New, revolutionary way to choose a speaker system:

listen

UNIVERSITY SENIOR II
Ultra-Linear 12" woofer, 3 1/2" mid-range, Sphericon Super-Tweeter; 25x15 5/8x12 1/4" D. $99.50

UNIVERSITY MINI-FLEX
6 1/2" woofer, 3" mid-range 3 1/2" tweeter. 15x9 3/4 x5 1/4" D. $69.95

UNIVERSITY COMPANION II
Ultra-Linear 10" woofer, 3" mid-range, 3 1/2" tweeter. 24x13 1/2x11 1/2" D. $99.50

UNIVERSITY COMPANIONETTE
Ultra-Linear 8" woofer, 3" mid-range, 3 1/2" tweeter. 21 3/4x11 1/2x8 5/8" D. $69.95

...and listen and listen. New? Revolutionary? Yes—when you consider how many people buy speakers based on the recommendation of others. Sound involves subjective criteria. The sound that pleases a friend, (a hi-fi editor or salesmen, for that matter) will not necessarily please you. Therefore ... hear and compare many systems. For the largest selection, start with University. Choose the superb University model that best meets your requirements, then compare it to all other brands of its type. For example—if it's a full-size bookshelf you want, ask your dealer to demonstrate the Senior II vs. the AR, KlH, and other bookshelf systems of similar size. You'll hear the difference. Especially in the mid-range. Especially in the Senior's complete absence of restraint, that tell-tale drawback of so many other bookshelf systems. Unlike other systems, the sound of the Senior, the Companion, or of every University system, large or small—is free and open. The bass is cleanly defined; the mid-range punches through for greater presence; the highs literally have wings. Want proof? (Of course you do) Visit your dealer ... and listen. University sounds better. Free 1964 Guide to Component Stereo! Write: Dept. D-8.

LTV UNIVERSITY
A DIVISION OF LING-TEMCO-VOUGHT, INC.
9500 West Reno, Oklahoma City, Oklahoma

CIRCLE NO. 41 ON READER SERVICE CARD
The Concord 884 transistorized stereo tape recorder is designed for the connoisseur of sound, the collector with tastes and demands above the ordinary. No other recorder, regardless of cost, has all the Concord 884 professional quality features.

Three separate heads—one record, one playback and one erase—assure professional quality reproduction from FM multiplexing, stereo records and live performances. Four completely separate preamps—two record and two playback—and full transistorization assure maximum reliability. A flip of the AB monitor switch lets you compare source vs. tape while recording.

A few of the other features are: built-in sound-on-sound switch for effects such as electronic echo chamber; stereo headphones output; automatic reel-end shutoff; 3 speeds; 2 lighted VU meters. All push-button operation; 15 watt stereo power amplifier and separate 7" full range speakers complete your 884 stereo system. Model 884 under $450.* Other models from $100.

*Prices slightly higher in Canada.
consider this... with other units now offering counterweighted tone arms, oversized turntables, precision motors...

what makes the Garrard so special?

You see before you three parts of the great Type A Automatic Turntable:

1. The counterweight-adjusted, dynamically balanced tone arm (which tracks the cartridge of your choice at the lowest pressure specified by the manufacturer).

2. The exclusive "sandwich" turntable system (a) ribbed rubber mat (b) heavy, cast, non-ferrous outer turntable (c) sound-deadening foam cushion (d) inner drive table... the entire assembly weighted and balanced for rumble-free, fly-wheel action.

3. The Laboratory Series® humless, noiseless, high-torque motor... developed for the Type A, engineered and built by Garrard.

However, these are only parts, and record playing units by other manufacturers offer some features reminiscent of these.

Then what makes the Garrard so special? Simply this... the Garrard is far more than the sum of its parts.

Creative engineering, rigid quality control, and 50 years of experience have joined together to make the Garrard an enduring source of satisfaction and pride to a legion of sophisticated admirers.

You'll find the Garrard a genuine pleasure to own. Over the years, your dealer has found it the same pleasure to recommend. That's why more people continue to buy Garrard than any other high fidelity component. They buy it for precision, for performance and to enjoy the convenience of single and automatic play, both at their fingertips.

But mainly, they buy it because it's a Garrard, and those who really know fine equipment have confirmed that a Garrard is indeed something special.

There is a Garrard Automatic Turntable for every high fidelity system. Type A, $54.50; AT$, $59.50; Autaddim, $44.50. For literature, write Dept. GK-124Garrard, Port Washington, N.Y.
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EDITORIALLY SPEAKING

by FURMAN HEBB

Two months ago, in the June issue, I invited readers in seven metropolitan centers to rate the audio quality of the FM stations in their areas. The response from our readers in Boston, Cleveland, Philadelphia, San Francisco, Los Angeles, Chicago, and New York was indeed gratifying, and the ballots have been counted. Before presenting the list of the top stations, however, I would like to take just a moment to comment on some criticisms of the poll that have been addressed to me by managers of several FM stations.

First, these station managers were surprised—if not shocked—that we would call attention to the low standards of fidelity that exist in FM radio today—because "we’re all in the same business together.” The implication being, of course, that if a high-fidelity publication criticizes any aspect of high fidelity, it is guilty of fouling its own nest. The answer is simple—if old-fashioned: we believe that if something in our field is second-rate, it should be pointed out. No useful purpose is served by sticking our heads in the sand. Although the truth is not always what we would like it to be, we think it always leads to the best end—in this particular case, to better-quality sound on the FM band.

Another criticism of the poll is that its results will be invalid because each reader’s reception situation and standards of comparison are different. To this I reply that reception problems were taken into consideration when analyzing the votes. If, for example, a station received predominantly favorable ratings but was rated substandard by a few listeners, it is fairly obvious that those few are experiencing reception difficulties that are not the fault of the station. Also, each listener does in fact have an excellent standard of quality comparison—the sound of present-day phonograph records as reproduced on component hi-fi systems.

Although space limitations do not permit listing the ratings of all the stations this month, I would like to publish at this time the call letters of those eight stations, out of a total of almost one hundred, that received our readers’ highest rating. These eight top-ranking stations, rated as Outstanding in Audio Quality, were: Boston’s WBRS; Chicago’s WFMT; Los Angeles’ KRHM, KCBH, and KPFM; San Francisco’s KPEN and KSFR; and New York City’s WQXR. To these exemplary stations we respectfully tip our hats. Chicago’s WFMT, incidentally, received the greatest percentage of highest-rating votes given any station in the entire survey, so a very special salute to WFMT. The remainder of the stations will be listed in this space next month.

Coming in September’s HiFi/Stereo Review—On Sale August 24

CHARLES IYES: AN AMERICAN ORIGINAL

by David Hall

HI-FI EQUIPMENT—SEPARATING THE FRILLS FROM THE ESSENTIALS

by Julian D. Hirsch
the speaker
that will make us eat our words

KLH
Model
Seventeen

"... a threshold beyond which advance for some time may be so difficult as to appear impossible. In the light of known technology, nothing further can be done to improve this performance without sharply increased costs."

That's what we said in 1961 when we introduced the Model Ten, our first speaker under $100.

Now we are preparing for an extended diet of our own words. We are introducing a new speaker, the KLH Model Seventeen, which delivers a quality of performance we believed unattainable at a price we considered impossible just three years ago.

You're going to hear a lot of comment about this astonishing new speaker. And you will undoubtedly hear the Model Seventeen for yourself. So all we'll tell you now is —

It's a handsome speaker.

It costs less than $100.

It represents a threshold beyond which advance for some time may be so difficult as to appear impossible. In the light of known technology, nothing further can be done to improve this performance without sharply increased costs.

It's at your KLH dealer's now.

Bon appetite.
30 watts of power!

SIZE OF CHANGER/AMPLIFIER BASE: 24½" WIDE x 5½" HIGH x 14¾" DEEP.
SIZE OF EACH SPEAKER ENCLOSURE: 16¾" x 10¾" x 9¼" DEEP. TOTAL WEIGHT: 53 LBS. PRICE: $269.50.
World’s most compact ‘no-compromise’ home stereo system:

the new Fisher 75 custom module.

Here is the first home stereo installation that can fit into less than four feet of shelf space—complete with speakers!—and still satisfy the ears of the most critical high fidelity enthusiasts. The Fisher 75 is actually one of the finest stereo phonograph systems regardless of size. Its remarkably compact dimensions, however, place it in a distinctive class by itself.

One reason why the Fisher 75 sounds like a much bigger and costlier stereo system is its 30-watt (IHF) transistor amplifier. A power output of 15 watts per channel would be quite respectable even in a full-size stereo installation, and the transformerless solid-state circuitry of the Fisher 75 makes this abundance of power available at extremely low distortion, with superior transient response at both high and low frequencies. The transistorized preamplifier section features a full complement of audio controls, input facilities for an external tuner and tape recorder, plus a front-panel headphone jack with speaker-silencing switch for private listening.

The loudspeaker design of the Fisher 75 is the other secret of its performance. The quantity and quality of sound from the handsome pair of ½-cubic-foot enclosures will astound the most knowledgeable stereophile. Each channel incorporates an 8-inch free-piston woofer with inverted half-roll surround and a 2½-inch cone-type tweeter, connected through a genuine inductive-capacitive crossover network. The drivers are designed and matched in accordance with the latest ideas of Fisher loudspeaker engineers, and the results make you wonder about established ideas on the subject of size versus fidelity. Two 10-foot cables are provided to connect the speakers to the amplifier.

The four-speed automatic record changer is the world-famous Garrard. It plays both mono and stereo records either automatically or manually and shuts itself off after the last record. The superior Pickering magnetic pickup cartridge has a diamond stylus for microgroove. The changer and amplifier are housed in a beautifully designed walnut base.

Now, if you have your heart set on a real high-fidelity stereo system, you can stop saying, “I wish I had room for one.” You will have room for the Fisher 75.

(To receive valuable Fisher literature without charge, use coupon on page 11.)

The Fisher

FISHER RADIO CORPORATION
2140 44TH DRIVE
LONG ISLAND CITY, N. Y. 11101

CANADIAN RESIDENTS WRITE TO TRI-TEL ASSOCIATES LTD., WILLOWDALE, ONT.
Amplifier Power

I want to congratulate you on your special June amplifier issue—in particular, for the excellent article by Julian D. Hirsch on “How Much Amplifier Power Do You Really Need?” As a high-fidelity manufacturer, the problem of meaningful amplifier measurements has long concerned us.

Continuous-power measurements are important in that they offer a consistent basis for comparing one amplifier to another. Other factors being equal, an amplifier with 0.2 per cent 1M distortion at 25 watts continuous power will obviously sound better than one with 2 per cent 1M distortion at the same power. However, music is not a series of sine waves. Music consists of transients of varying types and power levels.

The Institute of High Fidelity (IHIF) power rating is misleading, as it favors amplifiers with poorer power supplies, while in actual practice, the poorer the power supply the less the transient power capabilities of an amplifier.

Far more significant is the technique described by Mr. Hirsch in his article, that of monitoring the output of an amplifier with a calibrated oscilloscope while it is supplying a music signal to a loudspeaker. This method is simple, accurate, and meaningful, for it shows how the amplifier performs what it was designed to do—reproduce music.

In the past—when tube amplifiers were the only type available—peak-power measurements were in some disrepute due to their use by console manufacturers as a means of presenting inflated figures. As mentioned by Mr. Hirsch (as well as by Larry Klein), a ten-watt average amplifier has twenty-watt peak capabilities. Not mentioned, however, was that while this ratio holds for a tube amplifier, the ratio for a well-designed transistor amplifier can be considerably higher. As Hans H. Fantel writes in the same issue, in his article “Stereo Amplifiers—A Guide for Buyers,” “...the numerical power ratings of transistor amplifiers cannot be directly compared to the power ratings of tube amplifiers since transistors have an advantage in terms of reserve power.”

In our laboratories we have discovered that for a properly designed transistor amplifier, the ratio of peak to average power can be anywhere from three to one to ten to one, depending on the loudspeaker impedance. Our nominal 30-watt-per-channel Acoustech V integrated amplifier exceeds 100 watts of peak power per channel (we actually prefer to call it transient power, to eliminate confusion with peak power), as can be observed by anyone with a record player, a speaker, and an accurate oscilloscope. Under the same conditions, the nominal 40-watt-per-channel Acoustech I will exceed 200 watts.

We are sure that other manufacturers of transistor amplifiers have noted the same phenomenon. If the reader is to obtain meaningful information from published specifications, it is essential that instantaneous peak-power (or transient-power) measurements become a part of all future advertisements, literature, and reviews.

Morley D. Kahn, President
Acoustech, Inc.
Cambridge, Mass.

May I compliment Julian Hirsch for his fine presentation of “How Much Amplifier Power Do You Really Need?” This article was the best possible answer to a question that has plagued the industry since the inception of high fidelity. In fact, I found the article so understandable and so complete in its coverage that I would like to order copies for our distributors and their sales personnel.

Henry Gates
Sales Manager, Stereo Products
Admiral Corporation
Chicago, Ill.

Rating the FM Stations

Congratulations for crusading for better-quality FM broadcasting. I am referring, of course, to your idea of rating FM stations. Maybe your efforts will encourage owners and station managers to do something to correct the intolerable conditions that now exist.

Harris Lawson
San Francisco, Calif.

For an initial report on this matter, see page 4.

I think Furman Hebb’s idea of rating FM stations is excellent, but I can’t forgive him for neglecting the Baltimore-Washington area in the poll. I think a check would prove there are more FM stations in this area than in any listed in his editorial. Shame!

George D. Rist
(Forgotten Audiophile)
Ferndale, Md.

I read with interest your editorial on the poor quality of FM broadcasts. However, we here in South Dakota have another problem—there is no reception at all. I live in a town of about 15,000 population; we receive three TV stations but have only one local standard AM station. The nearest FM station is 150 miles away and cannot be received.

If there is anything your magazine can do to promote FM stations in this area, it would be greatly appreciated. Perhaps a published list of uncovered areas would encourage out-of-state investors to install new stations.

Gerald E. Peterson
Huron, South Dakota

Correction, Please

James Goodfriend’s “What They Thought of Each Other” in the June issue was one of the most absorbing articles I’ve encountered in your publication. I only regret that the article could not be expanded to include other... (Continued on page 10)
The Fisher 500-C: world's biggest seller.

(In the end, the public always knows best.)

By now, most of the major high fidelity manufacturers have tried the all-in-one stereo receiver idea. Yet the Fisher 500-C continues to outsell all other receivers (and tuners and amplifiers) throughout the world. There must be a reason.

Individuals may come to wrong conclusions about competitive products; but the public, collectively, never does. It has an unerring way of selecting the top value. This is a subtle but inexorable process, based on the reputation of the maker, important little differences in performance, certain exclusive technical features, trouble-free service over the years and a host of similar considerations. It happens to Fisher high fidelity components all the time.

Of course, the 500-C is a most impressive instrument even if you know nothing about its sales record. On one magnificent chassis, only 17½" wide by 13½" deep, it combines all of the electronics of a professional-quality Fisher stereo system—tuner, amplifier and controls. The FM-stereo tuner section has a sensitivity of 1.8 microvolts (IHF Standard) and features silent, automatic mono-stereo switching via the famous Fisher STEREO BEACON®. The power amplifier has a total IHF Standard music power output of 75 watts. And the price is still only $389.50. (Walnut cabinet available at $24.95.)

FREE! $2.00 VALUE! Send for your free copy of The New Fisher Handbook. This entirely new, revised and enlarged edition of the famous Fisher high fidelity reference guide is a magnificent 76-page book. Detailed information on all Fisher stereo components is included in the new catalogue section.

Use coupon on page 11.

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Long Island City, N. Y. 11101

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CIRCLE NO. 23 ON READER SERVICE CARD
"MASS" REVOLUTION NOW IN PROGRESS

ADC Achieves Lowest Mass In Cartridge Design With POINT FOUR*, 660 & 770

(*Elliptical Stylus Now Available)

What are the characteristics of the ideal stereo phonograph cartridge? Stylus mass will have to come down... compliance will be considerably increased... vertical tracking angle will be standardized... tracking force will be exceptionally low.

WHAT ADC HAS DONE

ADC recognized these ideals some time ago. We knew that marginal upgrading of existing designs would not attain these goals. From this decision came the concept of the INDUCED MAGNET TRANS-DUCER. In short order we had prototypes of this new class of magnetic cartridge that shattered old technical limitations. What followed were three startlingly new cartridges that incorporated this principle: the ADC POINT FOUR, recommended for manual turntables; the ADC 660 and 770, recommended for automatic turntables and record changers—NOT YEARS HENCE, BUT TODAY.

YEARS AHEAD PRINCIPLE, TODAY

"Significantly reduced mass" was the key advantage, we said—months before the spotlight was turned on this factor. The use of a fixed magnet, separate from the moving system, inducing its field into an armature of extremely light weight, slashed mass to "half or less than that of systems previously regarded as low-mass designs" we also noted. The tubular, aluminum stylus arm or cantilever connected to the stylus to move this negligible mass was made even lighter. We were then able to match this low mass with a suspension of exceptionally high compliance. Minimum tracking force suggested is 1/4 gram, but we have tracked the POINT FOUR perfectly at 1/2 gram. "Obtaining the now established tracking angle of 15° is no problem" with the pivot point of the arm brought close to the record surface by the new physical configuration.

OTHER ADVANTAGES

There are others. We stress a few of the many because they involve factors designated for an idealized cartridge of the future. And we ask you to compare the ADC cartridges AVAILABLE TODAY with these eventual goals. We believe you'll agree that these are the most advanced cartridges available anywhere. We can only hope that you try them with equipment that will do them justice.

Price: ADC POINT FOUR ....... $50.00 *
ADC 660 ........................ $46.50
ADC 770 ........................ $29.50

(*Slightly higher with elliptical stylus)

AUDIO DYNAMICS CORPORATION
PICKETT DISTRICT ROAD,
NEW MILFORD, CONNECTICUT
CIRCLE NO. 8 ON READER SERVICE CARD


Clarification

- Joe Goldberg, in his gratifyingly complimentary review of the recent recording of some of my jazz compositions ("Jazz et Jazz," on the Philips label), comments on "a wordless vocal by an expert (but anonymous) female singer." Because I think the singer's work deserves recognition, I would like to set the record straight. She is Christiane Legrand, sister of bandleader Michel Legrand, and a member of Let Double-Six vocal group.

André Hodier Paris, France

The Beatle Beat

- My father showed me your article on the Beatles (May, 1964) and you sure are crackers. They are the greatest, nicest, funniest group of boys. And their music, that's no rock'n'roll, that's the Beatle Beat! You don't like the Beatles because your geolous of them, because I mean, they're just gear (the greater) and you aren't. Add them to the list—Bach, Beethoven, Brahms, and the Beatles!

Roxanne Akin Wilmington, Delaware

P. S. Crackers means crazy.

Tape Releases

- Having recently given up on long-playing records, due to excessively noisy and faulty surfaces, I have switched to prerecorded tapes. Now, I find myself confronted with a new form of frustration. Most companies do not release their tapes until long after the record has been available. Quite often, after waiting a reasonable period, I have given in and bought the disc performance, only to have the tape version appear on the market some months later.

It would appear that in many instances the decision to release a tape is based upon whether or not the original record becomes a bestseller. As a result, by the time the tape is released, its sales potential is already limited. It would seem a simple matter for the manufacturers to indicate on their advertisements of new records that a tape version will eventually be issued.

Incidentally, one wonders when Columbia is going to give us some of their outstanding recordings on tape, instead of the usual dribble of overtures, marches, and ballet suites? (Bernstein's Mahler Symphonies 3 and 5 and Tourel's Shéhérazade, to name but three.) Considering that a recent survey indicated that symphonic music and operas outsell popular music on tape, Columbia's releases still seem to lean heavily towards pops. Angel's recent recordings of music by Elgar and Vaughan Williams would also be appreciated on tape.

G. G. Rogers St. Laurent, Quebec

A Nobel Prize in Acoustics?

- Over the past several years I have been reading with increasing interest the pro-and-con banter of ideas that has appeared about sound reproduction, particularly Julian Hirsch's column during the last several months. To my mind Mr. Hirsch has been using the column not merely to communicate information but to serve as something of a sounding-board for ideas to stimulate the dulled imagination of the acoustic engineer, and to get the amateur tinkerer interested enough to come up with an original idea.

The fact is that there is a rather ambiguous gray area overlapping what can be considered the domain of the artist or the engineer, and many a discussion has developed over how many frequencies can dance on the dome of a tweeter. The artist and engineer may do well to bring themselves into a closer working arrangement, to try to settle the gross and subtle differences between supposed sound. Nor should the audiophile be left out of it, as he is the one who is generally caught in the middle and has the most to gain because it is his ears that will do the receiving.

It is true that Stradivarius, Guarnerius, and Amati played it by ear and came up with winners. But we must have much more in the development of the art-science we know as music and acoustics to understand the what, why, and wherefore of this wonderful muse.

Perhaps someday there will be the equivalent of a Nobel or Fermi award in the field of acoustics.

F. B. Jeuneman San Jose, Calif.

HIFI/Stereo Review
There is only one high-compliance, long-throw, yet efficient three-way speaker system for less than $130.

The Fisher XP-1A free-piston loudspeaker.

The XP-1A is the latest version of the original Fisher free-piston model. The free-piston concept is a Fisher development in woofer design, combining the advantages of a high-compliance cone surround, a long-throw voice coil and suspension system, and a high-flux-density magnet structure.

The 12-inch woofer of the XP-1A incorporates all of these features in order to move as a true piston, without doubling or buckling, over the wide excursions required to reproduce frequencies down to 30 cps at high volume levels. A voice coil segment of specified length is always within the magnetic gap, thus maintaining linear cone motion and preventing overshoot. The result is a most impressively clean bass register, without a trace of muddiness or boom.

Frequencies between 1800 and 3000 cps are reproduced by a 5-inch sealed-basket midrange speaker. Interaction between woofer and midrange unit is prevented by acoustically isolating the two cones. Above 3000 cps, a 3½-inch wide-dispersion cone tweeter provides exceptionally smooth response to the upper limits of human hearing. The three drivers are connected through a three-way inductive-capacitive dividing network of the most advanced design, carefully matched for the smoothest possible crossover without the slightest coloration. A brilliance control is also included, for precise adjustment of the speaker characteristics to the acoustic conditions of the listening room.

The efficiency of the Fisher XP-1A is sufficiently high for full living-room volume with a 10-watt amplifier. At the same time, the speaker will handle up to 60 watts program material with perfect ease. No other loudspeaker system gives you this kind of performance anywhere near the XP-1A's price: $129.50 in walnut, mahogany or cherry, $124.50 in unstained birch.

FREE: $2.00 VALUE! Send for your free copy of The New Fisher Handbook. This entirely new, revised and enlarged edition of the famous Fisher high fidelity reference guide is a magnificent 76-page page book. Detailed information on all Fisher components is included.

Fisher Radio Corporation 21-40 44th Drive Long Island City, N. Y. 11101

NAME: ___________________________ CIRCLE NO. 23 ON READER SERVICE CARD

ADDRESS: _________________________

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FREE: $2.00 VALUE! Send for your free copy of The New Fisher Handbook. This entirely new, revised and enlarged edition of the famous Fisher high fidelity reference guide is a magnificent 76-page page book. Detailed information on all Fisher components is included.
SOUND AND THE QUERY

PRACTICAL POINTERS ON THE INSTALLATION AND MAINTENANCE OF HOME MUSIC SYSTEMS

BY LARRY KLEIN

Cartridges, Hot and Cold

Q. In several British high-fidelity magazines a point is made of the temperature at which a phono cartridge is tested. Why is this?

EDWARD ROGERS
Millbrae, Calif.

A. The stylius-suspension system of almost every cartridge incorporates some damping elements. These damping substances, which are made of a soft plastic or rubber, tend to become stiffer as the temperature drops. In the United States, this is of small import, since the minimum temperature to which cartridges are subjected is relatively moderate. However, our British friends in general lack central heating in their homes, and regard as comfortable a temperature we would find somewhat too cool. As a case in point, in a recent cartridge test report in a British magazine, the reviewer stated that "The frequency-response curve given was taken at a normal room temperature of 60°F."

6L6 Tube Replacements

Q. My 40-watts-per-channel stereo power amplifier uses four 6L6 tubes, two in each channel. The original tubes were marked 6L6GC, but when I went to purchase replacements, the sales man wanted to sell me 6L6 tubes with a metal (rather than glass) shell. He stated that these are superior for hi-fi use. Is this correct?

HAROLD ANAPOL
New York, N. Y.

A. Despite the fact that the 6L6 tube is almost twice as expensive as the glass type, it probably would not stand up under the high voltages used in your 40-watt amplifier. The RCA tube manual indicates that the 6L6GC tube has a rating almost 50 per cent higher than the older 6L6 types. This means that the 6L6GC can safely be substituted for one of the older 6L6 types (such as the 6L5G or 6L5GB), but it is unsafe to use one of these older types to replace the new 6L6GC.

Multiple-speaker Systems

Q. I have seen a number of articles about the use of ten or more small low-cost speakers in a single enclosure. The writers, and some of the readers who have built them, claim that such setups provide sound as free of distortion as some of the best commercial speakers. Have you heard any of these systems, and what is your opinion of them?

CARSON B. WEAVER
Denver, Colorado

A. The concept behind these multiple-speaker systems is that if a number of small speakers share the power delivered by the amplifier, each speaker handles only a fraction of the total and hence will not be driven into distortion. The system's treble response should be good because (theoretically) the 5-inch speakers have no difficulty reproducing the highs. On the bass end, all the small speaker cones pushing together (so the theory goes) would, in effect, simulate one very large cone. Several other theoretical advantages are also claimed.

But in practice, the theory doesn't work well. First of all, the 5- or 6-inch speakers that are usually specified are manufactured for use in table-model radios, and often have their high-frequency capabilities deliberately suppressed to minimize static and other noise heard on the AM band. And on the bass end, the little speakers produce a large audible peak at their average resonant frequency (about 100 cps), and nothing much below. The mid-range response is not bad, but anyone looking for a mid-range speaker would be better advised to consult the catalogs of the major speaker manufacturers. There he will find listed some very clean mid-range cone- and horn-type speakers at reasonable prices. In short, it is still hard to make a silk purse out of a sow's ear—no matter how many ears are used.

TV Speaker Hum

Q. In an effort to improve the sound of my TV set, I connected a small but good-quality extension speaker system to it in place of its built-in 4-inch speaker. The sound is much improved, but I'm bothered by a bad hum that is not present when I use the set's built-in speaker. Did I make an incorrect connection, or what?

HOWARD DECANIO
Austin, Texas

A. The fault lies not in your wiring, but in the TV receiver. As an economy measure, a number of TV set manufacturers provide only as much power-supply filtering as will prevent power-supply hum from being audible through a 5-inch (or smaller) speaker. When a better speaker capable of reproducing the hum frequency of 60 or 120 cps is connected, the residual hum becomes obtrusive.

A possible solution is to explain the problem to a local TV serviceman and have him add additional filter capacity to the television set's power-supply circuits. Make sure that he makes his test using your extension speaker in order to properly evaluate the degree of hum reduction needed.

Phase Shift

Q. I've read several discussions about the effect of phase shift on amplifier sound. However, I don't understand how this can be important, since you can radically change the phase relationships of the sound waves reaching your ears simply by moving your head. Can you clarify this for me?

CHARLES PETERS
Glen Oaks, N. Y.

A. When engineers use the term "phase shift," they are usually referring to nonlinear phase shift—that is, the amount of phase shift varies at different frequencies. For example, if the fundamental tone of a musical instrument is 2,000 cps, then its second harmonic (or overtone) is 4,000 cps, its third harmonic is 6,000 cps, and so forth. The waveform of the 2,000-cps tone (which contains varying amounts of harmonics), if viewed on an oscilloscope, has a shape that is determined by the amounts of the various harmonics and by their phase relationships to the fundamental. When the 2,000-cps tone is reproduced, if either the percentages of the harmonics or their phase relationships are changed, the 2,000-cps tone will also be changed. Engineers are currently in disagreement as to whether waveshape distortion caused by nonlinear phase shift in an amplifier is audible.

Because the number of queries we receive each month is greater than we can reply to individually, only those questions selected for this column can be answered. Sorry!
We aim at the Six

KLH makes speaker systems that sell from $50 to $1140. Each of these systems delivers the cleanest, best balanced performance you can buy for the price.

But the one by which we judge every new product we make is the Model Six.

How does such a modestly priced speaker become the standard bearer for an entire line?

It isn't just that the Six is a magnificent speaker. More than any other speaker we have ever made, the Model Six embodies the qualities that the name KLH stands for — an engineering approach that separates the trivial from the important; cuts through the accepted to find the exceptional — a patient, painstaking effort to give you cleaner, finer performance at lower cost.

We aim at the Six because it gives you the highest quality of performance, per dollar, of any speaker we make. Or anybody else makes.

That's why we call the Model Six:

the lowest priced speaker
you can be satisfied with
for the rest of your life.
Acoustech Solid State
"...better than the best...
—Hi Fi/Stereo Review

Amazing Amplifier
...Now Ultimate Sound At Half The Cost

Important news for the discriminating music lover! The new Acoustech V Control Amplifier, for only $299, provides matchless sound, unbelievably low distortion (less than 0.5% IM at 30 watts RMS), and almost 125 watts of instantaneous transient power per channel. Every orchestral crescendo easily handled with even the most inefficient speaker system. Acoustech's solid state circuitry makes this amazing performance possible in an integrated Control Amplifier, half the price of nominally equivalent tube units.

Acoustech, Inc.
Dept. R-4, 139 Main Street, Cambridge, Mass. 02142

FREE

Please send free booklet "Why Solid State Amplifiers Can Sound Better" and full information on Acoustech V to

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CIRCLE NO. 45 ON READER SERVICE CARD

JUST LOOKING
...at the best in new hi-fi components

• Ampex announces the 500 Series of Mylar-base recording tapes for home audio recorders. The tape box is color-coded for each tape thickness—1/2-mil, 1-mil, and 1/4-mil. The tapes are available in both five- and seven-inch reel sizes. A special oxide is used on four tapes to provide maximum recording quality at speeds of 3 1/4 and 1 1/4 inches.

• Benjamin offers the Truvox PD-100, a four-track, three-speed recorder. The three-head machine has dual VU meters, direct off-the-tape monitoring, independent reel motors, plus a Papst capstan-drive motor.

• Electro-Voice's Sonocaster speaker system employs an 8-inch coaxial loudspeaker specially designed for portable and outdoor high-fidelity use. Frequency response is 70 to 13,000 cps, power-handling capacity is 30 watts peak power, and impedance is 8 ohms. The system's molded housing is of crack-proof plastic material similar to that used in air-travel luggage. Dimensions are 16 1/4 x 17 x 5 3/4 inches; weight is 8 pounds. Price: $36.

• Heathkit offers the AD-72, a portable, two-speed, four-track stereo tape-recorder kit with built-in power amplifiers and detachable wing speakers. Each wing speaker has a 5-inch woofer and 3-inch cone tweeter. The recorder's output is

(Continued on page 16)
SIX HEADS ARE BETTER THAN THREE!

No matter how you look at it, six heads can outperform three anytime. And only Concertone's incomparable 800 has them. Six heads let you record or play four-track stereo tapes in both directions—without reel turnover. And Reverse-o-matic® gives you continuous music programming at the push of a single button. No one in the industry can give you six heads and Reverse-o-matic®. No one in Concertone's Series 800 price range can give you these features either. Entirely self-contained. Twin speakers. Two microphones. Three motor system. Echo control. Sound on sound. Center capstan drive. You will be astounded at what you get with Concertone's incomparable 800. And it costs less than $399. For details and dealer's name, write Concertone, P.O. Box 3227, South El Monte, California.

