

HiFi Stereo Review

AUGUST 1967 • 60 CENTS

SPECIAL SPEAKER ISSUE


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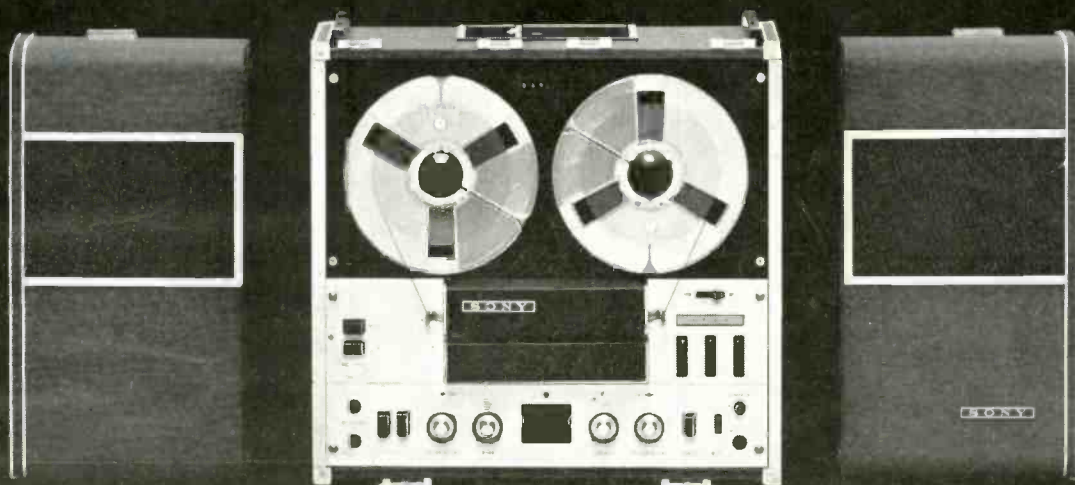
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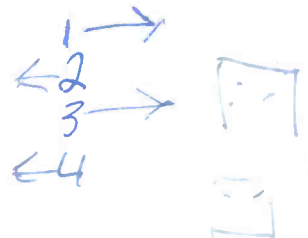
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HiFi/Stereo Review

AUGUST 1967 • VOLUME 19 • NUMBER 2

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EDITORIALLY SPEAKING

By William Anderson

It is highly unlikely that the average reader has ever wasted so much as a moment's time wondering just how his favorite magazine gets to him each month. Its arrival is taken as much for granted as sunup, and he is rightly not concerned with such matters as editorial planning and production schedules, nor with how many hands (and heads and hearts) produced it—or with how long it took them. But a magazine is a manufactured product, an exceedingly complicated one, representing the coordinated efforts of many talents working over long periods of time in many places. Production schedules are plotted a year in advance, articles are sometimes months in preparation, and these very last-minute lines were written a full month before our August-issue "on-sale" date of July 20.

I may therefore be a little late in bringing you the news of a significant marketing move just made by the American recording industry, because that industry unaccountably chooses to observe a time schedule of its own rather than the one set up for this magazine. If you follow the recording industry's trade press, if you were lucky enough to catch the news in the few local newspapers that found it worth printing, or if you have been in a record shop within the last month, you will know that on May 25 RCA Victor and Columbia both made announcements (too late for inclusion in our July issue) that, starting June 1 (RCA) and June 5 (Columbia), the prices on all monophonic records would be raised \$1 to bring them in line with stereo prices. In the short month since then, practically every record manufacturer has followed suit (with pricing cut-off dates in some cases extending into July), and it now appears not at all unlikely that the all-stereo industry discussed in this column in the June issue will be a reality within the next two years. At least two companies have made the gutsy move already: Command Records will cease producing monophonic records immediately, and new Deutsche Grammophon releases will henceforth be available in this country in stereo only.

It is no secret that the highly competitive recording industry has found itself in the past few years in an increasingly uneconomic profit squeeze—costs for recording, production, and promotion have gone up across the board, while record prices have remained the same. It can be argued, of course, that the industry had an alternative to raising prices—the compatible record, playable on either mono or stereo machines, which European record producers have recently embraced with fervor. The European market differs from the American one, however, and domestic producers may well have been guided by one important fact: total U.S. sales on mono records in the last five or six years have remained almost constant, while stereo sales have practically doubled. The future undoubtedly belongs to stereo.

It is too much to hope, I suppose, that this increasingly complex technology we live in will ever slow down enough for us to sit back quietly, our multitudinous necessities and luxuries about us, and assess not only where we are, but where we are going. No time for that in audio, however. Stereo (unbelievably) is barely ten years old, but the next performer may already be warming up in the wings—a "compressed" disc, recorded through the Dolby (see July issue) or some similar system, which will be restored to its full dynamic range through special circuits built into your amplifier. Better not sit down just yet.

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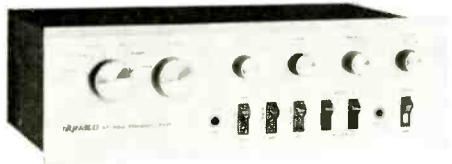


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LETTERS TO THE EDITOR

Gershwin

● I thought that the article about George Gershwin in the May issue was great! Author Edward Jablonski revealed a lot of things about Gershwin that I never knew. I can hardly wait to read the next article in the Great American Composers series.

PETER D. ABZUG
Great Neck, N. Y.

Ornithology

● It pleases me no end to read another fine review of another fine Byrds album—"Younger Than Yesterday" (June). But Peter Reilly mistakenly said that there are only three Byrds left out of an original four. Correct that to read four out of the original five; the Byrd that flew away was not Mike Clarke, who is still the faithful drummer of the group, but Gene Clark, now writing songs on his own and occasionally performing with the rest. The cover photo of the album shows a full four Byrds, as does the back photomontage—two separate shots showing four separate and therefore quite distinct Byrds.

Another correction which should be noted is that the Byrds never have used a sitar. Both the lead and rhythm guitars are twelve-strings, which can be tuned and manipulated to sound similar to a sitar.

The "sound" of the Byrds is due mainly to the use of twelve-string guitars. Tonal effects impossible with six-stringers are easily fabricated on a twelve, and the beat is not overwhelming simply because the twelve lends itself more to a continuous curtain of sound than to a strong beat. Attempts at creating a strong beat would sound muddled. This curtain of sound, allowing no leup or breather in the music, is what causes the tension Mr. Reilly notes.

With regard to influences on their musical style, it is true that Bob Dylan was one of their influences. But in the course of four albums, the Byrds have given the world a definition of folk-rock. What with Gene Clark being a refugee from the New Christy Minstrels, they almost couldn't avoid incorporating this style into their own. And on the present album, at least two tracks are country-and-western. The Byrds tend to assimilate things from all styles of music and put them together in a musically pleasing way.

I have but one question: will they, can they, ever top *Eight Miles High*? This one fantastic song, which Mike Clarke called

"the greatest thing we've ever done," is a marvelous assimilation of Indian raga, free verse, and jet-age harmony. There is enough there to keep a music theory student busy for months. Such a song cannot be written; it must flow from a free soul in Byrd-flight; it is the ultimate in jazz-type improvisation with unlimited imagination. It is one of those few songs which can never be imitated. It is not just music, it is a living thing.

Forgive me for waxing rhapsodic. I'm off to play *Eight Miles High* for the 2,304th time (at 3:30 in the morning).

JOHN S. KRUSZKA
Evanston, Ill.

Mr. Reilly replies: "Mr. Kruska is right on all counts. I got my Clark(e)s and my sitars and guitars confused. Now let me see . . . it was Patti, Maxine, La Verne, and . . .?"

Nelson Eddy

● I was most distressed to read in your June issue Rex Reed's statement that Robert Goulet is "simply the squarest, most boring interpreter of songs since Nelson Eddy." In 1943 the music critic of the Washington, D.C., *Times-Herald* wrote of an Eddy concert, "The word has gone abroad that he is one of the great artists of the day and a notable interpreter of art songs. This is no overstatement." In 1952 the same paper said, "Eddy still is one of the great singing actors of the generation." Well, one man's notable interpreter is another man's square.

However, it is a matter of fact, not opinion, that the late Nelson Eddy, without the aid of money, influence, or movie fame, sang his way to Carnegie Hall by 1932, when *Musical America* reviewed him as "one of the best baritones of the day." After that time he earned huge profits for the concert, film, and recording industries, and received his last gold record in 1967.

For more than forty years Mr. Eddy served his profession with dedication and distinction, on and off stage, and was much beloved. Mr. Reed has disposed of his career with a casual sneer. I have no quarrel with Mr. Reed's musical preferences, nor with his desire to be up to date; but if we must maintain our cool by undercutting achievement in every past decade, then I think the price is too high. If we cannot spare a kind word for a modest gentleman to whom

(Continued on page 8)

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 & Skinny Ennis
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- CHARLIE BARNET** WAYNE **KING**
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- SAMMY KAYE** & Billy Williams "How did you get the
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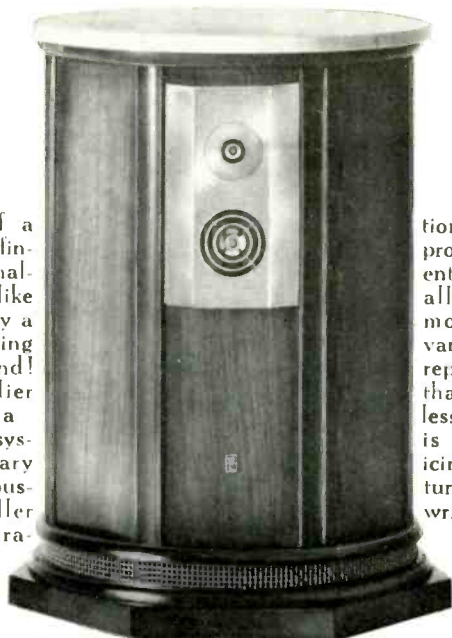
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kindness was a way of life, then we are the ones who are out of date.

ANNE LEE
 Silver Spring, Md.

Mr. Reed replies: "It's encouraging to see that a singer's fans are loyal to his memory. I did not intend to demean Mr. Eddy as a gentleman, and I am sure he was square with the best intentions."

Odyssey's Debut

Although I found the review of the first releases on the new Odyssey label by Igor Kipnis (May) quite comprehensive and interesting, he has made an error regarding Corelli's Opus 6. There are other complete Op. 6 sets available. There is Vox Box VBX 39, which features the Corelli Tri-Centenary String Orchestra under a great Corelli interpreter, Dean Eckertsen. Another set is the English Baroque Ensemble under Argeo Quadri (Westminster 3301). I'm not sure all critics would agree with Mr. Kipnis that the Goberman version is tops, especially compared to the Eckertsen.

LES BUSH
 Yonkers, N. Y.

What Mr. Kipnis said was not that the Corelli concerti grossi, Op. 6, were otherwise unavailable complete, but that this was the first time that these performances, by Goberman, had been made available in a single package.

"Budget records" best serve a purpose by acquainting the maximum number of people with the satisfying pleasure of classical music, not in providing an outlet for rarities with very limited market possibilities, as Igor Kipnis implies in his critique of Columbia's new budget-price Odyssey label.

If at all, the great Thirties and early Forties recordings which he considers collectors' items could be re-released as special high-price editions or perhaps by some special subscription service for collectors.

PETER VERBOFSKY
 Wheeling, W. Va.

Hooked

I have a confession to make: I subscribed to HI-FI/STEREO REVIEW last year, my first issue being July, I believe. My initial attitude toward it was, "Well, that's nice, and I may find something interesting in it once in a while." Then a few weeks ago I picked up a copy and really looked through it carefully. That's when I got hooked. Fortunately I hadn't thrown away any copies, so I got them all out and stacked them on my breakfast table. Now, when I am eating (or almost any other time) I find myself reading them, trying to catch up; and the next issue can't come soon enough.

I particularly enjoy the biographies and discussions of famous composers, and the discussions of musical works. Also fascinating are the discussions of the functions of various parts of the hi-fi system. The reviews of records I merely glance over for the time being, but I mean to keep them for reference. Also, being a tape hobbyist, I enjoy "Tape Horizons," and have gotten several good hints from it.

HAROLD IDEN
 Culver City, Cal.

(Continued on page 12)

HI-FI/STEREO REVIEW

Build a world of your own on "Scotch" Brand Dynarange® Tape.



Great moments in music . . . happy times at home and away—capture whatever sound you want to save on "Scotch" Brand "Dynarange" Recording Tape. "Dynarange" delivers true, clear, faithful reproduction across the entire sound range. Makes all music come clearer . . . cuts background noise . . . gives you fidelity you didn't know your recorder had.

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Shook

● I would just like to say that your magazine (and others of its type) has made me quite dissatisfied with music criticism and critics. I have finally realized that such criticism, far from being in the hands of dedicated, honest music lovers, is really in the hands of mediocre, bigoted professionals who live more by the pen than the mind.

MAURICE C. BARONE
Michigan State U.

your reviewer Eric Salzman—very keen and perceptive. He seems to dig right into the meat of the matter. At times even brutally so.

I am referring to his review (May) of Anton Kuerti's performances of Schubert's Fantasy-Sonata in G and "Wanderer" Fantasy. He claims that Anton Kuerti's big shortcoming is "a lack of strength and keyboard power." Is he basing his view on this particular recording, or on hearing Kuerti play in concert? I take it his idea of strength is

...the keys with sheer brute force. ...though of that on so many ... Of course Mr. Salzman re- ... that Kuerti substitutes for ... phrase motion that carries ... My main peeve is that ... of super-duper dynamism ... and even worse, a lack of

strength. It takes plenty of strength, not to mention endurance, to display the control Kuerti does.

ED SOWINSKI
New York, N. Y.

Mr. Salzman replies: "I thank Mr. Sowinski for his kind comments. It should be obvious that we are both admirers of Mr. Kuerti. May I point out that saying something with strength and power is not the same thing as shouting it out. The principal shortcoming of the performance of the Fantasy-Sonata is that it lacks a true dynamic top, and I believe that this is as essential in Schubert as in, say, Liszt. I say this in a purely constructive spirit about a performer whom I find otherwise impressive."

● I don't feel that the Hans Rosbaud performance of the Bruckner Seventh was given a fair shake in Martin Bookspan's "Basic Repertoire" column for May. It is true that Rosbaud's orchestra was not the equal of some of the other groups mentioned, but whatever lack there is of performing forces is more than compensated for in beautiful playing and the authentic Austrian flavor of Rosbaud's reading, especially in the outer movements. At the low price of this disc, I feel that any Bruckner lover or any person interested in becoming familiar with Bruckner cannot go wrong purchasing this disc. The sound on the recording (Turnabout 4083—stereo 34083S) is also very good.

DAVID J. LETTERMAN
Swampscott, Mass.

Mr. Letterman's disappointment will perhaps be partly compensated by David Hall's review of Hans Rosbaud's recording of Petrouchka in this issue.

Musical Snobbery

● It was with a sizable amount of amazement and disbelief that I read the letter of L. E. Winfield in your June Letters to the Editor column concerning the promotion of "opera and long-haired productions away beyond one's capacity to absorb." The fact is that many people manage admirably to absorb these "productions," and actually enjoy doing it, incredible as it may seem to Mr. Winfield. Furthermore, I question his implication that there is a "social status" value in this music among "a certain type of social group." Another questionable statement would have us believe that the "sale of such items is a small percentage of the total record business." I would refer Mr. Winfield to the classical section of a recent issue of the Schwann catalog, and also have him take notice of the abundance of new budget record labels which have appeared in the past few years, a large part of them devoted to "such items." I find it hard to believe that companies would go to the trouble of introducing new lines if they were seriously faced with the prospect of financial disaster.

The sentence which struck me as the hardest to swallow was: "If you can't hum it or whistle it, it is not worth playing, nor listening to." If this ever becomes the criterion for determining the worth of a musical composition, we might as well scratch music as an art form. I can merely speculate as to what sort of music is found on "regular listening records," but if it is in keeping with the general tone of Mr. Winfield's letter, I hope you

(Continued on page 14)

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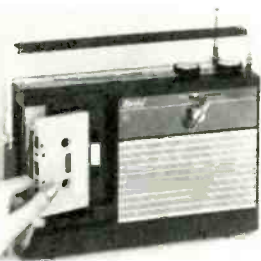
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*Slightly higher in the Deep South and Far West.

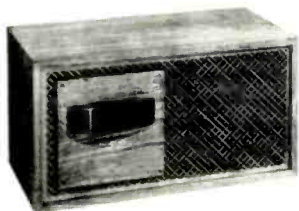
NEW PRODUCTS

A ROUNDUP OF THE LATEST HIGH-FIDELITY EQUIPMENT



● **Norelco's** AM-FM portable radio, the Model L573, has a built-in tape-cassette player. The Model L573 has a removable section in its front panel for insertion of the Norelco-type snap-in cartridges (with up to 90 minutes of playing time) and a push-button cartridge ejector. Norelco-type stereo cassettes can be played (in mono) in the machine. The radio features a vernier slide-rule tuning dial, automatic-frequency control on the FM band, rotating telescopic FM antenna, and connections for use with an a.c.-line adapter, earphones, and a car antenna. The Norelco radio/cassette player has 1.7 watts peak music power, a 4-inch Ticonal VII speaker, and operates on five D-cell flashlight batteries. The portable measures 6½ x 10½ x 3 inches, weighs 6 pounds, and has a carrying handle. List price: \$119.95.

Circle 171 on reader service card



● **Olson's** three-way speaker system Model S-776 includes an 8-inch woofer, a multi-cellular mid-range horn speaker for wide-angle dispersion of mid-frequencies, and a 2½-inch tweeter. The three-way crossover has level controls for the mid-range horn and tweeter. The mid-range assembly can be turned 90 degrees in the oiled walnut cabinet to permit either vertical or horizontal installation of the system. The speaker's power-handling capacity is 25 watts, impedance is 8 ohms, and frequency response is 50 to 21,000 Hz. Size is 21½ x 11½ x 11½ inches. Price: \$129.98.

