way you add them up, the TCA Series can never be obsolete. You don’t even need a slide rule to show you why. Just a good pair of ears.

TEAC
TEAC Corporation of America
2000 Colorado Avenue
Santa Monica, California 90404

CIRCLE 67 ON READER-SERVICE CARD
THE "CLOSE-UP" SOUND
KENWOOD KR-6160
with CONTINUOUSLY VARIABLE PRESENCE CONTROL

The MID-RANGE TONE CONTROL featured on the KR-6160 will add astonishing sound realism to any speaker system. You can now bring the intimate sound of a musical group or a vocalist "close-up" with continuously variable presence control. Other features include:

- SUPERABUNDANT POWER OF 220 WATTS (IHF)
- ITS OWN DYNAMIC MICROPHONE FOR "MIKE-MIXING" IN ANY MODE WITH FRONT PANEL SOUND LEVEL CONTROL
- TERMINALS FOR 3 SETS OF STEREO SPEAKERS PLUS CENTER CHANNEL
- FRONT PANEL SPEAKER SELECTOR SWITCH
- JACKS FOR 2 PHONOS, 2 AUX, TAPE DECK
- SEPARATE PREAMP OUTPUT, MAIN AMP INPUT
- AND A HOST OF OTHER OUTSTANDING FEATURES

SPECIFICATIONS:
Power Output, (IHF) 220 watts @ 4 ohms; (RMS) 110/110 watts @ 4 ohms, 90/90 watts @ 8 ohms
Frequency Response, 14-40kHz (±1.5 dB)
Power Bandwidth (IHF), 12-30kHz
Sensitivity (IHF), 1.6uV
Capture Ratio, 1.5 dB
Selectivity (IHF), 55 dB
Stereo Separation, 35 dB @ 1kHz
PRICE: $379.95; Walnut Cabinet, optional

KENWOOD KR-6160
220 WATTS • FET • IC
FM/AM STEREO RECEIVER
with DYNAMIC MICROPHONE

For complete information write:
15711 S. Broadway, Gardena, Calif. 90247
72-02 Fifty-first Ave., Woodside, N.Y. 11377