COSMOPOLITAN 400—For people on the go...a combination tape recorder with AM radio. Lightweight and compact size make it a versatile companion for business and pleasure travels. Push button operation. Five inch reels. All transistorized. Big recorder features in ten pound miniature form.
WHY YOU PAY MORE FOR THE ENDURING QUALITY OF ALTEC PLAYBACK COMPONENTS

From time to time, we are asked why Altec PLAYBACK Components can’t be sold for less, so that the quality of PLAYBACK could be enjoyed by more people. Our reply—one that we give quite simply—is: How can anyone claiming to offer the quality of PLAYBACK Components sell for any less when all manufacturers pay exactly the same for labor and parts (such as resistors, transistors, capacitors, transformers, tubes, and so on) assuming these parts are of identical quality to the ones we use. Naturally, anyone can sell for less by using fewer components, and cheaper components, and less care in manufacture. It is always possible to make a product much cheaper and a lot worse. But where is the “bargain”? After all, you buy components to obtain the finest sound reproduction available. To settle for less... to purchase components on the basis of price alone... means that you have settled for second best.

HOW TO DETERMINE WHICH COMPONENTS ARE RIGHT AT THE PRICE:

The logical answer: Buy the same components the professionals buy and use—the broadcast technicians, the recording artists and engineers, the musical conductors—the people whose bread and butter depend on the selection and use of the finest sound systems it is possible to obtain. You will find that Altec PLAYBACK Components are used as standard studio equipment at ABC, Capitol Records, Columbia, Sam Goldwyn, Glen Glenn, Studio 3, Walton and many other broadcast/recording studios of equal technical excellence. These, and many other big name users, are shown in our illustrated brochure, “Altec PLAYBACK Equipment.” (We would be happy to send you a copy.) Going back 40 years to Western Electric Company, Altec engineering has been foremost in the broadcast and recording arts and it is this experience that is available to you through Altec PLAYBACK Components.

PREMIUM QUALITY COMMANDS PREMIUM PRICE

Altec PLAYBACK Components cost more than ordinary “hi fi” because equipment that is built to professional standards for use by professionals, simply can’t be built for any less. Your home music center may well be one of the largest single equipment investments you will ever make. And, since you’re buying for the years ahead... for the ultimate in musical enjoyment... in the expectation of always hearing the best that music reproduction has to offer... may we suggest that you emulate the professionals in selecting your components? Insist on listening to genuine Altec PLAYBACK Components in a direct comparison with any other units, of any make. Then, see if you don’t agree that “the price for the very best is always right.”

Altec Lansing Corporation
Anaheim, California

put can be used to drive external speakers, headphones, or a separate stereo system. Wow and flutter are 0.2 per cent at 7½ ips and 0.3 per cent at 3¾ ips. Over-all response through the AD-72's power amplifiers (at 7½ ips) is 50 to 15,000 cps +3 db with less than 2 per cent harmonic distortion at 2 watts output. Dimensions, including speaker wings, are 19½ x 15 x 19¾. Kit price: $198.

circle 181 on reader service card

Lucor introduces the Model 1200 stereo recorder, a 7-track (7½ and 3¾ ips), four-track stereophonic recorder. The two speakers face sound-reflecting side panels built into the carrying case. Other features include: vertical or horizontal operation, two VU meters, a separate playback-balance meter, end-of-reel shut-off, and hysteresis-synchronous drive motor. The Model 1200 has a frequency response of 30 to 20,000 cps ±2 db, and flutter and wow of approximately 0.18 per cent at 7½ ips. Outputs are available for external amplifiers and speakers. Price: $269.95.

circle 182 on reader service card

Pilot's new slimline bookshelf speaker, the SL-1, is a three-way system with a crossover network designed for overlap between the mid-range and woofer and the mid-range and tweeter. The system incorporates a 10-inch woofer, two 3½-inch mid-range speakers, and two 3½-inch super-tweeters. Over-all frequency response is 50 to 20,000 cps. Power rating is 25 watts, and the crossover frequencies are 2,000 and 4,000 cps. Dimensions are 24 x 17 x 6¼ inches. Price: $89.50.

circle 183 on reader service card

Roberts' 10½-inch reel adapter for the Model 455 tape recorder accepts both NAB and standard reel hubs and doubles recording and playback time. A speed-conversion kit to add a 15-ips speed is also available for the Model 455.

circle 184 on reader service card

Robins announces the ME-55 magnetic bulk tape eraser. The device erases recorded material from a reel of tape in seconds without rewinding. Tapes are erased simply by moving the eraser over each side of the reel. Noise levels of tape are reduced to below those normally achieved by erase heads. The unit operates on 110-120 volts a.c., and has a momentary-contact switch. Size is 4½ x 2½ x 2 inches. Price: $16.66.

circle 185 on reader service card

Telex's new ST-20 stereo headset has an individual volume control built into each earpiece, thus simplifying control of stereo balance and volume. Soft foam cushions of deep-cavity design exclude room noises. Response is 16 to 15,000 cps. Phones will operate from 4-, 8-, or 16-ohm amplifier outputs. Price: $29.15.

circle 186 on reader service card

Vidaire is marketing the British-made BSR TD-10 three-speed, four-track stereo tape deck. The two-head machine has a wow and flutter rating better than 0.15 per cent at 7½ ips, and the playback head has a 100-microinch gap. The deck is meant for custom installation and is 12¼ inches deep x 8 inches wide. The height above motor board is 3 inches. Price: $69.50.

circle 187 on reader service card
Over two years ago, word leaked out (as it will) that Shure, one of the world's most respected manufacturers of high fidelity components, had embarked on an epochal project: the creation of a perfectionist's compact stereo system. A high fidelity system that conjoined optimum sound and minimal size.

A formidable and dedicated group of development and design engineers was given carte blanche.

Independent high fidelity authorities were flown in for repeated consultations. Their recommendations and comments provided a demanding framework for Shure engineers.

Prototypes were modified and improved... and improved again... and again.

The monies and skills appropriated to the project were sizable — by ANY standards. Perfectionism is not inexpensive, ever.

THE M100 SYSTEM

The result of this highly disciplined creativity is Shure's M100 Maximum Performance component high fidelity system. It is not just good, it is great.

It will re-create your favorite records with a sound quality that is remarkable in its naturalness and exciting in its impact. It is unlike anything previously available in compact systems—save perhaps a highly-inspired custom component rig costing two (or more) times as much. The M100 costs around $400 to $450 depending on cabinet or case.

Because of the singular standards for sound and for size that were set for the M100, few components were judged to be satisfactory for inclusion in the unit. Consequently, the Shure design staff (that developed the unique Dynetic cartridge which made true high fidelity stereo a practical reality) designed many of their own components. In addition, quality is controlled by the famous Shure Master Quality Control Program.

The M100 embodies significant and unique engineering considerations, such as a solid-state pre-amplifier/amplifier developed and produced by Shure with more than ample power to drive its two total-range, ultracompact multi-speaker systems, also designed by Shure. And, it features the renowned Shure Bi-Radial Elliptical Stylus in the famed V-15 Stereo Dynetic 15" tracking cartridge. Naturally, it cannot scratch records. Dual's finest precision Model 1009 automatic turntable is standard.

The M100 can be used with AM, FM, Multiplex tuners, or be used as a public address system. Ideally suited for every home-listening requirement, the M100 is also recommended for use in schools, hospitals, and other institutions. It is Underwriters' Laboratories, Inc. listed.

Space is not sufficient here to list all the M100's pertinent specifications. They are for a system of this size, singular. We will be happy to send complete specifications to technically oriented music lovers.

LIMITED QUANTITIES

Because of the detailed craftsmanship, large amount of hand-labor, and rigid quality control and inspection techniques involved, the number of M100 systems manufactured will be few. They will be available only through a select group of the most experienced high fidelity consultants and dealers. We cannot promise immediate delivery. For perfectionism cannot be mass produced.

THE M100L PORTATIVE SYSTEM

In two instrument cases. Recommended for serious listening among music lovers on the go: armed forces members, boat owners, college students, school music directors, or anybody given to travel. Or summer cottage owners, of course.

THE M100W LIBRARY SYSTEM

Impressive solid walnut cabinetry designed to complement the decor of modest or magnificent homes and apartments.
Looks like any other single lens reflex!  
(FROM THE FRONT)

Handles like no other single lens reflex!  
(FROM THE BACK)

This is the new electric eye Fujicarex. Behind its conventional looking front, is a rather revolutionary back. See the film advance lever? Right below are all essential controls... automatic electric eye exposure control wheel and the focusing wheel. Your thumb sets the proper exposure, focuses and advances the film. Your 9 other fingers don’t do very much. Don’t grope. Don’t fumble. Don’t poke the lens.

Our exclusive “Control Cluster” makes the Fujicarex the fastest handling reflex. And a lot more convenient.

Other special features include: Automatic instant-return mirror. Automatic instant-reopen diaphragm. Automatic push-button preview control. A very bright Fresnel viewing-focusing screen and range-finder. And a superb lens (the 50mm Fujinon f/1.9) for brilliant color and black and whites. Accessories include wide angle, telephoto and close-up attachment lenses.

A lot of camera for less than $150, isn’t it? Let your own thumb demonstrate the new Fujicarex for you at your camera store or write for FREE booklet.

DEFINITIONS—VII

More definitions of basic audio concepts, which will continue in alphabetical order for the next several months.

- **Loudness compensation** is a feature found in many amplifiers that compensates for the ear’s loss of sensitivity to bass at low volumes. Music reproduced more softly than it would be heard in a concert hall sounds thin. Loudness compensation makes up for this by supplying more bass as the volume is turned down.

- **Mid-range** is a rather arbitrary term for the central portion of the audible range. In current usage, the term refers to frequencies anywhere from about 500 to 7,000 cps. An amplifier (or speaker) that emphasizes the tones in the 2,000- to 5,000-cps range makes the instrument seem closer to the listener, but the falsified tone color quickly leads to listening fatigue.

- **Modulation**, in a broad sense, is the process of altering an electrical signal so that it carries some sort of information—music, speech, dots and dashes, etc. In audio, the intensity of an otherwise steady electric current is varied in accordance with the sound-wave patterns of the program. In radio, modulation refers to superimposing an audio signal on the radio-frequency wave (the so-called “carrier wave”). At the radio receiver, a circuit known as a detector then separates the audio signal from the carrier. Once the audio signal is recovered, it is amplified and fed to the speakers for reproduction of the original sound-wave pattern.

- **Multiplex** is a method of broadcasting in which two or more separate signals are broadcast simultaneously at the same frequency and from the same FM transmitter. This technique now forms the basis of stereo broadcasting, as it makes it possible for one station to send out both the left and the right channel of a stereo program.

- **Output power** is the amount of energy the amplifier delivers to the loudspeakers; it is expressed in watts. One method of stipulating output power is in watts of *continuous power* (also called sine-wave power or rms power), which is the amount of energy the amplifier can generate continuously. Another measurement standard, called *music power*, is less stringent. It makes allowance for an amplifier's ability to exceed its continuous power rating for short bursts of musical sound, such as cymbal crashes. Still used occasionally is the older term *peak power*, which is usually the continuous power rating doubled. In rating stereo amplifiers, the output of both channels is usually added. For instance, a “30-watt” amplifier is usually an amplifier that delivers 15 watts per channel. A common misconception is that the power output of an amplifier indicates how loud an amplifier can play. This is like saying the horsepower of a car determines how fast it can go.

*(To be continued next month)*
AR-3 REPORT FROM LONDON: R. L. West writes in the March, 1963 Hi-Fi News, “This is the first time in his life that the reviewer has ever heard 20 c/s from a commercial loudspeaker. Feeling is perhaps a better word. Above 25 c/s it [the AR-3] will take enough power to make really impressive organ pedal tone without obvious harmonic generation.

‘... the most outstanding feature is its lack of bass — on all the occasions when there shouldn't be any! The reviewer sees why they have been raved about in their homeland.”

LIVE vs. RECORDED ORGAN CONCERT: When the Audio League made a direct comparison between the live and the reproduced sound of an Aeolian-Skinner pipe organ using AR woofers, David Hebb reported in the Saturday Review, “Competent listeners, with trained professional ears, were fooled into thinking that the live portions were recorded, and vice versa... The extreme low notes were felt, rather than heard, without any 'loudspeaker' sound...”

DIZZY GILLESPIE ON THE AR-2a: Charles Graham reports in the January, 1963 Jazz, "Dizzy chose Acoustic Research AR-2a loudspeakers... on the evidence of the bass fiddle beat of his own recordings. In addition he said it was important to him to get extremely clean middle- and high-frequency sounds.”

AR-3 speakers are $203 to $225, depending on finish. The AR-2a, a lower-cost version of the same acoustic suspension design, is $109 to $128. The 5-year AR speaker guarantee covers parts, labor, and reimbursement of any freight charges to the factory.

A catalog and list of AR dealers in your area will be sent on request.

ACOUSTIC RESEARCH, INC., 24 Thorndike Street, Cambridge, Massachusetts 02141
"What the experts say about...

Sherwood speaker systems."

C. G. McProud, Editor, AUDIO, April, 1962—"... solid, non-boomy bass, smooth midrange with good presence and clean highs."

Hirsch Houck Labs., ELECTRONICS WORLD, June, 1962—"... response ±5 db. from 27 cps to beyond 15,000 cps... sounds as good as it measures... unlike most, the woofer did not 'let go' or lose coupling to the room at any frequency down to 20 cps... high frequency sound almost indistinguishable from that of good electrostatic... good dispersion... no peaks."

Equipment Reviewers, HIGH FIDELITY MAGAZINE, January, 1963—"... the Ravinia confirmed its claim to response and then some. Bass was free of boom... midrange and highs were honest and clean... did not impart any particular coloration or tonal emphasis to any group of instruments or voice. Apparent sound source larger than cabinet size, yet system could be enjoyed fairly close up."

Larry Zide, THE AMERICAN RECORD GUIDE, February, 1964—"... Sherwood's Berkshire thrusts the orchestra into the room with you... it's a front-row center seat. Voice projection is very good... lifelike. Transients are very good... everything is heard."

CHOOSE FROM FOUR SUPERB-SOUNDING SHERWOOD SPEAKER SYSTEMS

- **"TANGLEWOOD" 4-way System:** two 10" WOOFERS (17½ and 18¼ cps, staggered resonances), 8" MIDWOOFER, 8" MIDRANGE, 2½" TWEETERS. Size: 31½" x 24" x 13½". Response: 29 to 17,500 cps. ± 2db. Power: 75 watts program. Crossover: 200, 600, 3500 cps. 12db/oct. Price: $219.50.


- **"NEWPORT" 2-way System:** 10" WOOFER, 4" MIDTWEETER. Size: 24" x 13" x 9½". Response: 53 to 17,000 cps. ± 2 db. Power: 45 watts program. Crossover: 1800 cps. 12db/oct. Price: $84.50.

FOR NEW CATALOG, write Dept. R-8
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HIGH FIDELITY

Stereo Receivers - Tuners - Amplifiers - Stereo Indicator Lights - Speaker Systems - Contemporary Cabinetry

CIRCLE NO. 37 ON READER SERVICE CARD
**AMPLIFIER TESTING:** In the February 1964 "Technical Talk" I discussed the Institute of High Fidelity (IHF) standards for making tuner measurements. The Institute also has another standard, IHF-A-200, dated September 1959 and titled Standard Methods of Measurement for Amplifiers.

The IHF amplifier standard is, by and large, well thought out and quite comprehensive. It is unlikely that any industry-wide measurement standard will ever satisfy all parties concerned, but most manufacturers do adhere to portions of this one, and I follow it wherever it is in accordance with my personal testing philosophy and my test facilities—which is most of the time.

According to IHF-A-200, the power-line voltage fed to the amplifier under test should be exactly 117 volts rms. A deviation of only one or two volts can significantly modify the power-output capabilities of an amplifier, so I monitor line voltage with a laboratory voltmeter accurate to 0.75 per cent. Some amplifier manufacturers use 120 volts or even 125 volts as a basis for rating their products. When testing an amplifier rated under such conditions, I test it at 117 volts so that it can be compared to other makes, and then I check it at its rated line voltage to confirm the manufacturer's claims.

The IHF standard also requires that an amplifier be operated for at least one hour, at one-third of rated output, before measurements are made. This is because the transformer windings have more electrical resistance when they reach full operating temperature, and this may result in a loss of maximum power output by as much as 10 per cent (as compared to the maximum output when the amplifier is relatively cool). I suspect that manufacturers sometimes rate their amplifiers "cold," but I always allow an amplifier to reach its full operating temperature before making any power measurements.

The load resistor that replaces the loudspeaker during measurements must not only be an essentially pure resistance (that is, it should have no inductance), but it must be able to dissipate the full output power of the amplifier while maintaining its rated resistance within ±1 per cent. This calls for special cooling precautions, because as the resistance element absorbs the amplifier's power output, it gets hotter and tends to change value.

Another procedure I follow, although it is not a part of the IHF standard (which pre-dates wide use of stereo) is to drive both channels of an amplifier simultaneously. This is a severe test, but one I feel is more realistic (after all, the channels will be operated simultaneously in actual use) than either single-channel or music-power tests.

**CONTINUOUS-POWER output is measured as a function of frequency, from 20 to 20,000 cps, at a specific percentage of harmonic distortion. I use 2 per cent distortion as a criterion, increasing the drive to the amplifier at each test frequency until the output distortion measures 2 per cent, and recording the power output. The IHF standard requires that power be measured with an accuracy of ±0.5 db, or 10 per cent. This requires careful calibration of test equipment, since an amplifier's power output is notoriously difficult to measure accurately.

The music-power-output test requires that at full power output all significant amplifier power-supply voltages be maintained at their no-signal level. In practice, this means that the normal amplifier power supply must be temporarily replaced with a laboratory-type regulated supply, or that such special techniques as tone-burst power tests must be used. In the first case, there is an increased possibility of damaging the output tubes or transistors, while the second method requires some fairly elaborate test instruments. But quite apart from measurement problems, I have never been convinced that the music-power rating does more than provide a higher power-output figure for amplifiers of unexceptional performance, while it has almost no effect on the rating of a really good amplifier. Hence I do not make this test. (Continued overleaf)
Amplifier sensitivity is defined by the input voltage required to develop the unit's rated voltage or power output. I deviate from the IHF standard slightly in this case, and prefer to rate the amplifier in terms of the input needed to develop a standard (rather than maximum) output, which I have arbitrarily selected to be 1 volt (from preamplifiers) or 10 watts. This gives an indication of the input voltage required for a given listening volume, rather than for a maximum level that differs from one amplifier to another and may never be reached in normal use.

The IHF standard requires that harmonic-distortion measurements be made only at a single frequency (1,000 cps) at rated output, half output, and one-hundredth of rated output. However, I make this measurement at a number of power levels and plot the results graphically. In addition, I measure the intermodulation distortion over the same power range. Any appreciable difference between the harmonic- and IM-distortion curves is usually an indication of limited low-frequency power-handling capacity.

The IHF standard specifies that hum and noise be measured at maximum amplifier gain, with inputs open-circuited and short-circuited. These measurements are then repeated at gain settings of −20 and −40 dB. Instead of the latter measurements, I set the amplifier control so that a 1-volt, 1,000-cps signal into a high-level input (or 10 millivolts into a phono input, or 3 millivolts into a tape-head input) will drive the amplifier to 10 watts output (or 1-volt output in the case of a preamplifier). All hum-and-noise figures are then expressed as so many decibels below the 1-volt or 10-watt standard output.

There are certain other measurements not covered by IHF-A-200 that I make as a matter of routine. These include checking the tracking of the two sections of a dual gain control, the balance-control range, crosstalk from one input to another, stereo crosstalk, stability under capacitive loads, square-wave response, loudness-compensation characteristics, and power-line leakage current. The latter condition sometimes exists to such an extent that an unpleasant shock can be received when touching any part of the music system while also touching a radiator or standing on a concrete basement floor. For some reason, this check is usually ignored in evaluations of hi-fi equipment.

---

**THORENS**
**TD-224**
**RECORD PLAYER**

- The new Thorens TD-224 is termed, with commendable accuracy and restraint, a “turntable and record changer.” It is basically a fine four-speed turntable, similar to the popular TD-124, with the BTD-12S tone arm mounted on its rigid cast motorboard. Attached to one side of the unit is a somewhat strange-looking structure with upper and lower platforms, for holding stacks of played and unplayed records.

A stack of up to eight records of any size (but of the same speed) is placed on a spindle on the upper platform. Pressing the control level to start initiates a most intriguing sequence of events. As the turntable starts, an overhead arm is raised several inches, swings over the record stack, comes down onto the uppermost record, and picks it up by the center hole with a pair of expanding fingers. It carries the record over the turntable and lowers it to a point a fraction of an inch above the rubber mat. The tone arm comes in, a feeler contacts the edge of the record, and then backs off slightly to let the record drop the brief distance to the turntable. The tone arm comes back, lowers gently into the lead-in groove, and the record is played.

When the pickup reaches the spiral groove at the end of the record, or when the reject lever is operated, the tone arm returns to its rest. The overhead arm then grasps the record by its center hole, lifts it, and gently deposits it on a rubber mat on the lower shelf below the unplayed records. It then swings out and up to the upper shelf to repeat the process. After the last record has been played, the arm goes through a complete cycle, including carrying a nonexistent record to the turntable. When the tone arm finds no record on the upper shelf, the player shuts off. This series of actions takes less time to happen (about 22 seconds) than to describe.

The TD-224 operated flawlessly with all types of records, from 45-rpm popular discs to ancient 78s, with never a skip or malfunction. The unit has several niceties not often found on record players, either manual or automatic. These include a felt pad on the overhead arm, which does a good job of cleaning records while playing them, a spirit level on the motorboard, a ±3 per cent speed adjustment on all speeds, and a built-in illuminated stroboscope similar to that on the TD-124 turntable. The machine can be played manually by moving the control lever to the indicated position, which completely disconnects the changing mechanism.

The rumble of the TD-224 was in line with the other Thorens turntables, measuring an excellent −41 db in the lateral plane and −36 db for combined vertical and lateral rumble. The speeds were, of course, exact. The wow varied from 0.03 per cent at 78 rpm to 0.05 per cent at 45 and 33 1/3 rpm and 0.06 per cent at 16 2/3 rpm—all fine specifications. Flutter was actually unmeasurably low, being below the residual reading (0.015 per cent) of my flutter meter and test record.

The arm, which has a calibrated stylus-force ad-
(Continued on page 26)
Which Stereo Receiver Is Your Best Value?

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SPECIFICATIONS—AMPLIFIERS: Power output per channel (Heath Rating): 70 watts 8 ohm load, (IHFM Music Power Output): 33 watts 8 ohm load. Power response: + 1 db from 15 cps to 30 kc @ rated output. Harmonic distortion: (at rated output) Less than 1% @ 30 cps; less than 0.2% @ 1 kc. Less than 1% @ 20 kc. Intermodulation distortion: (at rated output) Less than 1% 50 & 6,000 cps signal mixed @ 1. Hum & noises: Mag; phone; 50 db below rated output; Aux. inputs, 15 db below rated output. Channel separation: 40 db. Input sensitivity: Mag. phone; 6 MV. Outputs: 4, 8, & 16 ohm and low impedance tape recorder outputs. Controls: 5-position Selector; Selection Magic; Dual Tandem Volume; Bass & Treble Controls; Balance Control; Phase Switch; Input Level Controls; Push-Pull ON/OFF Switch; FM: Tuning range: 88 mc to 108 mc. IF frequency: 10.7 mc. Frequency response: 3 db. 20 to 15,000 cps. Capture ratio: 10 db. Antennas: 300 ohm balanced (internal for local reception). Quieting sensitivity: 31 mc for 30 db of quieting. Image rejection: 50 db. IF rejection: 70 db. Harmonic distortion: Less than 1%. STEREO MULTIPLEX: Channel separation: (SCA Filter Off) 30 db. 50 to 2,000 cps. 10 kc & 10 kc suppression: 65 db down. SCA rejection: 35 db down from rated output. AM: Tuning range: 530 to 1620 kc. IF frequency: 455 kc. Sensitivity: 30 mc @ 600 kv. 9 @ 1000 kc. Image rejection: 40 db. IF rejection: 56 db @ 1000 cps. Harmonic distortion: Less than 1% with 1000 uA input; 400 cps with 30% modulation. Hum and noises: 40 db. Overall dimensions: 17 1/4" x 15" x 5 1/4".

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CIRCLE NO. 27 ON READER SERVICE CARD
justment from 1 to 8 grams, was equally well designed and constructed. When balanced according to instructions, the tracking force was 0.5 gram less than indicated, but once set for correct reading at any one force, it was accurate at all other calibrated points. The cartridge is adjustable within the shell for minimum tracking error. The measured tracking-angle error of the BTD-12S arm was exceptionally low—0 degrees up to a 4-inch radius and under 0.5 degree per inch at larger radii. The entire mechanism worked perfectly at a 1-gram tracking force, although Thorens recommends a minimum of 2 grams.

The Thorens TD-224 is an ingenious and superbly executed answer to the needs of those persons who do not wish to sacrifice any of the benefits of the finest turntables and tone arms, yet would like the convenience of automatic record-playing. Of course, this has its price, both in space and cost. The TD-224, on its walnut base, measures 27 x 14½ x 4½ inches, and costs $250 (less base). This obviously won’t be everyone’s cup of tea, but I would wager that anyone fortunate enough to own a TD-224 will not hide it in a cabinet. I can’t think of a more intriguing, yet practical, conversation piece for the music room.

For more information, circle 189 on reader service card

CIPHER 800 TAPE RECORDER

The Cipher 800 is a semiprofessional portable tape recorder that is equally well-suited to home use. It has a three-motor, two-speed transport, operating at 7½ or 3¾ ips. The capstan is driven by a hysteresis-synchronous motor whose speed is changed electrically by pole-switching. In addition, each reel has its own hysteresis-synchronous motor. The plug-in head assembly has three separate four-track erase, record, and playback heads. (A two-track head assembly is also available.) There are separate recording and playback amplifiers, and cathode-follower outputs for driving external power amplifiers. There are no internal power amplifiers or monitor speakers.

The tape transport is solenoid-operated, with a group of positive-action push buttons controlling fast-forward, rewind, play, and stop. A red record button must be pressed simultaneously with the play button to make a recording. A tension-operated switch shuts the mechanism off automatically at the end of a reel or if the tape breaks.

Separate high-level and microphone-input gain controls make it possible to mix program sources. Concentric playback-level controls and a recording-mode selector (stereo, left channel, right channel) complete the control lineup. Twin VU meters read recording or playback levels, depending on the setting of the monitor switch, which also feeds either the input or the off-the-tape output signals to the cathode-follower outputs. Twin microphone and headphone jacks are on the front panel.

I found the Cipher 800 to be impressively smooth, positive, and quiet in its mechanical action. It has the quality feel and look that is usually associated with professional tape machines. The comprehensive instruction book suggests slowing the machine from fast forward by going into rewind immediately before stopping it, so that there will be less wear on the brake bands. I also found this procedure to be useful as a precaution against tape overrun, although this happened only rarely.

The Cipher 800 met or exceeded all its essential specifications. Its 7½-ips playback response, with the Ampex 31321-04 tape, was exceptionally flat, within ±0.5 db from 50 to 10,000 cps and down 3.5 db at 15,000 cps. The record-playback response was similar, except that it fell off somewhat below 70 cps. At 3¾ ips the high-frequency response was down 3 dB at 7,000 cps. Signal-to-noise ratio was 46 db at 7½ ips and 44 db at 3¾ ips. Wow and flutter were very low—0.02 per cent and 0.05 per cent. Speeds, as checked by stroboscopic measurement, were exact. The rewind and fast-forward speeds were extremely fast, handling 1,200 feet of tape in 39 seconds. The machine can be operated either horizontally or vertically.

The Cipher 800 is one of the few tape recorders I have tested that meet my personal criterion for a truly high-fidelity machine. Recordings made from discs (with the finest playback equipment I could muster) or off the air could not be distinguished from the original program in an A-B comparison. Even at 3¾ ips, the only degradation was a slight loss of extreme highs, noticeable only in direct comparison with the original.

The Cipher 800 is quite large and heavy, measuring 19½ x 16½ x 9 inches and weighing 55 pounds. It has a carrying handle, and is well balanced for portable use. With a little ingenuity, the cover clasps could probably be concealed in a fixed installation.

The Cipher 800 is manufactured in Japan by the Denon division of Nippon Columbia Co., Ltd., and is imported by Inter-Mark Corporation. It sells for $499.95, and I would rate it as one of the top tape recorders in its price class.

For more information, circle 189 on reader service card

HIFI/STEREO REVIEW
Stereo /Hi-Fidelity is better than ever! More powerful amplifiers... increased frequency ranges... more sensitive tuners... new all-transistor components! These are just a few of the many new advances. Is your present set of speakers fully capable of efficiently reproducing this "improved sound" performance? Chances are, they're not! With Heathkit's complete line, you choose from a wide selection of speakers and speaker systems which are especially designed to handle the advanced characteristics of modern stereo equipment.

Whatever your speaker needs... from a TV or radio speaker replacement to a professionally engineered speaker for your particular music system... there's a Heathkit model to fit it! And at a price that's easy to afford! There are 8 models of separate speakers in 8" & 12" sizes, priced from $4.95 to $49.95! If you prefer speaker systems, the Heathkit line includes "acoustic suspension," "high efficiency," and "miniatures"...9 models in all, complete with factory assembled & finished cabinets and components—priced from $10.95 to $239.95! You simply install the speakers in their cabinets.

Compare the features, specifications, and prices of these "top-of-the-line" models. You'll agree... Heathkit is your best speaker buy!

A 8" 2-Way Coaxial Hi-Fi Speaker—Features true coaxial performance with separate cone woofer and tweeter plus built-in capacitive crossover network and high frequency level control. Has sturdy die-cast frame, polarized speaker terminals for proper phasing, and handsome 2-tone cinnamon and light tan color styling. Compact... only 3½" deep. Not a kit. Includes cabinet recommendations.


B Low-Cost Acoustic Suspension Speaker System—Features 10" woofer, two 3½" cone-type tweeters. Takes only 10 watts to drive! Use horizontally or vertically. Includes high frequency level control & crossover network. Assembled cabinet unfinished or in walnut.

Kit AS-10U, unfinished, 39 lbs. $39.95
Kit AS-10W, walnut, 39 lbs. $69.95


C "Legato Compact"...For Those Who Demand The Finest—Features two 12" Altec Lansing "High compliance" low-frequency speakers that cover the 30-800 cps range: a specially designed Altec Lansing exponential horn and high frequency driver combination recreates frequencies from 800 to 22,000 cps. Factory assembled 800 cps crossed network. Everything is ready to install in handsome factory-assembled & finished walnut cabinets.

Kit AS-21W, walnut, 136 lbs. $239.95
Kit AS-31, all components except cabinet, 54 lbs. $184.95


FREE CATALOG Send for your Free copy today! Fully describes over 250 exciting Heathkits at savings of 50% or more! Choose from the world's largest selection of quality instruments in easy-to-assemble kit form!
Jensen's newly designed ultra-thin PF/2 loudspeaker system now makes possible big sound at peak efficiency in a slim enclosure. Heretofore, most panel-type speaker systems suffered from a disease diagnosed as "lack of efficiency." The new PF/2, however, at average power settings, is efficient enough to successfully demonstrate its power in A-B comparisons against even the "big box" systems.

Heart of the PF/2 system is an important advance in woofer design ... the new POLYFORM™ woofer. Its unique "W" shaped piston and exclusive Jensen FLEXAIR® long-travel annulus provide a lower resonant frequency and substantially higher efficiency rating than other shallow woofers. A rigid, functionally styled die-cast housing assures permanent alignment of all critical parts in the new POLYFORM™ woofer.

The PF/2 system in Oiled Walnut enclosure is surprisingly low cost for so much in efficient performance.

See it at the May Parts Show in Jensen Rooms 539A/542A.
The democratization of the existing social order in early-nineteenth-century Europe was accomplished in diverse ways—revolution, of course, being the prime mechanism. But there were other, more subtle, influences as well—the waltz, for example. The waltz, it now seems fairly certain, first made its appearance in the last third of the eighteenth century. It was probably German in origin. A Bavarian traveler toward the end of the eighteenth century wrote: "The people here are excessively fond of the pleasure of dancing; they need only hear the music of a waltz to begin to caper, no matter where they are. The public dance floors are visited by all classes; these are the places where ancestors and rank seem to be forgotten and aristocratic pride laid aside. Here we see artisans, artists, merchants, councilors, barons, counts and excellencies dancing together with waitresses, women of the middle class and ladies. Every stranger who stays here for a while is infected with this dance malady."