Circle 172 on reader service card



● **Aiwa** has announced the introduction of a cassette tape player, the Model TP-718, meant for installation in automobiles. The 3 x 5½ x 8½ inch unit accepts the standard Philips-type cartridges—either stereo or mono—and plays them monophonically. Power output of the player is 1 watt, either through its built-in 3½-inch speaker or through an external speaker installed in the car. A switch on the rear of the player selects either speaker. The tape player will operate on either 6- or 12-volt automotive electrical systems and comes complete with all necessary fittings for installation under an automobile dashboard. Price: \$69.95.

Circle 173 on reader service card

● **Audio Devices** is producing Audiotape Type 2461, which consists of 2,400 feet of 1-mil Mylar-based tape on an 8¼-inch reel. The new reel and tape are designed for use on the latest Magnecord tape recorders—Types 1020, 1021, 1022, and 1024—and can also be used on other transports that will take reels larger than 7 inches. The advan-

tage of the 8¼-inch reel is that it holds enough tape for a full hour of uninterrupted recording at 7½ ips without resorting to the thinner tapes. Price: \$9.45. Empty 8¼-inch reels are also available at \$2.90.

Circle 174 on reader service card

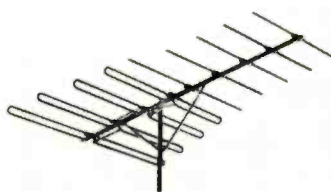


● **Heath's** Model TO-67 kit version of the transistor Thomas Color-Glo "Paramount" organ makes it possible for anyone to play complete songs with melody, harmony, and bass after only a few minutes of practice. Each key on the keyboard lights up with a letter and color corresponding to the letters and colors in the Thomas Color-Glo music book that comes with the organ. Bass foot pedals are marked with the same colors as the harmony notes. The Color-Glo key lights may be turned off when desired.

Additional features include fifteen manual voices and four pedal voices; twenty-eight notes of electronic chimes; selective repeat percussion; vibrato; reverberation; and numerous other modes and functions. There are two overhanging forty-four-note keyboards and two separate speaker systems, including a built-in Leslie system that consists of an 8-inch cone speaker with a two-speed rotating deflector (for tremolo effects) and two 12-inch fixed speakers. If desired, the speaker systems can be electrically separated for stereo effects. The speakers are driven by a pair of amplifiers with a total peak power output of 200 watts. The organ's transistor plug-in tone generators are warranted for five years, and all parts are Thomas factory-fabricated components. Total kit construction time is about 90 hours, and no special skills, tools, or knowledge are required to do the assembling. The Model TO-67 organ kit is priced at \$995.

An optional hand-box percussion kit (Model TOA-67-1) automatically adds ten instrumental voices to music you play, including bass drums, brush and crash cymbals, bongos, castanets, snare drums, and drum roll. One or all may be pre-selected to sound as you play the lower manual, pedals, or both. Construction of the hand-box kit takes around six hours. Price: \$145. The hand-box percussion may also be added to all other Heathkit Thomas organs by using the Model TOA-67-2 drawer and slides priced at \$35.

Circle 175 on reader service card



● **Channel Master** has designed a new series of "Stereo-Probe" FM antennas designed to overcome the signal loss experienced in stereo FM reception. The Stereo-Probe antenna introduces the series-fed dipole concept to FM arrays, resulting in high gain and flat response over the entire FM band. The phase relationship achieved through use of this technique results in extremely high front-to-back pickup

(Continued on page 18)

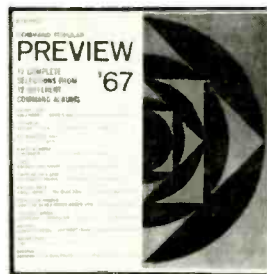
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CLASSICAL PREVIEW '67 VOLUME 2

SELECTIONS: George Gershwin: PORGY AND BESS (excerpt) • Ravel: VALSES NOBLES ET SENTIMENTALES (excerpt) • Johann Strauss: TRITSCH-TRATSCH POLKA • Aaron Copland: BILLY THE KID (excerpt) • George Gershwin: AN AMERICAN IN PARIS (excerpt) • Mozart: FANTASY IN F MINOR, K. 608 (excerpt) • Aaron Copland: APPALACHIAN SPRING (excerpt) • Mendelssohn: SONATA NO. 1 IN F MINOR, OPUS 65, 4th movement, Allegro assai vivace.

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ratios, thus minimizing multipath problems. Three Stereo-Probe models are available: Stereo-Probe 9 (shown) for fringe to deep-fringe areas (price: \$29.95), Stereo-Probe 6 for near-fringe to fringe areas (price: \$24.95), and Stereo-Probe 4 for suburban to near-fringe area reception (price: \$14.95).

Circle 176 on reader service card



● **Audiotex** is producing two new products for car stereo tape players. The tape-care kit, Model 30-636, includes a head-cleaner liquid and head lubricant, plus a pair of long-handled brushes to reach the heads of the auto-stereo player. Also included in the kit are ten plastic cartridge pouches for storage and protection of the cartridges. Price: \$3.49.

Another new item for cartridge players is Audiotex's "Blast Off," a head-cleaning compound in a 3-ounce aerosol spray can with extension tube for localized application on the heads. Blast Off removes dirt, grease, and tape oxide that may have accumulated on the heads. Price: \$1.95.

Circle 177 on reader service card

● **Knight's** new KN-290 is an all-transistor FM stereo tuner. Reception of stereo signals is indicated by a signal light, and the tuner is automatically switched to the stereo-reception mode. A center-channel zero-center meter



is used for tuning. FM sensitivity is 3 microvolts for 30 db of quieting (IHF), capture ratio is 3 db, and audio frequency response is from 50 to 15,000 Hz ± 1.5 db. Harmonic distortion is less than 1 per cent at a 1-volt output, and hum and noise are -55 db. Price \$89.95.

Circle 178 on reader service card

● **Ampex** has published a free fifteen-page illustrated catalog listing their complete line of prerecorded eight-track, four-track, and Philips cassette-type cartridges for home and car players. The categories include show tunes, jazz, pop, classical, and so forth. The listings are by artist, composition, and category. Cartridges are listed with prices and ordering codes.

Circle 182 on reader service card

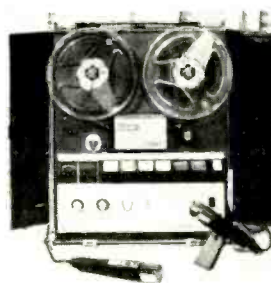


● **Electro-Voice's** new RE15 microphone is a dynamic, "super-cardioid" type with a degree of directional control so effective that frequency response is virtually independent of angular location of sound source. The result is a microphone that produces no coloration of off-axis sounds and provides high rejection of unwanted

sounds. The RE15 has greatest sound rejection (up to 26 db) at 150 degrees off-axis, as is preferred for stand or boom use. At other points, its pattern is a closely controlled standard cardioid pattern.

The RE15 is housed in a slender steel case and is constructed with an internal mechanical-nesting method to ensure ruggedness. Frequency response of the microphone is 60 to 15,000 Hz, and output level is -55 db. The RE15 incorporates a "bass-tilt" switch to aid in overcoming boomy acoustical conditions. A broadcast-type cable and a Model 310 stand clamp are provided. The RE15 is warranted unconditionally against malfunction from any cause for two years from date of purchase. It also carries a no-time-limit guarantee against factory defects in materials or workmanship. Price: \$153.

Circle 183 on reader service card



● **Craig's** Model 2202 portable stereo tape recorder is a three-speed ($\frac{1}{8}$, $1\frac{1}{8}$, and $3\frac{3}{4}$ ips), four-track, 5-inch-reel unit with built-in stereo speakers. It operates on six "D"-size cells, 12-volt car battery systems, or standard a.c. line current. Features include sound-on-sound and sound-with-sound capabilities,

two VU-type recording meters, keyboard controls, automatic stop at tape end, locking edit key, and a digital counter. Rewind time is less than 2 minutes.

There are inputs for two microphones (with stop-start switches) and high-level auxiliaries. There are outputs for external stereo speakers and stereo headphones. Output power exceeds 1 watt (peak) per channel. Wow and flutter are less than 0.25 per cent rms at $3\frac{3}{4}$ ips; crosstalk and signal-to-noise ratios are better than 40 db. Frequency response is 100 to 10,000 Hz at $3\frac{3}{4}$ ips and 100 to 5,000 Hz at $1\frac{1}{8}$ ips.

The unit is $10\frac{1}{2}$ inches wide, 12 inches high, and $5\frac{3}{4}$ inches deep. Weight with batteries is 17.3 lbs. Accessories furnished with the Craig 2202 include two microphones and microphone stands, patch cord, a.c. and auto power cords, an empty reel, and splicing tape. Price: \$199.95.

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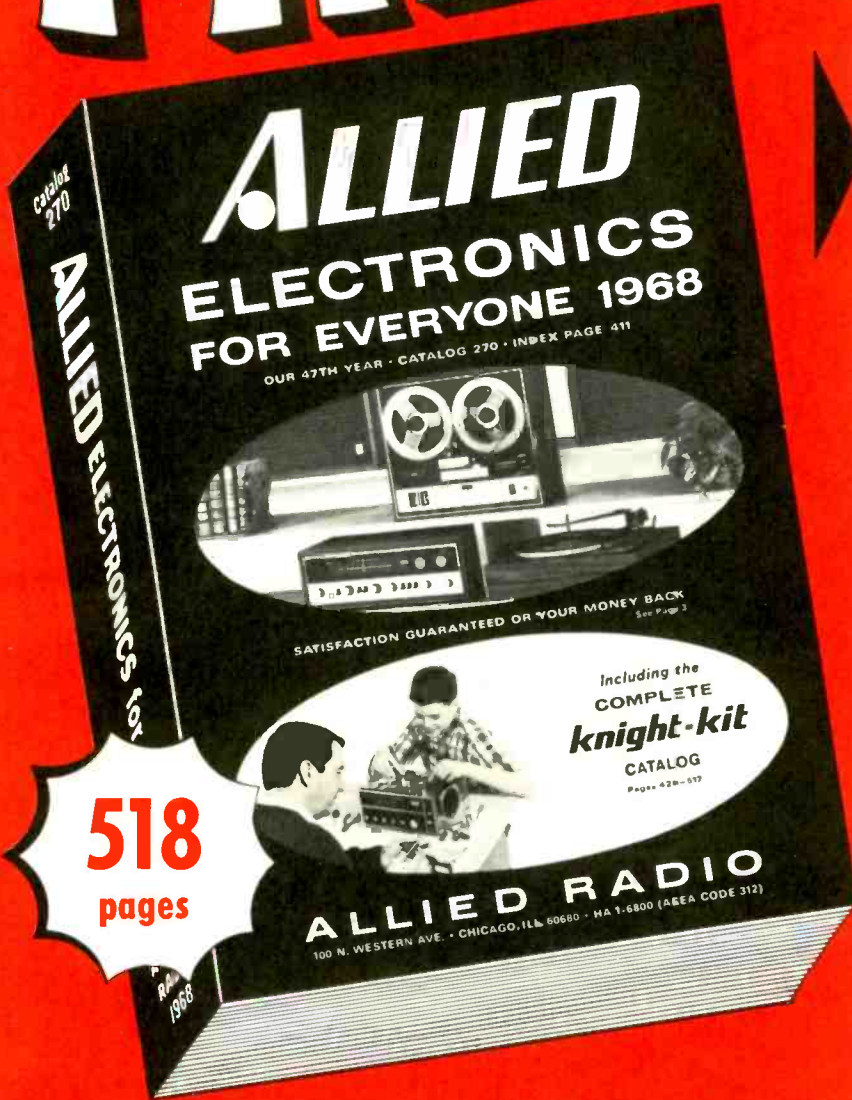


● **Audio Originals** is offering the Model 404HE, a new component storage center in the style of an Early American hutch ensemble. Finished in honey maple, the complete unit stands about 65 inches high and 40 inches wide. The bottom equipment-cabinet section provides a pull-out changer/turntable shelf on the right and a component-mounting area, with an adjustable shelf, on the left. The full width across the

bottom of the cabinet is available for record storage. The interior of each equipment-housing compartment is $19\frac{3}{4}$ inches wide, $21\frac{1}{4}$ inches high, and $15\frac{1}{2}$ inches deep. The shelves of the upper hutch section are 8 inches deep. Price: \$144.50.

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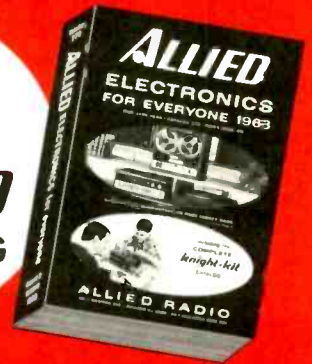
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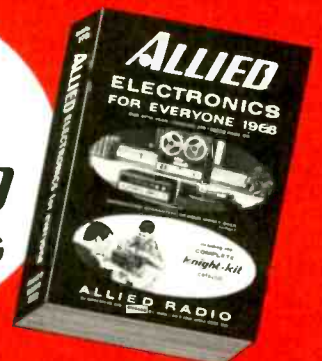
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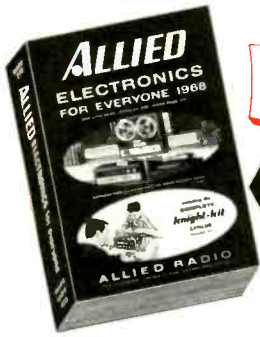
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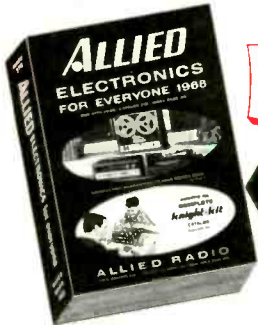
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HiFi Q&A

Speaker Channels and Phasing

Q. For a long time I have been having a running argument with a friend about which stereo channel to connect to which speaker. On the HiFi/STEREO REVIEW Model 211 test record the narrator speaks of the "left channel." Now, should that statement come out of the speaker that is on my left as I face the installation or out of the opposite speaker which would be on the left of the narrator if he were standing between the speakers and talking to me? And if the channels are correct, will the speaker phasing be correct also?

GILBERT MYERS
Los Angeles, Calif.

A. By general agreement, the left-channel signal should come from the speaker at the listener's left. Solely from the sonic point of view, it makes no difference which speaker is playing the left-channel signal and which speaker is playing the right. And when listening to soloists, jazz performers, or other groups for which there is no agreed-upon arrangement of the personnel, there's no technical reason to assign a specific side or direction to a given channel. On the other hand, I'm sure that devoted concert-goers would be mildly shocked to hear the first violins sounding on their right or the cellos on their left.

By international agreement, the record-groove wall nearest to the record center carries the signal intended for the speaker system at the listener's left when he is facing the speaker. Of course, there have been mix-ups in some stereo recordings—and a misadjustment of the multiplex section of your stereo FM tuner will also interchange the right and left channels. But that's why God made channel-reverse switches and detachable speaker leads.

Right-left channel reversal has nothing at all to do with the stereo phasing of your speakers. Your speakers can be correctly or incorrectly phased whether or not your right-left channel arrangement is correct. The instructions that accompany your speakers tell you how to check for proper phasing. There is also a phasing-check test band on the HiFi/STEREO REVIEW Model 211 record.

Louder FM Stations

Q. As I tune from one station to another, I hear significant differences in the loudness of the broadcasts. I have a fairly good tuner, and I thought

that the circuit is posed to there so

A. The differences in loudness among the FM stations most probably are caused by differences in the percentage of modulation used by those stations—in other words, how strong an audio signal is carried by a transmitted FM signal. In New York, the good-music stations seem to offer a somewhat lower level of modulation than the pop-music stations. This is a lower level of modulation of the need to compress the audio to prevent "overmodulation" distortion. A station that is using a low level of modulation will have a greater dynamic range, but it will not have as low an "impressive" a signal as some other station broadcasting a signal more highly modulated and compressed.

Slow-Speed Inferiority

Q. I know that, by now, it is accepted as a fact of life, but why are the specifications of a tape recorder (such as wow and flutter, frequency response, and even signal-to-noise ratio) so much worse at 3¾ than they are at 7½ ips?

CHARLES HADLEY
Cleveland, Ohio

A. There are several different factors that cause quality loss at slow speeds. The wow and flutter specifications are degraded because the factors that determine speed constancy rely upon the inertial effect of one or more flywheels. When the flywheels are operating at a slower speed, they are not able to exert as much smoothing effect. At the slower speeds, the effects of friction tend to cause a jerky rather than a smooth-flowing motion over the tape heads.

Frequency response suffers at slower speeds because the signal-voltage output of the playback head is determined by the ratio of the gap width to the length of the magnetic pulse on the tape. At slow recording speeds, the high-frequency magnetic pulses are very narrow and hence develop less signal in the tape head. The deterioration in signal-to-noise ratio also derives from the high-

(Continued on next page)

By
LARRY
KLEIN

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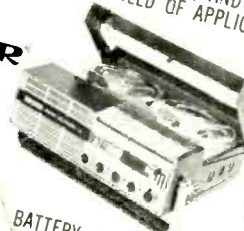
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frequency losses. In order to compensate for the high-frequency losses at the slower speeds, more high-frequency equalization (boost) must be applied by the playback preamplifier. As a consequence of applying additional high-frequency amplification, high-frequency noise such as hiss is amplified also.

It should be noted that these slow-speed problems are all relative in that there are dozens of machines now available that have better overall performance at 3 $\frac{3}{4}$ ips than most machines of five years ago had at 7 $\frac{1}{2}$ ips.

Low-Volume Extensions

Q. I recently purchased a pair of good-quality hi-fi extension speakers for use with a rather inexpensive stereo console. I hoped to get better stereo separation by using the separate speakers installed about 5 feet from each end of the console. My problem is that the extension speakers are not as loud as those built into the console; hence, the stereo effect is not enhanced. I have checked the phasing and everything else I can think of, but to no avail. Each extension speaker is connected across the voice-coil leads of the built-in speakers. All speakers—built-in and external—are of 8 ohms impedance.

GERALD L. WOODRING
Fremont, Mich.

A. You have just run into the fact that there is no necessary correlation between loudness of a speaker and its quality. In fact, all other things being equal, a cheap speaker is apt to be louder than an expensive speaker. Without going deeply into the technical reasons for this, it might be helpful to think of the cheap loudspeaker as having a tendency to emphasize the mid-range frequencies. And it is the mid-range sensitivity that makes the speaker sound loud.

It is simple enough to engineer a loud mid-range into a speaker if one does not care whether or not the high and low frequencies are equally loud. Such speaker designs achieve loudness at the expense of wide frequency range. This is probably the reason that the built-in speakers in your set play far louder than your extension speakers.

Your best bet would probably be to disconnect the console's internal speakers and simply use the two extension speakers by themselves. This will not only provide better stereo separation, but will probably also result in substantially cleaner sound.

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!

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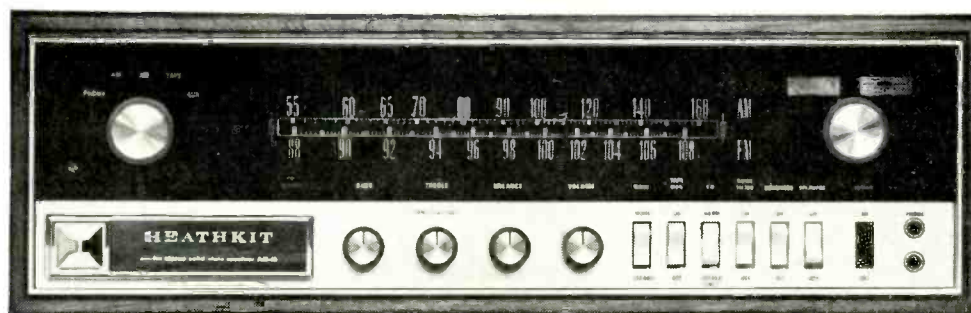


Julian Hirsch, noted audio critic, and author of the "Technical Talk" column in Hi-Fi/Stereo Review (May '67 Issue).

"... The Entire Unit Performs Considerably Better Than The Published Specifications"



C. G. McProud, editor and publisher of Audio Magazine (May '67 Issue).



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Mr. Hirsch Went On To Say: "In most respects, it is superior to any manufactured receiver we have tested, and in several respects its FM tuner outperforms any other we know of."

"The FM tuner's front end uses field-effect transistors (FET's) for high sensitivity and freedom from cross-modulation. The FM i.f. amplifier is unique and marks the first use of integrated circuits in a kit receiver. Each IC, about the size of a transistor, contains ten transistors, seven diodes and eleven resistors. Instead of the usual i.f. transformers, which require periodic alignment and have less-than-ideal response characteristics, the Heath AR-15 uses two crystal-lattice filters. Though costly, these have a virtually ideal flat-topped response characteristic, with extremely steep skirts which offer a degree of adjacent channel selectivity unobtainable with conventional i.f. transformers."

"This is the most sensitive FM tuner we have ever tested, and it has by far the best limiting characteristic. Its IHF sensitivity was 1.45 microvolts and limiting was complete at about 2 microvolts. We could not find any stations that did not limit fully, with silent backgrounds. We were also able to receive stereo broadcasts from a distance of 70 miles, only 200 kHz from a powerful local station, without interference, a feat not matched by any other tuner in our experience."

"We found the Heath AR-15 a very easy receiver to use and to listen to. Its enormous reserves of clean power make for effortless

listening at any level, and the FM tuner brought in more listenable FM broadcasts (as many as fifteen to twenty on a single sweep of the dial) than we had realized existed in our area."

"We know of only a few amplifiers that can match or surpass the AR-15 in power or ultra-low distortion, and most of them cost considerably more than the entire AR-15 receiver. No other tuner we have used can compare with it in sensitivity. Considering these facts, the AR-15 is a remarkable value at \$329.95 in kit form. Several people have commented to us that, for the price of the AR-15 kit, they could buy a very good manufactured receiver. So they could — but not one that would match the superb overall performance of the Heath AR-15."

Mr. McProud Went On To Say: "The amplifier provides a continuous average power of slightly better than 60 watts per channel with both channels operating into 8-ohm loads and distortion measuring 0.3 percent; with 4 and 16 ohm loads, the output at the same distortion measured 54 and 47 watts, respectively. At 50 watts output, distortion is less than 0.2 percent at 1000 Hz, and less than 0.5 percent from 8 Hz to 40 kHz; at the 1-watt level, THD is less than 0.1 percent at 1000 kHz, and less than 0.25 percent from 8 Hz to 27 kHz. At full output, IM distortion is less than 0.5 percent, and at 1 watt it is only 0.15 percent."

† Kit AR-15, (less cabinet) 34 lbs. \$329.95
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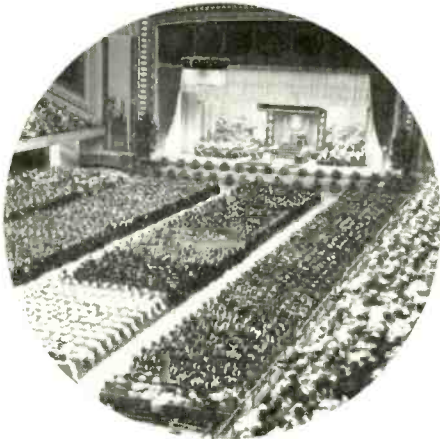
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AUDIO BASICS

by HANS H. FANTEL



SPECIFICATIONS XII: AMPLIFIER POWER

HAVING explored the general relationships between amplifier power and musical sound last month, let us now zero in on specifics; the wattage you need for your kind of listening in your particular room. To come up with a definite figure, you must consider four main factors: (1) the minimum power requirement of your speakers; (2) the size of your room; (3) your furnishings; (4) your musical tastes.

Let's say the minimum power requirement of your speakers (according to their manufacturer) is 15 watts each. This figure is fairly representative of modern acoustic-suspension speakers (which some manufacturers may call air-suspension or pneumatic-suspension speakers). In a normal room 15 watts should allow a comfortable power margin even for full orchestral passages.

But what is a normal room? For the purpose of this discussion, we assume that it has a volume of anywhere from 2,000 to 3,000 cubic feet. If your room is bigger, the basic power requirement will also be greater. For 4,000 cubic feet you may need as much as 20 watts per channel, and for 6,000 cubic feet make it 30 watts. If your home boasts a baronial 8,000-cubic-foot living room, triple the basic power requirement to 45 watts per channel. Since all the wattage figures here are given on a per-channel basis, the total power output of your amplifier should be twice the figures stated above.

That's only the beginning of our calculation. Next enter your furnishings into the equation. Suppose most of the surfaces in your home reflect rather than absorb sound—smooth plaster walls, hard floors with just a few scattered rugs, no heavy draperies. This makes a "live" acoustic environment in which reflected sound reinforces the output of your stereo system. As a result you can cut your power needs back by about 50 per cent.

But suppose your environment is acoustically "dead"—wall-to-wall carpeting, heavy draperies, overstuffed chairs and sofas, pillows and wall hangings all soaking up sound and placing an extra burden on your amplifier. In that case, tack on an extra 50 per cent to your power budget. Open doorways, by the way, should be regarded as an equivalent area of sound-absorbent curtain.

Now about your musical tastes. So far, our calculations are based on the assumption that you play symphonic music at reasonably loud levels. But if Wagnerian thunder or massive organ sound is your special delight, you can make those crashing tonal cascades even more thrilling if you up the power figure so far determined by about 30 per cent. On the other hand, if your predilections run exclusively to string quartets or small jazz combos, you can cut 30 per cent off the calculated wattage. But why limit yourself so? Ideally, a good sound system should be able to reproduce convincingly any kind of music, whatever its original setting.

If you find that your musical inclinations and domestic surroundings decidedly make you a high-powered type, ask yourself one more question: Can your speakers handle all that power pumped into them by the amplifier? Make sure that the power-handling capacity of your speakers (as stated in the manufacturer's specifications) equals or surpasses the per-channel rating of your amplifier. Otherwise, those hoped-for *fortissimi* may drive your speakers into distortion or blow-out.

Chances are that many of your favorite FM stations are not the ones closest to where you live. Their signals are a bit weaker and subject to blanketing by stronger signals from a nearby station. Thus, all the advantages of a high-priced, highly sensitive tuner can go down the drain if performance on weak stations is marred by interference from strong local signals.

The new Sony FM stereo tuner is highly sensitive (2 microvolts) so that it can pull in the weakest stations. For all its sensitivity, the ST-5000W is unusually insensitive to cross-modulation. An ingenious new cadmium-sulfide (CdS) bandpass RF attenuator prevents cross-modulation caused by weak stations being blanketed by strong signals. This automatic and continuously variable attenuator reacts appropriately to the strength of the signal coming down the antenna lead and simultaneously refuses to pass any signal outside the FM band.

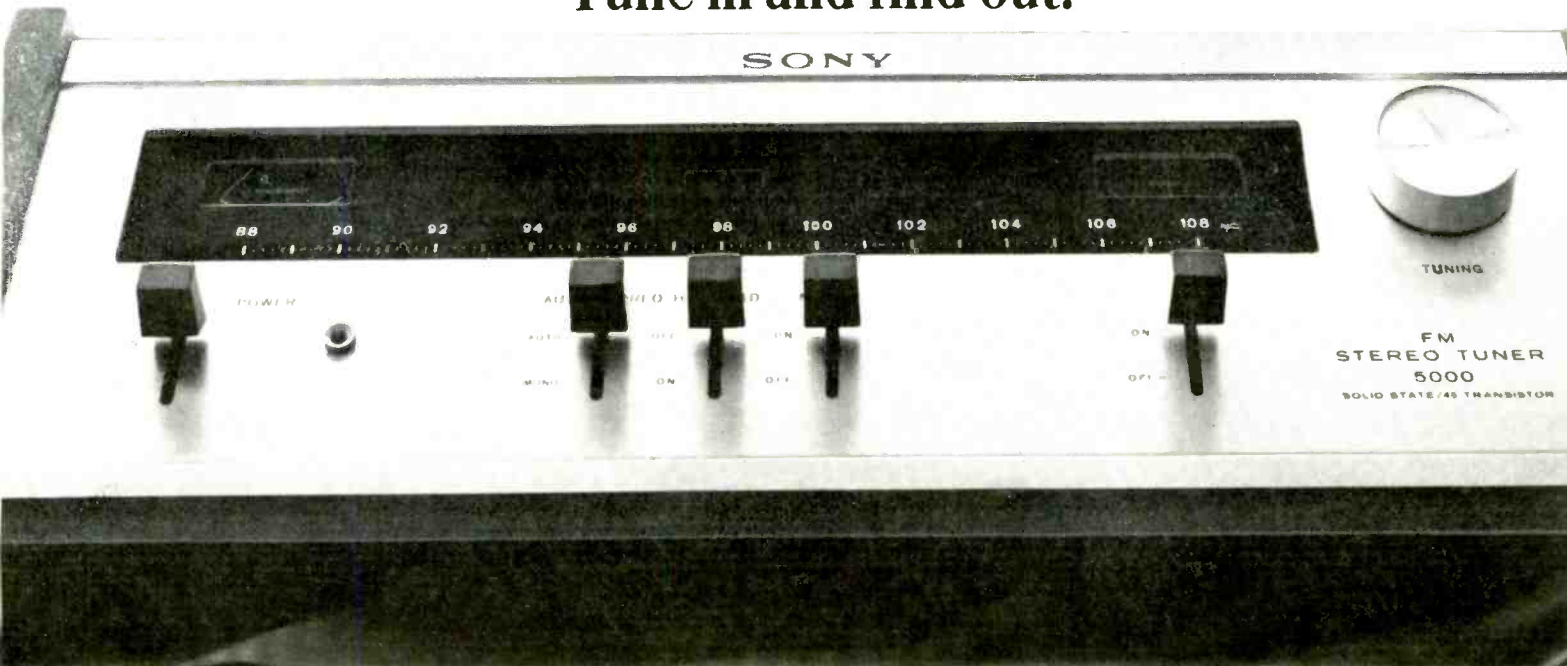
There's so much to recommend the ST-5000W. 45 transistors and 30 diodes are employed—Sony transistors. Double-tuning IF transformers at all 8 stages of the IF sec-

tion reject spurious signals and noise. A 5-gang, high-precision, silver-plated tuning capacitor contributes to excellent selectivity and accurate tuning. The slide-rule dial, probably the longest and most accurate used in any tuner, is absolutely linear. When you dial 96.3, you're on 96.3. And the center of any channel can be pinpointed visually with the tuning meter. Another meter helps adjust the antenna for maximum signal pick-up. A stereo switch automatically selects the correct mode—stereo or mono. There's also a foolproof stereo indicator light. An adjustable CdS muting switch suppresses interstation noise, but not weak stations. A hi-blend switch assures good stereo reception, even on stations with weak, noisy signals. An AFC circuit can be switched in under extreme operating conditions.

Hear why the sensitive Sony ST-5000W is so insensitive. Tune it in at your favorite dealer. The supreme pleasure of owning this fine instrument is well worth \$399.50. (Suggested list.) For details write: Sony Corporation of America, Dept. H., 47-47 Van Dam Street, Long Island City, N.Y. 11101.

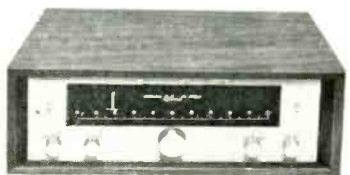
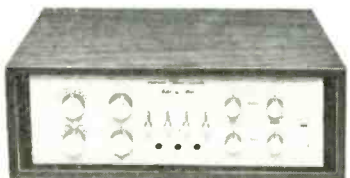
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The Marantz components illustrated, top to bottom: SLT-12 Straight-Line Tracking Playback System • Model 15 solid-state 120-watt Stereo Power Amplifier • Model 7T solid-state Stereo Pre-amplifier Console • Model 10B Stereo FM Tuner

CIRCLE NO. 33 ON READER SERVICE CARD

TECHNICAL TALK

By JULIAN D. HIRSCH



● AMPLIFIER-DISTORTION MEASUREMENTS—

PART II: In the June column, I discussed the problems of making distortion measurements at low power levels. Only a few years ago, most transistor amplifiers showed, under test, an *increase* of distortion as the output power was reduced below a few watts. This was directly opposite to the behavior of good vacuum-tube amplifiers.

At first, many transistor-amplifier manufacturers tended to ignore this effect, printing the specifications of their units in such a way that the casual reader would be unaware of any problem. For example, an amplifier that delivered 30 watts per channel with 2 per cent distortion and 10 watts with 0.2 per cent distortion would be specified at those points only. One rarely found mention of the fact that the amplifier's distortion returned to 2 per cent at a 1-watt output level.

When equipment test reports began to appear with curves showing this characteristic, embarrassing questions were asked of the manufacturers. Evidently the problem was not insuperable, since most present-day models have distortion curves that level off at a comfortably low value, such as a few tenths of a per cent, at low outputs. And quite a few transistor amplifiers have unmeasurably low distortion at levels below 1 watt, placing them in the class of the best vacuum-tube amplifiers.

An obvious question then is, why didn't the high distortion measured at the low levels typical of ordinary listening conditions cause these amplifiers to *sound* inferior? Some authorities have claimed that this distortion actually was the basis for the so-called "transistor sound," about which we hear comparatively little nowadays. They may be correct, but I have another explanation that seems to have some validity.

Assume that 1 watt of electrical power from an amplifier into a given speaker will develop a rather high acoustic level—such as 80 db—in the listening room. A distortion of 1 per cent is the equivalent of acoustic distortion products 40 db below the program level, or a sound-pressure level of 40 db. A very quiet suburban living room might have a fairly constant background-noise level of 40 db, but most urban homes and apartments will have even higher noise levels. The distortion elements

therefore, may be low enough in volume to be masked by the surrounding ambient noise level and as a result not be heard at all.

If the listener turns up the volume in an effort to achieve "concert-hall realism," the acoustic output of the speaker on peaks might go as high as 100 db. This would require 100 watts of electrical power—well within the capabilities of many amplifiers. If the distortion is 1 per cent at *this* level, the acoustic distortion products are at a 60-db level. This is well above the ambient noise level and might be quite audible.

It is quite possible, then, because of masking effects, that a given percentage of distortion is much less audible, and thus less objectionable, at low listening levels than at high levels. I realize that this explanation has in it an element of oversimplification, and I would welcome comments from readers and manufacturers.

When measuring distortion at high power levels, noise and hum do not significantly affect the accuracy of measurement. But, unfortunately, there are other phenomena that make it difficult to obtain precisely repeatable readings, or sometimes even to make measurements at all. The distortion of an amplifier increases very slowly until maximum output power is reached, then the tops and bottoms of the output waveforms suddenly flatten or "clip." At this point, the distortion rises very rapidly, often increasing ten-fold with an output power change of only a couple of watts.

Many amplifiers, when operated at their rated power, are very close to their clipping point. Careful, continuous monitoring of input-

signal level, a.c. line voltage, and load-resistor impedance is necessary to stay below clipping when measuring distortion at full power. We take these precautions when testing, of course, but there is another factor over which we have little control.

Most transistors suffer a temporary change of their characteristics when they become hot. Although these changes may, in some circuits, *reduce* distortion, they more often cause it to increase. Measuring distortion at full power over the entire audio frequency range requires some fifteen measurements, each taking perhaps one minute. After a few measurements, the output transistors are very

REVIEWED THIS MONTH



**AR XA Universal Turntable
Heathkit AD-16 Tape Recorder
Knight KG-790 AM/FM Tuner**

hot, and usually the distortion begins to increase. If we measure the 20-Hz distortion with the amplifier cold and measure it again after completing the test cycle, the second distortion reading may be several times as high. Also, the 20,000-Hz distortion is normally measured at the end of the test cycle (when the unit is hot), thus producing a higher figure than if we had started at that frequency.

After making the above measurements, we then measure the distortion at 1,000 Hz over the range of the amplifier's power output from 0.1 watt to the clipping point. By this time the amplifier is quite hot, and we rarely get precisely the same distortion readings at the same power levels that were observed on our initial series of tests. This discrepancy between the two curves has been observed by a few of our sharp-eyed readers.

The output transistors are not the only culprits. The power transformer also becomes quite hot during these tests, and the temperature rise increases the winding resistance and slightly reduces the supply voltage to the transistors. The clipping power level is critically dependent on this voltage. Regulated power supplies solve this problem but are used on very few amplifiers.