The waltz malady, moreover, proved to be contagious, for it soon spread across all of Europe, reaching Paris during the Napoleonic wars. At about the same time, the British Isles became afflicted with the disease, and Byron, with considerable venom, wrote of "this German article of importation to whom bow Irish Jig and ancient Rigadoon, Scotch reels and country dances." After earning for itself a reputation as "licentious," "obscene," and "suggestive," the waltz finally secured complete acceptance and respectability in the England of 1816, when it was included in a ball given by the Prince Regent.

Fourteen years later, in 1830, a twenty-year-old pianist and composer named Fryderyk Franciszek Chopin left his native Poland, never to return. (It was not until later, in Paris, that he became Frédéric François Chopin.) In Vienna he found the populace spinning furiously in three-quarter time. "Among the numerous pleasures of Vienna," he wrote home, "the hotel evenings are famous. During supper Strauss or Lanner play waltzes... After every waltz they get huge applause; and if they play a Quodlibet, or jumble of opera, song and dance, the hearers are so overjoyed that they don't know what to do with themselves." In another Chopin letter of the period an unmistakable note of derision creeps in: "Here, waltzes are called works! And Strauss and Lanner, who play them for dancing, are called Kapellmeister! This does not mean that everyone thinks like that; indeed, nearly everybody laughs about it; but only waltzes get printed."

Despite these harsh words, Chopin had already fallen victim to the waltz. His waltzes in E-flat (Opus 18) and A Minor (Opus 34, No. 2) date from his days in Vienna. Stylistically, however, they are far removed from the Viennese waltzes he heard all about him. They are more personal, more introspective—especially the thor-
Though Slavic A Minor waltz, which is sometimes called the Valse mélancolique.

But it was not until he settled in Paris in 1831 that Chopin began to compose the urbane, elegant waltzes that so mirror the kind of life he loved. Luxury, refinement, sophistication were the essence of life in Paris: he was invariably dressed in one of his ten dark-blue tailcoats, with a white necktie and a diamond stickpin, white gloves, and a flowing cloak. He would give concerts in salons for the titled nobility and the aristocracy, and for these occasions he wore more waltzes.

During Chopin's lifetime a total of eight of his waltzes saw publication, including the two from the Vienna period. At least seven more were published after his death, but several of these date from his student years, and he had wanted them to be destroyed.

The waltz in A-flat (Opus 34, No. 1) is the very spirit of grace and elegance, and is said to have been Paderewski's favorite among all the Chopin waltzes. The A-flat waltz of Opus 42 is a brilliant virtuoso vehicle, and of the three of Opus 64 are charming and chic: the D-flat Major waltz of Opus 64 is the familiar "Minute" Waltz, and the C-sharp Minor waltz from the same set is dedicated to one of Chopin's wealthy Parisian patronesses, the Baroness de Rothschild.

Two of the posthumous waltzes—the G-flat Major (Opus 70, No. 1) and the A-flat Major (Opus 69, No. 1)—are associated with Chopin's romantic life. The one in G-flat Major, composed in 1829 before he left Poland, was written for the great love of his youth, Konstancja Gladkowska (who is supposed also to have been the inspiration for the slow movement of the F Minor Concerto); and the one in A-flat was a parting gift for Maria Wodzińska at Dresden in 1835.

That there should be about a dozen different recordings of the complete Chopin waltzes in the current catalog is not surprising. While an integral concert of the Chopin Nocturnes, for example, or of the Etudes, would be unthinkable as an evening's program, the mood and atmosphere of the waltzes is so varied that they lend themselves readily to complete performance. One who regularly played them in this fashion was the Romanian pianist Dinu Lipatti, who died in December, 1950, at the age of thirty-three. Two Lipatti recordings of the waltzes are available—one a studio recording dating from the late 1940's (Columbia ML 4522), the other taken from Lipatti's last public appearance in September, 1950 at the Besançon Festival. The playing in both cases is illuminated with a rare quality of personal identification and perception. Lipatti obviously loved this music, and he communicated his feeling with almost hypnotic intensity. A tragic element in the Besançon Festival performance (Angel 3556B) is the absence of the Valse brillante in A-flat (Opus 34, No. 1): racked with the pain of his terminal illness, Lipatti no longer had the strength to play it. The Columbia disc presents the more fully realized performances, but the Angel one (part of a two-disc set containing the entire program of Lipatti's final concert) is more exciting.

Among the other performers of the waltzes on records are such Chopin specialists as Alexander Brailowsky (Columbia MS 6228, ML 5628), Alfred Cortot (Angel COLH 32), Witold Malcuzynski (Angel S 35726), Guiomar Novaès (Vox 8170), and Artur Rubinstein (RCA Victor LM 1892). The Brailowsky and Malcuzynski performances are the most recent ones; both are blessed with excellent recorded sound, but neither pianist, in my opinion, is the man for the waltzes. The problem, in both cases, is one of rhythm. Brailowsky is self-consciously stiff and labored in his approach, while Malcuzynski is excessively free and unfocused. The Cortot performances now sound arbitrary and mannered, yet at one time they did exert a powerful appeal.

The Novaès and Rubinstein recordings are undoubtedly the pick of the remaining choices. For sheer imaginative insight, Novaès is virtually in a class by herself in this repertoire, and the aging Vox sound is still serviceable. Rubinstein's version is a somewhat uneven account of the fourteen pieces, with a rather perfunctory performance likely to follow one of flashing brilliance. Perhaps a new Rubinstein recording of the complete set would set matters right. In the meantime, the Lipatti performances are preferred, with the Novaès and Rubinstein recordings being challenging alternatives.

REPRINTS of a review of the complete "Basic Repertoire" are available without charge. Circle number 176 on reader service card.
Typical Wharfedale Speaker System...

a close look inside the classic W60 reveals the factors that make for great performance

(For purposes of explanation, a model with a transparent cabinet but containing the actual speakers and other components of an Achromatic system has been constructed and photographed from three angles.)

Component ratios: the usual parameters and phase relationships of the speakers, their precise physical locations, and methods of mounting are scientifically matched to the shape and cubic content of each cabinet. For example, here you see the two-speaker arrangement of the W60 speaker system, consisting of a 12 1/2 inch low-frequency driver and a 3 inch high frequency cone type driver. In the W60 system specifically, this speaker combination, in its sophisticated tuned port cabinet, produces a distinctly natural, smooth sound. The high frequency speaker is installed in a felt-sealing isolating compartment, which prevents mechanical crossover and interference between the drivers. Even the access holes for wires are airtight, plugged with a dense sealing compound. Each speaker, therefore, operates to its best advantage in its own environment. A low mass aluminum voice coil is used here to give maximum high frequency response. Tuned ultrasonic timing makes it possible to guarantee the coils for the entire life of the speaker.

A full L/C network crosses over at the exact frequency required for smooth, non-iodine response from all the speakers, preserving the natural damping. Telephone grade electrolytic capacitors are used to assure long, trouble-free life. The coils are wound within our own plant to guarantee close tolerances. In the compact W40, W60, and W70, a precision wound 10 mm gives 6-100% treble attenuation, and adjusts the highs to room acoustics (in the W90 6-speaker model, each range of speakers may be balanced and adjusted).

The operating function of the enclosure is to preserve the integrity of the speakers' performance through certain constructional features. Chief characteristic of the Achromatic construction is the sand-filled technique, which consists of packing white sand between layers of resonant baffle material, faced in turn, by pure wood veneers. This construction, used on certain pretrenched baffle areas, creates an inert mass, incapable of resonating, no matter how deep or strong the backwave pressure against it.

This exclusive technique, developed by G. A. Briggs, has proven itself in preventing bass distortion. These Wharfedale systems incorporate it despite the relative expense. In addition to the sand-filled panels, absorbent lining is used on some surfaces to eliminate undesirable reflections, and "humpover." Optimum, rather than maximum, absorption is considered important.

All of the speakers incorporate certain recent advancements. Because of this, it has been possible to achieve the clean, yet impressive sound which emanates from these compact cabinets. For example, the cone material is special... compounded of long fibred wool (traditional to the North of England) and soft pulp! Since the purpose of this formulation is to provide natural, enduring resilience. The cone surround is an exclusive blend, the latest and most effective form of the traditional Wharfedale soft suspension. One advantage is that this maximizes the cone excursion of the long linear excursions required for true bass energy.

The magnets are truly impressive. Because of the advanced materials (Aloxum and Feroba) and the special design of the magnetic structure, each provides higher total flux in the gap field than has even been used in any prior speakers. Tolerances are maintained permanently by filling spaces in the magnetic assembly with sulphur. These magnets enable Wharfedale systems to achieve maximum efficiency at low power, and to conserve high wattage amplifiers with equal ease.

Additional features have been engineered into certain of the speakers to preserve the clean sound of the Achromatic systems. For example, these have a special polystyrene diaphragm to eliminate any possibility of internal resonance. All have completely sealed magnet gaps which keep out foreign matter.

Above and beyond physical considerations, the concept behind the Achromatic speaker systems reflects extensive musical training and respect for musical values.
FOUR MICRO-MAGNETIC* 15° PICKUPS!

Whether you own a record changer, automatic turntable, or a professional type manual turntable Pickering has engineered the RIGHT V-15 pickup for you. If it's RECORD CHANGER application, where high output and heavier tracking forces are required try the V-15 AC-1. Most of you, no doubt are tracking lighter on the late model AUTOMATIC TURNTABLES and will use the V-15 AT-1. Or if a professional type MANUAL TURNTABLE is your choice you'll need the even more compliant V-15 AM-1. And if it's unexcelled tracking ability you're seeking, you will demand the ELLIPTICAL STYLUS PICKUP V-15 AME-1. All four of these pickups are radically different from any other cartridge. You can see the difference. You can hear the difference. Pick up a V-15. Note its light weight—only 5 grams. Perfect for low mass tone arm systems. Now, see how Pickering's exclusive "Floating Stylus" and patented replaceable V-Guard assembly protects your record and diamond as it plays.

*Trade Mark of Pickering and Co., Inc.
SOUND, whether originating from a musical instrument, human vocal cords, or the fog horn of the Queen Mary, is made up of vibrations or pulsations in the air. The sounds that you hear, whether noise or music, are aural evidence that something has set the air to vibrating. The range of vibrations to which the human ear can respond is usually given as 20 to 20,000 cycles per second. Music contains frequencies that actually exceed this audible range. The low bass pedal of a large organ, for instance, can produce a low, throbbing pulsation of about 16 cps—which is so low in frequency that one feels rather than hears it. The piccolo, on the other hand, produces tones ranging from 5,000 to 20,000 cps. It is a considerable challenge to the loudspeaker in your audio system to reproduce all these sounds, whether (depending on your taste) from organ, piccolo, or bagpipe.

A loudspeaker is, in effect, just the opposite of a microphone. The microphone translates (in technical language, it acts as a transducer) sound waves into electrical signals that correspond to the sound waves that strike it. The loudspeaker, on the other hand, changes electrical signals from the amplifier back into audible facsimiles of the original sound waves. If both the microphone and the loudspeaker (and all the processes and
SPEAKER DESIGN

components that lie between them) were perfect, the reproduced sound would be an exact replica of the original. We know, however, that loudspeakers, like all the other elements in the reproducing chain, fall somewhat short of perfection. It is instructive to examine the reasons for this lack of perfection, and what speaker designers are doing about it.

One of the most common loudspeaker faults is the emphasis or de-emphasis of one group of frequencies over another group. For example, if one loudspeaker sounds bright and crisp while another sounds dull and muddy, then the latter loudspeaker is failing to reproduce the high frequencies properly. A tinny-sounding, oversibilant speaker, on the other hand, is obviously discriminating against the low frequencies.

It is extremely difficult to design a single general-purpose loudspeaker that reproduces all tones, from highest to lowest, with equal emphasis. It is as if one were to ask a designer of musical instruments to produce a strung instrument that would not only reproduce the lowest tones of the bass viol, but the middle tones of the cello and the high tones of the violin as well. To a great degree, the loudspeaker designer is faced with the same problem; therefore, in order to cover a wide range of tones, he has found it desirable to use two or more different types of reproducers. When two speakers are used, we have what is referred to as a two-way loudspeaker system, comprising a "woofer," specially designed to reproduce the low notes, and a "tweeter," specially designed for the highs. A three-way system employs an additional mid-range speaker to reproduce the range of frequencies extending from about 800 to 5,000 cps.

The principal advantage of such a division of labor is that it is possible to design each part of the system to perform at its best in the range in which it is to be used. Referring to Figure 1, it can be seen that a typical single-cone speaker tends to fall in response not only at the high-frequency end, but at the low-frequency end also.

In a two-way speaker system in which the low frequencies are fed to a woofer and the high frequencies to a tweeter, these faults are corrected.

In the never-ending battle against frequency-range distortion, two- and three-way systems are important weapons in the audio designer's arsenal. But they are also effective in another problem area: the proper dispersion of sound. Figure 2(a) shows how a single-cone speaker tends to radiate high-frequency sounds in a sharp beam. With such a speaker, in fact, the highest treble tones may not be heard unless the listener is directly in front of the speaker. This tendency to "beam" high-frequency sound can be easily checked by using a frequency test record, such as the HiFi/Stereo Review Model 211. While listening to test frequencies in the 5,000- to 10,000-cps range, walk across the room in front of the speaker from one side to the other. With most speakers you will notice that the high-frequency tones are loudest when you are directly in front of the loudspeaker, and that they diminish in strength as you walk to one side or the other. If a test record is not available, the treble-beaming effect, or dispersion distortion, can also be checked with music that includes such high-frequency sounds as triangles and cymbals.

Dispersion distortion not only makes it difficult to distribute high frequencies evenly throughout a room, but may also result in poor stereo performance. Speakers with good high-frequency dispersion tremendously enlarge the area of the listening room in which good stereo can be heard. Dispersion distortion can be remedied by the same means as those used to overcome the limited-frequency-response characteristic of a single-cone speaker —by using a specialized speaker. In this case, a broad-dispersion tweeter will provide the sound-dispersion pattern shown in Figure 2(b).

Both types of distortion discussed above are acts of omission on the part of the loudspeaker: in one, it fails to reproduce certain frequency ranges with the same intensity they possessed in the original program, and in the other it fails to radiate the higher frequencies equally into all parts of the room. A loudspeaker may be guilty of acts of commission as well. It may add certain qualities to the reproduced sound that were not present in the original. One of the most common forms
of this type of extracurricular activity is called harmonic distortion. Actually, the term is somewhat misleading, for it does not mean that the speaker is distorting musical harmonics that it should be reproducing faithfully. Harmonic distortion refers instead to the loudspeaker's generation of spurious harmonics or tones that were not present in the original program.

In order to clarify this difference, there are shown in Figure 3 the tonal structures of the same note as played by a flute (a) and by a violin (b). The note is made up of a fundamental tone and a series of harmonics of this fundamental. Musicians sometimes refer to these harmonics as partials or overtones, and it is these harmonics that determine the specific character, or timbre, of the sound. If they were missing, all that would be left would be a pure sine wave, and there would be no difference between the sounds of any two musical instruments. Conversely, if a given loudspeaker introduces spurious overtones, the character of the reproduced sound could be so changed that it would be difficult to identify the instrument that originally produced the tone. In Figure 4(a) and b) are shown two simplified examples of how harmonics influence the waveform (and hence the sound) of a particular fundamental frequency. Figure 4(a) shows the addition of a second harmonic to the fundamental and 4(b) the addition of a third harmonic.

Just what is there about a loudspeaker, or the manner in which it is operated, that can cause it to produce harmonic distortion? Harmonic distortion is produced when the loudspeaker's voice coil and cone do not respond linearly (evenly) to the electrical drive signal. As an example, suppose that the speaker cone normally moves in and out $\frac{1}{4}$ inch when a 4-volt audio signal is applied. If it then moves $\frac{1}{2}$ inch for an 8-volt signal and $\frac{3}{4}$ inch for a 12-volt signal, the speaker has "linear" cone excursion. However, if there is no one-to-one correspondence between signal strength and cone excursion, the speaker's response is said to be nonlinear—and the result is distorted sound. For example, if, with a 12-volt signal, the cone were to move only $\frac{3}{8}$ inch instead of $\frac{3}{4}$ inch, the response curve would appear as it does in Figure 5(a)—"flat-topped." If we now apply, in reverse, our previous analysis of the effect of harmonic content upon waveshape, we can see that this distortion of the reproduced wave will result in the production of a number of harmonics—or harmonic distortion—see Figure 5(b). In extreme cases, the sound is not only unrecognizable musically, but actually borders on noise.

As you might guess, most harmonic distortion occurs when the speaker must reproduce a high-power, low-bass signal, since it is then that the cone of the loudspeaker will be called upon to move the greatest distance. Obviously, there are physical limits to a cone's forward and backward movements. At a certain point in its excursion, it will be restrained from further movement by the limits of the "compliance" of the elastic elements by which it is suspended. "High-compliance" is a term used to characterize a type of loudspeaker whose cone suspension can be stretched considerably before it begins to reach its elastic limits—or its limits of uniform stretch.

Accordingly, the better low-frequency speakers are built for high compliance in order to avoid harmonic distortion during large cone excursions.

Another source of harmonic distortion is nonlinearity in the speaker's drive system. The force that actually moves the speaker cone results from the interaction between the varying electromagnetic field built up around the speaker's voice coil (by the signal current) and the fixed magnetic field (from the magnet) that surrounds the voice coil—see the box on page 36). If, in traveling back and forth, the voice coil should move so far that the number of turns of wire within the magnetic gap
of the speaker is reduced, there will be less interaction between the fields of the two magnets. This loss effectively results in less motion of the voice coil and its attached speaker cone (for a given signal) during crescendo peaks in the music. As before, the loudspeaker's inability to follow the signal voltage results in flattopping, which, in turn, causes harmonic distortion. Flattopping caused by magnetic nonlinearity can be minimized through the use of a "long-throw" voice coil—one that extends beyond the magnetic gap on both sides and thereby maintains the same number of voice-coil wire turns in the gap at all times despite long excursions. With the combination of a high-compliance cone suspension and a long-throw voice coil, low-frequency harmonic distortion can be reduced to inaudible levels.

The same types of nonlinear cone movement that cause harmonic distortion also breed an even more pernicious aural irritant known as intermodulation (or IM) distortion. The waveforms in Figure 6 illustrate how such distortion is produced. Imagine a single-cone loudspeaker that is being fed two distortionless sine waves, one at 60 cps, the other at 5,000 cps. Then, at the same time the speaker cone is moving back and forth at the comparatively slow 60-cps rate, it is also vibrating near its apex at the 5,000-cps rate. If the low-frequency movement is completely linear—without any flattopping—then the speaker's output will appear as it does in Figure 6(a) and the shape of the individual high-frequency pulses will be unchanged. However, suppose that the 60-cps movements are not perfectly linear. In this case, the high-frequency waves will also be distorted when

### CROSS-SECTION OF A LOUDSPEAKER

The assembly marked "A" below provides the loudspeaker's fixed magnetic field. This assembly is made up of (1) a permanent magnet, (2) a top iron plate, (3) an iron pole piece, and (4) a bottom iron plate. These components form a magnetic circuit that creates a heavy concentration of magnetic energy (flux) in the air gap (5). The strength of this flux is unvarying and is determined by the weight and grade of the magnet, the quality of the iron making up the circuit, and the dimensions of the air gap.

The signal current coming from the amplifier flows through the voice coil (6), which is positioned within the air gap of assembly "A." The signal current flowing through the voice coil causes a varying magnetic field to be formed about it, a field that changes in both strength and polarity as the audio signal changes. Interaction between the fixed magnetic field in the air gap and the varying magnetic field around the voice coil produces a repulsion-and-attraction effect that causes the voice-coil assembly to move to and fro in the gap with each change in signal current and polarity. The voice-coil assembly is kept centered in the gap by the flexible "spider" (8). The cone (7) is secured to, and is moved by, the voice coil, and is affixed to the outer edge of the speaker frame, or "basket" (9) by a compliant "surround" (10), which supports and centers the cone with the help of the spider.

The movement of the cone, which is the result of the voice coil's response to signal current, creates compressions and rarefactions of the air, and these are heard as sound. Low-frequency performance is determined for the most part by the mass of the cone and the compliance of the cone surround. In single-cone loudspeakers, high-frequency improvement may be secured by hardening the apex of the cone (11) with lacquer or resin, by mechanically unhinging ("decoupling") it from the main body (12), or by adding a "whizzer" cone (13) that both radiates and disperses the higher frequencies.
the cone is full out or full in, as in 6(b). The high-frequency wave is shown in Figure 6(c).

Another sensitive area in which we may expect distortion is in the reproduction of transients. What is a transient? In audio usage, a transient is a signal that appears suddenly and disappears just as quickly. Among the many musical sounds that fall in this category are the impact of the mallet upon the tightly stretched drumhead of the tympanum, the pluck of the guitar or harp string, the tinkle of the triangle, and the clack of the castanets. The suddenness with which the sound reaches its peak is called its attack time. The rate at which it fades away is its decay time; both are illustrated in Figure 7(a). The loudspeaker must be able to respond almost instantaneously in order to reproduce the quick attack of a transient sound, and it should also be able to come to a stop just as quickly when the transient is past.

If a loudspeaker is unable to follow the attack of a transient, it will blur the initial staccato crispness of such instruments as the harp, the guitar, and snare drums. In addition, if the speaker has a long decay period (often called hangover), if it continues to vibrate after the note being played should have stopped, notes played in rapid succession will overlap and become blurred. If you have a piano, you can easily demonstrate this effect. First, run your thumb down the keyboard without depressing the loud pedal. Then repeat the run with the pedal depressed. The first run will produce short sharp notes, each separated distinctly from the other. The second run, with the damping removed, will permit the notes to overlap, and will produce an indistinct tonal picture. In the first run, the damping felt remains on the struck strings and quickly suppress the strings' natural tendency toward prolonged vibration. In the second run the dampers are removed, and the strings continue to vibrate long after they are struck. Satisfactory transient response by a loudspeaker is also a question of proper damping. Poor (insufficient) damping will usually permit the loudspeaker to overshoot the mark on its sharp initial forward motion—see Figure 7(b)—and then leave it jiggling indecisively before coming back under control of the drive signal from the amplifier.

Transient distortion can be minimized by adequate damping of both the loudspeaker mechanism and the enclosure in which it is mounted. A strong magnetic field surrounding the voice coil (usually achieved by the use of a heavy and expensive magnet) will quickly bring the vibrating diaphragm to a stop after the signal terminates. Additional damping can be attained by adjusting the acoustical characteristics of the enclosure to the particular speaker being used.

Whatever means of damping the designer uses, his goal is to provide the loudspeaker with just enough restraint that it can respond to a suddenly applied signal without overshoot and stop vibrating immediately when the signal ceases. Such a speaker can be said to be "critically damped," and transient distortion from it will be minimal.

Considering the many types of distortion that loudspeakers are heir to, it is remarkable that a conical piece of paper with a few turns of aluminum or copper wire fastened to it, surrounded by a magnetic field and mounted in a wooden box, can reproduce the subtle nuances of the human voice, the blast of air pressure from a trumpet, and the vibrating strings of a violin. It is a tribute to the skill of loudspeaker designers that so many speakers can reproduce these sounds—and many more—with such fidelity to the original.

Abraham B. Cohen is one of the world's leading designers of loudspeakers. His articles on sound reproduction have appeared in many publications, and his book on Hi-Fi Loudspeakers and Enclosures, published by John F. Rider, is becoming a classic.
IS A GOOD BIG SPEAKER BETTER

When the goal is to reproduce music with maximum exactness, a good big speaker is better than a good little speaker. The reasons for this are based on: (1) the electromechanical problems and limitations involved in converting an electronic signal into acoustic sound, (2) the same laws of physics that have dictated the sizes of bass musical instruments over the centuries, which exercise a similar influence over loudspeaker-enclosure size, and (3) qualified A-B tests between live and reproduced sound using full-size symphony orchestras.

First, let's review the engineering problems a designer must cope with in trying to produce a speaker that can reproduce an exact duplicate of an original sound over the sonic spectrum sensed by the human ear. Foremost is the problem of reproducing the sound of low bass musical instruments—such as the tuba, the double bass viol, and the pipe organ, whose tones are so important to musical enjoyment.

The ability of a low-frequency speaker to reproduce low bass is limited by its resonant frequency, below which its response falls off at 12 decibels per octave. Both large and small speakers can be made to have very low free-air resonances of 20 to 25 cycles. However, when such a low-resonant-frequency speaker operates in a small bookshelf-size enclosure, the stiffness of the air behind the speaker cone causes its resonance to rise as much as a whole octave or more, perhaps up to 40 or 50 cycles, below which its capability to reproduce bass drops off rapidly.

This is not the case when such a speaker is installed in a large enclosure, of five cubic feet volume or more, and particularly when the enclosure is properly ported to improve the coupling to the air at lowest frequencies. In this instance the resonant frequency of the low-frequency speaker remains the same as in free air—20 to 25 cycles—and it can reproduce low bass efficiently down to this point.

The effective volume of a small enclosure can be increased by 40 per cent by packing it with fiber glass. However, this increase in effective volume is accomplished at the cost of extreme overdamping, which causes the response of the system to fall off below 200 cycles. Thus, a large enclosure gives the big speaker two distinct advantages for low-frequency reproduction.

Bookshelf speakers are invariably low-efficiency systems. Such systems, compared to typical high-efficiency big speakers, require around ten times more amplifier power to achieve the same sound output. This means a much more powerful and costly amplifier is required. Thus, for an average operating power, an efficient speaker will be capable of producing around ten times greater relative dynamic range (higher levels) than a low-efficiency unit. Superior low-frequency reproduction and high dynamic levels provide an important part of the thrill that only an efficient big speaker can deliver.

The big speaker has another advantage, in that its enclosure can house a high-efficiency compression driver on a high-frequency horn large enough to provide a low crossover of 500 to 800 cycles. This in turn brings three system design advantages: (a) the entire audio spectrum can be covered with a simple two-way system, (b) its single crossover can be located low in the spectrum, where the wavelengths are long and where a smooth crossover can be accomplished, and (c) it provides horn-controlled wide (90-degree) distribution of both the mid and high frequencies.

In contrast, most little speakers are of the three-way type, utilizing low-efficiency direct radiators for the mid- and high-frequency ranges. These units tend to beam the sound undesirably, and at least one of their multiple crossovers is in a difficult short-wavelength part of the spectrum. Those using small tweeter horns also have high crossover frequencies—and with the same problems.

These major technical considerations all favor the big speaker, if the goal is life-like reproduction of sound. I do not know of any technical consideration that favors today's little speakers.

If we turn to the music world we find many examples of the relation of size to performance. Note the inseparability of big size and the

(Continued on page 40)
THAN A GOOD LITTLE SPEAKER?

SINCE I do not know any reason why a two-cubic-foot speaker enclosure should be a limiting factor on performance, I will list the arguments I have heard that try to prove small size a limiting factor, and answer them. These are the arguments:

1. A small speaker compromises bass response. (Imagine what a miniature bass viol would sound like!)

Large enclosures are still required for good bass response in two types of speaker systems: horn-loaded woofers, and systems whose woofers use the relatively stiff suspensions that were standard ten years ago.

Horns have high efficiency and power output (neither of which affect quality), and are therefore particularly suitable for public-address and movie-theater applications. They do not have to be impractically large for these applications, since extended bass response is not sought.

Extended bass from a horn requires a very large structure. Even with such a structure the horn "lets go" below its cut-off frequency—that is, the horn ceases to load the driver in the extreme low bass. In 1955 the Audio League, a consumer organization headed by Hirsch-Houck, compared a very large, well-designed corner horn with the small acoustic-suspension speaker introduced that year. The report stated:

"at 25 cycles, and below, the '1% efficient [small speaker] is actually more efficient than the '50% efficient' _______. The latter gives up rather abruptly somewhere in the vicinity of 30 cycles."

Large enclosures are also needed to house speakers with the older, stiffer suspensions. A small body of air trapped by the enclosure behind such a speaker creates an air cushion that further stiffens the suspension and limits bass response. However, when the mechanical suspension of the speaker cone is purposely made overcompliant, as in the acoustic-suspension design, the speaker needs a small cushion of air behind it to make up the loss of stiffness. It cannot work properly without the air cushion; small cabinet size is then dictated by acoustical needs, not décor.

The colorful reference to a miniature bass viol makes a perfectly good point once the elements of analogy between the creative and the reproducing devices are understood. When the vibration of sound-radiating surfaces is very small, as it is in the body of a bass viol or in a full-range electrostatic speaker, large area makes up for the small movements.

When the vibration of a sound source is large, the radiating area can be much smaller. For example, the mouth of a typical low C stopped organ pipe which radiates 32.7 cycles is about 27 square inches, the area of a 6-inch speaker cone. (The contribution of the pipe walls at this low frequency is negligible.)

2. Small speakers may have the same measured response as large ones, but they don't have "big" sound.

This is something like "small speakers lack a certain je ne sais quoi, but I don't know what it is." I suspect that often the "big" sound referred to is an unnatural characteristic not present in the live sound. I will defend the ability of badly designed small speakers to introduce as much artificial coloration as badly designed large ones.

If big sound has a meaning in relation to live music, its most important characteristic is that it envelops the listener. Even a pipe organ or symphony orchestra may sound constricted in a dead hall with improper reflecting surfaces.

The key to recreating big musical effects is to maintain the dispersion of sound that the original instruments had—to surround the listener with sound reflected from the walls, floor, and ceiling.

The smaller a diaphragm is, relative to the wavelength of sound being radiated, the better the dispersion. Bass wavelengths are very large compared to the largest of speakers, and bass is dispersed uniformly no matter what the size of the speaker. It is the dispersion in the midrange and treble that determines whether a speaker can create a sense of big sound.

Mid-range and treble dispersion is achieved by employing small speakers. At least nine-tenths of the bulk of the largest speaker systems (Continued on page 41)
IS A GOOD BIG SPEAKER BETTER

instruments designed for bass tones—the double bass viol, the bass drum, etc. Not a single musical instrument in the "small" class is capable of producing low bass. Have you ever seen a bookshelf-size double bass viol? Or a bookshelf-size cello? A tuba? These basic instruments rely on their big air columns or big reinforcing air cavities to develop their deep bass. A good spinet piano can deliver a fine performance within the limits imposed by its small size, but its performance cannot compare with that of a grand piano. A good but compact electronic organ cannot produce sound that compares with the sound produced by a pipe organ. A similar relationship exists between the performance of a good little speaker and a good big speaker.

Much of the popularity of small speaker systems has resulted from publicizing a number of A-B tests—live-vs.-recorded—using a small string quartet as the subject. We challenge the validity of conclusions based on comparison tests such as these, which employ only limited-range string instruments. An honest live-vs.-recorded test requires a complete orchestra, whose many instruments cover the entire sonic spectrum, from the low bass of the double bass viol to the brilliance and overtones of the cymbals and triangle, and which brings into play dynamic ranges that require hundred-fold variations in power. This is a critical test that only full-size speaker systems—having the advantages of at least five cubic feet of volume—can satisfactorily pass.

A good full-size big speaker grants only one concession to a good little speaker. The latter does occupy less space, and there are small rooms that cannot readily accommodate full-size speaker systems. In such an environment a good little speaker will do a creditable job—within the limitations of its size. However, we believe any serious music lover who really wants full musical enjoyment will somehow find space for full-size speaker systems.

We at Altec manufacture both big and little speakers, but we find the authorities in the professional field—the conductors, musical directors, recording engineers, and artists who produce America's finest recordings— invariably insist on the capabilities of the big speaker system for all playback purposes, both in their studios and in their homes.