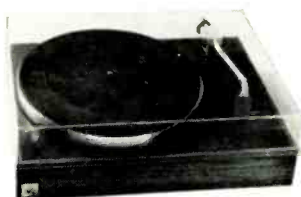
The 8-ohm load resistors also become very hot, and an appreciable change in their value, if it occurs, can strongly affect the clipping power level. We operate our loads in a water bath, which often comes to a boil during the testing of a high-power amplifier. But this technique does keep the resistance of the load constant within a few per cent, which is an insignificant change. The water's shunting effect on the load is not measurable.

The message in all this is that small discrepancies between our distortion or power readings and those claimed by a manufacturer do not necessarily indicate either sloppy work on our part or ulterior motives on his. They are simply facts of life in the world of measurements in general, and in the high-fidelity world in particular. Happily, no user of amplifiers will ever subject them to the severe conditions they are subjected to under test. In any case, one should not be too concerned with our measurements, for example, of 47 watts *versus* the manufacturer's rating of 50 watts, or whether the distortion at that point is 1 or 2 per cent. These matters, understandably important to the designer or manufacturer of equipment, will have no audible significance for the average user.

≈ EQUIPMENT TEST REPORTS ≈

By Hirsch-Houck Laboratories

ACOUSTIC RESEARCH XA UNIVERSAL RECORD PLAYER



● THE AR manual-play turntable has been, for some years, an outstanding example of professional-caliber performance at a modest price. Originally a single-speed unit, it was later modified for two-speed operation (33 $\frac{1}{3}$ and 45 rpm). Speed change requires lifting off the turntable platter and shifting the drive belt to another portion of the stepped motor pulley. Deceptively simple, the AR turntable achieved truly inaudible rumble levels by using a low-speed (400 rpm) clock-type synchronous motor to drive the turntable through a soft isolating belt. The unweighted rumble is lower than that of most fine turntables, and since it is mostly in the subsonic region (the basic motor vibration rate is about 7 Hz), the rumble cannot be heard on any practical speaker system. Since the drive motor would run in either direction equally well, a second motor was included to start the turntable in the right direction, after which it did not contribute to the drive torque.

About a year ago, without fanfare, AR changed to a single-motor drive, using a specially designed unidirectional 300-rpm permanent-magnet motor whose characteristics are as good as or better than the original design. Since the performance specifications of the turntable were not affected, the model designation remained unchanged.

Another unusual feature of both the old and the new AR turntables which contributes to the low rumble and

freedom from external shock and vibration effects is the integrated tone-arm/turntable mounting system. The arm and turntable are rigidly coupled by being mounted to a casting suspended below the motorboard. The casting floats on damped isolating springs fastened to the rigidly mounted motorboard. The drive motor is firmly mounted to the motorboard. Thus, all parts of the player that are in contact with the record are mechanically isolated from external vibrating forces, including the motor, by a mechanical low-pass filter that prevents external stimuli any higher than a few hertz in frequency from reaching the turntable and arm.

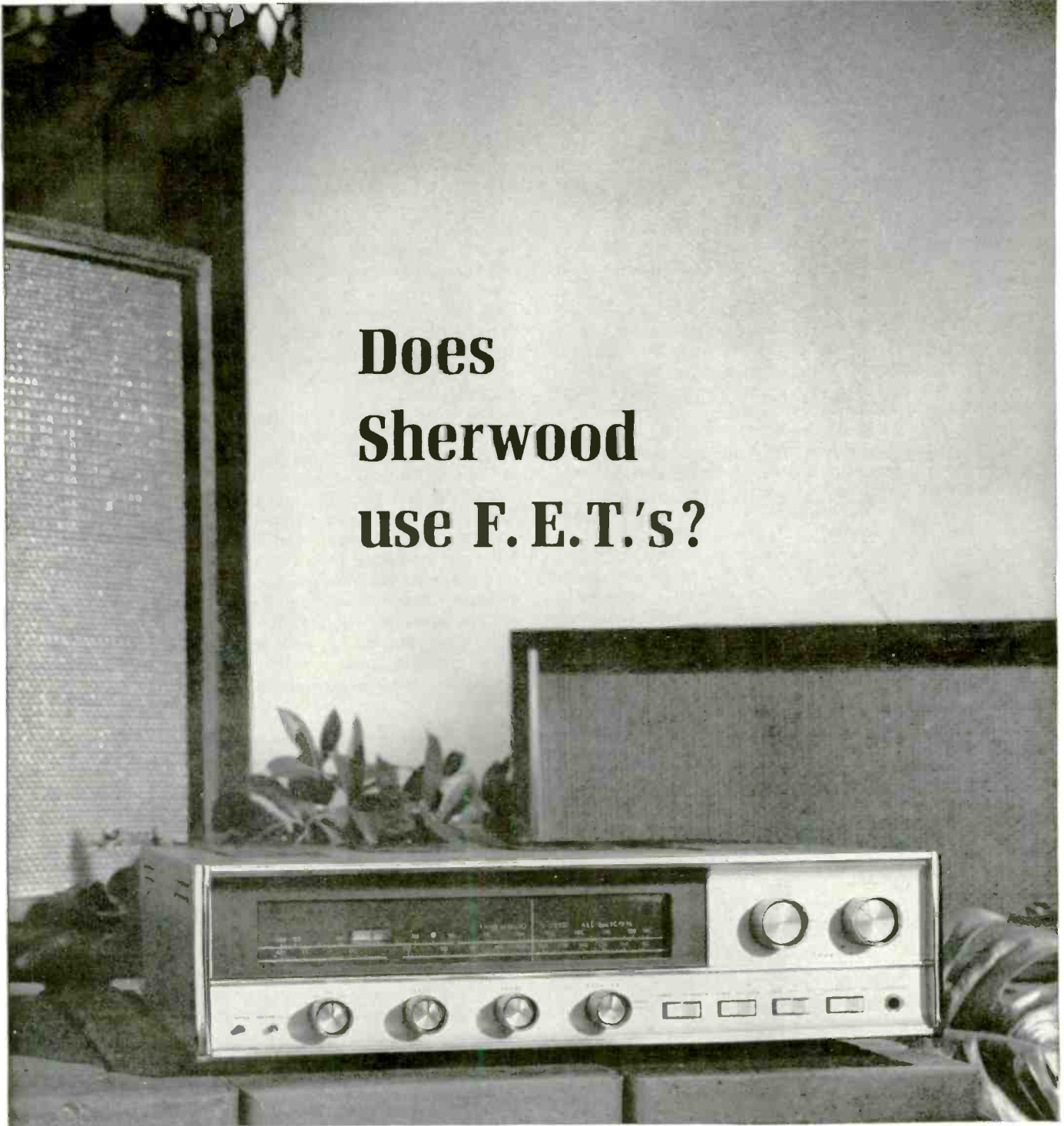
Any shock that does reach the turntable and arm moves them both as a unit because they are solidly coupled. Since there is no relative motion between the pickup stylus and the record surface, the phono cartridge is simply not aware that external forces are at work. The effectiveness of this system has been demonstrated repeatedly by AR at audio shows, where the motorboard of the XA turntable has been pounded vigorously with a mallet while it was playing a record with a gram or two of stylus force. Not only is there no groove jumping, but there is not even a thump to be heard from the speakers. Because of the high isolation from external stimuli, the AR turntable is exceptionally immune to acoustic feedback. We have operated it on top of and in front of speaker systems while playing records at high volume, with no trace of feedback. This would make the turntable ideal for installation in systems in which the speakers are installed close to the record player or even in the same cabinet with it.

Like the turntable drive, the XA's tone arm is deceptively simple in appearance, but obviously carefully thought out. The light aluminum tube and plastic plug-in shell

(Continued on page 32)

COMPARE THESE NEW SHERWOOD S-7800-FET FEATURES AND SPECS! ALL-SILICON RELIABILITY, INSTANTANEOUS OUTPUT OVERLOAD PROTECTION CIRCUITRY, NOISE-THRESHOLD-GATED AUTOMATIC FM STEREO/MONO SWITCHING, FM STEREO LIGHT, ZERO-CENTER TUNING METER, FRONT-PANEL FM INTERCHANNEL HUSH ADJUSTMENT, MONO/STEREO SWITCH AND STEREO HEADPHONE JACK, ROCKER-ACTION SWITCHES FOR TAPE MONITOR, NOISE-FILTER, MAIN AND REMOTE SPEAKERS DISCONNECT, MUSIC POWER 140 WATTS (4 OHMS) @ 0.8% HARM DISTORTION, IM DISTORTION 0.1% @ 10 WATTS OR LESS, POWER BANDWIDTH 12-35,000 CPS, PHONO SENS. 1.8 MV, HUM AND NOISE (PHONO) -70 DB, FM SENS. (HI) 1.8 μ V FOR 30 DB QUIETING, FM SIGNAL-TO-NOISE 70 DB, FM CAPTURE RATIO: 2.4 DB, FM CROSS-MODULATION REJECTION -95DB, DRIFT = \pm 0.1%, AM SENS. 2.0 μ V, AM BANDWIDTH 7.5 KC, 45 SILICON TRANSISTORS PLUS 16 SILICON DIODES AND RECTIFIERS SIZE: 16 1/2 X 14 IN. DP.

Does Sherwood use F. E. T.'s?



Did you think because Sherwood makes such beautiful receivers we would neglect Field-Effect-Transistor circuitry? The new Sherwood ALL-SILICON Model S-7800-FET FM/AM 140-Watt Receiver shown above has been specially designed for urban strong-signal locations.* This ALL-SILICON receiver offers unexcelled FM reception in areas where powerful local stations can interfere with the reception of distant and weaker stations. The Model S-7800-FET also features two separate front-panel rocker switches for multiple speaker installations throughout your home. Write for a complimentary copy of the new Multiple-Speaker Installation manual.

*Specially-selected Field-Effect Transistors in RF and Mixer stages of S-7800-FET improve cross-modulation rejection almost 10 times (26 db)

S-7800-FET 140-watt FM-AM ALL-SILICON Receiver
\$409.50 for custom mounting
\$418.50 in walnut leatherette case
\$437.50 in hand-rubbed walnut cabinet



Sherwood Electronic Laboratories, Inc., 4300 North California Avenue, Chicago, Illinois 60618. Write Dept. 8R
CIRCLE NO. 43 ON READER SERVICE CARD

Sherwood

reduce arm mass to the point where low-mass cartridges can be used effectively to track warped records. The pivot point of the AR arm is very nearly in the plane of the record, minimizing wow when playing severely warped records. The arm is not completely balanced, the unbalance force being used to supply tracking force. Although the turntable cannot be operated at extreme tilt angles, it does not require critical leveling. The arm is adjustable for stylus overhang, and a plastic gauge is supplied to set overhang or minimum tracking error with any cartridge. Also supplied with the AR turntable (and available separately for \$1) is an excellent stylus-force gauge.

The AR arm has a unique viscous-damped vertical pivot that allows the arm to float gently down to the record surface when released, yet the damping disengages completely during playing. It is intended solely as a protective device for the cartridge, and does not contribute to pivot damping (or introduce harmful drag) during play.

The latest version of the AR Model XA turntable has several minor design improvements. Among these are: a modified suspension system that decreases sensitivity to shock in the horizontal plane by a factor of several times, a more reliable pivot-damping system, and the single-motor drive mentioned earlier. Owners of the original AR turntable (including the single-speed models) may have them converted to the current XA specifications (that includes the incorporation of the two-speed drive but not necessarily the single motor) for only \$15.

For sale to overseas markets, AR has recently introduced the XA Universal. This has a switch to change from 120-volt to 240-volt operation, and comes with both 50- and 60-Hz drive pulleys. Incidentally, the motor will not be damaged if operated on 240 volts when set for 120 volts, though this is not recommended. For this report we tested one of the new XA Universal turntables.

The wow and flutter were extremely low—0.035 and 0.03 per cent, respectively, at 33 $\frac{1}{3}$ rpm. The unweighted

rumble (NAB standard) was —38 db including vertical and lateral components, and —42 db with vertical components cancelled out. Not only is the rumble figure at the level of the best we have ever measured, but since the basic rumble frequency is about 5 Hz, it is way down in the subsonic, sub-audible region.

As a frame of reference, these performance figures are slightly better than those we measured on one of the original AR single-speed turntables several years ago. The differences are not significant, which is not surprising in view of the outstanding performance of the AR turntable. It is obviously difficult to make very large improvements in products that are already outstanding performers.

The tone arm had a tracking error of less than 0.5 degree per inch for record radii between 2 $\frac{1}{2}$ and 6 inches. Its feel was excellent, with a comfortably shaped finger lift and no tendency to "get away" from the user, even when operating at a 1-gram stylus force. AR does not include any anti-skating features, holding that the benefits of such devices are not great enough to warrant their inclusion, since a minute increase in tracking force will accomplish the same reduction of distortion as anti-skating compensation.

The speed of the AR XA turntable was exact, and was not affected by line-voltage variation over a far wider range than would ever be encountered in practice (even in countries with poor line-voltage stability).

The AR XA turntable, complete with its oiled walnut base, plastic dust cover, stylus-force and overhang gauges, and attached power and signal cables, sells for \$78. The Universal model is \$87. The three-year guarantee (like that for other AR products) covers materials, labor, and shipping costs both ways, and attests to the basic reliability of this turntable, whose performance is unsurpassed and is, at best, equaled by only two or three much higher-priced record players.

For more information, circle 187 on reader service card

HEATHKIT AD-16 TAPE RECORDER



● WHEN we reviewed the Magnecord 1020 tape recorder (*HiFi/STEREO REVIEW*, October, 1966), we felt that, even at its \$570 price, it was one of the best values in high-quality tape recorders. Even without regard to price, it had few peers. Nevertheless, \$570 is a considerable sum, and many people would rather settle for a lesser machine than invest that much in a tape recorder. Now, the Heath Company has made it possible for the discriminating hobbyist with a limited budget to acquire this same fine Magnecord instrument for the price of an ordinary tape recorder.

The Heath AD-16 is, for all practical purposes, a Magnecord 1020. In color and style, it harmonizes with the other Heathkit audio components, but its controls, circuits, and mechanical parts are identical with those of the Magnecord 1020—in fact, the mechanical components are made at the Magnecord factory.

Like many other Heathkits, the AD-16 uses printed-circuit boards for its all-solid-state circuits. Not only does this ensure proper operation of critical circuits, but assembly is greatly simplified compared with the point-to-point

wiring found in some older kits. To further expedite the assembly process, the connecting wires and shielded cables are pre-cut, stripped, and marked. Where necessary, connectors are already installed. Extensive use is also made of plug-in connectors in the internal wiring of the AD-16. Special wrenches are supplied for mechanical adjustments, and a test tape is provided for head alignment and bias adjustment.

The components of the electronically regulated power supply (except for the transformer) are mounted on a small circuit board. The other electronic circuits are assembled on a single large board. A total of twenty-one transistors and four diodes are used in the AD-16, which is a four-track, two-speed stereo machine with separate recording and playback amplifiers and an 80-kHz bias oscillator.

Much of the performance of a tape recorder is determined by the rigidity and stability of its mechanical structure. The transport mechanism of the Heath AD-16 is assembled on a heavy, ribbed, cast plate. Three motors and three solenoids are controlled by seven pushbutton switches. The tape speeds are 7 $\frac{1}{2}$ and 3 $\frac{3}{4}$ ips, with a separate control for selecting recording and playback equalization. A RECORD selector switch permits recording on either or both channels, so that mono sound-with-sound or sound-on-sound recordings can be made.

The Heath AD-16 has separate level controls for microphone (either low- or high-impedance) and high-level input sources, plus separate playback-level controls. The controls are duplicated for the two channels. Illuminated

(Continued on page 34)



FM-3 TUNER
99.95 KIT, 154.95 ASSEMBLED

PAS-3X PREAMPLIFIER
69.95 KIT, 109.95 ASSEMBLED

UNCOMPROMISED QUALITY

This combination of PAS-3X preamplifier, FM-3 tuner, and Stereo 120 amplifier represents the highest level of quality which can be attained with high fidelity components. It combines the virtues of both tubes and transistors in a flexible modular system without skimping to squeeze it into one unit.

Two of these components have passed the test of time — years of increasing public acceptance. The Stereo 120 is an all new design. All have been engineered and produced with the same underlying Dynaco philosophy of offering superlative performance at the lowest possible cost—when you buy it, and as long as you own it. Everyone recognizes that Dynaco is “best for the money.” We know that it should be judged regardless of price—Dynaco quality has never been compromised by cost considerations.

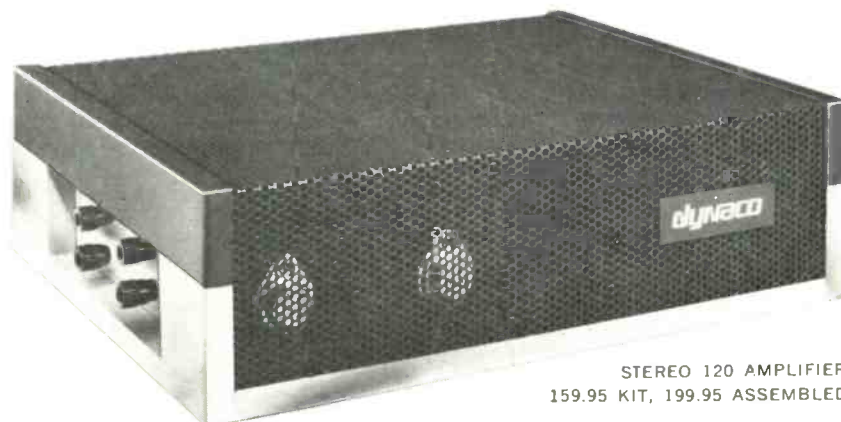
Our sole concern is sonic perfection. We don't follow the herd in engineering, styling or promotion. Fads, status and “revolutionary new sounds” never enter our planning. We avoid regular model changes and the planned obsolescence they engender. We take the extra time to do things **right the first time**. That probably ex-

plains why our limited product line has become increasingly popular each year. It's why our kits are so easy to build; why maintenance is so easy; and service problems so few. We constantly strive to improve our products though, and when we do, these changes are available to our customers to update existing equipment at low cost.

Our detailed literature, available on request, gives the full specifications which help to explain why the Dynaco components illustrated (PAS-3X, FM-3 and Stereo 120) will provide the finest sound possible. Specifications are important, but the most complete specifications cannot define truly superb sound. Go to your dealer, and compare Dynaco with the most expensive alternatives, using the very best speakers and source material you can find. Be just as critical, within their power limitations, of our best-selling Stereo 70, Stereo 35 and SCA-35.

Of course, if you are now a Dyna owner, don't expect us to convince you to replace what you already have.

But your friends might benefit!



STEREO 120 AMPLIFIER
159.95 KIT, 199.95 ASSEMBLED

Dynaco Inc. 3912 Powelton Ave. Philadelphia, Pa. 19104 U.S.A.

CIRCLE NO. 17 ON READER SERVICE CARD

VU meters monitor the program level at the MONITOR OUTPUT jacks. With the MONITOR switch set to SOURCE, the meters indicate recording level, and in the TAPE position they read playback-monitor level. The signal whose level is indicated on the meters also appears at the MONITOR OUTPUT jacks. Another pair of jacks, labeled TAPE OUTPUT, are energized only in the TAPE position of the monitor switch.

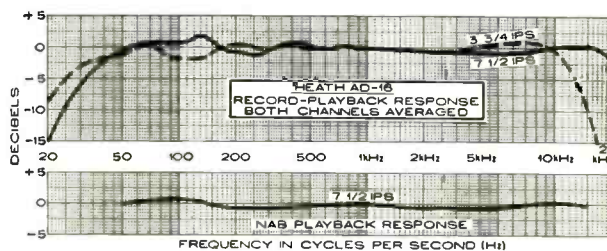
The AUX input jacks are located at the rear of the AD-16, and the microphone jacks and a pair of stereo headphone jacks are located on the panel. The transport controls include a speed selector, pushbutton-reset index counter, a power switch, and the seven basic tape-motion control buttons. These include REVERSE and HI FWD tape speeds, RECORD and RECORD SAFETY buttons, PLAY, STOP, and CUE. Pressing the CUE button brings the tape into contact with the heads independent of tape motion. This allows audible response from the tape when the reels are moved by hand for editing or cueing purposes and permits specific sections to be located in fast wind or rewind. All the transport modes are solenoid-activated, which provides positive control of the operation of the recorder.

The Heath AD-16 is unique among kits in that the builder does the complete mechanical assembly of the transport. This includes mounting and adjusting the motors, solenoids, clutches, brakes, belts, and numerous other parts. Although the task might seem formidable, the detailed photographs and instructions make it a fool-proof process, requiring no special mechanical skills or tools other than those supplied with the kit. Our kit builder, who has become somewhat blasé about electronic assembly, reports that construction of the deck was a particularly interesting project and had the advantage of making him feel competent to make whatever mechanical adjustments may be necessary in the future. Since an alignment tape and instructions for its use are also included with the kit, the builder also has the option of rechecking the recorder's alignment whenever he thinks something may have gone askew electrically. Incidentally, no test equipment other than the AD-16's own VU meters are required.

The performance specifications of the Heath AD-16 are impressive. The record-playback frequency response is rated ± 2 db from 45 to 18,000 Hz at $7\frac{1}{2}$ ips, and ± 3 db from 30 to 10,000 Hz at $3\frac{3}{4}$ ips. Playback response is ± 3 db from 50 to 15,000 Hz with a standard NAB test tape at $7\frac{1}{2}$ ips. Wow and flutter are less than 0.18 per cent at $7\frac{1}{2}$ ips and 0.25 per cent at $3\frac{3}{4}$ ips. Signal-to-noise ratio is better than 52 db at $7\frac{1}{2}$ ips and 48 db at $3\frac{3}{4}$ ips.

In our laboratory tests, the AD-16 met, and in most cases substantially bettered, all of its specifications. The record-playback frequency response was ± 2 db from 36

to 20,000 Hz at $7\frac{1}{2}$ ips, and ± 1.5 db from 25 to 12,000 Hz at $3\frac{3}{4}$ ips. The playback response with the Ampex 31321-04 test tape was ± 1 db from 50 to 15,000 Hz. Signal-to-noise ratio was 57 db at $7\frac{1}{2}$ ips and 52 db at $3\frac{3}{4}$ ips, referred to the 3 per cent distortion level. The "0 VU" recording level was 6 db below the 3 per cent distortion level, assuring the user that distortion will be negligible even when the meter readings go substantially into the red part of the scale. An input of 0.26 millivolt from a



microphone, or 0.15 volt from a high-level source, was sufficient to reach a 0 VU level. During playback, 0 VU corresponded to a 1-volt output.

The tape transport had very low wow and flutter, 0.075 and 0.015 per cent, respectively, at $7\frac{1}{2}$ ips. Its speeds were almost exact, with a timing error of about 15 seconds in 30 minutes of playing time. In high-speed operation, 1,800 feet of tape was handled in less than 96 seconds, compared with the rated 1,200 feet in 120 seconds. All controls worked smoothly and positively. In addition to 5- and 7-inch reels, the AD-16 accepts the $8\frac{1}{2}$ -inch reels (available from Magnecord and others) which can hold 2,800 feet of 1-mil tape.

The performance of the Heath AD-16, which approaches professional standards, is even more impressive in an instrument selling for \$399.95 in kit form. The savings resulting from "doing it yourself" amount to about \$170 compared with the factory-assembled Magnecord 1020. Our kit builder found that about 25 hours was required to assemble and align the kit, representing a good return for one's labor.

As for its sound, the Heath AD-16 left little to be desired. A slightly increased hiss level, when playing at high volume, was the only change in program sound contributed by the recording and playback process. At $3\frac{3}{4}$ ips, a minute reduction in the "edge" of strings and brasses could be heard on wide-range material, but not on most FM broadcasts.

Several mounting accessories are available for the AD-16. These include a walnut base, tape-drawer slides, and an adapter ring for vertical panel or wall mounting.

For more information, circle 188 on reader service card

KNIGHT KG-790 AM/FM TUNER



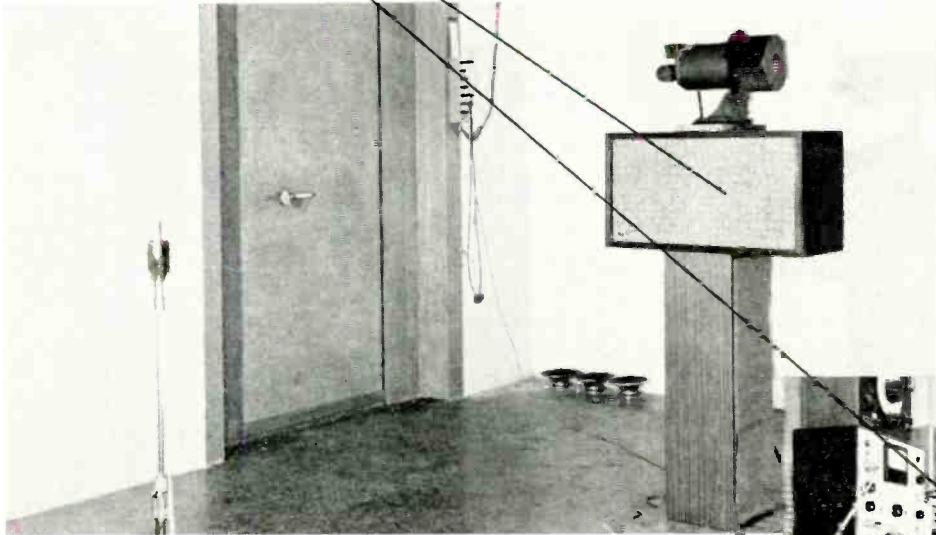
● THE Knight KG-790 AM/FM tuner is a de luxe transistorized kit component that delivers excellent FM stereo performance, and it has a much-better-than-average AM tuner. In appearance, it looks "factory built," with a brushed-gold panel and a multi-colored illuminated dial. The AM and FM dial scales are in contrasting colors, and the mode of reception selected is indicated by an illuminated AM, FM, or STEREO, in colors matching the associated dial calibrations. The softly lit tuning meter functions on

AM and FM. A green light automatically goes on to indicate stereo reception, which is selected by automatic switching circuits in the tuner. When the tuner is set to FM mode, the stereo circuits are disabled for quieter reception of weak stereo signals.

The mode switch also controls power to the tuner. Other knobs include the tuning control (which operates a smooth flywheel tuning system) and a switchable FM interstation-noise muting control. The latter can be set to silence the tuner in the absence of a signal. The turn-on is free of thumps, and only a slight burst of noise is heard when tuning on or off a station. An adjustment on the chassis establishes the signal level below which the automatic stereo/mono switching will not operate. This assures that only stereo signals of suitable strength will be heard in stereo.

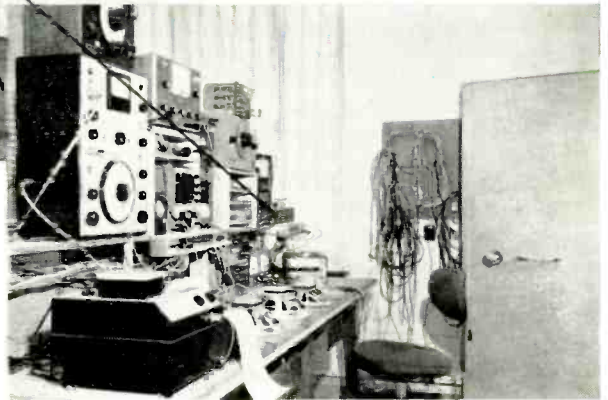
(Continued on page 36)

AR^{INC.} *speakers and turntables*
are used as laboratory measurement
standards—



COURTESY PERMA-POWER CO.

Reverberant test chamber and associated laboratory test bench of the Perma-Power Company of Chicago, manufacturer of instrument amplifiers and sound-reinforcement systems. The AR-2a* speaker on the pedestal is used as a distortion standard to calibrate chamber characteristics. This test facility, described in a recent paper by Daniel Queen in the *Journal of the AES*, employs only laboratory-grade equipment. (Note the AR turntable on the test bench.)



but they
were designed
for music.



COURTESY WABC-FM



Offices of the Vice President and General Manager, and of the Program Director of radio station WABC-FM in New York City. AR-2a* speakers and AR turntables are used throughout WABC's offices to monitor broadcasts and to check records. WABC executives must hear an accurate version of their broadcast signal; they cannot afford to use reproducing equipment that adds coloration of its own.

The "gargling" sound sometimes heard on stations that have commercial SCA (subcarrier background music) programs can be eliminated by the SCA filter, operated by a rocker switch on the panel. Another rocker-switch controls AFC (automatic frequency control), which is really not needed since the tuner has negligible drift.

In the rear of the tuner are two pairs of audio outputs, so that a tape recorder can be fed in parallel with the signals going to the amplifier. Each channel output has its own level control to match the sensitivity of the associated amplifier, as does the AM output that appears at both sets of output jacks.

The construction of the kit is greatly simplified by the completely aligned tuner circuits. The FM tuner and i.f. amplifiers are supplied pre-wired and aligned on a metal chassis subassembly. The AM tuner printed-circuit board must be assembled and wired, but its alignment is easily accomplished using received signals alone. Aside from the switching and power-supply circuits, the major part of the construction consists of assembling the multiplex circuit board. Here, too, the coils are pre-aligned and need at most a slight touch-up. *HIFI/STEREO REVIEW's* kit builder reports that the construction book is very well thought out and that total assembly time ran about 15 hours.

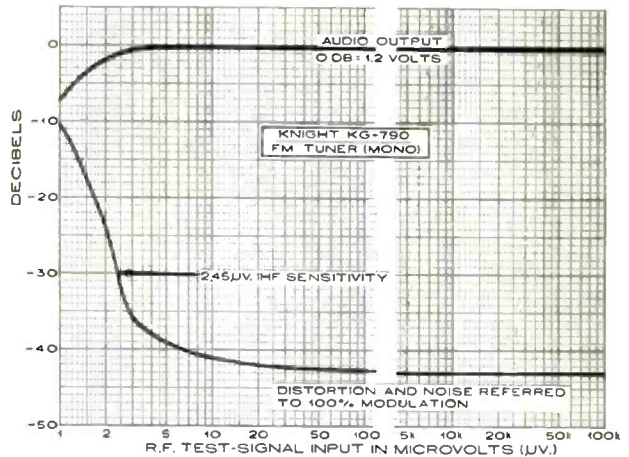
The transistorized circuits are not skimped in any way. The FM tuner contains a tuned r.f. stage and four i.f. stages, which also serve as limiters. A multiple AGC (automatic gain control) system is interconnected with the multiplex circuits to prevent triggering by noise between stations.

The stereo FM multiplex section has a frequency doubler to derive the 38-kHz switching signal from the 19-kHz pilot carrier. Encapsulated circuit networks perform the dual functions of de-emphasis and filtering the 19-kHz and 38-kHz components from the outputs, so that tape recordings can be made without whistles or other interference arising from interaction with the recorder's bias oscillator.

The AM tuning section has a tuned r.f. stage and two i.f. stages, followed by a half-wave diode detector. It has a very effective 10-kHz whistle filter, a necessity for any good AM receiver. A ferrite-rod AM antenna is built into the KG-790, and an external AM antenna can be added for fringe-area reception.

In our laboratory measurements, the Knight KG-790 met or surpassed its specifications for FM sensitivity, distortion, and channel separation. The IHF usable sensitivity was 2.45 microvolts, and the noise and distortion fell to within 3 db of their ultimate value at 6.8 microvolts. The

distortion at 100 per cent modulation was less than 0.75 per cent. Channel separation was 30 db or better from below 400 to 4,000 Hz, and was 18 db at 10,000 Hz. Tuning was non-critical, and the sound from the FM tuner left nothing to be desired. Frequency response was ± 2.5 db from 30 to 12,000 Hz, down 5.5 db at 15,000 Hz. The high-frequency roll-off was apparently the result of the filtering, which was highly effective in eliminating undesired high-frequency signals from the output. There was no audible loss of brilliance, and one would never be

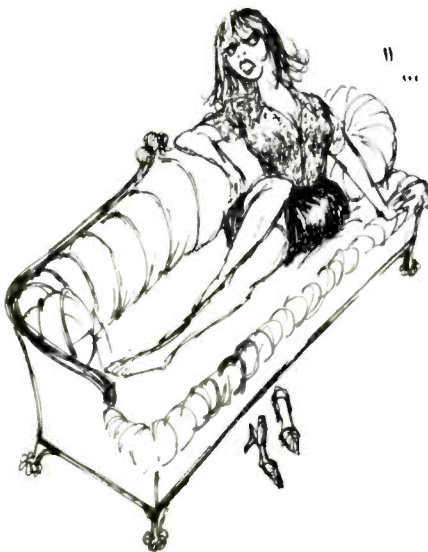


aware of the roll-off if measurements were not made. The automatic stereo switching worked flawlessly, and there was never a false indication by the stereo light.

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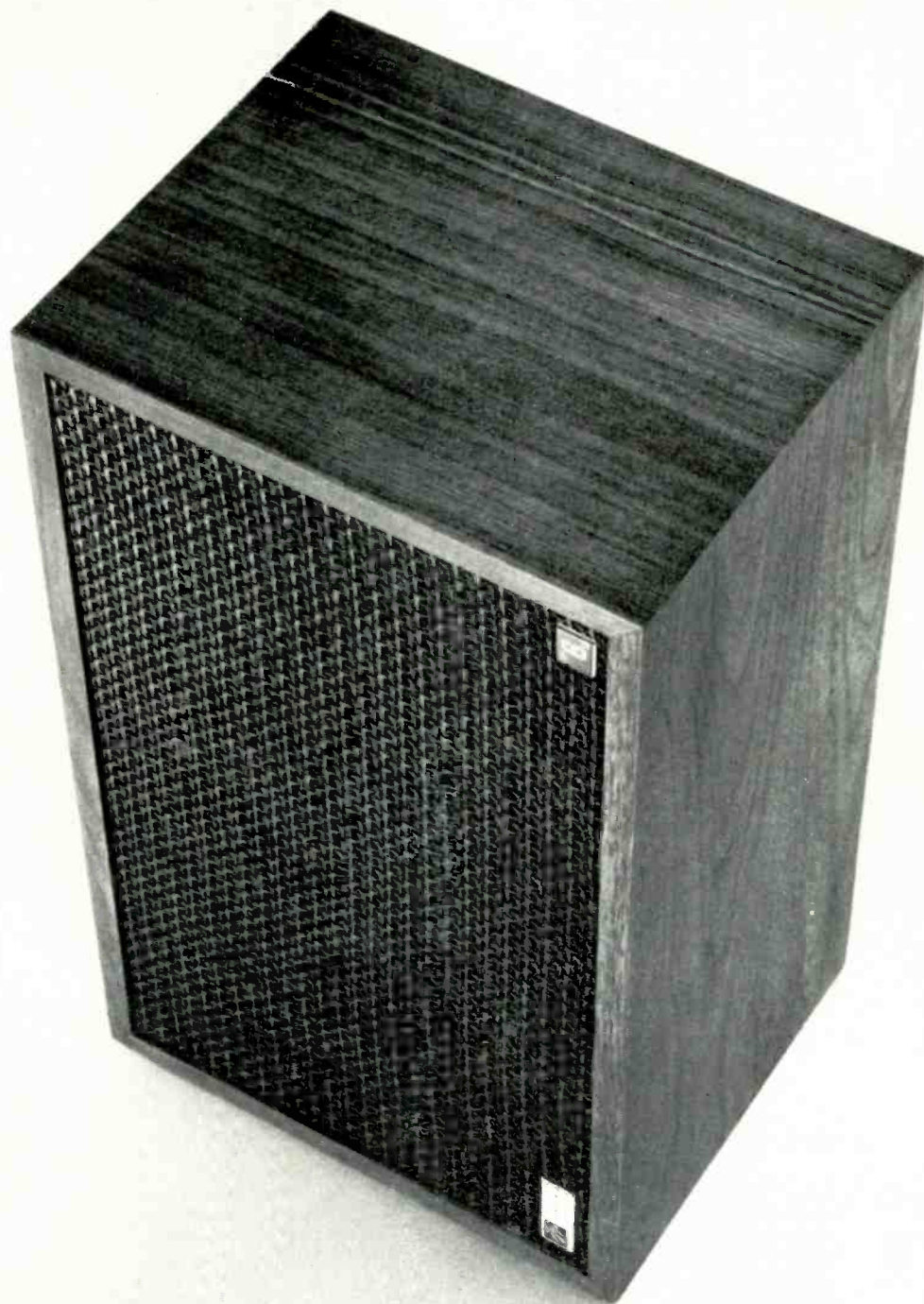
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Smetana's
THE MOLDAU

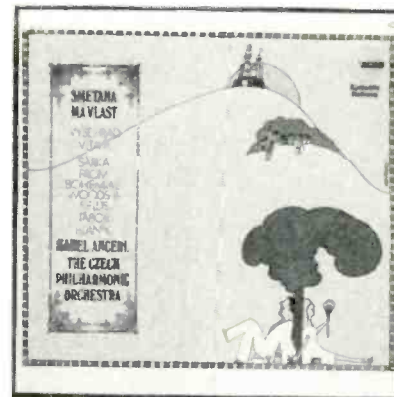
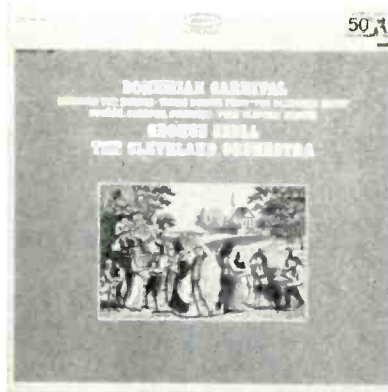
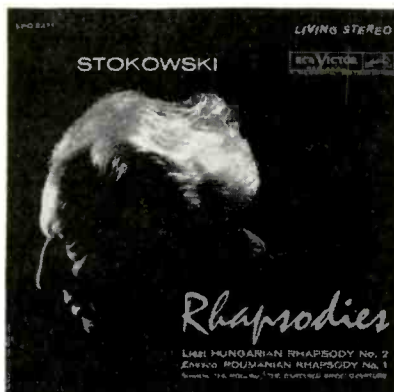
THE political upheaval in the Austrian Empire in the revolutionary year 1848 left its mark across the face of Central Europe. More than two-thirds of a century were to pass before the Empire finally crumbled in true *Götterdämmerung* fashion, but the end was already foreshadowed by the events of 1848. For the moment, however, the Habsburgs were in control, and one immediate result of the risings was the imposition of violently repressive measures against local patriotic expression in the countries within the Austrian orbit. For such a patriot as the Bohemian composer Bedřich Smetana, the atmosphere at home quickly became intolerable. Smetana had founded a private music school in Prague, and was also pursuing a modest career as a concert pianist. But in 1856, at the age of thirty-two, Smetana left Prague to settle in Göteborg, Sweden.