MR. VILLECHUR'S REBUTTAL OF MR. BADMAIEFF'S STATEMENT

1. The pitch-determining element in a musical instrument is a resonator (such as an air column) in free oscillation. The corresponding element in a speaker is a diaphragm subjected to forced oscillation.

   The larger the resonator, the lower its natural musical pitch. But a reproducer should not have any natural pitch of its own, and its size is unrelated to the sizes of the many resonators whose sounds it reproduces. A 16-foot speaker enclosure would have no special advantage in reproducing a 16-foot organ pipe.

2. All speakers do have a primary resonance, which can be damped out. The mounted resonant frequency of a current small acoustic-suspension speaker is about 45 cycles. Its enclosure, as Mr. Badmaieff suggests, has more than doubled the woofer's free-air resonant frequency. This is the planned effect of substituting an air cushion for mechanical springs. The "elevated" resonant frequency is still below the values typical of the largest of fully enclosed speakers.

3. It should be clear that once a particular amplifier-speaker combination produces sufficient volume, including reserve for peaks, the dynamic range or range of volume from soft to loud will not be affected by increases in efficiency or in power capability.

4. Matching the sound of a live string quartet has been disparaged before, but I don't know of anyone demonstrating how easy a test it is.

A live-vs.-recorded match requires an echoless recording, to prevent double reverberation. It was possible to place microphones within the chambers of the organ, and the quartet and guitarist were recorded outdoors. The difficulty of making an echoless recording of a full orchestra for a successful live-vs.-recorded concert is, I suppose, one reason nobody does it.
 THAN A GOOD LITTLE SPEAKER?

bears inoperative at frequencies above the bass range.
3. The large diaphragm movements required by small speakers (compared to horn, bass-reflex, or multi-woofer systems) increase bass distortion.

When the acoustic-suspension speaker system was introduced ten years ago, it was for the primary purpose of making a radical reduction in currently acceptable levels of bass distortion in speakers.

The reduction in bass distortion was achieved by substituting an almost ideal air spring for the uneven (nonlinear) mechanical spring of the cone suspensions, a substitution that required a small enclosure. While it is true that in a given speaker the greater the cone motion the greater the distortion, the bass-distortion levels reported for acoustic-suspension speakers by reviewers and by consumer organizations were in fact the lowest yet published, even though the cones of previous speakers hadn't had to move as far.

4. A symphony orchestra or pipe organ is a very large sound source. A small speaker makes you more acutely aware of sound coming from a small box.

The dimensions of all home speakers, from the mid- to the walk-in type, are miniscule compared to an orchestra or pipe organ, which may be spread out over a distance of a hundred feet. A few feet in speaker size won't make any difference, but good speaker dispersion will surround the listener with reflected sound and make him least conscious of the artificial source.

Constricted sound or boxy sound—the former produced by poor dispersion, the latter by cabinet resonance—results from bad design in systems of any size.

What Really Counts. Speaker-design theory must be proved by results in terms of reproducing accuracy. Live- vs.-recorded concerts, in which the sound of live musicians is alternated with their recorded sound, have been staged with small acoustic-suspension speakers. (The massive sound of a pipe organ made the most impressive demonstration; the subtle textures of a string quartet or guitar provided the greatest challenge to the speakers.) The consensus of opinion among reviewers has been that the reproduced sound was usually indistinguishable from the live. The way to judge a copy is to compare it with its original. These concerts make a stronger case than any words that I can write here.

MR. BADMAIEFF'S REBUTTAL OF MR. VILLCHUR'S STATEMENT

It is understandable why my opponent immediately adopts a defensive attitude. Rather than come straightforward with convincing reasons why a good little speaker is as good as a good big speaker, he has busied himself with attempts to refute a few of the many attested facts unfavorable to the little speaker.

There is no point in drawing attention to a nine-year-old demonstration involving a folded-corner-horn low-frequency speaker system. The majority of today's good big speakers are not of the corner type, nor are they of the folded-horn-loaded woofer type, and they do not use 1955 woofers having the "stiff suspensions that were standard ten years ago" with a cone resonance of 45 cycles.

As everyone knows, today's good big speakers use modern woofers having high-compliance suspensions with free-air cone resonances of 25 cycles, around which are designed enclosures large enough to sustain smooth bass response down to this same low free-air cone resonance. The "big-sound" effect of wide dispersion of the mid and high frequencies can best be accomplished by utilizing the high efficiency of a sectoral horn designed to disperse evenly over a 90-degree angle all frequencies above 500/800 cycles. Little speakers cannot house a high-frequency horn of this size, and must rely on the feeble vibrations of 2- or 3-inch direct radiators whose beams narrow down to 20 or 30 degrees above 10,000 cycles.

The comparison of a 32.7-cycle organ pipe with a 6-inch speaker is meaningless. They both have the same size radiating area, but that is where relevant comparison ceases. The former is a powerful pulsating column of air from a very long pipe, with which the frantic vibrations of a 6-inch paper cone cannot compete.
Speaker kits offer two significant advantages to the prospective buyer: since speakers are usually about the costliest components of a good high-fidelity system, considerable savings can be made by purchasing them in kit form; and speakers, furthermore, are the easiest high-fidelity components to build. There are over thirty speaker kits now on the market, bracketed at one end of the size and price scale by Heath's AS-41U (8 pounds, $10.95) and at the other by the same company's Legato system (136 pounds, $239.95). They range in type from acoustic-suspension models (offered by Heath and Electro-Voice) to horns (offered by Electro-Voice and University) to bass-reflex systems (offered by just about everybody). Many kit speakers duplicate factory-built units (among them Heath's kit versions of the AR-2 and AR-2a, and quite a few models from Electro-Voice, Bozak, Jensen, Fisher, Knight, Lafayette, Argos, Eico, University, and JansZen), and before buying the kit, you should try to hear the factory-finished version at your local dealer's.

An expert explains how to get the most from kit-built speakers

By Ivan Berger

POINTERs on Speaker Kits

HIFI/STEREO REVIEW
Before buying a speaker kit, you had best make sure exactly what it includes. This is because manufacturers do not yet agree as to just what, precisely, constitutes a speaker kit. Although there is no question that a properly organized collection of cones, voice coils, and magnets could qualify, no such kit is available (though Radio Shack used to carry one), because the problems of precision assembly are too tricky for the home assembler. The manufacturers agree that a set of unmounted speakers supplied with the parts for building a cabinet qualifies, but that agreement ends. For example, JansZen calls its panel-mounted speaker systems "JanKits," while Bozak's are simply called "systems." Speaker systems supplied with a pre-assembled enclosure may be "kits" from one manufacturer, and "systems" from another.

The assembly of speaker kits is usually a breeze. Many kits go together in twenty minutes or so, but even the most complicated have fewer than fifty construction steps and can be put into operation in an evening or two. Only common tools are needed. Screwdrivers, wire cutters, insulation strippers, a soldering iron or gun, and sandpaper will suffice for most kits, while an additional hammer, nail-set, punch, pliers, and stapling gun will fill out the bill for all the rest. (A bar of soap will also come in handy to lubricate the screws for easier turning.)

To assemble most speaker kits, you will need a large working area. The living-room floor is ideal—but it should be cleaned of small objects that might scratch or mar the cabinet finish. For best results, the working surface should be covered with towels, blankets, or paper. Don't use newspaper, unless you want a smudged black ghost of last week's headlines transferred to the woodwork; if this should happen, you can remove the ink with a light sanding.

With any kit, your first step should be to check the parts furnished against the parts list. Never throw away the packing until you are sure (1) that all small parts are present and accounted for, and (2) that the fibrous material you've mistaken for packing isn't intended to be used as acoustic damping in the speaker cabinet's interior.

Always read through the instructions once, carefully. It shouldn't take long. If your enclosure is in knocked-down form, the manual will probably suggest a glueless trial assembly to familiarize you with the parts and how they fit together. This is a good idea whether the manual recommends it or not. When you get to the gluing stage, be careful never to glue any joint until the manual instructs you to: premature glue joints cannot be undone, and you may find that you and your speakers are neatly sealed out of the enclosure. Follow the instructions carefully; you'll find that most of them are extremely helpful. So complete are Heath's, for example, that a five-fingered device illustrated in one of its speaker-kit manuals is helpfully labelled "hand."

In assembling the cabinet, inspect the grooves and other contact surfaces for possible foreign matter before gluing. Lubricate screws with soap before inserting them, and never overtighten or force them, lest you split the wood. If hammering is involved, do it carefully. Small errors can be rectified: minor hammer marks can sometimes be repaired by moistening them and letting them swell back to normal, and a damp cloth should be kept at hand to wipe off any excess glue that may squeeze out of the joints. Some kits must be left overnight for the glue to dry; if yours is among them, accept this delay as an automatic safeguard against doing too much in one evening, with consequent errors.

Be careful when stretching the grille cloth into place. It should not only be uniformly taut, but, for appearance's sake, the pattern of the weave should line up with the edges of the panel. If a sagging spot shows up, moistening it with a damp cloth (be sure there is no glue on it!) will sometimes shrink it back into place.

Speaker installation usually comes after the cabinet's assembly, although there are exceptions in some kits. Be careful: the speakers represent the largest part of your kit investment, and a punctured cone can be disastrous. Be careful of your wristwatch as well, for the strong magnetic fields of the speaker's magnet may damage it. Once you have the speakers in place, tighten the retaining screws evenly, first by hand, then giving each screw or nut only two or three turns at a time. Uneven tightening may warp the speaker frame, causing the voice coil to rub. Take special care as you tighten the screws that last little turn. Don't twist so hard that you strip the screws, and don't let the screwdriver slip off the screw and damage the speaker cone.

In your wiring, maintain the proper phase relationships between woofer, mid-range, and tweeter, and be careful not to interchange the connections to the rear-panel terminal strip, lest one of your speakers be out of phase with the other.

In most kits, you'll have to install some acoustic damping material, usually glass wool or some similar fibrous substance. Remember that glass wool is still glass, and if little bits of it break off in the skin of your hands, they can cause stinging and itching. Rubber or plastic gloves are a good precaution whenever you are working with glass wool, and Heath, in its kits, provides plastic gloves to wear when handling the stuff.

When you've worked your way through as far as fastening on the back panel, connect the speaker into your audio system with the back panel in place, but not screwed down. If there is any difficulty, you can then easily check the solder connections, and look for possible short-circuits. If everything checks out, fasten down the speaker back, pull up your best listening chair, and enjoy your accomplishment.
SHOWROOM TACTICS FOR THE SPEAKER BUYER

By JOHN MILDEN
As a sometime salesman of audio equipment, I have found that speakers cause the average shopper more problems than any other component. Caught between the technical scuttlebutt of well-meaning but often ill-informed friends and the double-talk of an occasional hard-sell audio salesman, the neophyte speaker shopper usually finds it difficult to come to a rational decision on what to buy. However, there are some simple guidelines one can follow, and I would like to outline some practical approaches for the man in search of a satisfying speaker system.

A good part of your showroom strategy, first of all, should consist of the questions you ask. If you have little or no experience in speaker selection, however, the most important of the following suggestions might well be those that emphasize what not to ask. I strongly advise you, for example, not to begin your showroom visit by asking a salesman what he thinks about a particular speaker. For the inexperienced buyer, the danger in asking this question is that it has a strange faculty for bringing out the worst in any salesman. Even a good salesman may be tempted to deliver an opinion in the kind of technical language that will confuse a nontechnical customer. And sometimes a salesman, instead of admitting he has no real basis for an opinion, is likely to answer in generalities that sound more sensible than they really are. My favorite example of the latter is the salesman who solemnly assured me a few years ago that a certain expensive speaker system could not reproduce the sound of drums well because its enclosure worked on the horn principle. This is the brand of illogic to avoid at all costs, and the best way to do so is to avoid asking any salesman for sweeping opinions.

Something else not to ask about is a speaker’s frequency response. If you have listened to a speaker for five minutes, you have already gained more information about it than you could possibly get from written descriptions or graphs. And I have rarely heard a salesman admit that any speaker had any response limitations—unless, of course, he wanted to sell a more expensive system. One last question not to ask is how many speakers there are in a particular speaker system. More speakers do not necessarily make for merrier sound, so knowing how many speakers are used in a system doesn’t tell you anything significant about it. If you begin by asking about the number of speakers, a salesman will be sorely tempted to play the kind of numbers game popularized by the makers of mediocre console phonographs, who use multiple speakers (but of poor quality) to impress the unwary customer. If anything, a large number of speakers in a low-price system is an indication that its performance may well be less satisfactory than that of a single good speaker.

How, then, do you begin a session in a showroom? Simply by taking a long look to see how many systems are on display, and in which price ranges. A good store, however small, should have at least three systems of different brands in each of the four basic price ranges.

Your next check should be to determine how speakers are demonstrated in the showroom. It is not necessary that the store have elaborate facilities for A-B comparisons of speakers, but if it does, you should find out whether the switching arrangement compensates for the varying efficiencies of the speakers. If the efficiencies are not equalized, direct comparisons will almost always cause the louder of two speakers to sound better, whatever its actual merits. And however highly you rate your critical faculties, you will find it extremely difficult to compensate in your own mind for the difference in loudness. If you want to make a valid comparison under these conditions, the best course is to forego A-B switching in favor of simply repeating the same musical passage over the two speakers—preferably at some length. My own feeling is that repetition is preferable to rapid A-B comparisons even when the latter are made under ideal conditions. Repetition gives you a chance to sort out your impressions of speakers and to pinpoint the reasons for their characteristic sound quality. The A-B test, on the other hand, may lead you to value the more spectacular of any two speakers—and real tonal fidelity is often not spectacular.

Be aware, too, that there is such a thing as a point of diminishing sonic returns. After a certain standard of reproduction quality has been reached, further improvements (which can be small indeed) come on only at high cost. Of course, it is impossible to know in advance just how much you will end up paying for a speaker, but you should know what degree of quality to expect in the different price categories, and you should also have some idea of the point at which you want to stop paying for improved sound. To further this objective, here is a summary of the price-quality relationships that characterize today’s market.

$50 area: Most speakers in this lowest price category have heretofore been either severely restricted in frequency range or seriously distorted. But it is now possible to find several low-cost systems that produce clean, low-distortion sound. In general, they have a slightly lightweight sound character, but they sound pleasant and “open,” owing to their good high-frequency response. Their bass can usually be improved by careful placement and/or judicious use of the amplifier’s tone controls.

$50-$100: What the better $50-$100 systems offer, in comparison with the previous category, is higher output and lower distortion at low frequencies—which permits them to be driven hard enough to fill a moderate-size room with the sound of an organ pedal. Again, the sound quality to expect (and listen for) is a pleasant, unspectacular open character. (Continued overleaf)
$100-$150: Many of today's most popular speaker systems are in this range, probably because it is here that most listeners feel they are getting the most for their money. A number of systems in this range offer sound that is clean and detailed from the top to the bottom of the frequency spectrum. The best systems are very solid in the bass, but not boomy or exaggerated. You can (and should) expect to hear and feel all but the lowest organ pedal notes.

$150 and up: Here is the range in which you can expect to hear everything, without compromise. It goes without saying that speakers in this class require the most critical listening, for you must decide just what you want to pay for. Keep in mind that price, in this range, is not necessarily a guide to quality. Sonic qualities that might be worth, say, an extra two hundred dollars to someone else might not be worth anything to you.

If you have never entered a hi-fi showroom, the above summary may still leave you with only a fuzzy idea of how much to spend for speakers. But there is a relatively simple way to move toward an early decision on the matter. Right at the beginning of your first trip to an audio store, pick two—any two—of the above price categories and ask to hear a representative speaker from each. If you are immediately unhappy about the sound you hear from the speaker in the lower of the two price ranges, or if, on the other hand, the sound of the more expensive speaker does not seem to justify its added cost, you have accomplished more in a few minutes than you would by studying brochures, advertisements, and test reports for a week. And you can move either up or down from your preliminary decision. If you feel, for instance, that the sound you hear in the $50-$100 range is pleasant and adequate, you should also check the lowest-price category. Or if the speakers in one range leave you feeling dissatisfied, you can move upward until you find the range that meets your requirements. I would recommend that you make a preliminary check of two categories at the outset even if you feel that you want (and can afford) the very best. This may prove to you that a five-hundred-dollar system is not five times better than a hundred-dollar system.

From this first check of quality to your final decision on what speaker to buy, you should listen to speakers through only two kinds of associated equipment. Either pick the best equipment in the store to demonstrate all speakers at their best, or choose the equipment—particularly the amplifier and cartridge—you intend to use at home. If you choose the former, of course, you will not only have the chance to hear the speakers at their best, but also will be able to judge later whether you want to spend more than you had anticipated for the rest of your audio system. If you listen with the associated equipment you own or intend to buy, you have eliminated any questions about the matching of components—particularly any doubts about an amplifier's suitability for driving a given speaker.

Whatever your preliminary decision on price, there are a number of things you should ask the salesman. Be sure to ask about speaker efficiency, but be aware that the varying efficiencies of speakers are the result of varying approaches to speaker design, and have nothing necessarily to do with quality. However, the amount of amplifier power you will need is determined by the speaker's efficiency, the volume level at which you intend to use it, and the size of your listening room. Most speaker manufacturers specify some minimum power required to drive their speakers. In some cases, however, this figure is the bare minimum requirement—for a small room and moderate volume levels. This is often the case with budget-price speakers, since their manufacturers are understandably reluctant to suggest a high-power amplifier whose price is not in keeping with an economy hi-fi system. Here is an instance where a good salesman can be of great help. He is likely to know how powerful an amplifier you need.

If the salesman is knowledgeable, you should also ask him about a speaker's power-handling capability. There are good speakers, particularly in the lower-price ranges, that simply are not meant to fill a large room with high-volume sound. This does not necessarily mean that they will be damaged by being overdriven by the amplifier, but it does mean that they will distort badly when reproducing high levels or low bass. Again, this is something a good salesman will know. If he does not, and you have doubts about a speaker, check its specifications carefully or write a letter of inquiry to the manufacturer. When checking specifications, do not confuse a speaker's maximum power-handling ability with its minimum power requirements.

Before you begin any extensive listening tests, ask about the records and tapes that are available as demon-

Avoid spectacular records in speaker demonstrations.
stration material. If you own or can borrow records whose sound you are familiar with on a good hi-fi system, by all means bring them with you to the store. If you don’t bring your own records, ask to hear a representative sampling of musical material—including solo piano and voice as well as large-scale orchestral music. In general, avoid spectacular records in speaker demonstrations, particularly flamboyant percussion records and gimmick discs whose sounds have no existence in real life. Any speaker might sound impressive with this kind of material, but you will have little or no basis for critical comparison. For demonstrations of low-frequency performance, avoid theater-organ recordings, whose heavy mid-bass content may mask a speaker’s lack of real low-bass response.

When the final listening session gets under way, you should be aware that your first impression of a speaker—whether it is bright, dull, rich, or thin—might have been based on the characteristics of the recording rather than those of the speaker. A good speaker should sound neither “first-row” nor “last-row” in character. But a recording may have either of these properties, and a bad recording can make any speaker sound too brilliant or tinny. Before you dismiss any speaker for sounding bad, listen to it with more than one kind of program material.

When a speaker impresses you with its sound in one part of the frequency range, ask yourself if its startling highs, mid-range, or bass is really a sign of unnatural, exaggerated response. A good speaker should have no coloration or sound of its own that seems to be present on all kinds of recordings. In any price range, the virtues to look for are clean, unpeaked response, low distortion, and detail in reproduction. The elusive goal is natural, unobtrusive sound that emphasizes no part of the frequency spectrum at the expense of another. It is usually a good idea to listen at the greatest length to—and expect the most from—the speakers that do not sound flashy on first hearing.

If a speaker that should sound good (and has in a friend’s living room) sounds thin in a demonstration, ask the salesman about its placement in the showroom. It is impossible to give all the speakers in a store equally favorable acoustic placements, and those located near intersecting surfaces (wall and wall, wall and ceiling, wall and floor) will usually sound fuller and richer than those placed along a wall or well out in a showroom. If the system can be easily moved, by all means ask the salesman to move it. Needless to say, you may also want a different placement if a system that you know to be good sounds boomy. When a reputable speaker sounds bad in all showroom locations, and particularly if it sounds thin or lacking in mid-range, you may want to check it in another store.

Is it mounted in the cabinet the manufacturer recommends?

If a disappointing speaker is of the type supplied un-mounted by its manufacturer, ask if it is mounted in the kind of cabinet the manufacturer recommends. Too many audio stores still have a tendency to install un-mounted speakers in any convenient box for demonstration. If you like the sound of a particular speaker in a large enclosure, it is overwhelmingly likely that it will not have the same bass response in a smaller enclosure, but few salesmen are eager to admit just how great a change the smaller box can make.

Finally, check the speaker’s high-frequency dispersion. In the average living room, the over-all sound of a speaker will depend to a great extent on the sound reflected by the walls, and it is vital that the high frequencies be well scattered. If they are not, the more easily spread mid-frequencies may predominate, producing a raucous sound. In a large showroom, or one that has a high ceiling, your main impression of a speaker’s high-frequency response may come almost entirely from the high tones you hear from a point directly on the speaker’s axis. To make sure that the highs are actually well dispersed, walk back and forth in the showroom and check the sound at several locations off the speaker’s axis. You must expect some loss of highs and a slight loss of definition with even the best speakers, but there should be little change in the speaker’s over-all character.

While the preceding suggestions hardly constitute a magic formula, I think they are worth following during a visit to a showroom. The best way to settle the merits of any speaker, of course, is to take it home for a trial. But if, like the great majority of listeners, you must make your decision in the store, it can be done without sorcery or ritual. The rule, as with all other audio components, is to take your time and listen.

John Milder, freelance writer, part-time audio salesman, and bon vivant, has supplied readers of Hi-Fi/Stereo Review with advice on choosing hi-fi equipment for the past several years.
SOME CARTOONS FROM DAS TON

One of the leading hi-fi magazines in Europe is the West German Das Ton-Magazin. Published in Munich, Das Ton is always tasteful but alert, and regularly features some of the cleverest music cartoons to be found anywhere. By special permission, HiFi/Stereo Review here reproduces some of the best.
A SPECIALLY DESIGNED BUILD-IT-YOURSELF SPEAKER ENCLOSURE

AN EASY-TO-BUILD ACOUSTICALLY EXCELLENT CABINET SUITABLE FOR A VARIETY OF LOUDSPEAKERS

By LARRY KLEIN
In last year's August loudspeaker issue, I presented plans for two compact bass-reflex enclosures. Since then I have received many requests for construction data on a larger enclosure, and I have therefore designed a 5-cubic-foot bass-reflex cabinet that can be adjusted to provide top-notch performance from a wide variety of loudspeakers, including 15-inch models. The enclosure, the plans for which are shown on page 53, is not only acoustically excellent, but is quite inexpensive and easy to build.

The builder has several methods to choose from in constructing the cabinet, depending on his woodworking skill and the tools that are available. He can build it from scratch, or he can have the panels precut at a local lumber yard and assemble the enclosure at home (in both instances using the simple butt joints and cleats shown in the plans). Or he might embark upon a full-fledged woodworking project, using miter joints, veneer, and so forth. Another alternative is simply to turn the plans over to a competent cabinet maker.

The acoustic-design problems of a 5-cubic-foot bass-reflex enclosure are actually simpler than those encountered in working with smaller cabinets. There are several reasons for this: (1) tuning is less critical because of the broader acoustic resonance of a large box, (2) high-frequency internal reflections are less troublesome because of the enclosure's longer internal dimensions, and (3) the loudspeaker's resonant point is not raised as high in frequency (because of the reduced air loading on the rear of the speaker cone).

But although the builder of a large cabinet encounters fewer acoustic problems, he is faced with a number of mechanical difficulties. Foremost among these is the necessity of providing adequate structural rigidity. Unless preventive measures are taken, the panels of a large cabinet will flex during low-pass passages, thereby absorbing energy that should instead be radiated as low-frequency sound pressure. Large panels also tend to vibrate, thus blurring transients and imparting a boxy, resonant coloration to the sound.

There are a number of ways to reduce flexing and vibration. One authority, Gilbert A. Briggs of Wharfedale, recommends constructing enclosures of building brick whenever practical. At various times he has also suggested the use of such materials as marble, stone sewer pipe, and layers of plywood with sand between them. Briggs' aim is to increase the mass of the cabinet walls enough that the buildup of air pressure in the cabinet cannot force the panels into movement.

Fortunately for those unwilling to embark upon such a massive, all-out approach to speaker-enclosure construction, there are a number of other techniques that can be employed to achieve the required rigidity without excessive weight, cost, or construction difficulties. The first consideration is the material of which the cabinet is to be built. Although standard $\frac{3}{4}$-inch plywood can be used, better results will be obtained by employing a resin wood-chip material called Novoply (made by U.S. Plywood). The mechanical characteristics of Novoply make it an excellent choice for loudspeaker enclosures: it has a higher mass than plywood and is much more inert, thus impeding the transmission of sound and the buildup of vibration. Incidentally, Novoply is available both unfinished (this was used for the prototype cabinet—see the photograph on the next page) and veneered (see the photo of the unit on the opposite page). Novoply sells for about the same price as $\frac{3}{4}$-inch fir plywood, and like all the other materials mentioned, is available at any large lumber yard.

To assemble the speaker cabinet, first join the top, bottom, and side panels, using the four 1$\frac{1}{4}$ x 1$\frac{3}{4}$-inch cleats (A, B, C, and D), glue, and woodscrews driven through pilot holes drilled in the cleats. (Cleat C, not shown in the drawing, is at the upper right.) Cut four 1 x 2-inch upright cleats (E, F, G, and H), to size and put them temporarily in place. Cut the two horizontal 2 x 2-inch braces (I and J) just long enough to make a tight fit between the vertical cleats as shown. Mark the positions of braces I and J on cleats E, F, G, and H. Remove the cleats and braces, apply glue to the ends of the braces, and drive a screw through each pair of cleats into the ends of the braces. (In other words, one screw goes through E into one end of I, and another screw goes through G into the other end of I.) Do the same with J, F, and H. Use #10 1$\frac{1}{2}$- or 2-inch flat-head woodscrews, and countersink them slightly.

After the two H-shaped sections are constructed (E, I, and G form one section; F, J, and H form the other), apply glue to cleats E, F, G, and H, and fit them into place, lining them up as indicated in the plans. Note that assembly F, J, H is recessed $\frac{3}{4}$-inch, while E, I, G is recessed $\frac{1}{8}$-inch to allow for the grille cloth. Cleats E, F, G, and H are now nailed or screwed firmly in place. The short 2 x 2-inch center-brace K is cut to size, fitted between I and J, and held in place with glue and two countersunk 3-inch woodscrews driven through I and J. Top and bottom cleats L, M, N, and O are now cut to size and glued and nailed (or screwed) in place. (M is not shown, but it is at upper rear.)

After cutting out the appropriate-size speaker hole (its diameter should usually be 1$\frac{1}{2}$ inches less than that of the speaker) in the front panel, the outside of the panel should be painted or stained flat black to keep the speaker opening from appearing as a dark circle after the grille cloth is stapled in place. Drill countersunk pilot holes along the edges of the front and rear panels for the 2-inch #10 woodscrews that are to hold the panels in place. About five screws on each of the long sides and

(Text continued on page 53)
NOTES ON ENCLOSURE DESIGN

I N A D D I T I O N TO SERVING AS AN ACoustIC BARRIER BETWEEN the front and rear of the speaker cone, most speaker cabinets are also designed to deal with the related problems of speaker-cone resonance and bass reinforcement. The speaker cone's resonant frequency is determined by the weight (mass) of the cone and the stiffness of the suspension supporting it, and is the frequency at which the speaker cone "prefers" to vibrate. At resonance, the speaker's voice-coil excursions far exceed those at any other frequency (for a given input signal).

When the speaker is mounted in a bass-reflex enclosure, there are two interacting resonances because the air inside the box also resonates at a particular frequency (the same way the air in a bottle resonates when you blow across its mouth). The speaker's mechanical resonance is set off by an audio signal at or near the speaker's resonant frequency; the cabinet's acoustical resonance is activated by the speaker. By adjusting the size of its port, or opening, the cabinet can be tuned so its resonant frequency is the same as the speaker's. When the resonances are at the same frequency, the speaker's single high resonant peak is converted into two smaller peaks, located in frequency above and below the original.

In the accompanying graph, which depicts what happens to a speaker's resonance when it is mounted in the bass-reflex enclosure described in this article, the highest peak represents the speaker's free-air resonant frequency—35 cycles per second. After the speaker is installed in the enclosure, and after the enclosure has been tuned to the speaker (by drilling—in this case—72 1/4-inch holes in the front of the enclosure), the single high peak becomes two smaller ones. Of these, the one higher in frequency (at about 70 cps) reinforces the system's bass response. It should be noted here that if a speaker with a free-air resonance of 50 or 60 cps were used, the upper resonant peak would probably be in the area of 100 cps, which is the dangerous "bass-boom" region. Peaks at this frequency produce an overly resonant bass response that is particularly annoying when listening to a man's voice.

Most bass-reflex designs go no further than the achievement of two equal resonant peaks. But unfortunately, unless the speaker is inherently very well damped, the upper peak will result in a general muddiness and lack of bass clarity. In any case, additional damping (reduction) of the resonant peaks is desirable.

Some damping is accomplished by drilling the many small holes (rather than cutting a single large port), but more damping is required for optimum performance. Also, the more highly damped the system, the less critical its tuning. Fortunately, additional damping can be obtained rather simply, by stapling two layers of burlap over the rear of the speaker. The effect of applying the burlap can be seen in the graph. Note the great reduction in the height of the peaks both when the speaker is in and out of the cabinet. Two impedance curves were traced with the cabinet purposely mistuned—using 90 holes in one case and 126 in the other. In both cases, the peaks resulting from mistuning were still of lower amplitude than those on the original undamped 72-hole curve. This is an indication that almost any speaker can be mounted in the enclosure without the need of critical tuning.
four on the short sides will serve. Four countersunk pilot holes should also be drilled through the front and rear panels to permit screwing them to the 2 x 2-inch braces I and J. Apply glue liberally to the front cleats and the front brace; no glue is used on the rear panel, which is installed later.

To damp panel resonances, sections of Celotex are now securely glued to the cabinet walls. Cut the Celotex to fit between the cleats, and install it on the inside top, bottom, and two side walls. Two more sections of Celotex are glued to the rear panel, leaving a space where the rear panel is to be screwed to rear brace J. The required number of half-inch tuning holes for the speaker to be used (see accompanying chart) is now drilled in the front panel. The location and spacing of the holes is not critical. A quarter-inch hole should also be drilled in the rear panel for the speaker leads.

The next step is to install the speaker—following the manufacturer's instructions—using woodscrews or bolts of appropriate size. Leads should be attached to the speaker terminals. If the speaker terminals are color-coded, mark the leads similarly. Cover the rear of the speaker with two layers of burlap. The burlap should be stretched tightly and stapled to the back of the front panel. Staple first one layer, then the other, not both at once. It is important that the burlap be as taut as possible—it may be feasible to tighten it by binding it to the speaker magnet with a length of wire.

A 40 x 13-inch blanket of 1-inch-thick fiber glass, or glass wool, is now installed with one long edge stapled to the inside top panel of the cabinet about 3 inches in from the sides and rear panel, so that it hangs down to the center braces. Two more layers of glass wool are then stapled completely across the center brace (one on the top, the other on the bottom), in effect dividing the cabinet into two sections. Finish up with a double layer of glass wool on the floor of the cabinet.

The grille cloth is then stapled to the front panel (its edges will be concealed by molding, as shown in the drawing). The molding is attached to the front panel with about a dozen headless nails; the nail holes can be filled in with wood putty. The kind of front-panel molding used, like the choice between butt or miter joints, horizontal or vertical mounting, is governed by considerations of taste and woodworking ability. It is important that the over-all dimensions of the box be held within 10 per cent of those called for in the plans, since it is not possible, without extensive additional experimentation, to determine the proper tuning of cabinets whose dimensions differ radically from those shown.