When Austria was defeated in northern Italy by the Italian and French armies in 1859, the domination of the Austrian Empire over Central Europe was shaken. In Czechoslovakia the expression of nationalist sentiment became possible once again, and there was soon a new upsurge in nationalist effort. A new National Opera House was built, and the public was promised a repertoire of stage works sung in the native language and imbued with the national character. By 1861 the expatriate Smetana was sufficiently convinced of the change of atmosphere to

return to Prague and throw himself into its artistic life.

Smetana composed his first opera, *The Brandenburgers in Bohemia*, for the new National Opera. The year of its first production, 1866, was also the year that saw the creation of Smetana's greatest operatic success, *The Bartered Bride*. The enthusiasm engendered by *The Bartered Bride* led to Smetana's appointment as principal conductor at the Opera, and he very quickly became the most important and influential musician in the country. He composed other operas, among them *Dalibor* (1868), *Libussa* (1872), and *The Two Widows* (1874), but none of them enjoyed great success. In 1874, Smetana's increasing deafness suddenly worsened; discouraged and embittered, he resigned his conductorship at the opera and withdrew from public life.

The fires of nationalism were not to be denied, however, and between 1874 and 1879 Smetana composed his set of six symphonic poems collectively entitled *Má Vlast* (*My Country*). This burst of creative energy also produced the string quartet "From My Life," which reflects the tragedy of Smetana's deafness, and two more operas, *The Kiss* (1876), and *The Secret* (1878). Another opera, *The Devil's Wall* (1882), was a failure at its first performance, causing Smetana great anguish and plunging him into depression. Two years later the composer could no longer cope with the world; he entered an insane



The touchstone for stereo recordings of Bedřich Smetana's tone poem *The Moldau* is RCA Victor's, conducted by Leopold Stokowski. George Szell's more objective performance for Columbia is equally well recorded. The complete symphonic cycle *Má Vlast*, in Crossroads' stereo/mono set led by Karel Ančerl, includes a fine reading of *The Moldau*.

asylum and died there a few weeks later, on May 12, 1884.

Smetana dedicated his cycle *My Country* to the city of Prague. Indeed, the first two of the six symphonic poems in the cycle, *Vyšehrad* and *Vltava* (*The Moldau*), deal with sights in and around the city—the Vyšehrad rock which rises out of the river Moldau on the outskirts of Prague, and the Moldau itself.

Smetana completed *The Moldau* late in 1874, utilizing as his principal "river" theme an old Czech folk song. The program affixed to the score declares that the music traces the scenes through which the beloved river passes—the forests and meadows, the historic sites—and other associations with it, such as the revelry of water nymphs.

ACCORDING to the Schwann catalog, there are fourteen different recordings of *The Moldau* by itself currently available, and four more in recordings of the complete cycle *My Country*. Four of the individual performances of the score seem to me to have unusual merit: the versions conducted by Leonard Bernstein (Columbia MS 6879, ML 6279—tape MQ 805); István Kertész (London CS 6330, CM 9330—tape L 80115); Leopold Stokowski (RCA Victor LSC/LM 2471—tape FTC 2058); and George Szell (Epic BC 1268, LC 3868—tape EC 834). Since *The Moldau* lasts only about eleven minutes in performance, the individual recordings of the score all include various other orchestral works: the Bernstein, Kertész, and Szell performances are all part of collections of Bohemian music, with selections from *The Bartered Bride* and Dvořák's *Slavonic Dances*; the Stokowski disc ranges over a wider field, containing, in addition to *The Moldau*, performances of Liszt's *Second Hungarian Rhapsody*, Enesco's *First Roumanian Rhapsody*, and the overture to *The Bartered Bride*.

Bernstein's recording is typical of that conductor at his best: the performance has a characteristic surge and sweep, and there is no doubt whatsoever concerning his deep involvement with the music at hand. But Columbia's engineers, in spotlighting the important piccolo figures in the climactic pages, have rather overdone it, to the point of transforming those pages into a veritable

piccolo concerto. Otherwise, the recorded sound is fine, and the New York Philharmonic plays sensitively.

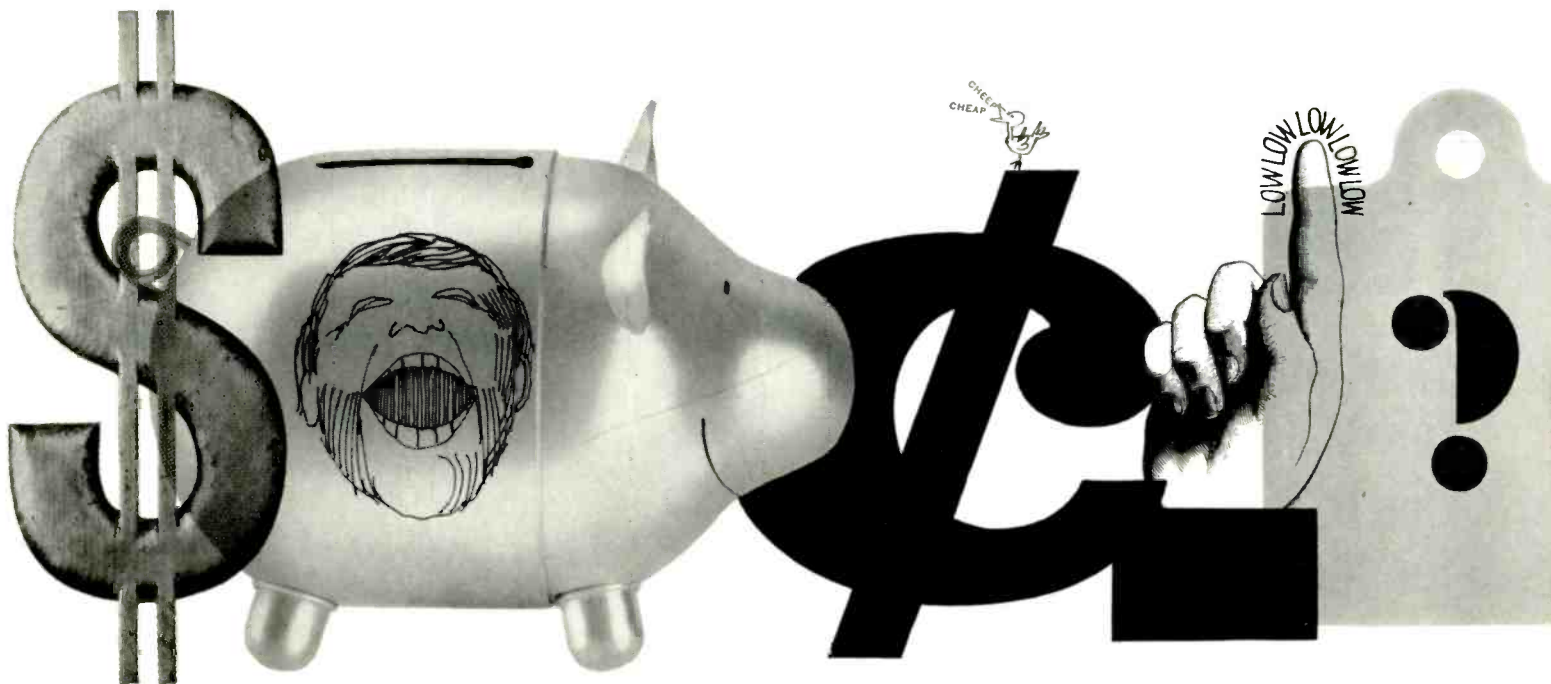
The recordings by Kertész and Szell have many points in common. Both give readings that are more objective than Bernstein's, but both are eminently persuasive nonetheless. Szell's orchestra receives a better acoustical *ambiance* from the recording engineers than Kertész's does—there is more warmth and shading to the sound of the Cleveland Orchestra than there is to that of the Israel Philharmonic under Kertész.

And so we come to the Stokowski recording. As I recall the circumstances of the sessions that produced his disc, the scores were rushed into the studio literally at the last minute. Stokowski and the RCA Victor Symphony had originally been scheduled to record a concerto with a distinguished soloist; a day before the sessions, when it was too late to cancel them, the soloist became unavailable for the assignment. There followed a mad scramble to come up with repertoire for the sessions. Several Stokowski specialties were selected, and *The Moldau*, for which Stokowski was not particularly noted, was thrown in, too. Nonetheless, the performance of *The Moldau* that Stokowski recorded that day is not only one of his finest recordings, but is also one of the touchstones of recorded performance of any kind. The great river theme near the beginning, taken at a tempo somewhat slower than that of most conductors, seethes and soars with passion; conversely, the dance episodes are a little faster than usual, so that the contrast between the various sections of the score is intensified. The whole performance is one of extraordinary cumulative impact, and the playing and the recorded sound are all one could reasonably hope for.

Of the performances of *The Moldau* that are contained in recordings of *My Country* complete, it is the low-priced Crossroads set (22 26 0002, 22 26 0001) by Karel Ančerl and the Czech Philharmonic Orchestra that I find the best. It has a stylish elegance that is quite winning, and it is very well played and reasonably well recorded. But anyone interested in *The Moldau* alone is urged to go on a voyage of rediscovery with the redoubtable Stokowski at the helm.

REPRINTS of the latest review of the complete "Basic Repertoire" are available without charge. Circle number 179 on reader service card.

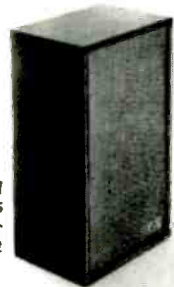
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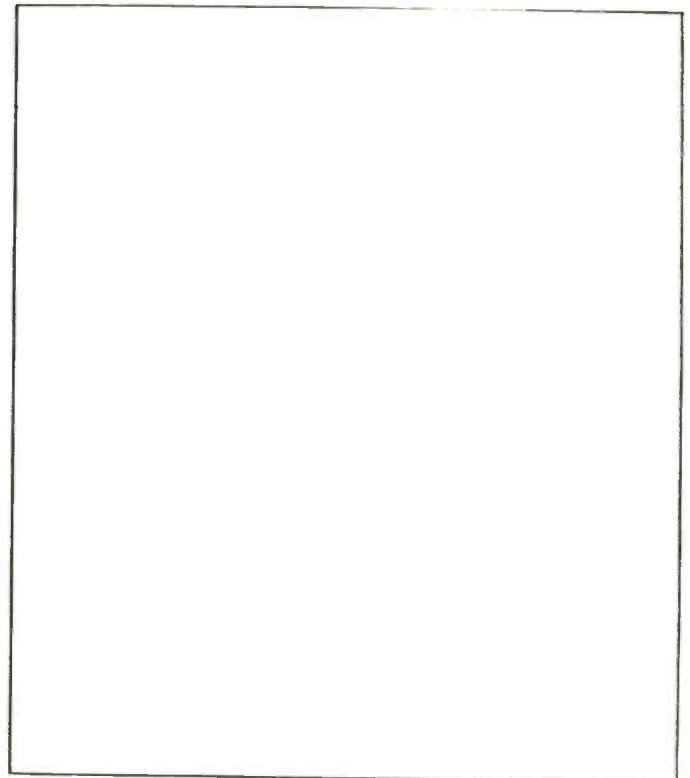
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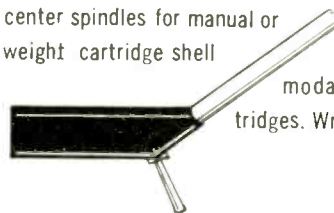
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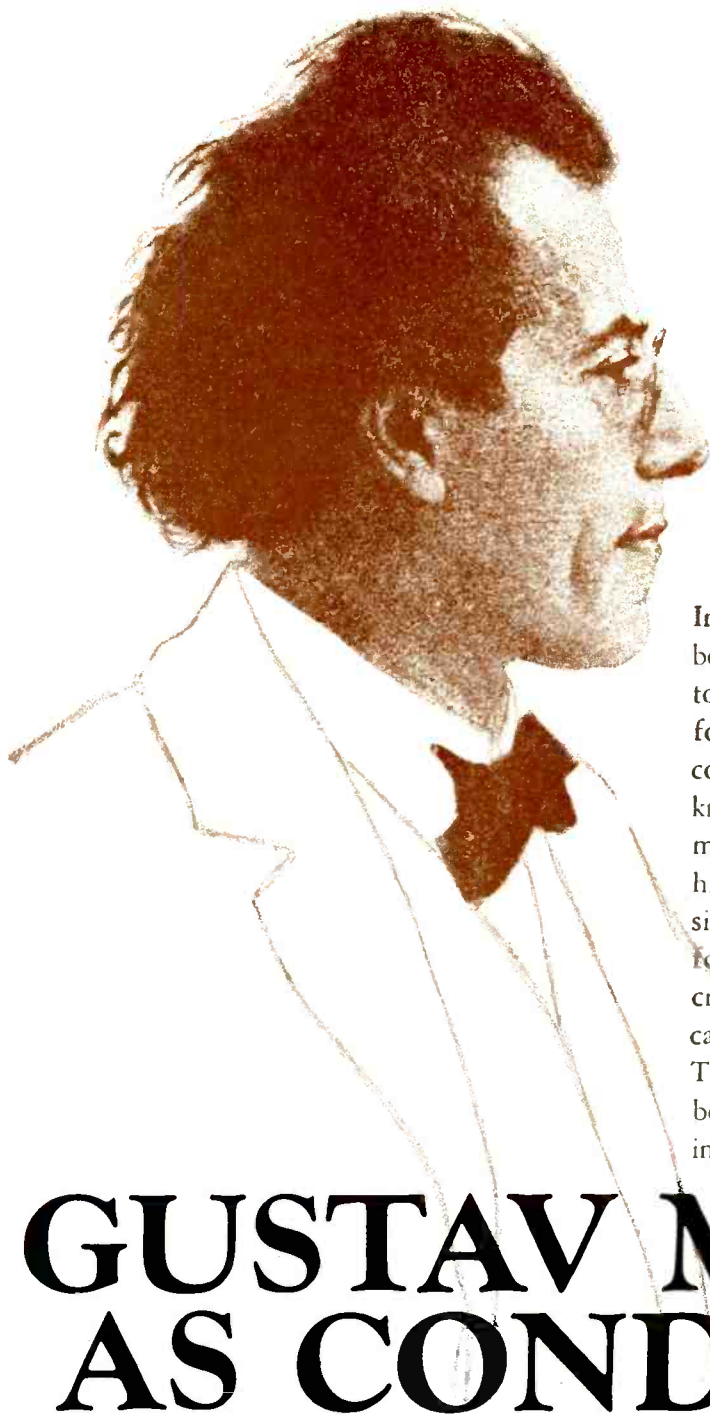
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In our time Gustav Mahler's symphonic works have become staples of the international concert repertoire and, in their recorded representations, are often found high on the lists of best-selling discs in this country. But to his contemporaries, Mahler was known chiefly as a conductor, one whose despotic manner and willful way with a musical score made him the object of both rancorous dispute and passionate admiration in Europe and America. In the following pages Harold Schonberg, principal music critic of the *New York Times*, considers Mahler's career and conducting style in historical perspective. The article is adapted from a chapter of Mr. Schonberg's book *The Great Conductors*, to be published in September by Simon and Schuster. —R. Clark

GUSTAV MAHLER AS CONDUCTOR

By HAROLD SCHONBERG

MOST OF THE great conductors after Wagner and Liszt were not composers. Arthur Nikisch, Hans von Bülow, Hans Richter, Felix Mottl, Anton Seidl, Theodore Thomas, Hermann Levi—all were recreative. They were men whose mission it was to interpret other men's musical thoughts. This was a sign of the times, and it was something new in music: conductors (and pianists and violinists) who were not themselves important creators. But Gustav Mahler was a throwback to the old days when the greatest conductors were also the greatest composers.

And with Mahler everything was intensified. Whereas

all great conductors are autocratic, Mahler was despotically and almost maniacally so. Whereas all great conductors have faith in their ideas, Mahler's faith in what he was doing was Messianic. Whereas all conductors do a certain amount of editing and changing, Mahler all but rescored. Whereas all great conductors indulge in a certain amount of tempo fluctuation, Mahler's rubatos, speed-ups, and slow-downs made a piece of music fluctuate like a cork in a heavy sea. Today his interpretations would be received with sheer incredulity. Mahler represented more than any interpretive figure of his day, except possibly Ferruccio Busoni, a kind of ap-



proach—some would call it arrogance—in which the conductor did thus and so because he *knew* that he knew more than the composer.

He was demonic, neurotic, demanding, selfish, noble, emotionally undisciplined, sarcastic, unpleasant—and a genius. His actions throughout his life strongly suggest those of a manic-depressive. Periods of gloom and silence alternated with periods of violence and vehemence. He was thin, sickly, and subject to migraine headaches. His complicated inner life was a tortured one in which the Judaism of his birth fought with the Christianity he adopted, and in which a large measure of a strange form of pantheistic mysticism contended with both. He felt that his mission in life was composition, but conductorial and administrative demands left him little time for creative work, and that was one of his great frustrations. He was determined and compulsive, to a point where he could drive other people out of their minds. The English music critic Herman Klein tells of meeting Mahler when he was trying to learn English. Mahler refused to talk in German. "He would rather spend five minutes in an effort to find the English word he wanted," Klein said, "than resort to his mother tongue or allow any one else to supply the equivalent. Consequently a short chat with Mahler involved a liberal allowance of time."

Mahler operated under a high tension that communicated itself to everybody, and he had a genius for making enemies. Only *he* knew how music should go; only *he* could set the composer to rights, the stage director, the singers, the scenic artists, the producer to rights. "One of the most strong-willed persons I ever knew," said Hans Pfitzner, another composer-conductor. He was constantly complaining, constantly arguing, constantly troublesome; while he was in New York, Mrs. Charles Dana Gibson asked his wife, "How can a beautiful woman like you marry an old, ugly, impossible man like Mahler?" Orchestra players hated him. He was the kind of conductor who would go out of his way to pick out weak players, then make them stand and play solo. For this an orchestral musician would gladly cut a conductor's throat. The story goes that a double-bass player of the New York Philharmonic, ordered by Mahler to rise and shine, finally rebelled and asked, "Why don't you ask the first flute or the first oboe to play alone like this?" Mahler replied, "I'm afraid to take a

chance on what I might hear." Mahler treated important fellow-conductors with equal contempt. In Vienna, having prepared *Lobengrin* at the opera house, he had to turn it over to Franz Schalk, a conductor he did not particularly admire. Mahler called a rehearsal and sat on stage facing the podium. While Schalk conducted, he had to follow Mahler's beat and his every nuance. Naturally this was a humiliating experience for Schalk, an experienced and respected conductor.

Mahler was born in Bohemia, attended the Vienna Conservatory, and by 1881 was conducting in Ljubljana, in what is now Yugoslavia. A series of appointments followed, and he soon ended up in Leipzig, where he was assistant to Arthur Nikisch. The two men quarreled, and Mahler was ousted in 1888. He went to the Budapest Opera, where he tried to do the sort of thing he later did in Vienna—take over all the elements of a production in an effort to achieve his kind of *Gesamtkunstwerk*. One thing that did not make him popular in Budapest was the fact that he abolished the star system, getting rid of the great but egocentric figures and substituting for them less imposing vocalists with superior musical intelligence. Mahler also insisted that all operas be sung in Hungarian. Popular or not, he made an impact. Richard Strauss heard him and passed the word to Bülow: "I made a new, very attractive acquaintance in Herr Mahler, who appears to me a highly intelligent musician and conductor—one of the few modern conductors who knows about tempo modification; and he expressed splendid ideas in general, especially about Wagner's tempos (opposed to present accepted Wagner

Mahler strolls through the streets of Prague in 1908 with his former associate conductor at the Vienna Opera, Bruno Walter.





Mahler was born in 1860. At the age of twenty-three (left) he took up a new post as Kapellmeister at Cassel. In 1904 (center) he was in the midst of his "golden years" at the Vienna Opera, and in 1907 (right), those years at an end, he faced an unknown future in America.

conductors)." Mahler remained in Budapest for two years and then, in 1891, moved to Hamburg, where he remained until 1897. It was in Hamburg that he attracted the attention of Europe. Bülow heard him and fully agreed with Strauss:

Hamburg has now secured a really excellent opera conductor in Gustav Mahler (a serious, energetic Jew from Budapest), who in my opinion equals the very best: Richter, Mottl, etc. I heard him do *Siegfried* recently. . . . I was filled with honest admiration for him, for he made—no, forced—the orchestra to pipe to his measure, without having had a rehearsal. In spite of various drawbacks and my nervous condition, I was able to hold out to the last note.

Everybody was talking about the young Mahler, and in 1897 he was summoned to Vienna as chief of the Staatsoper. The ten years he officiated there are now called the Vienna Opera's "Golden Years." Everybody was sure of one thing during those ten years: there was never a dull moment. Irascible, impatient, full of exuberance, energy, and new ideas, Mahler all but tore down the Vienna Opera and rebuilt it to the specifications of his inner vision. He ran it as a one-man show. The first thing he did was to engage a new group of singers (often making mistakes: he would herald a new singer as a genius, only to learn after one or two performances that the genius had no voice and, what was worse in Mahler's view, no brains). Then he revitalized the orchestra, abolished the claqué, restored customary cuts in scores, refused leaves of absence to artists, insulted popular veteran singers, raged, stamped, swore, picked on musicians, lectured artists on their morals (Mahler appears to have been something of a prude), and insisted on obedience not only from his opera-house staff but also from the audience. If there was a whisper or a noise in the house, Mahler would turn around and glare.

Audiences were cowed. He became a legend in Vienna, and when cab drivers saw him walking down the street they would point him out and whisper to their fares, "Der Mahler!"

The youth of Vienna, the young musicians and the gallery gods, loved and supported him. Conservatives growled at his name. Everything Mahler did was different from what had gone before. He strove for a complete blend of music and stage action; he insisted on absolute clarity. When he presented Mozart, he brought the music to the fore, with life and drama, trying to match the life of the characters on stage. All this was quite unlike the dry, rococo, quasi-elegant manner in which previous conductors had done the operas. When Mahler presented *Tristan und Isolde* with Alfred Roller's avant-garde sets, there was a furor. The production anticipated Expressionism, with its free forms and use of lighting effects. Also, Richter had conducted it as a symphony, whereas Mahler conducted it as an opera, in which the voices were featured as much as the orchestra, and in which the orchestral climaxes were all but hysterical when the mood and action demanded it. Naturally there was a heavy campaign against him, including virulent attacks from the powerful anti-Semitic forces in Vienna. Somehow Mahler survived.

HE prepared and conducted every performance as a matter of life and death. An enemy of routine, he was constantly saying, "Tradition is laziness." (Arturo Toscanini was to say, "Tradition is the last bad performance.") An example of his thoroughness and his quest for perfection was the first performance in Vienna of Gustave Charpentier's *Louise*. After having decided to stage the new opera, Mahler sent his stage director, *régisseur*, and costumer to Paris to study the production.



Then he invited Charpentier to attend the premiere. Charpentier turned up at a dress rehearsal and found fault with everything, including Mahler's conducting. Mahler promptly cancelled the premiere, rescheduling it for a date six weeks later. He ordered new scenery and costumes to Charpentier's specifications, and studied the score with him. When the premiere was finally given, Charpentier was (understandably) gratified and praised it as superior to the Paris production.

Aiming as he did for a complete performance, Mahler was proud of the fact that, when he conducted, the singers could be heard. Richard Aldrich, music critic of the *New York Times* from 1902 to 1923, remarked on this when Mahler conducted Wagner at the Metropolitan Opera:

The voices were given rights of which it is certain that Wagner never intended them to be deprived. Chief of these is to be heard. . . . The orchestral part . . . did not drown the voices, and here, too, was an added beauty brought into prominence that has not always been heard in Wagnerian performances—that of the blending of voices with the orchestral tone.

Constantly striving for perfection, never finding it, Mahler tore himself apart. He never came across an orchestra that satisfied him, one that had his kind of dedication and musicianship. He wrote:

There are frightful habits, or rather inadequacies, which I have encountered in every orchestra. They cannot read the score markings, and thus sin against the holy law of dynamics and of the hidden inner rhythm of a work. When they see a crescendo they immediately play forte and speed up; at a diminuendo they become piano and retard the tempo. One looks in vain for gradations, for the mezzo-forte, forte, fortissimo, or the piano, pianissimo, pianissimo. And the sforzandos, forte-pianos, shortening or extension of notes, are even less in evidence. And should one ask them to play something that is not written down—as is so necessary a hundred times when one accompanies singers in opera—then one is lost with every orchestra.

This is an old complaint, previously voiced by Haydn, Weber, Wagner—and any good musician. The better the musical mind and the better the ear, the less happy is that man with the mere mortals who play in orchestras. Theodore Spiering, concertmaster of the New York Philharmonic when Mahler was its conductor, felt impelled to explain Mahler's stand and apologize for it: "As a conductor he attained an independence which at times proved almost fatal for the orchestra. He de-

manded initiative on the part of his men; he frequently forgot that a certain artistry, which not every orchestral player possesses, is essential to such initiative." At any rate, Mahler's statement about what he expected from an orchestra begins to give an idea of the kind of response and nuance he was looking for. He believed what every sensitive musician sooner or later realizes—in his own words, "What is best in music is not to be found in the notes."

In his earlier years, Mahler was an energetic figure on the podium. Max Graf, the Viennese music critic, remembered Mahler as literally rushing to the podium. "His conducting was striking enough in his first years of activity in Vienna. He would let his baton shoot forward suddenly, like the tongue of a poisonous serpent. With his right hand, he seemed to pull the music out of the orchestra as out of the bottom of a chest of drawers. He would let his stinging glance loose on a musician who was seated far away from him, and the man would quail." Later Mahler was quieter, with a simple beat and a motionless body, his eyes darting here and there. Bruno Walter, who agrees that Mahler used violent motions in his early years, said that toward the end Mahler's conducting "presented a picture of almost uncanny quiet, although the intensity of expression did not suffer by it. I remember a performance of the *Symphonia domestica* by Strauss under Mahler's baton at which the contrast between the uproar of the orchestra and the immovable attitude of him who had unleashed it made a most eerie impression."

Enrico Caruso's caricatures were almost as appreciated as his voice. This one dates from 1908, in Mahler's first year at the Met.



GRANGER COLLECTION

Mahler's interpretations must have been strikingly dramatic, full of contrast, highly mannered by today's standards. One of his mannerisms was to emphasize held notes, the way Wagner had done in the Beethoven Fifth. In Vienna, Ernst Lert, a stage director and intendant, reported on hearing Mahler conduct the *Magic Flute* Overture: "When Mahler finished the first chord, the ensuing pause was so long that I looked up from my score to find out why the conductor did not continue. Just then he attacked the second chord. Now came a pause that seemed still longer." And when the sequence was repeated toward the end of the overture, the pauses were yet more pronounced.

Like every musician of the time, Mahler heavily edited the music he was conducting. "Of course the works of Beethoven need some editing," he said (note the "of course"). Bruno Walter, who idolized Mahler, attempted to explain his attitude. If Mahler did make changes in classical works, it was directed "against the letter and toward the spirit" of the composer. Mahler never hesitated to retouch, and was under constant attack for some particularly heavy modifications, as in the Schumann and Beethoven symphonies. Mahler answered his critics with the old (even in his day) 'if-Beethoven-were-alive' argument. "The fanatical obedience to the score," Walter writes, "did not blind him to any contradiction existing between its instructions and the composer's actual intentions." But where is the line to be drawn? No matter how Walter or anybody else tries to justify it, or explain it away, Mahler's interpolations could be arbitrary and often actually opposed to the score. Schumann's *Manfred* Overture has always presented a problem because of its opening. The syncopation does not come through. Mahler's solution was to insert a great cymbal clash at the outset. This establishes the meter, but it is altogether anti-Schumann. Mahler also edited Tchaikovsky's *Francesca da Rimini* so that it came out eleven minutes long instead of its usual twenty-three. He used doubled woodwinds in the Beethoven Sixth, doubled oboes for the little cadenzas in the first movement of the Beethoven Fifth, and so on. According to Otto Klemperer, Mahler had the same attitude toward his own music. Klemperer quotes Mahler as saying that if his Eighth Symphony did not sound good, anybody could "with an easy conscience" make changes in it.

After ten years, in 1907, Mahler resigned from the Vienna Opera. He had the public and most of the critics behind him by then, and was not forced out. Max Graf always believed that Mahler resigned more because his symphonies were not accepted than because of anti-Semitism or administrative troubles. Mahler's music—not his conducting—was under constant attack, and Graf's opinion was that Mahler handed in his resignation impulsively and on the spur of the moment, and later regretted it.



The Gustav Mahler Memorial Medal was awarded to the ten best interpreters of Mahler's music at the 1967 Festival of Vienna.

He went directly from Vienna to the Metropolitan Opera in New York. At first he was happy. At the Metropolitan he had better voices to work with than he had had in Vienna. Under his command were Enrico Caruso, Olive Fremstad, Alessandro Bonci, Antonio Scotti, Feodor Chaliapin, Johanna Gadski, Pol Plançon, Riccardo Stracciari, Anton Van Rooy, Louise Homer, Marie Rappold, Marcella Sembrich, Geraldine Farrar, Emma Eames, Emmy Destinn, and Karl Burrian. It was noted that the tyrannical Mahler changed in New York. In Vienna he had conducted all operas without cuts. In New York, however, he not only used the standard cuts, but even introduced new ones on top of the old. Sets that would have driven him into a rage in Vienna merely amused him in New York. Mahler worked hard in his first season, conducting *Tristan und Isolde*, *Die Walküre*, *Siegfried*, *Don Giovanni*, and *Fidelio*. He returned for the 1908-1909 season, and was also invited by Walter Damrosch to conduct the New York Symphony, with which he presented the American premiere of his Symphony No. 2. By this time Mahler was tired and ill, and he complained bitterly about everything. There were many facets of New York life he did not like. He preferred to be alone, but found he had to go to parties. Mahler, who had no small talk and was devoid of the social graces, loathed parties and society. Adding to his troubles was the presence of Arturo Toscanini, who had come to the Met for the 1908-1909 season with the new manager, Giulio Gatti-Casazza. Toscanini demanded *Tristan und Isolde* as his first production. Mahler was resentful, but he had to give in, even though he already had rehearsed the orchestra. A clash between two such strong wills was inevitable. Toscanini soon became contemptuous of Mahler. Many years later Toscanini told his son that one reason he had come to the Metro-

politan Opera was because so great a musician as Mahler was working there. But, Toscanini said, he soon saw that Mahler did not give everything he had and was taking the easy way out. And, indeed, the Mahler of New York was quite different from the Mahler of Vienna. He apologized publicly for his poor showing. He said that men didn't come to rehearsals, that when they did come they didn't work hard enough, and that conducting in those circumstances was a farce. But Toscanini did not find it so.

PERHAPS Mahler thought, when he came to New York, that the provincial Americans would not know if he tinkered with a score, or care even if they did realize it. Many European musicians of the day did come here with an honest belief that America was, by and large, an artistic wilderness, that there were cowboys and Indians on the other side of the Hudson River. (Some still come to America with that attitude.) But it so happened that New York had at the time such critical sharpshooters as W. J. Henderson, Richard Aldrich, Henry Krehbiel, and James Huneker, as strong and knowledgeable a group of critics as ever worked together anywhere. Some of them did not take kindly to Mahler's high-handed ways, and his *Tristan* cuts especially caused a great deal of unfavorable criticism. The *Musical Courier*, then undoubtedly the most influential musical publication in the world, was one of the few willing to go along with Mahler. The *Courier* expressed itself on a frankly low-brow basis:

Wagner's operas are too long—not for the pilgrims at Bayreuth but for busy New Yorkers who, after working hard all day, do not want to be kept in the opera house much more than three hours. By means of judicious excisions, Anton Seidl used to bring the Wagner operas within reasonable dimensions without sacrificing any of the best pages. Mr. Mahler is following his example. He has also promised to reduce the time of Mozart's *Don Giovanni* from three hours and a half to two hours and three quarters.

Instead of returning to the Metropolitan Opera for the 1909-1910 season, Mahler came back to New York as conductor of the New York Philharmonic. Mrs. Samuel Untermyer and Mrs. George R. Sheldon had decided that so great a conductor should have his own symphony orchestra. Mahler, who conducted two trial concerts, agreed, provided he had complete control over orchestra, programs, and personnel. In his first season he brought in his own concertmaster, Theodore Spiering, and replaced two-thirds of the orchestra. He immediately got into trouble with everybody—with the orchestra, the critics, the board of the symphony, the public. He loudly said that his mission was to educate the orchestra and the public. That did not sit very well with all concerned; in 1909 there were very high standards in New York, which was then—as it is now—as sophisticated musically

as any European capital in which Mahler had conducted.

About Mahler's qualifications, of course, there was no doubt. The better musicians responded. When Sergei Rachmaninoff played his D Minor Piano Concerto with Mahler, the pianist wrote that Mahler was the only conductor whom he considered worthy of being classed with Nikisch. Mahler really had studied the music, and Rachmaninoff was greatly impressed:

According to Mahler, every detail of the score was important—an attitude too rare amongst conductors. Though the rehearsal was scheduled to end at 12:30, we played and played, far beyond this hour; and when Mahler announced that the first movement was to be rehearsed again, I expected some protest or scene from the musicians, but I did not notice a single sign of annoyance.