Crossbraces I, J, and K are about 12 inches from the bottom of the cabinet, and the top of the speaker cutout is about 3 inches below the cabinet's top edge.
BEN BONGIOrNO started collecting records several years back, while he was still in college. Although he had only a portable record player to play his records on, he went ahead with his plans for assembling a comprehensive record collection—his eventual goal being a component stereo playback system. About two years ago, Mr. Bongiorno decided that the time had finally come to put together a first-class stereo system. But because he was living in a three-room apartment in the New York suburb of Woodside, he had to find some way of housing his collection of records and hi-fi equipment in as small a space as possible.

Mr. Bongiorno’s solution, arrived at after a great deal of planning, was to use three storage cabinets as a foundation for a series of pole-supported shelves and smaller cabinets. (These are all commercial units, and cost a total of $500.) The high-fidelity components are distributed on various shelves, with their specific locations being determined both by aesthetics and convenience of operation. On the upper left shelf is a Scott 290 100-watt stereo power amplifier, and on the cabinet below it is a Scott 122 stereo control center. A Scott 330-D AM-FM tuner is located above the television set. The record player consists of a Garrard 301 turntable with a London-Scott Model 1000 matched arm and cartridge. Flanking the cabinets are two AR-3 speakers resting on AR bases.

Mr. Bongiorno is now planning to complete his system by adding a tuner adapter—for receiving stereo broadcasts—and also a stereo tape recorder.
COLUMBIA has given us an absolutely superb recording of Leonard Bernstein’s Third, or “Kaddish,” Symphony—a recording, one assumes, of the same reading that was greeted with such distaste by certain members of the press when the work was given its New York premiere in the 1963-64 season. Its first New York performance was, of course, fraught with extra-“Kaddish” implications long before Bernstein even lifted his baton to conduct the piece. Critical guns had been trained on him the year long and were by this time in rapid fire. Rightly or wrongly, he was being more or less regularly chewed out by the newspaper critics for protracted absences from his New York Philharmonic podium. To make matters even worse, a highly touted series of Philharmonic programs devoted to the music of the Far Out and Further Out Avant-Garde had run into perilous weather, and Bernstein—again, excusably or inexcusably—turned large conducting assignments over to assistants, himself going off to Boston to attend Charles Munch’s rehearsals of the American premiere of the “Kaddish” Symphony. This was of course after his return from Israel, where he had gone, in the midst of the season, to conduct the world premiere of the work.

Beyond these surface details, I know nothing of the “rights” or the “wrongs” of the controversy, and I record them here not to perpetuate gossip, but to describe the emotional climate attending the first New York performance of the “Kaddish” Symphony. It is not questioning the integrity of any critic to say that the piece was a sitting duck if ever there was one. And it got the anticipated blasting, both in the public prints and, even more so, by word of mouth—any mouth, even those owned by amateur critics who had not actually heard the performance, but had simply heard about it from a friend or from the newspaper reviews.

Having missed the public performances of the piece, I was prepared for the worst
THE COMPLETE WATER MUSIC IN TWO EXCELLENT VERSIONS

Rafael Kubelik and Yehudi Menuhin lead performances of commendable nobility and vigor

Two excellent new recordings (from Angel and Deutsche Grammophon) of George Frideric Handel's Water Music reveal just how far we have come from the days of Sir Hamilton Harty and his over-scored arrangement of six movements from this now-famous work. Harty, it is true, did make this music available and popular with twentieth-century audiences, just as Stokowski, with his much-discussed transcriptions, once introduced many people to the music of Bach. These days, however, our ears have begun to appreciate the less overblown sonorities of the true Baroque orchestra, and our musical curiosity, furthermore, has been extended to include the less familiar movements of the Water Music. Recordings of the complete work are, in fact, becoming almost as commonplace as those of the Suite.

But just as listening tastes have changed, so have performing styles grown in understanding, and most musicians now realize that, to do this music justice, certain Baroque conventions must be observed. These new albums are two excellent examples of this enlightened attitude: in the case of Yehudi Menuhin, we have come to expect it; in the case of Rafael Kubelik, the reaction is one of surprise and pleasure.

Take the opening overture, for instance, which is in the pompous, dotted French style: both conductors double-dot it, and the result, instead of sluggishness, is nobility and rhythmic vigor. Similarly, both conductors commendably have the solo oboe embellish its plain part in the ensuing Adagio, and Kubelik even has the continuo harpsichord execute an improvised flourish to link the first and second movements. Elsewhere, most of the slow final cadences to movements are amplified by a solo instrument, exciting Baroque dynamics are applied, and—perhaps more in the Menuhin than in the Kubelik version—ornamentation is added in appropriate places.

In textual terms, the differences between the two performances are very slight: Kubelik plays the standard twenty movements using the Arnold edition, Menuhin (like Thurston Dart on L'Oiseau-Lyre 60010/50178) divides the score into three suites according to key. Menuhin's edition, by N. D. Boyling, also adds a gigue for trumpet and strings that has not been recorded before. The sequence of movements, however, is the same for both recordings for approximately two-thirds of the work.

Kubelik's orchestra sounds rather larger than Menu-
hin's chamber ensemble, and although the additional weight gives the former interpretation a rather symphonic quality, it is certainly far truer to the Baroque spirit than are most such performances. But, though Kubelik's tempos are, in general, judicious, they do not convey quite the sprightliness and British flavor to be heard in the Bath Festival Orchestra.

Menuhin has a feeling for the gracefulness of this music that is on the same level as Thurston Dart's, but Dart's orchestra (the London Philomusica) is perhaps a slightly more polished group of players. Still, I would not like to be without Menuhin's lively account, and it is recommended with enthusiasm to anyone wishing to hear the whole of the delightful Water Music. The reproduction on the DGG disc is fine but a bit distant, the excellent harpsichord continuo not always as audible as it should be. The Angel pressings have better balances and a more intimate quality.

Igor Kipnis

® ® HANDEL: Water Music (complete). Bath Festival Orchestra, Yehudi Menuhin cond. Angel S 36173 $5.98, 36173 $4.98.

® ® HANDEL: Water Music (complete). Wolfgang Meyer (harpischord continuo); Berlin Philharmonic Orchestra, Rafael Kubelik cond. Deutsche Grammophon SLP 138799 $6.98, I.P.M 18799* $5.98.

THELONIOUS MONK

AT PHILHARMONIC HALL

Monk's own compositions are showcased in scorings by classical composer Hall Overton

Columbia's new album "Thelonious Monk: Big Band and Quartet in Concert," a recording of an evening concert at New York's Philharmonic Hall in December, 1963, gives us a novel opportunity to hear five Monk compositions, as scored by Hall Overton, performed by a large group. Overton also did the scoring for a Monk concert at Town Hall (Riverside stereo 1138, mono 300) four years ago, but these new arrangements more successfully expand the singularly pungent Monk idiom into a big-band context, providing at the same time a fresh and provocative encounter with Monk's challenging ideas.

Overton's long association with Monk has enabled him to orchestrate these pieces without in any way distorting their carefully wrought structures. The characteristic angularities are not smoothed over, and, in fact, the stabbing ensemble passages serve to heighten Monk's incisive turns of phrase and beat. At their best—in the demanding writing for Four in One and the exclamatory dissonance of Epistrophy—Overton's arrangements indicate how revitalizing Monk's pieces could be for some big-band libraries.

Except for a couple of overlong drum solos by Frank Dunlop and the comparatively routine work of Charlie Rouse, the improvisations are excellent. The two principal soloists are Thad Jones, a cornetist with a zest and a tart wit that blend well with similar qualities in Monk, and alto saxophonist Phil Woods. The latter is an improviser of thrusting power and firm swing. But towering over everyone is Monk himself. The concert situation and the presence of the big band do not inhibit him at all. He is as spontaneous here as he is at the Five Spot, his New York night-club base. His solos are authoritatively original and his accompaniment consistently absorbing—as well as a model of how to time background patterns to create maximum impact on the band as a whole.

In one quartet number (Played Twice), and in another solo piano track (Darkness in the Delta), Monk fuses echoes of James P. Johnson, Fats Waller, and Duke Ellington into his unique combination of me-
iodic ingenuity, rhythmic vitality, and airy good humor. It is fortunate that this concert has been preserved for the record. The engineering is good—but the horn soloists could have had more presence.

Nat Hentoff

© © THelonious Monk: Big Band and Quartet in Concert. Thelonious Monk (piano), Charlie Rouse (tenor saxophone), Steve Lacy (soprano saxophone), Phil Woods (alto saxophone, clarinet), Gene Allen (baritone saxophone, bass clarinet, clarinet), Thad Jones (cornet), Nick Travis (trumpet), Eddie Bert (trombone), Butch Warren (bass), Frank Dunlop (drums). Evidence; Oiska T.; Four in One; Epistrophy; and three others. Columbia CS 8964 $4.98, CL 2164* $3.98.

—ENTERTAINMENT—

HAMLET ON A GRAND SCALE

Richard Burton's performance displays astonishing sweep and range

Some performers play Hamlet from the head, others from the heart or even the diaphragm. A few move him about the stage like a chess piece. Richard Burton, in Columbia's recorded version of the play still running on Broadway, plays him as a man, with no parts missing. Not since John Barrymore roared out the role in the Twenties has anyone demanded so much elbow-room for a portrayal, nor better justified his claims for attention. The approach is correct, for to scale down Hamlet is to diminish humanity.

Like Oedipus Rex, the play deals with a primal myth. We are all in some measure Hamlet, faced with dilemmas, conflicts, and frustrations, displaced and disinherited by a hypocritical world. But Hamlet is a hero because, if he dares not take action, he does dare take thought: concerning the human condition, there is no question he quails from posing. He is neither detached nor passive. On the contrary, it is he who must move the play forward rather than be drawn through it by events. And he, in the process, is swept by the whole range of human emotions—rage, grief, pain, laughter, horror, and all the rest. The part is an actor's dream—or nightmare.

There are eight other Hamlets still available on records in addition to this one by Burton, and these include scenes from the Laurence Olivier film, an abridged version with John Gielgud, and—among still others—two unabridged performances in stereo. Of these, the Marlowe Society's is notable for beauty of enunciation and forcefulness of delivery, and Caedmon some months ago offered a subtle and sensitive production wherein the scenes were played like passages in a symphony, as director Howard Sackler coaxed from the play a full sense of its atmosphere by blending sound effects and music with the voices.

Gielgud's direction in the present version dispenses with all this. There is no musical score, except a march to bring Fortinbras and his troops onstage. Sound effects are sparse and held in the background. The play does not take off, as Sackler's Hamlet does, from the earth; rather it makes the earth shake with its urgency. The text is edited, but not bowdlerized. For the most part, the cuts help increase the pace of the action, while the listener is deprived of little that is vital. Burton dominates the scene always, displaying astonishing sweep and range. He switches moods with the suddenness of Northern weather. Previous Hamlets on records pale beside his. It may seem that he is opening all the stops too soon, shortly after confiding to Horatio that he will simulate madness—but we soon discover that there is no guessing how many more resources there are to the organ he is playing. On the grand scale of this conception, there is ample room for all the character's inconsistencies. Whether his voice catches with grief in the midst of wit, sinks to a whisper from a raging shout, or transforms vitriol into sweetness in the space of a phrase, the effect is as plausible as it is arresting. He is seldom merely melancholy, and never dull.

Burton is not as fortunate in his supporting players as Scofield was—Diana Wynyard was a far more formidable Gertrude than Eileen Herlie, Roland Culver is a colder-blooded, less stagey villain-king than Alfred Drake, Zena Walker a more lyrical Ophelia than Linda Marsh. As the play takes fire under Gielgud's inspired hand, however, all acquit themselves with increasing conviction, and in the end vindicate their presences. Hume Cronyn, especially, makes a marvelous caricature of that "tedious old fool" Polonius, George Voskovec does a wicked parody on ham acting as the Player King, and Gielgud himself is a thoroughly blood-curdling ghost.

The sound of former Hamlets in stereo is excellent, but here it is even better—so clear that a text in your lap becomes more of an encumbrance than an aid, and the recording is moreover perfectly convincing in movement and stage action. A shiny booklet so full of information and pictures that it requires its own table of contents rounds out one of the best spoken-word albums ever made.

Paul Kreis

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CLASSICAL

Reviewed by WILLIAM FLANAGAN • DAVID HALL • GEORGE JELLINEK • IGOR KIPINS


Performance: First-rate
Recording: Fine

My own favorite among these works by Johann Sebastian's celebrated sons is Wilhelm Friedemann's melancholy Sinfonia in D Minor, a prelude and fugue that has been recorded several times previously. In its poignancy, it is on the same level as Mozart's C Minor Adagio and Fugue (K. 546), though more introverted, and the resemblance to Mozart is even more pronounced because of a thematic similarity between its first section and the Recordare section from the latter's Requiem. It is this opening part, too, that features the two solo instruments (flutes in the other available recordings, but oboe and flute in Redel's version). Of the other works, the Johann Christian sinfonia is lively and diverting, and Carl Philipp Emanuel's flute concerto, although as galant in style, is perhaps, because of its minor key, more emotionally expressive. The concerto is, from the standpoint of virtuosity, an exciting piece, with a particularly sensational finale. Redel's flute playing is brilliant, his understanding of the style both as soloist and conductor is first-rate, and his direction of the Munich chamber orchestra in all the works is sensitive and spirited. The recorded sound, except for a too-close pickup of the flute in the concerto, is excellent.

The splendid Baroque program on this record is calculated to give anyone much listening pleasure.

1. K.

J.C. BACH: Sinfonia in E-flat Major, Op. 9, No. 2 (see C.P.E. BACH)

**RECORDING OF SPECIAL MERIT**

BACH: Concerto No. 15, in G Major (after an unknown master, S. 986); Fantasia in C Minor (S. 906); Overture in the French Manner (Partita in B Minor, S. 831); Toccata in F-sharp Minor (S. 910).

Rafael Puyana (harpischord). MERCURY SR 90369 $3.98, MG 50369* $4.98.

Performance: First-class
Recording: Very bright

Rafael Puyana's first all-Bach record for Mercury is a pleasure in many ways. The varied choice of repertoire, ranging from well-known pieces such as the C Minor Fantasia to the less familiar, is consistently stimulating. One must, for example, welcome this fine harpsichordist's enterprise in choosing one of the least known of Bach's sixteen concerto arrangements, a delightful, perky work in G Major, the original of which is unknown (it may have been by Telemann). The toccata, a moody, expressive piece, is seldom played by harpsichordists. The large-scale partita, or Overture in the French Manner, is Bach at the very height of his writing for this instrument. Throughout, Puyana brings great understanding and dedication to the program. His stylistic awareness is excellent, his technical command as usual remarkable. Furthermore, his interpretations here are marked by a vigorous rhythmic sense—listen to the final movement of the partita, for instance—and a dramatic gravity. The recorded sound is very brilliant but a good deal larger than life, and the conclusion of the side with the long partita is not always clean. The performance, however, makes this disc one to be most highly recommended.

1. K.

W. F. BACH: Sinfonia in D Minor, for Flute, Oboe, Strings, and Continuo (see C.P.E. BACH)


Performance: Lovely
Recording: Subdued but fine

Béla Bartók's Dance Suite dates from 1923, and Kodály's Peacock Variations was composed in 1938 and 1941. Both were, unsurprisingly, full of fantasy and charm. As one listens to the Dance Suite, one is reminded again how strongly the Bartók of the early 1920's was taken by Stravinsky's Sacre—as, indeed, who in the early Twenties was not? Yet the Suite retains an engrossingly personal and dynamic lyricism that is quite Bartók's own. The composer of the later quartets, the builder of granitic formal edifices, is not much in evidence in this work—the Dance Suite is put together rather more loosely, intuitively; its formal layout is somehow more French than Central European. But this is the essence of its appeal.

Playing the record in ordered sequence, we are reminded of Kodály before we actually get to his music, for there is a patch or two in the Bartók that is sharply reminiscent of Hary János (or does the chronology here make it vice versa?). Still, what a different temperament was Kodály's! The gesture of the Great Composer is never so much as glimpsed; one senses a genuine modesty of creative intent, and its results are enchanting. There is something very special and rewarding about the work of a genuinely gifted and creative composer who knows his limitations, and although (for all I know) Kodály may think himself another Beethoven, the best of his work gives off a modest warmth that the music of Bartók—or for that matter—of any other composer, is no substitute for.

W. F.


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Cleveland Orchestra. George Szell cond.
Epic BC 1282 $5.98, LC 3882* $4.98.

Performance: Tout and brilliant
Recording: A trifle dry

Expansive readings of Beethoven's Fifth and Mozart's "Jupiter" symphonies have come to discs of late, the first by Bernstein and the second by Leinsdorf. Here Dr. Szell sticks to his musical guns with taut, rhythmically exciting, and beautifully articulated performances of these two monumental classics. (The first movement of the Beethoven is without repeat, incidentally.) The recorded sound is a bit dry, but full-bodied and clear. This disc offers the only pairing of these two symphonies by a major conductor and orchestra, and as such represents a top value for the beginning collector.

D.H.

RECORDING OF SPECIAL MERIT

BEETHOVEN: Triple Concerto, in C Minor. For Piano, Violin, Cello, and Orchestra, Op. 56. Rudolf Serkin (piano), Jaime Laredo (violin), Leslie Parnas (cello); Marlboro Festival Orchestra, Alexander Schneider cond. COLUMBIA MS 6564 $5.98, ML 5964 $4.98.

Performance: Superlative
Recording: Powerful

The Triple Concerto may not rank among Beethoven's monumental masterpieces, but in a first-class performance, such as it gets here, the music emerges as a listening experience both enjoyable and exciting. The first movement in particular receives a wonderfully sinewy treatment. The performance as a whole comes off so superbly, I believe, because all the principals are great chamber-music performers, and they approach the music in the manner of a gigantically expanded chamber score. The result is a genuine collaboration of equals, in which the soloists as individuals or in ensemble do not overshadow the orchestral contribution. All concerned play with blazing tension and virile power, and the recorded sound does the performance full justice. An outstanding disc on all counts, one that makes the music sound—if possible—even better than it really is.

D.H.

RECORDING OF SPECIAL MERIT

BIBER: Balletti Lamentabili; Sonata No. 10, "Christ on the Cross"; Mensa Sonora: Part One. MUFAFF: Armonico Tributo; Sonata No. 5. Concentus Musicus. VAN GUARD BACH GUILD BGS 70652 $3.95, BG 652 $4.98.

Performance: Grand
Recording: A bit shrill

This coupling of Heinrich Biber and Georg Muffat, both of whom worked in Salzburg during the last part of the seventeenth century, is an extremely felicitous one. These two composers lived almost exactly the same span of time (Biber was born in 1644, Muffat a year later, and both died in 1704), and their compositions are highly representative of middle Baroque style in Germany. The works on this disc are primarily in suite form and reveal, in their variety of movements, strong influences from the popular French and Italian styles of that day. Biber's improvisatory tenth Mystery Sonata, a partly programmatic piece depicting Christ on the cross, consists of only two sections, and some of its distinctiveness is owing to the score's calling for the mistuning of one violin string for special color effect. This sonata is played with great expression, sensitivity, and—in keeping with both its subject matter and Baroque style—intensity.

Equally expressive and stylistically acute are the various suites in this performance by the fine eight-member Viennese ensemble. The noble passacaglia that concludes the Muffat work, for example, could scarcely be equalled anywhere for warmth and grandeur in the playing.

One of the most interesting features of these interpretations is the emphasis on the bass line, an important element in the Baroque style and one often overlooked in performance. The blend of the assorted instruments (all dating from the period or even earlier) is wonderfully sonorous, and the spirit, vitality, and dignity of the inter-

pretations make this a disc to be recommended for any Baroque collection. The reproduction in both mono and stereo is somewhat shrill.

I.K.

RECORDING OF SPECIAL MERIT


Performance: Virile
Recording: Sensational

Mark this disc down in your little black book as the most impressively recorded Brahms First yet! Erich Leinsdorf's reading does full justice to the music. The aim is clearly toward an interpretive synthesis of the best in the central European and in the Toscanini-American traditions, and save for a touch of breathlessness in the final pages. Mr. Leinsdorf succeeds admirably. The BSO players bring him up about 200 per cent in every bar, and in terms of kinetic power, exquisite detail, and clarity of texture the recorded sound beggars adequate description—it must be heard. For combined interpretation, performance, and sound, this Brahms

AUGUST 1964

63
MORE CLASSICAL REVIEWS

IN BRIEF

DATA

COMMENTS


These two fine Romantic violin sonatas are a wonderful pairing. For me, Grieg's C Minor Violin Sonata stands with the piano concerto as the most convincing of his efforts on a grand scale, and impassioned Romantic utterance runs through the astringent form of the Franck sonata. The Gertler-Farnadi readings are virile, crisp, and passionate. Some listeners to the stereo may be disturbed by its division of the instruments, the piano in the right channel and the violin in the left. D. H.

2. HANDEL: Dettingen Te Deum. Janet Wheeler and Eileen Laurence (sopranos); Frances Pavilides (contralto); John Ferrante (tenor); John Dennison (bass); Telemann Society Festival Chorus and Orchestra. Richard Schulze cond. NONESUCH H 71003 $2.50, H 1005* $2.50.

This Telemann performance is the only one presently available of Handel's victory choral piece. Its good points include fairly lively conducting, an excellent (unnamed) trumpeter, and a reasonably stylish approach. But there are interpretative mannerisms, vocal soloists who are at best adequate, and other drawbacks. The recording is excellent, clean, and full-bodied. Texts are included. I. K.


Charles Ives' first string quartet, composed in 1896, is one side of the Ives coin. Written when Ives was still at Yale, age twenty-two, it is full of consonant four-part chorale writing, hymn-tunes, and sunny good humor. The second string quartet is the other, dissonant side of the coin. The playing of the Kohon String Quartet is triumphant in both works. Both pieces have refinement of detail and great powers of communication. W. F.


Masque mesurée, a mid-sixteenth-century musical ideal that dictated the matching of long syllables with long notes and short syllables with short notes, found its most famous exponent in the Belgian Claude Le Jeune (c. 1525-1600). The fourteen chansons from his collection Le Printemps included here are light-hearted and charming, and the performance by a small French chorus is thoroughly capable, spirited, and precise in ensemble work. There are, however, tendencies to cuteness. The recording is very satisfactory. I. K.

5. LISZT: Piano Concertos: No. 1, in E-flat; No. 2, in A Major. Leonard Pennario (piano); London Symphony Orchestra, René Leibowitz cond. RCA VICTOR LSC 2690 $5.98, LM 2690* $4.98.

The team of Pennario and Leibowitz, backed by excellent work from the London Symphony, turn out clean, virile, and workmanlike performances of the two Liszt concertos, but I find little beyond this—neither the fire that young Andre Watts brought to the E-flat, nor the illuminating imaginative insights that Richter contributes to the Phillips disc of No. 2. D. H.

6. MARTIN: Six Monologs from Everyman ("Jedermann"); The Tempest (three excerpts). Dietrich Fischer-Dieskau (baritone); Berlin Philharmonic Orchestra, Frank Martin cond. DEUTSCHE Grammophon 138871 $6.98, 18871 $5.98.

Hofmannsthal's Jedermann is a famous morality tale that Frank Martin set to music in 1943. The six monologs here recorded are supported by orchestral writing of sustaining power and expressiveness that draws the attention from the musically uneventful vocal declamation. The sound is brilliant, and so is Fischer-Dieskau's contribution. G. J.

First wins hands down over all its current competition. D. H.


Performance: Pure velvet
Recording: Excellent
For reasons that are not at all clear to me, both of these string quartets—though skillful, professional, and elegant in the extreme—are at bottom rather cold, unyielding pieces. In Britten, of course, is familiar with the syndrome, for this composer seems to have been born with his talent already full-blown. If his technical equipment is flawless today, it was just as flawless nearly twenty years ago, in 1945, when this quartet was composed. It therefore moves like the best Britten, acts like the best Britten, even sounds like the best Britten—in spite of the fact that it is, in the last analysis, just not top-drawer Britten.

The Fricker piece is rather a different matter, for the simple reason that one has no extended familiarity with Fricker's work to make comparisons by. He is, one imagines, rather less a romantic than Britten, and surely he is less a lyricist. And his quartet demonstrates the craft of a first-class technician—even if it somehow gives the impression that the composer has had to work a good deal harder than his countryman to achieve a comparable degree of technical mastery. The quartet is arresting in detail, and it gives the ear a good deal to take in; but I can't help but feel that it, too, is somehow more mannered than necessary.

The pieces are expertly played and gorgeously recorded; another listener might not only find them engaging— as I surely do—but moving in the bargain. W. F.

RECORDING OF SPECIAL MERIT

8. BYRD: Mass for Three Voices; Mass for Four Voices. Choir of King's College Cambridge, David Willcocks cond. LONDON OS 25795 $3.98, OM 5795* $4.98.

Performance: Magnificent
Recording: Extremely good
William Byrd, a Catholic living in England during the reign of Elizabeth I, wrote music for both his own religious rites and for Anglican services. Roman Catholicism being at that time outlawed in England, his three Masses, one each for three, four, and five voices or parts, had to be performed in secret, and when they were first published, they were printed without any title page. These Masses are among the greatest masterpieces of the high Renaissance. The one for five voices was released previously, also in a performance by the King's College Choir under its splendid conductor David Willcocks (London 25725, 5725). With the present disc, therefore, London completes the set, which can now stand categorically as the best of several recordings of this music. Never before on records, in my opinion, have these works sounded as moving, as clear in the part writing as dramatically and literarily well-paced. In contrast to other versions, there is no soppy wash of voices; dynamics, furthermore, are carefully gauged to the text, not merely aimed at spectacular effect—although the perform-
ances are thoroughly spectacular in their grandeur and cumulative power.

There was slight distortion on my review pressing, but the clarity of the all-male choir and the atmosphere of the chapel in which the recording took place were most realistically conveyed, most especially so in the stereo pressing.

I. K.


Performance: Like dry wine

Recording: Okay

For my taste, there is no wholly satisfactory recorded version of the Chopin B Minor Sonata. The old Novaës disc for Vox (mono only) is musically the most interesting, but its sound is not up to present standards. Somehow, the stereo Rubinstein reading for RCA Victor lacks the brio usually found in this great artist’s performances.

Alexander Brailowsky in the days of the 78-rpm disc turned in an outstanding reading, beautifully recorded for that day, and he comes within striking distance of duplicating the feat here some twenty-five years later. The reading as such is strong and good, and it is hard to single out just what is lacking that would have made this recorded performance a more convincing one. I suspect that what is missing is traceable to the wear and tear of age, for the Brailowsky fingers do not falter, and he does as beautiful a job of tonal tracery and weaving as I have heard from any pianist anywhere, either on or off records.

D. H.


Performance: Elegant

Recording: Very good

This record is what might be called an interesting oddity. Debussy’s Chansons de Bilitis (1900), an unfinished project originally intended to set to music (with chamber group and speaker) twelve poems by Pierre Louys, appears here in what Columbia claims is its first recording. Hindemith’s Herodiade (1944), which uses spoken texts by Stephane Mallarmé (and was commissioned by Elizabeth Sprague Coolidge to be danced by Martha Graham), also employs a speaker—in this case, with textual rhythms determining the rhythmic structure of the music itself.

After Debussy abandoned Chansons de Bilitis, he used the musical materials some years later for a piano duet. The unfinished manuscript of the original incidental music was in the hands of Debussy’s biographer, Leon Vallas, when the young French com-

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poster Pierre Boulez undertook the completion of the work Debussy had planned originally. The results is lovely, if not exactly something less than a complete success. The formal balance between Vera Zorina's capably read recitation and the incidental music is, somehow, never quite resolved, and the piece doesn't come to an end so much as it just stops. Still, the scoring is delicious, the work is extraordinarily fine-spun in its lyricism, and genius lurks in every bar.

The Hindemith piece is another one that doesn't quite work. Deriving the rhythmical structure of the music from the prosodic structure of the spoken text seems to me to be one of those pseudo-innovative gimmicks that stresses the ingenuity of the composer at the expense of the music. Rhythmic vitality (as opposed to complexity) was never one of Hindemith's strong points, and this work in particular seems to plod along, hamstrung by its own predetermination. The performances are both commendable and, where the Debussy is concerned, a little surprising. Where one might have expected Mr. Craft to assert a more severe linear approach—in the manner, perhaps, of Charles Rosen's stunningly original and brilliant conception of the Debussy ERADUS—he seems quite content to luxuriate in the more comforting prettiness of the musical sound. A bit of this sensuousness even seems to have rubbed off onto his performance of the Hindemith piece, in which one might have looked for a dryer texture and a clearer contrapuntal emphasis.

The recording is fine, and Miss Zorina's readings are clearly enunciated and quite appealing. I.K.

**FRICKER:** String Quartet No. 2, Op. 20 (see BRITTEN)

**RECORDING OF SPECIAL MERIT**

**O & GIBBONS:** Tudor Church Music, Volume Two, Song 1 (The First Song of Modes); Second Psalter: Psalm 145 (vv. 1-14); Voluntaries 1 and 2; Second Service: Te Deum and Jubilate; Verse Anthems: This is the record of John; See, see, the Word is incarnate: Glorious and powerful God. Simon Preston (organ of King's College Chapel, Cambridge); Jacobean Consort of

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Performance: Splendid

Recording: Excellent

The first record of Tudor church music by Orlando Gibbons (1583-1625), keyboard player to James I and one of the supreme creators of music for the Anglican service, was a beautifully performed collection released by Westminster in 1956. That disc, originally produced (as this was) by the British firm Argo, has long been unavailable, but American collectors can now obtain both it and this newer one through the aegis of London Records, which has recently begun importing and distributing many of the fine Argo catalog. The second Gibbons record, made in 1959 and not available here before, presents a varied selection, primarily choral but including two organ pieces. For me, the highlights of Gibbons' rich writing on this disc are the Jubilate from his Second Service, with its wonderful concluding Amen, and the three verse anthems, one of which is the well-known "This is the record of John." A viol consort participates in the anthems, and the total effect of the ensemble—solo counter tenor, viols, organ, and the excellent male choir of King's College—is extraordinarily satisfying. One would be hard put (Continued on page 69)

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to think of a better performance of this music than this one by the choir and David Willcocks; stylistically it is impeccable, and the singing of the choir is gorgeous. The new disc is vastly superior to the first in stereo placement as well as in clarity. The jacket features comprehensive annotations by Thurston Dart, who plays treble viol in the consort, but texts are not included. I. K.


Performance: Expansive Recording: Taps

Although I suppose that it is difficult to dabble long in the matter of serious music without learning that there was once a composer named Karl Goldmark who wrote a famous opera called The Queen of Sheba, the fact of the matter is that this man’s music is but slightly known in the United States. The Catalog, excepting the new recording that we are dealing with here, has but three listings under his name—and his most celebrated work. The Queen of Sheba, is represented only by excerpts on a relatively obscure label.

That as it may, Goldmark rose high in the music world of Vienna during the days of Brahms, Bruckner, Mahler, and Hugo Wolf, and although The Queen of Sheba was far and away his most celebrated and, probably, impressive work, the "Rustic Wedding" Symphony gives us a clear enough picture of the dismally corny, essentially second-rate composer that he was.

The symphony’s forms, though academically concentrated and clear enough, are flabby and seem to contain their material loosely, and while the melodic flow is ingenious and even rather touching—as if Goldmark were a sort of Hungarian Gottschalk—one cannot imagine this work’s revealing anything new about itself after two or three careful hearings.

As usual, the Utah Symphony Orchestra and Maurice Abravanel have done their job to a crisp finish. It is, as could be a matter of fact, particularly to tattered scores such as this that these musicians bring so extraordinary an illusion of freshness and beauty.

The recording, as well, is up to the Vanguard-Utah high standard.

® HANDEL: The Four Coronation Anthems. The king shall rejoice; Zadok the priest; Let thy hand be strengthened; My heart is inditing; Thurston Dart (harpsichord continuo); John Langdon (organ continuo); English Chamber Orchestra; Choir of King’s College, Cambridge. David Will- cocks cond. Argo ZRG 5369 $5.98, RG 369* $5.98.

® HANDEL: Three Coronation Anthems. The king shall rejoice; Zadok the priest; Let thy hand be strengthened. Ode for the Birthday of Queen Anne: Honor, Sheppard and Mary Thomas (sopranos): Alfred Deller and Mark Deller (counter- tenors); Maurice Bevan (baritone); Richard Rudolf (trumpet); Harold Leister (organ and harpsichord); Murray Ormiston. Concert Choir and Orchestra. Alfred Deller cond. Vanguard Bach Guild BGS 70661 $5.95, BG 661 $4.98.

Performance: Boisterously British Recording: Argo distorted, Vanguard fine

It would be difficult to find more rousing music than the four anthems composed by Handel for the coronation of King George II and Queen Caroline on October 11 of 1727. Yet, except for the familiar Zadok the priest, these large-scale choral works until now have been delightfully neglected by recording companies. This situation is most effectively remedied with the two present discs, one a complete recording of the four anthems and the second a coupling of three of the anthems with the equally unfamiliar Ode for the Birthday of Queen Anne.

The latter, written fifteen years earlier than the anthems, includes choruses, duets, and solo airs (performed here by members of the Deller Consort) in a manner rather reminiscent of Purcell or Blow, though Handel’s own spirit is always evident. It is a stimulating work, particularly for the colorful trumpet writing at the beginning and the bravura solo vocal lines. The interpretation, too, is first-rate here: Deller’s opening solo is quite masterful in both its technical adroitness and its rendition of high affect. The clearly heard voices (and voices they are) are delightfully imaginative, and the stylishness of the other performers adds substantially to the excellence of the whole. The performance is a valuable addition to the Handel discography and yet another example of Alfred Deller’s expressive skill as a conductor as well as a singer.

The three anthems on the second side of the Vanguard disc are extremely well done, though the acoustics are somewhat less grand...
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than those of the King’s College Chapel, where the Argo recording was made. The all-male choir of King’s College, too, is better suited to the music and more correctly composed than the mixed group on Vanguard, the boys’ voices on the former making an especially telling and brilliant effect. Willcocks leads his forces with spirit, but the splendid and stylish pomp that results must unfortunately be heard through an unbearably distorted stereo pressing, which even a steep top cut cannot repair. Those who do not insist on owning the complete anthems are consequently advised to acquire the Vanguard version, in which the reproduction is far kinder to the music. I. K.

RECORDING OF SPECIAL MERIT

HAYDN: Symphony No. 26, in D Minor (“Lamentatione”); Symphony No. 32, in C Major; Overture to La Spezia.

Friedrich Gabler and Hans Fischer (horns); Vienna State Opera Orchestra. Max Goberman cond., Library of Recorded Masterpieces HS 14 $8.50 subscription. $10 non-subscription stereo or mono. (Available from Library of Recorded Masterpieces, 150 West 82nd Street, New York, N. Y. 10024.)

Performance: Excellent

Recording: Excellent

Both the twenty-sixth symphony and the Overture to La Spezia—the comic opera The Apotheosis—date from 1768, but in mood they could not be more dissimilar. The overture to the opera, the first to be given at the newly constructed theater at Esterháza, is a bright, bubbly, three-piece movement, but the symphony is a Storm and Drang product. The latter’s subtitle refers to its program, which deals with the Passion; its first two movements use actual chant motifs. The first movement being a musical treatment of the Crucifixion and the second constructed along the lines of the Jeremiah Lamentations. The final minuet, a strange clogging for such a work, nevertheless maintains the spirit of the preceding movements. Musically, Haydn imbues the subject matter with galant overtones, but the feeling of unrest is present.

The Symphony No. 32, in spite of its chronological numbering, is an earlier work by far—from about 1760 or 1761. The tone as in the overture, is cheerful, and the scoring includes those spectacular, high trumpet and horn parts that are one of the specialties in several of the symphonies so far recorded in this excellent series. The fourteenth volume maintains the high standard of the previous discs: the conducting is admirable, the orchestral playing is splendid, and the recorded sound in both mono and stereo versions is first-rate. Scores and extensive notes, as is customary, are included, and this latest volume can be recommended as warmly as any of its predecessors. I. K.

HINDEMITH: Herodiade (see DEBUSSY)

KODALY: Variations on a Hungarian Folk Song, “The Peacock” (see BARTOK)


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HIFI/STEREO REVIEW
Any conductor who essays to make Liszt’s “three character pictures” an exciting experience for a twentieth-century audience has two strikes against him at the start. The late Sir Thomas Beecham pulled the trick off superbly in his now-deleted Capitol recording with as canny a proportioning of relationships in tempo, dynamics, and color as I have ever heard. Certainly a merely conscientious treatment of the music, as in the Ferencsik-Budapest recording for DGG, is a losing proposition.

As I hear it, Bernstein with the New York Philharmonic adopts something of a fervid Tchaikovskian approach to the lyrical aspects of the Faust Symphony, together with extreme contrasts of dynamics and a rather weighty tempo for the dramatic pages. But it all begins to pall after a while. It is just a bit too much to take. The secret of making the music palatable, as Beecham demonstrated, lies in a far more subtle gradation of crescendos and a more refined phrasing of lyrical episodes than is evident here.

The male choral work in the brief final apotheosis is good, and Charles Bressler’s light tenor is just right for the solo role. Good, broad sound throughout is provided by the Columbia engineering staff. The performance of Les Préludes is the same robust one that filled out the Andre Watts recording of the Liszt E-flat Piano Concerto.


Recording: Good

Unlike the dynamic D Min Morricone Concerto (RCA Victor LSC/LM 2655), for which Artur Rubinstein seems to have a temperamental affinity, this intimate work in G Major, composed by Mozart for a girl pupil, seems to find the Polish keyboard maestro somewhat out of his element. He takes a decidedly leisurely and broadly lyrical view of the first two movements, but in so doing he fails to sustain linear tension. I prefer a more taut and somewhat smaller-scale treatment of the first two movements. Guilda in stereo (Vanguard) and Serkin in mono (Columbia) are two alternatives in this style. In the witty finale, matters take a better turn, inasmuch as both the wit and the virtuoso in Rubinstein have opportunity for full play.

Rubinstein’s treatment of the Schubert impromptus is a gorgeous bit of Chopinizing. Everything is in exquisite taste, but is it Schubert?

MOZART: Symphony No. 41, in C Major (see BEETHOVEN)

MUFFAT: Armonico Tributo: Sonata No. 5 (see BIBER)

NICOLAI: The Merry Wives of Windsor (excerpts). Gottlob Frick (bass). Sir John Falstaff; Ruth-Margret Pütz (soprano), Mistress Ford; Gisela Litz (mezzo-soprano), Mistress Page; Edith Mathis

The new Koss professional headset is designed to meet rugged, sensitive listening requirements of the pros. Not everyone needs it, but you’ve never heard anything quite like it before. Ask for a demonstration.
As a young composer, Otto Nicolai (1810-1849), German-born and trained, was fortunate enough to be able to live for a while in Rome and to broaden his musical horizons there. After trying his hand at Italian opera without achieving anything of lasting significance, he returned to Vienna, assumed a leading role in that city's musical life, and wrote The Merry Wives of Windsor, an inspired and captivating blend of German Singspiel and Italian opera buffa. Unfortunately, Nicolai died shortly after his opera's premiere, his career truncated at its peak. The Merry Wives of Windsor, based on a Shakespearean adaptation not unlike Boito's later text for Verdi, has managed to hold its place rather firmly. A favorite in Germany, it was recorded in the early LP days (Urania 214) by an excellent Dresden cast. It is regrettable that Angel, having supplied the needed technical updating, could not have given us a recording of the complete opera.

But what we have, under the baton of the veteran Robert Heger, is a lively show indeed. In the delectable overture, Heger stresses clarity and precision without sacrificing the music's exhilarating spirit. The vocal excerpts are rendered with the same measure of controlled vivacity, and they form a sparkling sequence: Mistress Ford's "Nun eilt herbei," in which the hitherto unheralded Ruth-Margret Pütz recalls Lotte Lehmann, the buffo duet between Falstaff and Ford, and the rousing "Als Bibltein klingt" delivered with such Frick-like Bachian gusto and lusty virtuosity. In the music of Fenton—more important here than in Verdi's Falstaff—Fritz Wunderlich gives renewed evidence of his elegant style.

The defects in this thoroughly entertaining edition are mitigated by an unusual number of surface clicks on my review copy, and several glaring inaccuracies in the English translation of an otherwise handy libretto.

Robert Bernstein's Rossini lacks razor-sharp precision and classic linearity, but in compensation for this Bernstein brings to the music the wondrous theatrical effect—and he is aided in no small measure by Columbia's stereo sonics. The handling of the snare drums in the opening of La Gazza ladra sets the tone for the whole production, which is lavish in its exploitation of Rossini's coloristic effects, crescendi, and the like. The end result may not be refined, but it is fun, which is no more or less than Rossini intended a good part of the time.

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I agree with Irving Kolodin when he writes that he finds these works make rather a dim impression on first hearing—only to become unexpectedly more interesting with each re-hearing. I say "unexpectedly" because the works are clear and simple of idiom, perfectly tonal, and, in their ambiance, quite suggestive of the academies. Indeed, it could be the very mildness of idiom, combined with the academic evocation of the fugal form, that accounts for one's inclination to dismiss the music on a casual first encounter.

Yet there is clearly something more here—something serious, something deeply personal and, curiously enough, something terribly Russian. For a Rachmaninoff, one's smallest piano pieces—the Preludes and Etudes Tableaux—are immeasurably more original than their surface debts to Chopin and Schumann would suggest, these Preludes and Fugues are the remarkably personal statements of a remarkable Russian composer and, somehow, moving. Don't ask me to point it out in the score, this elusive transcendence of obviously eclectic forms and styles, but I feel it very strongly.

Certainly, some of the magic comes from the noble musicianship of the pianist, Swiatlo-

(Continued on page 74)
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slav Richter. One shudders to think of the carnage that might be made of this sort of music by the wrong pianist. But here and now, in Philips' well-recorded issue, Shostakovich emerges as a composer of unaccus-
tomed subtlety and grace.

W. F.

SCHUBERT: Impromptu, Op. 90; No. 3, in G Major; No. 4, in A-flat (see MOZART)


Performance: Mittel-Europäisch Recording: Full and clear

Regrettably, Karl Böhm adds nothing to this greatest Schubert symphony that we have not already heard in full measure, if with varied emphasis, from Josef Krips, George Szell, Bruno Walter, and Arturo Toscanini. Save for the finale, which he carries off at a respectable clip, Böhm tends toward the plodding Central European manner, espe-
cially in the first movement, in which he broadens out to an exaggerated degree the tutti summation of the opening horn chorale.

The recorded sound is fine and the or-
chestral playing first-rate, but I still prefer the disc readings of this music mentioned above.

D. H.

© SCHUMANN: Piano Concerto, in A Minor, Op. 54; Variations on a Theme of Clara Wieck, from Op. 14; Arabesque, Op. 18; Byron Janis (piano); Minneapolis Symphony Orchestra, Stanislaw Skrowa-
czewski cond. MERCURY SR 90383 $5.98, MG 50383* $4.98.

Performance: Splendid Recording: Lacks warmth

The Schumann piano concerto, which has for so many years wanted a truly well-styled recorded performance, seems to have come into its own at last, with this reading by Byron Janis and Stanislaw Skrowaczewski. Here is just the right combination of youth-
ful dash, romantic sentiment, and control needed to bring out all that is best in this most accomplished of the pre-Brahms Romantic piano concertos.

I am puzzled, however, by the recorded sound of my stereo review copy, which not only seems curiously lacking in depth illu-

sion, but is also rather overemphasized in mid-keyboard piano sonority and in violin fundamental tone. Above all, I miss a really rich and solid bass. Perhaps the mono press-

ing is better. In any event, I would gladly have done without the solo encores (well played and recorded though they are) in exchange for no side-end break between the slow movement and finale, and mainly for a richer, more spacious stereo sound. A re-

mastering seems called for.

D. H.

© STRAUSS: Also sprach Zarathustra—Symphonic Poem, Op. 30. Philadelphia Orchestra, Eugene Ormandy cond. COLUM-
BIA MS 6547 $5.98, ML 5947* $4.98.

Performance: Weighty Recording: Okay

For all the colossal tonal weight that Eugene Ormandy and the Philadelphia Orchestra bring here, they are still no match for either Reiner on RCA Victor or Maazel on Angel. This reading lacks the brilliance of the one and the volatility of the other. As in his reading of Don Quixote, Ormandy is just a shade heavy-handed—a fatal flaw in Zarathustra.

Richard Strauss
His Bourgeois Gentilhomme again available

with a great deal of spirit, and their en-
ssemble precision is amazing. Their execution of some of the ornamentation and ap-
pogiaturas is more correct than that on the Columbia disc, and the Vanguard acoustical setting is also slightly clearer. The recorded sound in both mono and stereo versions is bright, but the latter, with its sharp separa-
tion of the two instruments, is much more enjoyable.

1. K.

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tion of the two instruments, is much more enjoyable.

1. K.
Ormandy’s usual excellence in the Strauss repertoire extends mainly to the more densely textured symphonic poems, such as Death and Transfiguration and (most especially) Heldenleben, the recent Columbia recording of which remains an outstanding achievement on every level. D. H.


**Performance:** Intimate Recording; Very good

This, the first stereo version of Strauss’ incidental music for Molière’s comedy, is currently the only available version, and yet not so long ago we could choose among discs by Reiner, Beecham, Leitner, Markewitch, and the composer himself. This contrast may signify the dating of the work for contemporary tastes, which by now must be almost suffused with the genuine Baroque articles that Strauss’ music mimics. On the other hand, the poignantly elegiac Metamorphosen has in this disc its fourth current long-playing version and its second in stereo. Viewed in the critical terms of Charles Ives, one might say that this is a victory of substance over manner, for where the Molière music is a clever and entertaining Rococo pastiche, the Metamorphosen, with all its intellectual sophistication, is a message from the heart to the heart.

There is both elegance and vitality in Desarzens’ performance of the Bourgeois Gentilhomme score, and there is deep conviction in his reading of the Metamorphosen, if not the overwhelming impact of Kempfer’s version for Angel. D. H.

**STRAVINSKY: Cantata; Mass. Patricia Kern (mezzo-soprano), Alexander Young (tenor), Doreen Murray (soprano), Jean Allister (contralto), Edgar Fleet (tenor), Christopher Keyte (bass); St. Anthony Singers, English Chamber Orchestra, Colin Davis cond. L’OREAL-LYRE SOL 265 $5.98, OL 265 $4.98.

**Performance:** Good Recording; Clean

After a noble Oedipus Rex, extraordinarily lyrical readings of the Dumbarton Oaks Concerto, Danies Concertantes, and the Concerto in D, Colin Davis and his English musicians continue to give us readings of Stravinsky that are free of mannerism, utterly straightforward, and minimally eccentric in a manner quite the opposite of Stravinsky’s more recent recordings of his own music.

In this, his newest recording, Davis has turned the trick again—and, as before, he does it without evident violation of the printed score. The Cantata, it is true, will seem to many listeners to lack sufficient contrast between loud and soft, but Stravinsky clearly wishes it that way. There is an uncommon paucity of dynamic markings in the score—the ones that appear are just as often dynamic confirmations as they are alterations—and the conductor who wishes to sentimentalize this score will do so only at the cost of flagrantly violating it.

If of course needs no sentimentalizing. It dates from 1952, and is one of the last as well as one of the best of Stravinsky’s “white-note” neoclassical works. But where this composer is concerned, the music wears so well, ages so gracefully, that the “best” can so often seem to be the piece that one happens at the moment to be listening to. Concerning the Mass (of the same period as the Cantata), I recall hearing its first performance in New York and wondering how one could ever come to like its relentless austerity. Today, of course, it all but glows with a very special warmth of its own. Like the Cantata, it is scrupulously performed here, and yet its purely melodic flow is somehow kept in constant emphasis, its quirkishness and manneristic detail minimized. The recording is clean and spacious.

**W. F.**

**STRAVINSKY: Le Baiser de la fée.** Suisse Romande Orchestra, Ernest Ansermet cond. LONDON CS 6368 $5.98, CM 9368* $4.98.

**Performance:** Immortal and idiomatic Recording; Smooth and subtle

It was only a year or so ago that London released Ansermet’s recording of the Divertimento—Le Baiser de la fée as the second side of a stunningly entertaining record containing Stravinsky’s Quatre Études and Suites Nos. 1 and 2 for Small Orchestra. Now, with the same orchestra, we have Le Baiser de la fée in its entirety—the original score for the ballet which was first done in 1928.

The work, either in its shorter form or its complete one, is pure pleasure for the perfect Stravinskyite. It was, of course, composed as an homage to Tchaikovsky, and it contains melodic and harmonic allusions to a number of Tchaikovsky’s pieces—mostly obscure piano pieces and songs. (Stravinsky tells us in one of his recent books that he is now unable to recall all of the sources.) But the treatment is unmistakably Stravinskian (the borrowed themes are like elements in a musical collage to be arranged and viewed from new vantage points), although I once read a perfectly serious paper by a perfectly reputable snob who saw the work as Stravinsky’s attempt to prove his music superior to Tchaikovsky’s.

It would be difficult to imagine a more sensitive, idiomatic, and fanciful performance of this music than Ansermet’s. He has exactly the right light touch, and the music itself seems to spring like dancers in motion. As for the complete version against just the Divertimento, I should say that the decision rests with the listener’s fondness for the music. The full score is a unified, coherent work that stands beautifully by itself. W. F.

**WALTON: Music from Shakespearean Films.** Philharmonia Orchestra, Sir William Walton cond. ANGEL S 36198 $5.98, 36198 $4.98.

**Performance:** A mild sluggish Recording; Okay

Angel has seen fit to make Sir William Walton’s Shakespearean film music available in attractive excerpts, arranged and conducted by the composer himself. The resultant package couldn’t be more attractive to those who have admired the music in its original setting. If I make a point of the prospective buyer’s having seen and enjoyed the films, it is because one can’t enjoy music of this sort in quite the same way as one would enjoy a Beethoven symphony or a Bartók string quartet. Most good film music does not and—for that matter—should not necessarily stand by itself, as the critical cliché goes. One’s pleasure in hearing it alone is partly nostalgic—reviving in the mind’s ear a well-loved film—and partly the relaxation of enjoying a gracefully turned musical phrase or even a fully thought-out tune without making any commitment to attend its academic peregrinations.

Even so, Walton has shaped his scores into simple, entirely credible musical structures. The staunch grimness of the dirge from Hamlet is an effective piece in anybody’s book, but to the listener who associates it specifically with the last scenes of the movie, it evokes some of the most compelling moments in the annals of the cinema.

And so it goes with the remainder of Walton’s program. The performances are clean and expressive, although I sense something just a shade mechanical about the orchestral playing.

**W. F.**

**COLLECTIONS**

**MARIAN ANDERSON: Song Recital.** Haydn: My mother bids me bid thee hail; She never told her love. Schubert: Der Doppelgänger; Der Jüngling und der Tod. Schumann: Der Neubau; Stille Tränen. Straus: Morgen. Brahms: Dein blauer

**ANGLER RECORDS**

**WILLIAM WALTON**

Simple, credible musical structures

AUGUST 1964
Auge; Der Schmied; Immer leiser wird mein Schlummer; Gestille Sehnsucht; Geistliches Wiegenlied: Die Schaar, die Perl an Perle. Marian Anderson (contralto); Franz Rupp (piano); Philadelphia Orchestra. Eugene Ormandy cond. RCA Victor LM 2712 $4.98.

Performance: Variable
Recording: Fair

As always, the warmth, intelligence, and sensitivity of Marian Anderson's singing, not to mention the dark-hued majesty of the voice itself, command admiration. Nevertheless, this reissue of a group of recordings made between 1939 and 1947 is not fully satisfying. The results are best in the two songs of Brahms' Opus 91, Gestille Sehnsucht and Geistliches Wiegenlied, in which the opulent voice is supported by William Primrose's equally eloquent viola playing.

The Haydn-Schubert-Schumann sequence is affectingly sung, though not always with the requisite lightness of touch and clarity of enunciation. And it is proved once again that Der Doppelgänger cannot be done convincingly by a feminine interpreter, not even one of Marian Anderson's stature.

Recordings of this great contralto (a true contralto) are not easy to come by, however, and this fact significantly enhances the value of this somewhat inadequate release. G.J.


Performance: In the grand manner
Recording: Variable

During her long career (1924-1944 at the Metropolitan), Karin Branzell sang virtually all the important mezzo-soprano and contralto roles in the repertoire. By contrast, her recording activity was not prolific, and in fact came to an end, for all practical purposes, during the early Thirties. This collection of Branzell's early Brunswick, Polydor, and Parlophone recordings resurrects several highly praised interpretations, most notably that of Fidès in Meyerbeer's Le Prophète. Branzell was the last American interpreter of this imposing part, and her singing of "Ah! mon fils" (in German) and "Donnez, donnez" (by French) illustrates annotator Max de Schauensee's description of the artist as "perhaps the last exponent of a certain genre of grand manner which today does not exist in an era suspicious of majesty and desirous of the glamour-girl symbol."

If this majestic level is not always maintained throughout the fifteen excerpts of Rocco's generous program, Branzell's technique, control, taste, and her smooth flow of creamy contralto sound are always in evidence. The reproduction, except for occasional surface-noise intrusions, is quite acceptable. G.J.

RECORDING OF SPECIAL MERIT


RECORDING OF SPECIAL MERIT

BORIS CHRISTOFF: Highlights from Moussorgsky's Boris Godunov. With John Lanigan and Dimitr Ouzounov (tenors), Evelyn Lear (soprano), Ana

Boris Christoff Splendidly realized characterizations
Alexieva (mezzo-soprano); Chorus of the National Opera of Sofia and Paris Conservatory Orchestra, André Cluytens cond. ANGEL S 36169 $5.98, 36169P $4.98.

Performance: Commanding
Recording: Both excellent

In opera—if a wide generalization may be permitted—tenors are the lovers, baritones the villains, and basses the voices of authority—kings, princes, high priests, or Satan himself. Sometimes, basses are called upon to utter pronouncements replete with wisdom and nobility (King Marke, Sarastro) but short of emotion. These, however, are exceptions. More are permitted to escape emotional crises in opera—not even the gods are spared—and the problems visited upon the basses are, more often than not, king-size ones. Hence the title "Tsars and Kings"—a fitting showcase for the truly commanding vocal and dramatic personality of Boris Christoff. The characters portrayed here, with one exception, are majestic and fearsome monarchs of history, caught in moments of severe anguish: Agamenon, ordered by the gods to immolate his daughter; King Philip, tormented by a loveless marriage and faced with the terror of having to sacrifice a rebellious son; and Atilia, inebriated with lust

HIFI/Stereo REVIEW
for power, yet terrified by visions of divine punishment. Here, too, is the doomed, conscience-stricken Tsar Boris in his final moments of suffering grandeur, and—by way of contrast—the savage Khan Kontchak, apparently immune to pangs of conscience, supremely self-satisfied in his awareness of primitive, barbaric power.

For Boris Christoff there is no such thing as the conventional “aria recital.” He has portrayed all these personages on stage (even Attila and Agamemnon, in recent revivals), and his singing on this record is permeated with the power of extraordinary insight and communication. Attila’s savagery and terror are captured in vivid strokes, and the contrast between the ferocious and tender sides of Agamemnon’s personality is splendidly realized. Christoff never was a smooth vocalist in the mellifluous French-Italian tradition. Nevertheless, he displays an unexpected affinity for the Gluck idiom by adapting his highly individual voice production to the restraint and purity the music demands. His portrayals of the Russian rulers are close enough to perfection to require no further comment. In the Don Carlo aria, however, he fails to equal his own earlier account in the complete Deutsche Grammophon recording of this opera. Again, the over-all conception is masterly, but the voice has a tendency to spread, the top tones are strained, and his mezza voce sounds thin and falsetto-like. Semkow’s slowish pacing is also detrimental here, though the orchestral support in the remaining excerpts is very fine.

The Boris Christoff disc offers renewed opportunity to admire Christoff’s brilliant virtuoso feat of portraying—penetratingly and absorbingly—the opera’s three contrasting characters. Included, in sequence, are the Coronation Scene, Pimen’s first-act monolog; Varlam’s song, Boris’ monolog from Act Two, the Clock Scene, the love duet from the Polish episode, and the final scene, beginning with Pimen’s narrative up to the curtain.

G. F.

RECORDING OF SPECIAL MERIT


Performance: Outstanding Recording: Good

This is Flaviano Labò’s debut recital. It was initially released about five years ago to coincide with the tenor’s Metropolitan debut, and subsequently withdrawn. Now that Labò has again established himself—after several seasons’ absence—as a dependable mainstay in the Metropolitan’s Italian wing, one must applaud London’s reinstatement of this excellent disc.

A certain steeliness of tone and a lack of full emotional commitment sometimes detract from Labò’s performances. Here, however, there is warmth to go with the accustomed brilliance. The voice itself is in magnificent estate, freely produced, with a

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AUGUST 1964
Ljuba Welitsch

Sweeping boldness, imposing accuracy

spendid ring on top. Labò’s style is refreshingly free of mannerisms, and his treatment of the music is in the best Italian tradition. The orchestral support is excellent, the sound still very good. This is one of the best recitals of its kind in the catalog. G.J.

RECORDING OF SPECIAL MERIT


Performance: Virtuosic

Recordings: Rich and expansive

In terms of instrumental tone, sonority, and digital precision, this recital by the internationally celebrated team of duo-guitarists is a dazzer. Not every one of Lagoya’s arrangements—he has done all but the Presti—will satisfy all tastes, but they are skillfully worked out with the guitar’s demands in mind, and after all, the repertoire for duo-guitarists simply must come from arrangements. The Diabelli and Dowland settings are so idiomatic, in fact, that they sound as if they had been written for these instruments originally. This actually happens to be the case with Carulli’s Serenade, an engaging piece in the style of the early 1800’s. The Sarabande and the English Suite is not likely to please the Bach purist, but it is hard not to be dismayed by the astonishing dexterity and accuracy displayed by these artists in the Gigue. Presti’s La Hongoire, subtitled “Homage a Béla Barók,” is an effective showpiece for guitars, but displays no Hungarian traits, despite its title. The recording mirrors the instrumental tone sumptuously, but a slight background tape hiss is occasionally audible. G.J.


Performance: Topnotch

Recordings: Sharp and clear

Here is renewed evidence that Henryk Szeryng stands among the top-ranking violinists of our day. He is not only a superbly equipped virtuoso but also a consummate musician and an exciting performer. In this program, the sustained beauty and purity of his tone (in the Gluck and Debussy pieces) commands attention as firmly as do the unerring dexterity displayed in the fire-works of Novacek, Rimsky-Korsakov, and Locatelli.

Vitali’s Chaconne and Leclair’s D Major Sonatas are masterly examples of Baroque violin writing. Both are played with vitality and imagination, and with a nice blend of classical restraint and romantic color. Mercury’s sound is fine, and the liner notes give us some interesting background on the artist but nothing whatever about the ten composers or their music.

RECORDING OF SPECIAL MERIT

© LJUBA WELITSCH: Recital. Tschaikovsky: The Queen of Spades: Ich muss am Fenster lehnen; Et gebe auf; Mitternacht. Verdi: Un ballo in maschera; Ma dall’ airo stelo disvulsa; Morro, ma prima in grazia. Lehár: Zigeunerliebe; Lied und Gättid; The Merry Widow: Viljaed; Der Zarewitsch; Einem wird kommen. Millöcker-Mackeben: The Dazzling and the Handsome Herz. Ljuba Welitsch (soprano); Vienna State Opera Orchestra, Rudolf Moralt cond. LONDON 5836 $4.98.

Performance: Exciting and individual

Recordings: Still acceptable

Ljuba Welitsch swept through opera’s post-World War II “reconstruction” years like a meteor. Her career was brief, but her appearances made an unforgettable impression. It is good to have this disc, once available as London 69, back as a tangible reminder of her exciting and individual artistry.

The Welitsch voice was not an instrument of conventional beauty. But it was powerful, with a metallic sheen that cut through thick walls of orchestration with a stunning effect. There was a keen intelligence at work behind her singing, and a subdued intensity enriched her interpretations. Her quaint enunciation—her Italian and German were both Slavic-inflected—no doubt contributed to her strikingly individual sound, but uniqueness of timbre and emotional quality had more to do with it. In any case, the sound of Welitsch, like that of Muzio or Callas, cannot be mistaken for any other.

Since Welitsch was probably the only celebrated Salome who also made a specialty of singing Musetta, her recital program can be considered perfectly in character. I find her singing in the operatic excerpts totally absorbing in spite of the German text in the Tschaikovsky arias and the unexciting orchestral support in the Verdi scenes. The latter offer a striking example of the sweeping boldness of her delivery, and the imposing accuracy of her intonation above the staff.

In the opera selections, Welitsch and the orchestra are both superb. It is the lack of such interpreters as Ljuba Welitsch that keeps the delightful score of Zigeunerliebe in undeserved neglect. Her temperament is genuine, her understanding of the gypsy rubato is complete—what a pity that she did not record more operettas!

This disc is, in fact, the only currently available souvenir of this fascinating artist (except for a fleeting “guest appearance” in the London Die Fledermaus set, and her small contribution as Sophie’s duenna in the Angel Rosenkavalier). Don’t miss it. G.J.
HIFI/STEREO REVIEW'S CHOICE OF THE LATEST RECORDINGS

 Reviewed by JOE GOLDBERG • NAT HENTOFF


Performance: Skilled. Recording: Poor

Roy Ayers, a twenty-four-year-old vibist, has worked with a variety of combos on the West Coast. Judging by his first album as a leader, Ayers is an easily swinging, melodically tasteful improviser, but he does not yet merit the fervent adjectives in the liner notes. He is indeed fluent, but there is not enough originality in his work here to make this a remarkable debut set. His associates are highly competent and each of the two different rhythm sections generates a crisp, lively beat. The brittle, pinched recorded sound is well below current standards. N. H.

• • BAROQUE JAZZ ENSEMBLE: Jazz for Bach Buffs. Dave Carey (vibraphone), Lew Gluckin (trumpet), John Murtaugh (tenor saxophone), Barry Galbraith (guitar), John Beal (bass), Maurice Mark (drums). Fugue No. 5 from The Well-tempered Clavier, Book One: Prelude No. 11 from The Well-tempered Clavier, Book Two: Chorale Prelude ("Sleepers Wake"); and five others. Realms 92245* $5.89, 9224 $4.89.

Performance: Pleasant and skillful. Recording: Good

Vibraphonist-arranger Dave Carey, who admits he was inspired by the success of the Swingle Sisters' "Bach's Greatest Hits" (Philips PHS 600097, PHM 200097), has come out with an album of Bach's works scored, with sections for improvisation, for a jazz sextet called the Baroque Jazz Ensemble. Bach was reputedly a great improvisor, and it is not strange that a player of jazz, which is essentially theme and variations, should be drawn to his work. But when Carey asks, in the liner note, "Could this be what Bach had in mind all the time?," the answer obviously is no.

Carey has a mild, quite pleasant approach to music, very similar to the early Paul Smith and Dave Pell groups. The Bach fits quite well into the stylistic format, with only minor rhythmic alterations in the direction of syncopation, and the chord sequences lie well for improvisation. What comes out is West Coastish mood music, which does not stand on its own merits nearly as well as the Swingles' efforts. The outstanding soloists are guitarist Barry Galbraith and a tenor saxophonist, John Murtaugh, whose work on Prelude No. 20 from The Well-tempered Clavier, Book One, is splendid. J. G.


Performance: Disappointing. Recording: Good

Duke Ellington has taken advantage both of his position as his own artist-and-repertoire man at Reprise and of a recent European tour to record works he had written for his orchestra plus a symphonic group. Accompanying the Ellingtonians are what the liner notes designate as "musicians of the Symphony and Opera Orchestras of Paris, Hamburg, Stockholm, and La Scala, Milan."

The result is an album of ambitious failure. One of Ellington's supreme talents is his ability to get superb voicings with two or three instruments, but here he is reduced to the hybrid level of Gunther Schuller, failing because the symphonic strings do not phrase jazz lines properly. I speak particularly of the blues unfortunately titled Non-Violent Integration, which sounds much like what Schuller and Hodeir have written for the Modern Jazz Quartet and symphony orchestra.

The miscalculation is evident in Harlem, which takes up most of one side. It is the old Tone Parallel to Harlem, and a comparison with the original recording makes an eloquent case for dispensing with the strings. The magnificent "church" section, however, would probably survive almost any treatment.

Night Creature, from 1953, is one of those series of short pieces that Ellington sometimes slaps together into "suites." If my memory serves, the only new work is a blues called La Scala, She Too Pretty to Be Blue (sometimes Ellington, he too cute to be believed). It is a gorgeous melody, of the kind that only he can write. On this and the other pieces, some of the musicians who contribute to the distinctive Ellington sound —Johnny Hodges, Ray Nance, Lawrence Brown, Jimmy Hamilton—make brief and telling appearances, but it is not quite enough. The Third Stream returns to muddy the waters. J. G.

RECORDING OF SPECIAL MERIT


Performance: Intense and unified. Recording: Fine

Booker Ervin, who has been attracting attention in recent years as a sideman with Charles Mingus and Randy Weston, has also made several albums under his own name. But not until this new Prestige set has a recording caught the full impact of an in-person Ervin performance. Although Ervin is harmonically sophisticated in the post-Charlie Parker vein, his particular strengths are melodic and rhythmic. Few modern jazzmen equal the whirlpool-like force of Ervin's beat. His work is also characterized by its enormous concentration of emotion, so that everything he plays, from ballads to furious up-tempo numbers, is projected with extraordinary intensity. Even at his most controlled—Ervin is capable of great subtlety—there is an impression of huge reserves of shouting strength. (Continued overleaf)

Explanation of symbols:
• stereophonic recording
* monophonic recording
not received for review

AUGUST 1964

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BOOKER EVIN
Reserves of shouting strength
Paul Motian (bass). I Should Care: Walking Up; 34 Skidoo; Summertime; and four others. RIVERSIDE RS 9473* $5.98, RM 473 $4.98.
Performance: Quietly fascinating
Recording: Excellent
This, the latest release by pianist Bill Evans, was made in May of 1962 and represents, with a companion album called "Moonbeams" (Riverside 9428, 428), the first recording Evans did with Chuck Israels, the bassist who replaced the late Scott LaFaro. Israels, unlike the often astounding LaFaro, has an unobtrusively correct style, and has been recorded at a low volume, perhaps deliberately. He is most noticeable on Summertime, where his function is roughly that of a Coltrane pianist, and his work on Show-Time Tune indicates that, as a group player, he may be more helpful than LaFaro. At any rate, shortly after Israels joined the group, Evans' work began to regain the tension and muscularity that many had found lacking in it during LaFaro's tenure — there are even a few touches here that sound like Cecil Taylor. It is almost as though Evans, who tends toward closeted ruminations, felt that he had to assume forceful leadership of his own group in the absence of the virtuoso bassist. Still, there are times in the course of this disc when the emotional content is so muted that one's attention wanders.

The title track is by Earl Zindars. This and Elsa, an earlier piece of his that Evans has recorded, make me anxious to hear more of his work. It is curious to note that the beginnings of all Evans' originals sound as if the players had begun to play the piece somewhere in the middle.

J. G.

RECORDING OF SPECIAL MERIT
○ ANDREW HILL: Black Fire. Andrew Hill (piano), Joe Henderson (tenor saxophone), Richard Davis (bass), Roy Haynes (drums). Subterrane: Contans: McNeil Island; Land of Nod; and four others. BLUE NOTE 4151 $4.98.

○ BILL EVANS: How My Heart Sings. Bill Evans (piano), Chuck Israels (bass),...
Although he has been recorded a few times as a sideman, this is Andrew Hill's first album as a leader. After an apprenticeship in Chicago, Hill, now twenty-eight, went on to work with Dinah Washington, the Johnny Griffin-Eddie Davis team, Clifford Jordan, and Roland Kirk, among others. Clearly, however, his own musical position is with the jazz avant-garde. Though his playing has been strongly influenced by Art Tatum, Bud Powell, and Thelonious Monk, Hill is deeply involved in the harmonic and rhythmic explorations of the younger contemporary jazz experimentalists.

Hill's harmonic sense is unusually well developed. His harmonic structures have a density that, although not as turbulent and explosive as Cecil Taylor's, reflects a similar commitment to extending and deepening the harmonic possibilities of jazz. Rhythmically, too, Hill avoids conventional usages. He is resourceful in devising ways of implying rather than stating the beat, but there is no question about the accuracy and strength of his swing. Hill is also an intriguing melodist, although the core of the development of his pieces is harmonic.

Joe Henderson, whose own Blue Note albums have been competent but unremarkable, indicates here—as he is forced by Hill to face challenges—that he does have the capacity to become a strikingly individual tenor saxophonist. His solos are unpredictable but unified, and his textural range is both more considerable and more artful than his previous recordings have demonstrated it to be.

Richard Davis is a brilliant bassist, and the alert, imaginative drumming of Roy Haynes can stand up to the most demanding situations uncovered by some of today's younger explorers.

N. H.


Performance: Exciting funk
Recording: Good

There have been a good many jazz waltzes, albums, of course, but none has taken quite the tack of this one. Les McCann is one of the better-known funk merchants, and enjoys both a wide popular following and critical dismissal. The quintet called the Jazz Crusaders plays in a style aptly characterized by annotator Joel Dorn as "Texas preaching." The material encompasses Fats Waller's charming jitterbug Waltz, Bobby Timmons' ubiquitous This Here, and many lesser known examples of the genre.

Best of the new tunes is a very exciting piece called Spanish Castles, whose composer, George Gruntz, is unknown to me. Perhaps the most successful track is Miles Davis' All Blues; here given a treatment that manages to suggest Davis without imitating him. McCann does what he always does, but the most interesting Crusader is tenor saxophonist Wilton Felder, who shows, on Damascus, that he may yet make (Continued on page 83)
HiFi/Stereo Review

Next month's HIFI/STEREO REVIEW will feature

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AN AMERICAN ORIGINAL"

by David Hall

An entire section of the September HiFi/Stereo Review will be devoted to an examination, in unparalleled detail, of the life and music of America's most fascinating and enigmatic major composer. The issue, which includes a portfolio of rare Ives photographs and a thorough discussion of the complete Ives recorded repertoire, will be a collector's item—something you will refer to time and again.

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MORE JAZZ REVIEWS

IN BRIEF

DATA


** RONNIE BROWN: The Ronnie Brown Trio at P.J.'s. Ronnie Brown (piano and vibraphone), Bob Ciccarelli (bass), Nick Adams (drums). Granada; Thistle Down; Star Eyes; Angel Eyes; Gone with the Wind; and four others. PHILIPS PHS 600130 $4.98, PHM 200130* $3.98.

** QUINCY JONES: Explores the Music of Henry Mancini. Orchestra, Quincy Jones cond. Baby Elephant Walk; Days of Wine and Roses; The Pink Panther; Peter Gunn; and eight others. MERCURY SR 60865 $4.98, MG 20865* $3.98.

** WES MONTGOMERY: Fusion! Wes Montgomery (guitar), Hank Jones or Dick Hyman (piano, celeste). Kenny Burrell (guitar), Milt Hinton (bass), Otis Johnson (drums); strings: Jimmy Jones cond. All the Way: Prelude to a Kiss; Tune-Up; Somewhere; and six others. RIVERSIDE 9472* $5.98, 472 $4.98.

** MUSIC FROM THE OZARKS. Various nonprofessional musicians. Aunt Katy: In the Pines; Lonestar Rag; Casey Jones; and thirty-nine others. FOLKWAYS FS 3812 $5.98.

** CLARK TERRY: What Makes Sammy Swing? Clark Terry (trumpet), Phil Woods (alto saxophone, clarinet, flute), Urbie Green (trombone), others. A Room Without Windows; Humble; Something to Live For; Bachelor Gal; and six others. TWENTIETH CENTURY FOX S3157* $4.98, 3157 $3.98.

COMMENTARY

Duke Ellington heard Dollar Brand's trio in Switzerland and recorded it in his function as roving artist-and-repertoire man for Reprise. Brand, who shows the marked influence of Thelonious Monk, plays with intermittent melodic and harmonic imagiveness, but rhythmically he tends to be stiff. Brand still has a great deal to learn about swinging and about the expressive values of economy. N.H.

The latest pianist to record in performance at P.J.'s, the Hollywood night club, is Ronnie Brown, who, for the most part, exhibits the same Jamal-Garland style as countless others. He is a fine technician, but all that technique seems to have nothing to say. Brown's drummer, Nick Adams, is tasteful. J.G.

Quincy Jones has once again largely wasted his considerable resources as an arranger, along with the potential creativity of a band of capable jazzmen. By choosing the television and film compositions of Henry Mancini, Jones limited himself to unchallenging material. While the album may have some interest for pop-music listeners, there is little jazz substance. N.H.

The intent of this album is to bring to attention the lyrical qualities of Wes Montgomery, a guitarist already renowned for his compelling beat and brilliant technique in up-tempos. Unfortunately, however, the string background is out of the jazz context. Jimmy Jones' arrangements are too often sentimental. N.H.

This is a field recording, made in Delaney, Arkansas, by David Mangurian and Donald Hill. The players are local nonprofessionals, and the instruments are guitars, mandolins, and fiddles. My main objection is that the songs are so brief. There are forty-three bands on this record; the musicians either play a tune once through quickly or else simply stop in the middle. J.G.

This jazz version of What Makes Sammy Run? is burdened by the mediocre quality of the show's basic material. And Pat Williams' arrangements are thoroughly predictable and bland. Yet, despite these obstacles, the jazzmen involved make this a buoyant jazz-goes-to-Broadway excursion. N.H.

82
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AUGUST 1964

CIRCLE NO. 50 ON READER SERVICE CARD
Not so long ago, the Swingle Singers, an eight-voice vocal group from France under the direction of Ward Swingle, an American, delighted almost everyone capable of delight with an album called "Bach's Great Hits," vocalized transcriptions of the Master with jazz bass and drums added. As the title of this new release indicates, the Swingles have broadened their horizons, and the repertoire now includes Handel, Vivaldi, and two other Bachs.

The group displays the same paradoxical combination of freedom and precision as before. Only one piece, the Largo from the J. S. Bach Harpsichord Concerto in F Minor, sung in Annie Ross ballad style by Christiane Legrand, is on the whole unsuccessful. On the other hand, K. P. E. Bach's Solfegetto is a nearly incredible feat of singing, and should be heard at least once by everyone. My only reservation is that the album's device is basically a gimmick. No matter how many "crossover votes" the set may receive from those who formerly liked only jazz or only Baroque, I think its virtues may begin to pall after a few hearings. J. G.

DRY GROUND

Strains of classical technique

where near the level of such younger bassists as Gary Peacock, Steve Swallow, and Charlie Haden in solo inventiveness and rhythmic ingenuity. His compositions, moreover, are generally programmatic and impressionistic — more in the vein of scoring for films and television than of really exploratory jazz pieces.

THE SWINGLE SINGERS: Going Baroque. Ward Swingle, Jeannette Barcoumont, Christiane Legrand, Anne Germain, Claudine Meunier, Claude Germain, Jean-Claude Briodin, Jean Cussac (vocals); Gus Pedersen (bass), Gus Wallez (drums). Badinerie; Air; Gigue; Prélude No. 19; Prélude; and seven others. PHILIPS PHS 600126 $4.98, PHIM 200126* $3.98.

Performance: Amazing musicianship

Recording: Very good

Denny Zeitlin

CATHEXIS

CATHEXIS

not and probably Bill Evans is the one who started turning it. At any rate, the young pianists coming up no longer rely on Monk, Powell, and Silver for their inspiration, and no longer feel obliged to eliminate strands of classical technique from their work. The immediate inspiration is often Evans, but the Old Master of choice now seems to be the perennially neglected Lennie Tristano. Paul Bley and Don Friedman have shown this influence, and now Denny Zeitlin does too.

Zeitlin, who is studying to become a psychiatrist, is also a pianist of great technical accomplishment. His work comes equipped with programmatic references to Martin Buber and Freud, but is understandable enough when viewed simply in the light of Tristano and Evans. Unfortunately, most of Tristano's disciples, Evans included, tend toward an almost complete lack of interest in varying the dynamics of the music, which makes otherwise exciting improvisations sound like monochromatic exercises. Zeitlin also displays this fault. His work is fascinating and complex once one manages to focus attention on it, but the sameness of volume can lead to boredom. The one exception to this is Nino's Tempo, which contains some truly amazing technical feats about a third of the way through.

Incidentally, the fifteen-minute piece called Blue Phoenix discussed on the jacket seems to have been replaced, on the review copy, by two other numbers. J. G.

COLLECTIONS

© ORIGINAL DIXIELAND JAZZ BAND/LOUIS ARMS"T "K/" OTHERS: Jazz Odyssey Volume 1: The Sound of New Orleans (1917-1944). Louis Armstrong (trumpet); Jelly Roll Morton (piano); Sidney Bechet (soprano saxophone); Leon Rappolo (clarinet); others. West Indies Blues; Royal Garden Blues; New Orleans Shag; Waffle Man's Call; Original Tuxedo Rag; Over in the Gloryland; and forty-two others. COLUMBIA C3L 30 three 12-inch discs $11.98.

Performance: Uneven

Recording: Fair to good

The intent of this three-record reissue set is to survey "the varied activities of jazzmen from New Orleans as they took place in three different cities." The first disc is devoted to "The Sound of New Orleans in New York (1917-1947)." The first side of the second record concentrates on "The Sound of New Orleans in Chicago (1923-1933)." and the rest of the set consists of "The Sound of New Orleans in New Orleans (1924-1944)." Historically the package is of considerable interest, especially since it includes, in the final section, many rare recordings, some of which were never distributed nationally. Musically, however, the collection deteriorates markedly halfway through.

The first group begins with a 1917 recording by the Original Dixieland Jazz Band. Among the high points of the first two sides is the surging soprano saxophone of Sidney Bechet with Clarence Williams' Blue Five and with Noble Sissle. (The latter collaboration is on Dear Old Southland, a previously unreleased recording.) Also outstanding are the heated trumpet solos by Johnny Dunn (not a New Orleans musician, incidentally), Red Allen, and Wingy Manone. But towering over everyone in this section is Louis Armstrong, whose playing had so revolutionary an impact on jazz soloists in the 1920s.

The first half of the second disc—New Orleans musicians in Chicago—is consistently enlivening. Among those represented are Jelly Roll Morton, King Oliver with Louis Armstrong, Armstrong's own combo, Freddie Keppard, "Chippie" Hill, and clarinetists Albert Nicholas and Jimmie Noone. But when this jazz "odyssey" volume is not an odyssey at all—when it sticks to its home base, New Orleans—the value of its music declines. There were excellent New Orleans jazzmen who stayed home, but too few of them are heard on these twenty-four tracks made in New Orleans from 1924 to 1944. There are vital moments—the remarkably fluid clarinet solo by Leon Rappolo, and the collective interplay of the New Orleans Rhythm Kings, the group to which Rappolo belonged. But the music of the groups led by Johnny DeDroit, Johnny Bayendorffer, Russ Papalia, "Papa" Celestin, Johnny Miller, and Sam Morgan is generally mediocre, both in section work and in the originality of the improvisers. (Eight tracks are given to Morgan's band alone.) Even the one 1945 performance by Bunk Johnson's unit, with George Lewis, is well below the achievement of that group on other recordings. "The Sound of New Orleans" would have benefited greatly if the compilers had been more discriminating when they selected the recordings made in that city. The accompanying booklet contains a useful monograph on the history of New Orleans jazz by Frederic Ramsey Jr., complete discographical information, and a fine photographic essay on New Orleans musicians—mostly those who stayed—by Lee Friedlander.

N. H.
TONY BENNETT: When Lights Are Low. Tony Bennett (vocals); Ralph Sharon (piano); Hal Gaylor (bass); Billy Exner (drums). When Lights Are Low; Judy; Oh You Crazy Moon; and eight others. COLUMBIA CS 8975 $4.98, CL 2175* $3.98.

Performance: Relaxed
Recording: Partly excellent

Tony Bennett once remarked to me, "You know, I really don't have much of a voice." Quite right. He doesn't. But what he does have is taste and sensitivity in the use of the voice he has. This album is as honest and unpretentious as Tony's remark. It has faults: there's some bad intonation, even some sloppiness at times, but its total atmosphere is extremely pleasant, Bennett uses only a trio as accompaniment. It is the trio he takes on the road with him, and it has by now grown into a first-class unit. Bassist Hal Gaylor is unfortunately underrecorded, and you have to strain your ears to catch the pretty lines he plays under the vocals.

Another virtue of this disc is that it is made up entirely of familiar but not too-familiar tunes—excellent songs you remember but seldom hear, such as Oh You Crazy Moon and Judy. Even Green Dolphin Street is included. This one is rarely recorded as a vocal for a very good reason: it has a dim-witted lyric. Sample: "When I recall the love I found on, I could kiss the ground on Green Dolphin Street."

Except for the underrecording of bassist Gaylor, the sound is very good. For once they haven't loaded Tony with excessive echo—he is recorded intimately and well. The sound is so good (it was taped in Las Vegas) that the disc sounds as if it were made during a relaxed afternoon in Bennett's living room. Lovely, just lovely. G. L.

ROSEMARY CLOONEY: Thanks for Nothing. Rosemary Clooney (vocals), orchestra, Bob Thompson cond. Hello Faithless: The Rules of the Road; Miss Oisie Regrets; and nine others. REPRISE RS 6108* $4.98, R 6108 $3.98.

Performance: Slightly strained
Recording: Very good

Some of the tunes in this set betray a slight quality of strain. Miss Clooney's vibrato becomes a shade too broad (it has always had this tendency), and in The Man That Got Away she seems to be placing each note carefully, as if afraid of making a slip. Some of the other songs come through more naturally, however, and Miss Clooney does have a quality of unpretentious warmth that makes her better performances quite pleasant. Bob Thompson has provided her with sensitive and tasteful arrangements. His chart for Black Coffee, built on a figure for bass clarinet, is about the best setting of the song I have ever heard. G. L.

JACQUELINE DANNO

A new Piaf?

RECORDING OF SPECIAL MERIT

JACQUELINE DANNO: Sings Favorite French Songs. Jacqueline Danno (vocals); orchestra, Leo Chauliac cond. Et maintenant; L'amour; Nord Express; and eight others. CAPITOL ST 10321 $4.98, T 10321 $3.98.

Performance: Dramatic
Recording: Good

A few months ago, I wrote an article on the late Edith Piaf for this magazine. I have just heard the first disc of a young French singer named Jacqueline Danno. She is being called another Piaf, and in a sense she is. Stylistically, Piaf and Miss Danno are utterly dissimilar. Miss Danno's talent is fragile where Piaf's was tough. Piaf was a belter; Miss Danno works at an extremely low dynamic level. Like Mel Tormé or João Gilberto, But like Piaf, she works at an extremely high dramatic level. Miss Danno's primary stylistic debt seems to be to Gilbert Bécaud, two of whose tunes she does here. I'm not sure that you'll get the full punch of this album if you do not speak French. Like Piaf, Miss Danno is most interested in the narrative content of a song. An actress of growing reputation, she acts songs, as Piaf did. Her dramatic vocal control, her skill at inflection are the core of her talent.

But where Piaf had roots in the 1930's and the life of the streets, Miss Danno is a product of De Gaulle's France and our own times. The songs are modern and so are Leo Chauliac's excellent and apt orchestral arrangements. The most stunning track of the disc is Bécaud's magnificent song Et maintenant, a pop-music masterpiece on its own, but even more masterful in Miss Danno's reading. Miss Danno is still quite young. What lies ahead for her? What a talent!

There was a time when French pop music was better than ours in lyrics but not in music. There is a good deal of evidence on this disc that, while American pop music still struggles with honky-tonkism and the rock-and-roll syndrome, some French pop music is now pulling ahead of ours musically. G. L.

VIVIENNE DELLA CHIESA: Come Rain, Come Shine. Vivienne Della Chiesa (vocals); orchestra, One for My Baby; Come Rain or Come Shine; Solitude; and twelve others. TWENTIETH CENTURY FOX TFS 4140 $4.98, TF 4140 $3.98.

Performance: Competent
Recording: Good

Whenever some opera prima donna starts singing pops, Ed Sullivan has her do it on his show, and audiences titter and say what a good sport she is. Cynics, of course, claim the singer is doing it just for the money, but I am convinced that opera singers find a genuine challenge in American popular music. The proof is that the challenge always defeats them. Helen Traubel was positively embarrassing in pop music. I've heard Dorothy Kirsten sing pops passably, and the same goes for Eileen Farrell. And for Vivienne Della Chiesa. But the best you can say is that their pops performances do not make you squirm—not too much, anyway.

The fact is that quality American popular music requires its own special technique. If you compare Miss Della Chiesa's Baby, Won't You Please Come Home? in this album with Teri Thornton's on a recent Columbia disc, you realize that not only is Miss Thornton much more at ease in the material, but she is the better singer—incredibly, she is technically superior to Miss Della Chiesa. Miss Thornton's voice is bigger, stronger, more powerful, and she knows what Miss Della Chiesa, like others from her world, does not: when not to use the
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Voice, Opera singers sing pops with a misconceived sense of dynamics: every thing is straight out, one volume, one level of intensity. It is a little like, let us say, putting Sir John Gielgud into On the Waterfront. There is a reason why Marlon Brando mumbles and throws lines away—and a reason why pop singers let their voices drop off at times. The reason is not lack of diaphragm support—except in the case of poorer pop singers, of course.

I think Miss Della Chiesa sings pops perhaps a shade better than any of her legit colleagues. But give me Peggy Lee any time. G. L.

@ ARETHA FRANKLIN: A Tribute to Dinah Washington, Aretha Franklin (vocals); orchestra, Robert Mersey cond. Unforgettable: Cold, Cold Heart; Soulsville; and seven others. Columbia CS 8963 $4.98, CL 2165 $3.98.

Performance: Overwrought
Recording: Good

The gospel style is becoming increasingly tedious. It bored me when done by Dinah Washington, and it bores me even more as done by Aretha Franklin, since she does not have Miss Washington’s saving virtue of wit. I once heard Miss Franklin butcher Over the Rainbow in a night club. Whatever made her think this delicate bit of fantasy, with its references to bluebirds and lemon drops, should be filled with gospel writhings, angry shouts, and screaming, was more than I could fathom. Here, she destroys Unforgettable and If I Should Lose You in the same way.

It isn’t only the distortion of material that bothers me. It is the incredible triteness of the approach. I wish I had the patience to count how many times Miss Franklin throws the words “well” and “I say” into lyrics by way of “personalizing” and “interpreting” them. On blues material, such as Evil Gal Blues, Miss Franklin’s unvarying approach is more appropriate. The best thing she does here is This Bird Has Flown, in which she comes close to singing straight and utilizing the excellent voice that is her chief asset—a much better voice, incidentally, than Miss Washington had.

Having a personal style is one thing, and doing every piece of material in the same way is another. If Miss Franklin ever learns the difference, she might be a major talent.

G. L.

@ @ DICK HYMAN: Fabulous Dick Hyman at the Lowery Organ. Dick Hyman (organ); orchestra, Dick Hyman cond. Washington Square; So Easy; S’poin’; and nine others. Command RS 8625D* $5.98, RS 33862 $4.98.

Performance: Musically
Recording: Superb

There are those who find the electric organ distasteful. The argument usually used is that it is "artificial." But even acoustical amplification of a vibrating string, as it occurs in stringed instruments, is "artificial." Music itself is perhaps the most artificial—and the most elegant—esthetic achievement of man.

Dick Hyman commands enormous respect in New York music circles for his deep and thorough musicianship. The instrument he uses here is a Lowery organ, which has among other odd devices a ‘glide’ pedal, which permits something approaching true glissando, and an effective reverberation device. Hyman’s taste is such that he always uses these devices to good musical effect. This is not to say that this album is a study in musical purism. It isn’t. It’s a commercial pop music album, and its gimmicks are meant to sell it. But Enoch Light, who produced it, has a sometimes astonishing capacity for striking a nice balance between good business and good taste. So does Hyman. What results in this case (as in other Light records) is an album that not only has a fighting chance in the market place, but is still pleasant listening.

G. L.

@ @ TRINI LOPEZ: On the Move. Trini Lopez (vocals and guitar), rhythm section and chorus, Jailer, Bring Me Water, Bye Bye Love; This Little Girl of Mine; and nine others. Reprise RS 6112 $4.98, R 6112 $3.98.

Performance: Spirited
Recording: Good

Trini Lopez has perfected a curious amalgam of rock-and-roll, Latin American, and Caribbean musical styles. It grows more raucous with time. But the man has talent, and there is a certain infectious enthusiasm in all his work. Nobody expects that American light music, which took fifteen years to get down to the Fabian level, will recover overnight, but Lopez is a step back up the hill. G. L.

Theater—Films

@ ANYONE CAN WHISTLE (Stephen Sondheim). Broadway-cast recording. Lee Remick, Angela Lansbury, Harry Guar dino (vocals); chorus, orchestra, Herbert Green cond. Columbia KOS 2480 $6.98, KOL 6080 $5.98.

Performance: Well...
Recording: Good

Anyone Can Whistle is one of those musicals that came and folded before we really had a chance to become aware of it. Listening to the original-cast album, the reason for its demise is instantly apparent: it is much too busy and its point too abstruse.

It must be stated that this album shows what tried to say something. It concerns a bankrupt town, a trumped-up "miracle," and the inmates of the local nuthouse. It asks: how do you tell the screwballs from the sane people? And although this question is always worth asking, it is not a particularly fresh one. Nor does the show give it a particularly fresh answer. In getting to what ever answer there is, it meanders through some excessively complicated production numbers.

Stephen Sondheim, who wrote both music and lyrics for the show, is a very gifted man, but this score doesn’t show him to his best advantage. He gets a chance to be clever but not much more. Yet the title song, Anyone Can Whistle (whistling in the show is a symbol of the ability to love, or perhaps simply to make love) is a lovely bit of writing, and it is to be hoped that it will survive the fall of the show.

By the standards of Broadway singing, Lee Remick, Angela Lansbury, and Harry Guardino sing well enough, I suppose. Personally, I’m fed up with all the num bers—singing on Broadway. One would think that the ability to sing would be at least as important as the ability to act in
catch up on some rather important theatrical history.

The revival of *Cabin in the Sky* that opened in New York early this year is recorded here. It is, surprisingly, the first recording of the complete score ever made. Vernon Duke, who wrote its music (and the informative liner notes for the recording) has added two songs that were not in the 1940 production.

The new show is not a slavish re-creation of the original. Arranger Sy Oliver has reorchestrated it, for one thing. Since the art of orchestration of light music has advanced enormously since 1940, his reworking of the material much improves the show’s general setting.

The songs—they include *Taking a Chance on Love; Living It Up,* and of course the title song—are quite well sung. Both Rosetta Le Noire as Petunia (the role was originated by Ethel Waters), and Tony Middleton as Joe, are excellent. Unlike most singers in musicals, they have the feel of American music. The stiffness of phrasing one so often hears is refreshingly absent.

Capitol describes this as the “first complete recording of a score that is a milestone of the American musical theater.” That is a powerful recommendation, and for once a record company’s blurb is justified.

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HiFi/Stereo Review
A rather startling little défi buried deep in the notes moreover suggests that this music be considered out of bounds for critics because no one could be expected to judge competently the many rare musical traditions here involved. With reservations, true. Perfectly judgeable, however, are the tastelessness and the insensitivity that made this affront to the intelligence possible. The misrepresentation in the title is the least of the album’s offenses.

Impressively and expensively packaged in the format of Philips’ strangely catch-all Connoisseur Collection Series, the disc is not without some ethnic interest—if you can filter out the overdrawn nonsense of the commentator. Sound ranges from very bad to quite good, depending on the circumstances of the recording. The “stereo” version is one of those “electronic reprocessing” jobs, and although I didn’t hear the mono disc, I imagine it would sound better.

William Anderson

SPOKEN WORD

RECORDING OF SPECIAL MERIT

> ANTON CHEKHOV: Uncle Vanya.
Max Adrian, Lewis Casson, Fay Compton, Rosemary Harris, Robert Lang, Laurence Olivier, Joan Plowright, Michael Redgrave, Sybil Thorndike (players). Laurence Olivier, director. PHILIPS PHS 2701 two 12-inch discs $9.96. PHM 2701* $7.96.

Performance: Matchless  
Recording: Good

In writing Uncle Vanya, Chekhov took an early play, stripped it of conventional suspense and plot devices, and tried to make life happen on stage. He honed his style of theatrical realness until every speech and every silence contributed to the power of the spectacle—the fly-like characters trapped in the airless amber of their country house. Uncle Vanya, the professor whose estate Vanya runs, the bored wives, and the doctor they hope will rescue them from torpor sit together like mourners at the funeral of their own wasted lives, sounding the threnodies of their separate frustrations and disappointments. Then suddenly their seeming security drops away. The professor whose house shelters them prepares to leave, upsetting all their notions of status and dreams of improvement.

The acting and directing in this recorded performance are breathtaking—the best, in fact, that I have ever heard on a phonograph record. Michael Redgrave performs the title role with infinite subtlety, probing the lines for their pathos and their sad revelations of futility and vanity. Olivier sketches in the doctor’s dry, preoccupied manner through telling hints of tone and inflection. Joan Plowright as the professor’s daughter, Rosemary Harris as his second wife, Fay Compton as Vanya’s mother, and Sybil Thorndike as the nurse manipulate their voices like delicate instruments in a melancholy ensemble, and rise to the challenge of the play’s climax with all the virtuosity the scene demands. The use of music, of country sounds, of silences, draws the listener into the claustrophobic setting and holds him at attention, hypnotized until the pianissimo conclusion.

(Continued on page 91)

AUGUST 1964

There are those among us who think the Honeywell Pentax H3v is square. They’re right.

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THE NEWPORT FOLK FESTIVAL

The three-day 1963 Newport Folk Festival was not only the best attended in the Festival's history, but also resulted in music unprecedented consistency of quality. The Festival's aesthetic success was due to the fact that policy was set by a board of seven performer-directors: Theodore Bikel, Bill Clifton, Clarence Cooper, Erik Darling, Jean Ritchie, Pete Seeger, and Peter Yarrow. The performers, moreover, were turned over to the Newport Folk Foundation for study and research. "Broadside" (VSD 79144/VRS 9144), the first of Vanguard's six volumes documenting the 1963 Festival, traces the renaissance in the past few years of topical folk songs. Building on a musical tradition most virally sustained in this country by Woody Guthrie from 1938 to 1948, a new generation of social commentators has emerged. Unfortunately, Bob Dylan, the most creative of them, is represented here by only his less successful efforts, Ye Playboys and Playerlits. The majority of the performances, however, are enlivening, both in material and delivery. Particularly notable successes are scored by Tom Paxton in a disarmingly sardonic anti-war song, The Wiling Conscript; the Freedom Singers, four Negro civil-rights activists, in anthems of the movement; and Jim Garland, a grilled veteran of the Kentucky union wars, in two labor songs. The others are less distinctive. The final track, a "freedom song" duet between Bob Dylan and Joan Baez, should have been a climactic experience, but the performance is disappointing enough. "Blues at Newport" (VSD 79145/VRS 9145) brings into focus both the power and some of the problems of contemporary blues singing. After an efficient opening by the pungent Sonny Terry and a somewhat revitalized Brownie McGhee, a major "discovery" of the 1963 Newport Folk Festival—Mississippi John Hurt—comes on. Past seventy, Hurt was living in obscurity in Mississippi until a blues collector, remembering his old discs, brought him back to public notice. Unlike the customary raw, piercingly visceral Mississippi bluesmen, Hurt is a gentle, lyrical performer. Because of his subtlety, his singing and guitar playing are refreshing reminders of how many shades of feeling the blues can encompass. John Hammond, Jr., who follows, is a fervent white disciple of the Negro blues masters. He proves his sincerity, intensity, and ability to line the leanments of the traditional blues styles, but he is fundamentally unconvincing because he is singing of conditions and experiences that are alien to him. By contrast, the fire and urgency of the Reverend Gary Davis, a veteran street preacher, are fiercely compelling. Also eloquent are the ambiguous tales of John Lee Hooker. Artificiality returns, however, in the singing of Dave Van Ronk, another white performer who is well oriented but unpersuasive in the old ethnic style and its repertoire.

During the last five years, urban folk collectors and performers have been learning how richly diverse are the styles of Southern white folk performers in the country and Bluegrass line. A particularly well-chosen roster of singers and players animates the third volume, "Country Music and Bluegrass at Newport" (VSD 79146/VRS 9146). Jim and Jesse and the Virginia Boys are an unusually buoyant Bluegrass combo, and the Morris Brothers illustrate some of the basic elements in the Southeastern country music that preceded Bluegrass. Even further back in time stylistically are the performances of Tom Ashley, Doc Watson, Clint Howard, and Fred Price, who share four tracks. Outstanding among these latter collaborators is Doc Watson, whose singing style is tangy and fluent and whose guitar and banjo-picking are expert. Mac Wiseman is a polished but still vigorously idiomatic country singer whose commercial success has not cut him off from his roots. Doc Watson returns for two six-year-old retired coal miner and one of the most respected of the traditional performers, is heard in the memorable Oh, Death. In The Old Account Wat Settled Long Ago, one of two group gospel numbers that end the set, the singers create one of the most infectious examples on records of this style.

The last two volumes are heterogeneous compilations. "Evening Concerts at Newport, Volume One" (VSD 79148/VRS 9148) is most stimulating in the soft but strongly felt blues of Mississippi John Hurt, the engaging brashness of citybilly Jack Elliott, the spiraling determination of the Freedom Singers. Joan Baez's throbbing fervor in Oh, Freedom, and her enchanting interpretation of two Portuguese songs. This album includes the only jukebox track of the six volumes—Walk Right In, by the Rooftop Singers—but even this performance is an evocative work from Pete Seeger.

Of the series as a whole, I would recommend "Evening Concerts at Newport, Volume One" as most representative of the Festival. Of the more specialized sets, "Country Music and Bluegrass at Newport" is more accessible than "Old Time Music at Newport." "Blues at Newport" is well worth having for Mississippi John Hurt, the Reverend Gary Davis, and John Lee Hooker. And "Broadside" is a reasonably good introduction to the accelerating emphasis on topical songs.

These six volumes are a tribute to the acumen of the seven-man board of musicians who were in charge of the Newport Folk Festival in 1963 and who showed that a festival with integrity can also be a box-office success.
This production originated at the Chester Festival Theatre in England and was recorded on video tape to launch pay television in that country. The stereo version is described as "an electronic reprocessing to permit reproduction on stereo players of a performance originally recorded monaurally"—an odd statement, since stereo players will of course handle any mono record. The only thing added seems to be a reverberation that lends some sort of stage illusion, but also sounds a bit artificial. The mono version is more intimate and real.

P. K.

RECORDING OF SPECIAL MERIT

@ SIDNEY MICHAELS: Dylan. Alec Guinness, Kate Reid, James Ray, Barbara Berjer, Martin Garner, Jenny O'Hara, Gordon B. Clarke, Ernest Graves, Margaret Braidwood (players). Peter Glenville, director. COLUMBIA DOS 701 three 12-inch discs $17, DOL 301 $15.

Performance: Brilliant
Recording: Expert

This play by Sidney Michaels, based on John Malcolm Brinnin's Dylan Thomas in America and Caitlin Thomas' Leftover Life to Kill, traces the story of Thomas' travels in America in a series of highly charged, cinematic episodes. From a boat house on a Welsh beach we are swept through airports, hotel rooms, apartments, bars, burlesque houses, and ships' staterooms to the moment of doom—when Thomas arranges a lethal pyramid of twenty-one shot glasses full of whisky in a Greenwich Village tavern. It builds up to a stunningly effective piece of theater, witty, wild, and spectacular enough to have survived even the hazards of Broadway. It is all here—the scraps with Caitlin, the vulgarity, the soaring rhetoric, the squandering of health and money, the passes at schoolgirls, even the loneliness. And whatever is thin in this zig-zag line of events is concealed by the dazzling performance of Alec Guinness, who creates an original portrait rather than a mere imitation through mimicry. He is aided enormously by Kate Reid, who brings Caitlin alive—raucous, fuming, and contemptuous of the pleasant hypocrisies to which her husband is prey.

Yet, for all its frankness and the accuracy of its dialog, its modes and moods of hilarity and melancholy, Dylan is a thing of surfaces. Guinness recites one poem—In my craft or sullen art—in a manner that unnaturally evokes the style of the master, and, in a painfully unlike episode at the end, a ship's officer's dialogue with Do not go gentle into that good night. Outside of these, Thomas might as well have been a salesman or a senatorial candidate on campaign for all the insight Mr. Michaels brings to bear on the poet's work. During the absolutely true-to-life scene, for example, in which Thomas is shown backstage at the YMHA in New York scribbling the last passage of Under Milk Wood from notes on matchbook covers, there is a perfect build-up for Guinness to deliver the prologue from Under Milk Wood, but it never comes. Nor is there the slightest effort to explain the inner sources of the hero's need for adulteration, squalor, and alcohol. It is as though a nervous concern for the play's welfare at the box office made it necessary to present only the sensational aspects of the story and to avoid any

(Continued on page 92)
The Army-McCarthy hearings, held in the Senate caucus room for thirty-six astounding days in 1954, proved to be a Waterloo for the treason-hunting senator from Wisconsin, for there he met Nemesis in the form of Joseph L. Welch, the special counsel for the Army, who stood up to McCarthy's bluster and finally faced him down. For the everlasting and profitable instruction of posterity, these dramatic moments were recorded by both camera and tape recorder. The present disc is taken from the sound track of the documentary movie produced by Emile de Antonio, and it is a more fantastic courtroom drama than any ever penned by a fiction writer. The action is concerned with Senator McCarthy's attempts, on April 22, 1954, to defend G. David Schine from Army accusations that the latter, as a service private, sought favored treatment. All the elements of a melodrama emerge: doctored photographs, accusations and counteraccusations, the senator shouting "point of order" as he attempts to ride roughshod over law and order. Things reach a climax in McCarthy's spine-chilling attempt to smear Welch by accusing one of the lawyer's staff of Communist affiliations, culminating in Welch's famous declaration, "Until this moment I think I never really gauged your cruelty or your recklessness. . . . Have you no sense of decency, sir, at long last?"

Stars in the cast include, in addition to McCarthy and Welch, Secretary of the Army Robert T. Stevens. Senators Mundt, McClellan, Jackson, and Symington, and that master of the hangdog tone of simulated helplessness, Roy M. Cohn, who was McCarthy's chief counsel as well as, by the strangest coincidence, a friend of Schine.

In the "stereo" version, there has been an attempt to heighten the drama by switching voices from one speaker to another, but the device, though clever, is gratuitous—the original is hair-raising enough.

The brothers not only uphold their reputation, but add to it in this disc. Tom tries to explain away the Pilgrims in his slow-student delivery, destroys flamenco music forever in a goofed-up guitar solo, and mercilessly lampoons the pretentious gobbledygook that is the stock-in-trade of lecturers on jazz. Interfaith accord is carried to an ecumenical absurdity in a song about the co-operative bells of a cathedral, a Protestant church, and a synagogue. Johnny Applesed, Captain Marvel, and Dasy Crockett are Smothered with the usual wide-eyed innocence, and even when the material gets thin, the style of these subversive siblings sees each routine through.

The milieu of England in 1916, where and when Wodehouse's Bertie Wooster could be extricated from any drawing-room crisis by the ingenuity of his indomitable butler Jeeves, seems merely quaint today. The hero comes across as rather more scatter-brained than lovable, and the imperturbability of Jeeves seems uncomfortably akin to simple snobbery. In these two stories, the resourceful old codger rescues Bertie from a misalliance (on one record side) and his uncle from a similar disaster (on the other). What shortcomings there are in the prose (Wodehouse has never been a Saki, though he may sound like one to the inattentive) are concealed by the immaculate performances of this witty cast and the agility of its director. Roger Livesey turns in a perfect creation of the gentleman's gentleman who managed Mr. Wooster's affairs through eight novels and thirty-nine short stories, while Terry-Thomas portrays the woolly-minded Bertie to perfection.
BIZET: L'Arlesienne Suites Nos. 1 and 2 (see OFFENBACH)

® BRAHMS: Quintet in F Minor, for Piano and Strings, Op. 34. Leon Fleisher (piano); Juilliard Quartet. Epic BC 1265 $7.95.

Performance: Tout Recording: Clean

Chamber music is still in short supply in the tape medium, so a performance of Brahms' F Minor Piano Quintet as good as this—and as well recorded—is particularly welcome. Leon Fleisher and the excellent Juilliard strings are inclined to a sentiment for structural tension and logic in their playing, a decision with which Brahmsians of the old school will hardly agree. But their ensemble work is impeccable, and their energy level is high—as it necessarily would be in a kinetic reading of this kind. The sound, accordingly, is lean and at times a bit wiry.

C. B.

® HANDEL: Samson. Phyllis Curtin (soprano), Delilah; Jean Preston (soprano), a maiden; Louise Parker (contralto), Micah; Jan Peerce (tenor), Samson; Kenly Whitlock (tenor), a messenger; Roy Samuelson (baritone), Manoah; Malcolm Smith (bass), Harapha; Alexander Schreiner (harpsichord and organ continuo); University of Utah Symphonic Chorale and Utah Symphony. Maurice Abravanel cond. Vanguard VTV 1683 two reels $19.95.

Performance: Conscientious Recording: Robust

Messiah's successor among the oratorios of Handel is in fact a music drama, based on Milton's poetically sturdy Samson Agonistes and similarly cast in a heroic mold. It therefore loses a good deal of its punch if treated in the church-oriented Victorian manner. It only narrowly escapes such interpretation in this performance. Although the sizable Utah forces under Maurice Abravanel produce a rich, full sound that is never mushy, it is evident that clarity of texture, crisp articulation, and incisiveness of attack are for the most part absent. And this is no fault of the stereo engineering, which is splendid. The outstanding vocal soloist is Phyllis Curtin, who discloses a commendable sense of the Handelian style, and sings with ravishing tone, notably in Delilah's amorous "With plaintive notes" and later on in a brief solo as one of the Israelite women. Jan Peerce's light, flexible tenor sounds good in the Samson arias but is not particularly persuasive dramatically. I get the impression that Peerce stepped into the title role pretty much on the fly, and that further preparation for the recording might have been profitable. The others in the cast, with the possible exception of Malcolm Smith (Harapha), could easily have been improved upon.

C. B.

® MOZART: Requiem. K. 626. Saramac Endich (soprano), Eunice Alberts (contralto), Nicholas DiVirgilio (tenor), Mac Morgan (baritone); members of the Harvard Glee Club and Radcliffe Choral Society; Boston Symphony, Erich Leinsdorf cond. RCA Victor FTC 7006 $14.95.

Performance: Devout Recording: Resonant

This is a recording of the Solemn Pontifical Mass celebrated at Boston's Cathedral of the Holy Cross early this year in memory of our late President John F. Kennedy. It also documents the first performance of the Mozart Requiem ever given in this country within the context of a church service, a performance no less inspired than Erich Leinsdorf's suggestion that the unfinished work of one young genius might be fittingly dedicated "to the unfinished work of another..." And so it was, an act of faith shared at the time by millions of Americans via radio and television. RCA Victor deserves our sincere thanks for making it available on tape. All proceeds will go to the Kennedy Memorial Library Fund.

C. B.

MOZART: Sinfonia Concertante, in E-flat Major (see RACHMANINOFF)


Performance: Emphatic Recording: Full-bodied

Ormandy's Guité Parienne is a real work-out, both for the ever-ready Philadelphia Orchestra and the perhaps not so athletically inclined listener. The performance as a whole is louder, the tempos faster, than in any other recorded version I can remember. And the end result is rather a bore. Gone is the champagne sparkle, the pleasant, refresh-
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of a young man, and therefore rather brash, but the reading nevertheless combines dynamic thrust with emotional integrity. And if it seems a bit technical, it may be because Maazel tends to dot his i's and cross his t's with relentless and sometimes unnecessary force—at the close of the first movement and in the climactic measures of the Andante, for example. The Finale is unusually fast, yet the orchestral playing is invariably clean. As recorded, the Vienna brasses sound bright but never harsh, and the strings are radiant and silken. In sum, this virile, enormously brilliant performance may have its exaggerated moments, but it also has conviction.

The same might be said for the Sibelius symphony occupying the second sequence (the cover copy advertises too the Finnish composer's Karelia Suite, but it is not included). Though Maazel can be at times unduly assertive, here, too, the contours of the music are rarely distorted but are described in a wonderfully atmospheric, spontaneous, and compelling performance. This, the first on tape, should stand as the preferred Sibelius E Minor for some time, the prospect of a tape transfer of Ormandy's performance notwithstanding. C.B.

**COLLECTIONS**


Performance: Eloquent
    Recording: Very good

Aside from the program, which is a substantial contribution to the catalog of vocal music on tape, interest here lies in the fact that it is the first operatic assignment for Israeli soprano Netania Davrath. At the outset, in the familiar Letter Scene, there is some reason to doubt that she will bring it off, for here Miss Davrath's singing—clear, controlled, and gloriously expressive as always (to judge from her previous recordings)—seems nevertheless to lack the requisite dramatic urgency and contour. Yet, by the time she reaches the vocally taxing Lament from Prince Igor and Antonida's Romance from A Life for the Tsar in the second sequence, you are more than convinced that she has what it takes. Her rendering of the Pique Dame aria indeed builds to the tragic utterance it is meant to be, and the brief excerpt from The Snow Maiden is supremely moving. Golschmann's support is effective, the recording superb. C.B.

**RECORDING OF SPECIAL MERIT**


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Performance: Peerless
Recording: Good

This is unquestionably the most interesting program Horowitz has yet given us in his recent series for Columbia. It offers the widest range of repertoire, including the pianist’s first recordings of all but the Chopin Scherzo, and illustrates, as no other collection has, the truly remarkable range of styles and musical idioms he now so fully commands. If one thing is common to all the playing on this reel, it is Horowitz’s determination to elucidate, to render as clearly and compellingly as he can, the meaningful differences between these styles and idioms. Thus his Pathétique eschews rhetoric (for the most part) and concentrates on structure and rhythmic control within a forcefully expressive dynamic context. His view of the Debussy preludes is that of a miniaturist, with an eye for the minutest linear detail and the subtlest flash of color—and wit. The Chopin pieces, on the other hand, are grandly conceived, exuberant, openly lyrical, and technically dazzling. Students of the piano will also appreciate the absolute mastery Horowitz has of pedal practice in every one of these performances. Occasional print-through and a fair amount of hiss—traceable to the master tape—are only minor flaws of the recording itself, a splendid achievement all around.

C. B.

Robert Merrill
Impressively rich in tone

and eight others. RCA VICTOR FTP 1251

Performance: Uninspiring
Recording: Good

The Limeliters’ repertoire, covering a variety of moods, is again geographically wide-ranging—from Minneapolis-St. Paul by a fellow named Blair Weille, college buddy of Limeliter Hassilev, to the Brazilian A Caiinha Pequenina (“Little House”), and from the French-Canadian loggers’ tune The Best Is Yet to Come to Australia’s Wild Colonial Boy and Mexico’s La Llorona (“The Weeper”). But the treatments this time around lack variety, and for the most part, sound pretty tame. Perhaps the Limeliters are growing up. Glenn Yarbrough, whose lyric tenor grasped the trio’s previous outings (nine of them on tape), is replaced here by Ernie Sheldon, who as composer and arranger is credited with five songs. Most intriguing of them is No Man Is an Island, based on the famous John Donne sermon. The sound is okay.

C. B.

RECORDING OF SPECIAL MERIT

Miriam Makeba: The Voice of Africa. Miriam Makeba (vocals); various instrumentalists; Hugh Masekela cond. Maji-buye; Lovely Liza; Uyadela; Mamoriri; and eight others. RCA VICTOR FTP 1252 $7.95.

Performance: Idiomotic
Recording: Good

(Continued on page 99)
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Hi-Fi Components, Tape Recorders, at guaranteed “We Will Not Be Undersold” prices. 15-day money-back guarantee. Two-year warranty. No Catalog. Quotations Free. Hi-Fidelity Center, 1797 (HC 1st Ave.), New York, N.Y. 10028.

7" TV (test tubs) $4.99. Tubes: 6146—$2.95; 6271 (12AU7 equiv.) 39c, 3 for $1.00. Germanium diodes, tested, equiv. 1N43, 1N60 etc., 30 for $1.00. Tophall silicon rectifiers 750 MA—1000 psv 75c. Transistors, tubes, resistors, condensers etc., bargain priced. Free catalog. Arcturus Electronics, Dept. 2D, 502-22nd St., Union City, N.J. 07087.

COMPONENT quotations—tapes Mylar 1800’ postpaid minimum ten $1.65 each. Bayla, Box 131 Yuan, N.Y.

FREE! Send for money saving stereo catalog #889 and lowest quotations on your individual component, tape recorder or system requirements. Electronic Valves Inc., 200 West 20th St., N.Y., N.Y. 10011.

SPEAKER Enclosure Plans, Early American styling, $3.00. Further Information on Request; Bonamer, Rd. #2, Northville, N.Y.

LEARN which magazines evaluated the audio equipment you’re considering purchasing. Send 50c per component-model plus stamped-addressed envelope for list of references. Friedman, 2 Indiana Court, Columbus, Ohio 43201.

REK-G-KUT B-12 GH with Arm and Walnut Base. Excellent condition—asking $50.00. Located New York City, Write Box 114, HIFI/Stereo Review, 1 Park Avenue, New York, N.Y. 10016.

FOR SALE

COMPONENTS & Furniture at big discounts. Write for discount catalog, Mendota Furniture Company, Men- dota, Minnesota.


ACCESSORIES

RECORD File, Compact—complete $4.95. HifiLife, 82 L St., N.W., Wash. D.C.

RECORDS

RARE 78’s. Slate Category, Write Record-Lists, P.O. Box 2122, Riverside, California.

“HARD TO Get” records—all speeds. Record Exchange, 812 Seventh Avenue, New York, N.Y.

TANDERG 64, Garrard ‘A’, Shure M44-7, E.M.I. speakers. All new and must be sold because of barracks living conditions. James KeLander USARCO, 804, N.Y. N.Y.

SALE! Handsome, Expandable Record Holder... Regularly $4.95. Only Now $3.95... Send for brochure. Ultra Products, P.O. Box 903, Burlington, Calif.

PATENTS


TANBERG 64, Garrard ‘A’. Shure M44-7, E.M.I. speakers. All new and must be sold because of barracks living conditions. James KeLander USARCO, 804, N.Y. N.Y.

SALE! Handsome, Expandable Record Holder... Regularly $4.95. Only Now $3.95... Send for brochure. Ultra Products, P.O. Box 903, Burlington, Calif.

TANBERG 64, Garrard ‘A’. Shure M44-7, E.M.I. speakers. All new and must be sold because of barracks living conditions. James KeLander USARCO, 804, N.Y. N.Y.

SALE! Handsome, Expandable Record Holder... Regularly $4.95. Only Now $3.95... Send for brochure. Ultra Products, P.O. Box 903, Burlington, Calif.

THE Record Collector Journal—comprehensive, valu- able data, varied record intro, introductory six issues $1.50. Record Review, 525 2nd Ave., New York 5, N.Y.

CASH for unwanted LPs. Red, 81 Forsay Rd., Mon- tney, N.Y.

SUPRAFON RECORDS AT ONLY $2.45 each, plus post- age. Durak, Janacek, Hoffmann, Max Rostal, etc. List of 50 titles mono/stereo available free. Also large deletion lists, or 78 r.p.m. vocals, 50 pages air mail $1.00. The Gramophone Shop, 901, Dumbarton Rd., Glasgow, W. I. Brit. Britain.

SAVE 60% Like new LPs. Tops. Labels. $0.50 lists. Refunded First Order. Records, Hillburn P.O., Hillburn, N.Y.


DISCOUNT Records—all Labels—Free Details, write Hillhouse, Box 40-A, Ulica, N.Y.

YOUR Records To Tape: stereo, monaural; sample 17 $3.00, AT $7.20; inquire Tapes; 509 East Wells Street, Milwaukee, Wisconsin 53202.

INDEX to Record Reviews covers fourteen 1963 periodi- cals including Hi-Fi/STEREO Review. $1.50. Polark, 20115 Goulburn, Detroit, Mich. 48205.

MANUFACTURERS close out. Top quality stereo LP’s at $1.00 each. Included, free booklet, ethnic, dance and listening. You must like these records or complete refund. Send for free listing: Janus Records, 1159 Broad St., Newark, N.J. 07114.

COLLECTOR’S ALBUM “That’s All” by Herman Chittison. A definitive LP destined to become the most important piano record of our time. Stereo $5.98, mono $4.98, postpaid, L’ELEGANT, Suite 6000, 110 West 47th, N.Y.C. 10036.

TUBES

BRAND New Tubes. World’s lowest prices on Radio, TV-industrial-special purpose tubes. Write for free parts catalog. United Radio, Newark, N.J.

RADIO & T.V. Tubes—$3 each. Send for free list. Cornell, 4215-H University, San Diego, Calif. 92105.

REPAIRS AND SERVICES

ALL Makes of Hi-Fi Speakers Repaired. Amprise, 188 W. 23 St., N.Y., N.Y. 10011. CH 3-4812.

Hi-Fi Problems solved by “The Hi-Fi Doctor” on the radio, Audio, Electronic, Radio Engineer, Professional visits, day, evening, New York area. William Bohn, Plaza 7-8569.

TELEFAX H. H. Besteller Non-Technical Repair Book with Famous Troubleshooting Charts, 60c post- paid 2 for $1.00. Telefax, Box 714, Manhasset 4, N.Y.

TV TUNERS Rebuilt and Aligned per manufacturers specification Only $9.50. Any Make UHF or VHF. We ship COD Ninety day written guarantee. Ship complete with tubes or write for free mailing kit and dealer brochure. JW Electronics, Box F, Bloomington, In- diana.

BOOKS

AUTHORS’ Learn how to have your book published, promoted, distributed. Free booklet “2D,” Vantage, 120-21 West 31 St., New York 1.


PHOTOGRAPHS
PHOTOGRAPHS and Color Slides wanted. To $500.00 each. Free information. Write IntraPhoto, Box 74607, Hollywood 90004.

MAGAZINES
AMERICANS—Subscribe to Canada's Hobby and Service Magazine—"Electron." Exciting Ads, Stimulating articles $5.00 one year. Box 796, Montreal 3, Canada.

PHOTO FINISHING

EDUCATIONAL OPPORTUNITIES
LEARN White Asleep, hypnotize with your recorder, phonograph. Astonishing details, sensational catalog free! Sleep-Learning Association, Box 24-20, Oklahoma, Washington.

HIGHLY-effective home study review for FCC commercial phone exams. Free literature! Wallace Cook, P.O. Box 109, Pittsburgh 13, Pa.

LEARN White Asleep. Remarkable, Scientific, 92% Effect. Details Free, ASR Foundation, Box 7021, Dept. e.g., Lexington, Kentucky.

PERSONALS
VETERANS—WW II Combat Infantryman and Medical Badges and awards are entitled to the Bronze Star Medal. Send $1.00 for particulars. MW Enterprises, 2114 Tower Bldg., Denver, Col. 80202.

WANTED

EMPLOYMENT INFORMATION

EMPLOYMENT Resumes. Get a better job & earn more! Send only $2.00 for expert, complete Resume Writing Instructions. J. Ross, 80-34 Kent St., Jamaica 32, N.Y., Dept. HF

HELP WANTED
AR Man, experienced free-lancer, chamber music. Resume, Box 113, HIFI Stereo Review, One Park Ave., N.Y., N.Y. 10016.

BUSINESS OPPORTUNITIES

I MADE $40,000.00 Year by Mailorder! Helped others make money! Start with $10.00—Free Proof. Torrey, Box 3566-N, Oklahoma City 6, Oklahoma.

EARN $2.50 hour assembling our small Lures and Flies for stores. Write: Lures, Lake Village 1A, Arkansas.

SELL HIFI Components—As distributors handling all major brands of HIFI components, we can now offer dealerships to aggressive people who can sell full time. Knox Electronic, Dept. 864, Galesburg, Ill. 61401.

HOW And Where to Raise Capital. Details Free. Financial, Box 785-N, Springfield, Mo. 05801.

CASH Profits Daily! Mail letters offering genuine merchandise. Receive $10 with every order—keep $8 profit. Orders filled in full—same day. Details free. Modern Merchandising, P.O. Box 357, Oceanside, N.Y.

SLEF CB Equipment—Dealerships available to aggressive people who can sell Citizens Band Radio full or part time. Knox Electronic, Dept. 174, Galesburg, Ill. 61401.


FREE Book "990 Successful, Little-Known Businesses." Work home! Plymouth-717p, Brooklyn 4, N.Y.

IMPROVE YOUR BUSINESS by advertising in the HIFI STEREO REVIEW CLASSIFIED. Our readership of more than 160,000 avid record music enthusiasts monthly assures you of success. Try an ad in the next available issue and consider what it can do for you. Send your order and payment today! Martin Lincoln, Classified Advertising Manager, HIFI/STEREO REVIEW, One Park Avenue, New York, New York 10016.

GOVERNMENT SURPLUS
GOVERNMENT Surplus Receivers, Transmitters, Snop- erscopes, Parabolic Reflectors, Picture Catalog 10c; Mesha, Nahant, Mass.

JEPS—$64.50, boots $6.18, typewriters $4.15, airplanes, electronics equipment, thousands more, in your area typically at up to 98% savings. Complete directory plus sample Surplus Marketlet $1.00. Surplus Service, Box 8204, Holland, Michigan.


PHOTOGRAPHY—FILM EQUIPMENT, SERVICES

MEDICAL FILM—Adults only—"Childbirth" one reel, 6min $7.50; 10min $14.95. International H, Greenvale, Long Island, New York.

PLANS AND KITS

STAMPS

MISCELLANEOUS
SPANKEE! New Fashioned Shingle! With old Fashion Results! $1.00 Postpaid. Spankeet, Box 466, Salem, Mass.

LET our more than 160,000 monthly readers learn the advantages of doing their substantial mail order business with YOU! Your classified advertisement in HIFI STEREO REVIEW CLASSIFIED will cost little—only 50c per word—but you will be more than satisfied with the results achieved. New style type makes YOUR advertisement easier to read (thereby allowing you more exposure) —and you may run extra words in all capital letters for just 10c a word additional. The next available issue is October, and your payment and copy should be received by August 5th to insure insertion. Write to: Martin Lincoln, Classified Advertising Mgr., 1 Park Ave., N.Y., N.Y. 10016.

This is a short program but a lovely one. With her customary warmth and compassion, Miriam Makeba sings of African love-life and African high-life, including a song intended to rouse a new bride from her slumber and another calling all in sight to witness a miracle—for there are no colors in the field marking a bird. Added to these are two from countries of Caribbean origin, an Israeli song of praise, and—the greatest surprise of all—the Willow Song from Otello in a setting by Miss Makeba herself. In the last-named she is accompanied simply and appropriately by a flute and a guitar, in the others by voices, horns, and drums. But in every one it is the voice that counts—the humanity it reflects and the fund of honest musicianship it pos- sesses. Fine sound.

C. B.


Performance: Slick Recording: Very good

Henry Mancini has produced two highly successful film scores in recent years, Breakfast at Tiffany's (FTP 1145) and Charade (FTP 1221, not listed in the Harrison catalog). But what he has done for the movie The Pink Panther is to resort to what are by now clichés of his own unique style as composer and arranger. The music he has composed for this film is, to be sure, about as chic as it can be. The instrumental settings are bright, catchy, and wonderfully inventive, the rhythms endlessly varied. Yet all that glitters is not gold, and as it turns out, the basic thematic material from which Mr. Mancini fashions his snazzy arrangements is in fact pure dross. One possible exception might be a mereing titled Something for Sellers, honoring one of the film's stars, British comic Peter Sellers. The recorded sound, as usual with Mancini productions—which he supervises—is absolutely first-rate.

C. B.


Performance: Poor Recording: Fine

The music and lyrics Ervin Drake has written for this show, though not memorable, are consistently attractive, and the performances by the four leads are bright and wholly be- guiling—even when the characters they portray on stage are not. Steve Lawrence, in his Broadway debut as Budd Schulberg's usually Sammy Glick, here comes across as a pleasant, easygoing guy; he has at least one number, A Room without Windows, that should last him a good while as an entertainer in other media. A Tender Spot and Kiss Me No Kisses are songs that effec- tively showcase the considerable talents of Sally Ann Howes, and Bernice Mass: the last-named, by displaying her formidable charms singing The Friendliest Thing, Robert Alda meanwhile plays it straight, and is only occasionally called upon for vocal support, which he ably provides. Good, hefty sound.

C. B.
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NEW SCOTT TRANSISTOR TUNER BRINGS MAJOR IMPROVEMENT TO FM LISTENING

...AND YOU CAN OWN ONE FOR ONLY $259.95

Great news! Scott announces a top-performing solid-state FM stereo tuner at a modest price... a no-compromise tuner that exceeds the performance of conventional tube units, and is factory guaranteed for two full years. The superb performance of the new Scott 312 required an entirely new approach to tuner circuit design... not just a simple substitution of transistors for tubes... it meant not just one, but six major engineering innovations. A few of these are shown below:

**Important Free Offer from Scott**

H. H. SCOTT, INC.
111 Powdermill Rd.
Department 245-08
Maynard, Mass.

Please rush me your free booklet, "A New Era in FM" explaining how you can get better FM reception with these new solid state circuits, and compare specifications on the Scott 312 solid state FM Stereo tuner.

Name:
Address:
City:
State:
Zip Code:

**SPECIFICATIONS:**

- **IF** usable sensitivity (minimum) 2.2 µV; signal-to-noise ratio: 65 db; distortion: under 0.05%; drift: less than 0.07"; frequency response (in stereo): +1 db, 30-5,000 cycles; capture ratio: 4 db; selectivity: 30 db; cross-modulation rejection: 80 db; AM suppression: 55 db; accuracy of calibration: 0.5%; separation: 35 db, an outstanding design accomplishment. Dimensions: 15½" w x 9½" h x 13½" d in optional accessory case.

- These are the limits prescribed by the FCC. All Scott tuners will exceed these frequencies.

NEW E-V SONOCASTER®
Indoor/Outdoor High Fidelity Speaker

At last an outdoor speaker with full-sized sound, yet so small and light it goes anywhere—connects to any portable radio, TV, console or component high-fidelity system!

Use the new E-V Sonocaster at the pool, on the patio, by the barbecue, or at your next beach party or picnic for the finest sound you’ve ever heard from any portable!

The Sonocaster boasts such true component quality features as an 8-inch die-cast speaker frame, high compliance cone suspension, long-throw voice coil and efficient ceramic magnet. And everything is weatherproof—including the finish. No rusting, fading, or peeling—attractive Dune Beige color is molded into the unbreakable plastic housing forever!

It costs no more than $36.00 to add the new E-V Sonocaster to your outdoor living. Or use it the year-round in your recreation room. Set it down or hang it on its wall bracket, as you wish. Pick up a Sonocaster (or a pair for stereo) at your E-V hi-fi showroom today!

SPECIFICATIONS:
Frequency Response, 70-13,000 cps; Impedance, 8 ohms; Peak Power Handling, 30 Watts; Dispersion, 120°; Dimensions, 16½ in. H, 17-in. W, 5½ in. D; Net Weight 8 lbs.

ELECTRO-VOICE, INC.
Dept. 844F, Buchanan, Michigan