Mahler's two seasons with the Philharmonic were stormy. Some critics could not stand him, objecting especially to his incessant editing and reorchestrating. If Mahler's orchestra did not like him, the feeling was reciprocal. He described the Philharmonic as "the true American orchestra—without talent and phlegmatic." He learned to distrust his orchestra, and once, starting the downbeat for the *Lobengrin* Prelude, yelled at the players before a note had been sounded, "Too loud!" Shortly before the end of the second season, Mahler was summoned before the board to defend himself against all kinds of charges. "It was a silly thing," the *Musical Courier* said, "to bring a supreme judge like Mahler from Europe and place him under the direction of a petticoat jury." Mahler had greatly displeased the ladies of the board. They did not like the way he had conducted the Tchaikovsky "*Pathétique*"; they did not like the scandal that followed when the pianist Josef Weiss walked out of a rehearsal and refused to play the concert; they did not like the way Mahler and Busoni delivered up the "Emperor" Concerto: one of the ladies had the gall to say to those two great musicians at the rehearsal, "No, this will never do." Then there was a deficit of \$75,000. And Mahler's programming was not to the good ladies' liking. Tension mounted. The orchestra claimed that Mahler had planted a spy among the second violins (it was true). All of this was brought out against Mahler at the hearing. He might or might not have fought it out. But he became ill, and Spiering conducted the rest of the season. Mahler returned to Europe to recuperate, and his wife told the press what had happened: "You cannot imagine what Mr. Mahler has suffered. In Vienna my husband was all-powerful. Even the Emperor did not dictate to him, but in New York he had ten ladies ordering him around like a puppet." The tensions and turbulence of the New York years doubtless did Mahler's health little good, and only a few months later, on May 18, 1911, he died. He did not live long enough to see the triumph in American concert halls of the only thing that mattered to him—his own music.

Whatever happened to those **REVOLUTIONARY LOUDSPEAKER DESIGNS?**

AMATEUR INVENTORS AND PROFESSIONAL ENGINEERS HAVE DEVISED
SOME STRANGE—AND GENERALLY UNWORKABLE—GADGETS
IN THEIR QUEST FOR BETTER SPEAKERS



By **GEORGE L. AUGSPURGER**



LAST WEEK I auditioned a high-fidelity electric fan. The gadget looked like a very small portable air conditioner, and in its normal mode of operation produced a pleasant, silent breeze. When hooked up to a 60-watt audio amplifier through a special black box, it also produced a very faint but nonetheless audible program signal. A fascinating toy or a revolutionary step forward in the art of sound reproduction?

Neither, really. The corona wind loudspeaker was first announced about ten years ago. There has been almost complete silence, both from its promoters and the device itself, since that time. Now that corona wind electric fans can be bought, a new generation of engineers apparently is trying to turn them back into loudspeakers.

What about all the other "revolutionary" loudspeaker ideas that percolated through the audio ranks in the 1940's and 1950's? At least once a month in that daffy decade someone would introduce a "completely new" reproducer to get rid of the old-fashioned dynamic loudspeaker once and for all. Some of these actually lived up to their publicity, if only in the sense that they generated sound differently from any ordinary loudspeaker. Dr. Tombs' corona wind loudspeaker and Sigmund Klein's Ionophone both dispense with cones or diaphragms altogether and go to work directly on the air itself.

The corona wind unit (see Fig. 1) was not named by whim. When two electrodes have sufficient electrical potential between them to produce corona discharge (the

blue glow and crackling sound in some TV sets that engineers try so hard to get rid of), they also cause air movement. Dr. Tombs introduced a third electrode to act as a "grid," and found that it was indeed possible to produce sound by modulating the grid with an audio signal. To produce a reasonable sound level, a matrix was made up of a great many individual sets of electrodes, like an electronic version of a fakir's bed of nails.

But somehow this intriguing concept never reached the level of practical development. The "hi-fi fan" mentioned earlier suffered from the same limitation as the experimental unit demonstrated a decade ago—very, very faint output. There are other problems (corona discharge produces ozone and nitrous oxide, so that such a loudspeaker might well be illegal anywhere air-pollution control has been put in effect), but until someone can make a corona wind loudspeaker that is in fact a *loudspeaker*, there isn't much point in worrying about what other deficiencies it may have.

The Klein Ionophone has enjoyed a kinder fate. It was invented in France in the 1940's and was later produced in this country as the Ionovac. Today there is still another version, imported from England, called the Ionofane (Fig. 2).

The Ionophone (or -fane or -vac) uses very high voltage to ionize a small bit of air in a quartz chamber. By modulating the ionizing voltage, the air is compressed and rarefied, and sound is produced. Because the radiat-

ing area is necessarily small, a horn is used to get reasonable efficiency. But the very small radiating area restricts frequency range as well as maximum acoustic output. Whereas the corona wind loudspeaker is theoretically a full-range device, the Ionophone is a high-frequency reproducer only.

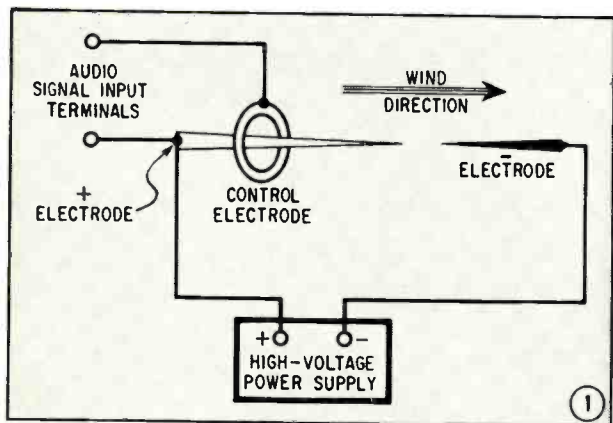


Fig. 1. The corona wind loudspeaker used an audio-modulated electrostatic field between needle electrodes to produce sound.

There have been other transducers with no moving parts. Inventors have suggested talking arcs, audio-modulated air heaters, ionized gases in magnetic fields, even direct stimulation of the aural nerves. But only the ionic unit exists today as a practical product. A second category of "revolutionary" development has proved more fruitful. These are designs that produce sound waves with some kind of diaphragm but nevertheless differ substantially from the ordinary electrodynamic loudspeaker.

There is the acoustic balloon, for instance. You just take a flexible sphere and couple it to some sort of conventional loudspeaker mechanism. The movement of the cone pumps air in and out of the sphere, causing it to expand and contract. *Voila!* . . . a completely non-directional loudspeaker (Fig. 3), but not a workable one.

A more practical design is the French Orthophase loudspeaker (Fig. 4). Here, a single zig-zag ribbon takes the place of the usual voice coil. It operates between multiple magnetic pole pieces and is attached to a light styrofoam diaphragm. Since the diaphragm is essentially driven at all points on its surface, it supposedly cannot "break up" in uncontrolled modes of vibration.

The French, who apparently love novelty above all else, stubbornly proclaim the virtues of the Orthophase in their own country, but it has failed to excite much critical enthusiasm elsewhere. It would have a better claim to the "revolutionary" label if it hadn't been invented once before. In its original form it was called a Blatt-haller loudspeaker and is pictured in N.W. McLachlan's famous book *Loud Speakers*, first published in 1934 and now available as a Dover paperback. Professor McLachlan also describes another variation of the same idea, this one called the Riffel speaker. I suppose it is only a

matter of time before someone will reinvent it as well.

The closest thing to a real success story in this category is the full-range electrostatic. Peter Walker demonstrated the Quad loudspeaker in Britain about ten years ago, and its introduction in this country was followed by the KLH and Acoustech models, plus a few other full-range electrostatic designs. Of course, JansZen electrostatic tweeters were being sold before any of the full-range units had been perfected. But if you think that a working electrostatic loudspeaker was revolutionary in 1956, go back to McLachlan, chapter thirteen.

Still another "different" loudspeaker is the Kelly ribbon tweeter. The design of the Kelly is the same as that of a ribbon microphone—an aluminum ribbon hung in

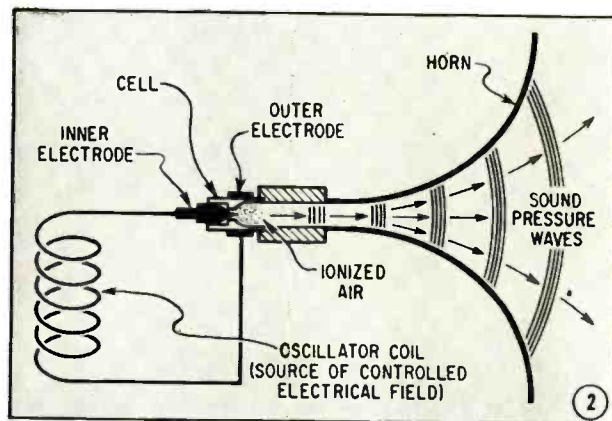


Fig. 2. A currently available ionic tweeter employs modulated ionized air to produce sound. Its range extends beyond 30 kHz.

a magnetic field. It is in essence a dynamic loudspeaker reduced to nothing but the voice coil, and that isn't even coiled—just a short straight strip. The theoretical advantage of the ribbon loudspeaker, like the Orthophase and the electrostatic, is that all portions of the diaphragm are driven. In the case of the Kelly, this results in a very small "diaphragm" indeed, and a short horn is used to increase efficiency. Even so, dynamic range and efficiency are limited compared to more orthodox tweeters.

Other kinds of loudspeakers that try to drive the entire diaphragm have been invented, but none has proved practical enough to develop commercially. As a matter of fact, the "problem" that such designs try to solve has already been licked by today's top-quality cone-type loudspeakers and dome tweeters.

Twenty years ago it was taken for granted that no paper cone could be controlled above a few thousand cycles. In an effort to replace ordinary paper, experimenters tried wood, metal, foam, impregnated cloth, Bakelite, Mylar, and almost every other conceivable material. But the paper used in today's loudspeaker cones is anything but "ordinary." It is made up of exotic fibers from all over the world, and can be constructed to almost any specification of density, thickness, internal damping, shape, and stiffness. For example, the loudspeakers made

by JBL alone use more than a dozen different kinds of felted paper, and the cones of individual models are further treated with specially developed materials to prevent uncontrolled breakup. The cone of a high-quality

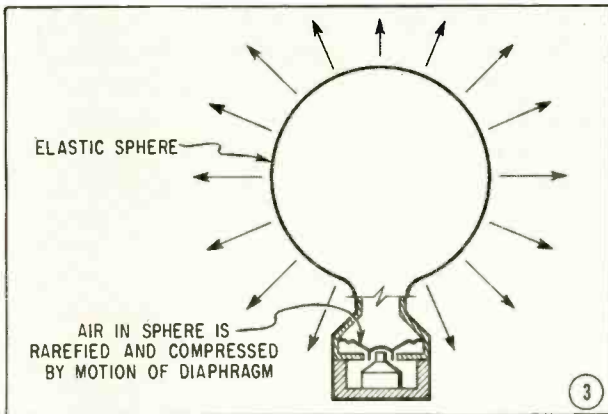


Fig. 3. The theoretically ideal loudspeaker—the expanding-contracting, sound-radiating sphere—has never been produced.

speaker made today may look like the same material used in a 1940 radio speaker, but it is not.

The largest group of revolutionary loudspeakers that turned up in the fecund Forties used conventional dynamic drivers in highly unconventional enclosures. At that time, horns had been made very much "in" by Paul Klipsch, and the Klipschorn itself certainly deserves to be placed in the "successful revolutionary" category. A lot of garage designers spent their weekends squeezing 20-foot horns into two-foot cabinets. (I myself was party to a "revolutionary" horn that disdained recognition of a few of the more immutable physical laws, and my friends have never let me forget it.) Many of these super-horns tried to find some magic in slight deviations from

a true exponential flare. Others had no justification for existence except the Chinese-puzzle complexity of their innards. In any case, by 1960 only the Klipschorn, the Patrician, the Hartsheld, and a few lesser-known names remained of the once mighty high-fidelity horns. In the mid-Fifties, of course, Edgar Villchur introduced an approach that was going to have a major impact on speaker design—the acoustic-suspension loudspeaker.

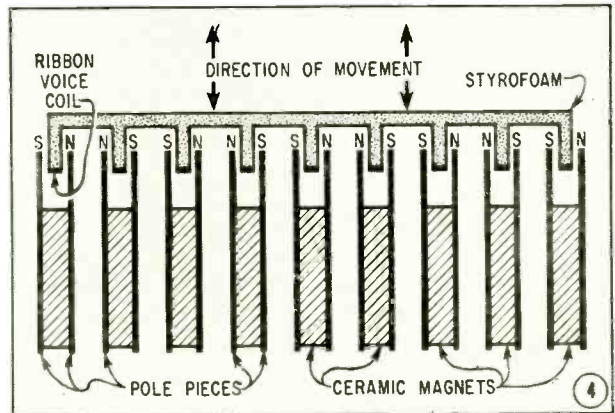


Fig. 4. The Orthophase speaker employs a flat plastic plate with a voice coil set on ribbed edges between magnetic poles.

While some of us were buying huge sheets of Masonite and building horns, others were mounting loudspeakers in a fantastic variety of tuned, untuned, resonant, non-resonant, reflective, absorptive, active, passive, and abortive cabinets. One fellow tried to patent an enclosure in which there were two mirrors set at 45-degree angles behind the speaker. The idea of course was to "reflect" the sound back to the listener. What could be more logical? Then there were those who tried to load the front and back of the loudspeaker. Most of these were

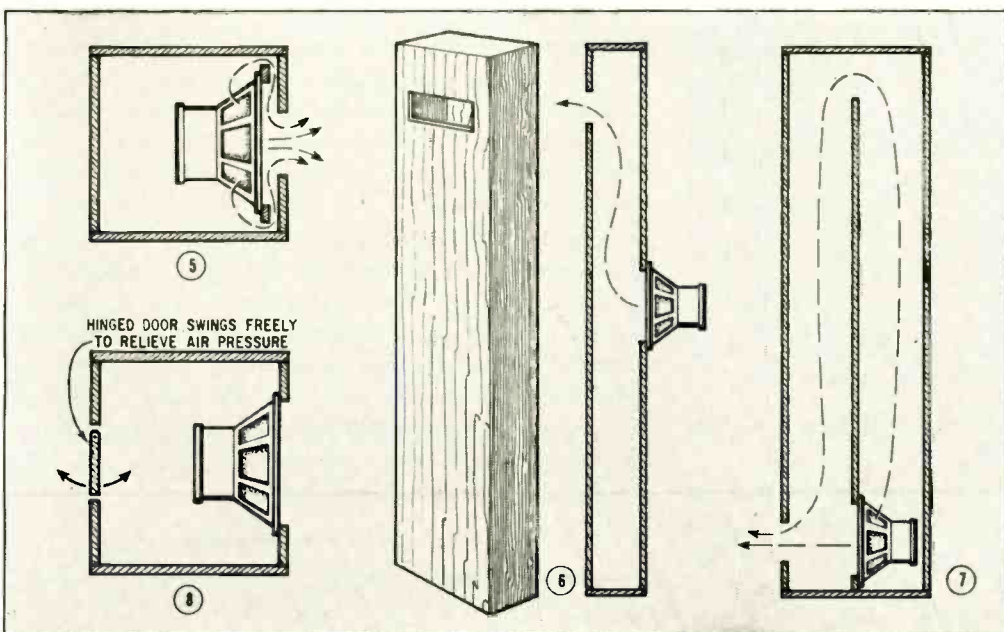
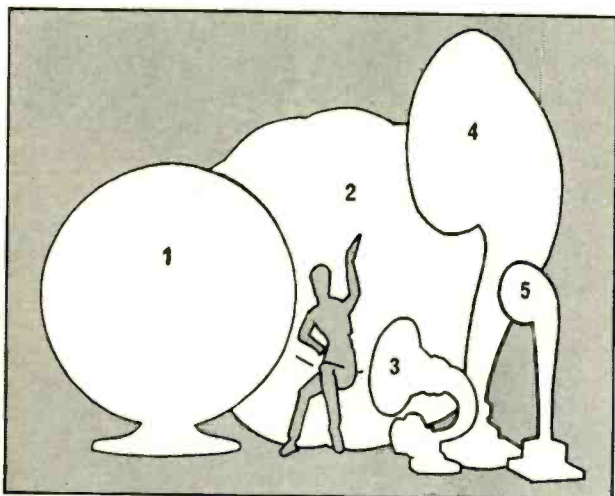


Fig. 5. The R-J enclosure could be used with any speaker, and was one of the first successful small boxes. Fig. 6. The Air-Coupler bass design drew mixed reviews from the critics. Fig. 7. Jensen's Transflex was also intended only for bass reproduction. Fig. 8. An exotic (and unsuccessful) import, the Bradford swinging-door baffle.

based on the erroneous notion that the "pressure" on the front of the loudspeaker should be equalized with the "pressure" on its rear. But two designs did succeed in getting dramatic bass from what were then very small cabinets. In both the R-J and the Karlson, the back wave is conducted around to the front of the baffle board, and then mixed with the front wave in a sort of acoustic plenum chamber. The trouble is that a chamber in front of the speaker tends to add coloration to the mid-range and highs. In the R-J design (Fig. 5), a peculiar lemon-shaped opening tries to compensate for this effect. The Karlson enclosure has a large exponentially-flared slot that fortunately leaves more of the speaker unobstructed, and hence eliminates coloration problems.

Another design widely publicized in its own day was the Flewelling "air coupler" (Fig. 6). Mr. Flewelling sarcastically questioned many of the rules sacred to audio engineers in published descriptions of his system, but although his fulminations didn't have much effect, the air coupler itself was faithfully duplicated by hundreds of audiophiles. It is supposed to enable any garden-variety 12-inch speaker to deliver a solid 20 Hz. A patent was granted on the air coupler in 1953 and assigned to the Stromberg-Carlson Company. As far as I



This month's cover: A sampling of some of the speaker "systems" of yesteryear. (1) The Rola Cone Re-Creator, manufactured by The Rola Company, Oakland, California (collection Perry Ferrell). (2) A fine specimen of the wind-up phonograph's "morning glory" horn (collection Sherman Emory). (3) The Amplion Type AR-102 "Dragonfly," made in Great Britain. (4) RCA Radiola Loud Speaker Model UZ-1325. (5) Unlabeled, but dating from the early Twenties. (Horns 3, 4, and 5 are from the collection of Phil Weingarten, Wireless Museum of Forest Hills, N.Y.)

know, neither Stromberg-Carlson nor anyone else has ever tried to market the design.

An even more interesting enclosure that has received almost *no* publicity is the Jensen Transflex (Fig. 7). Like the air coupler, the Transflex is intended to reproduce low frequencies only. Jensen described the Transflex in 1952, and its performance was later analyzed by Peter

Tappan, but it was apparently never manufactured.

I really should mention two developments identified with my own organization (James B. Lansing) that *are* being manufactured. The acoustic lens and the "radial refraction" principle used in the Paragon both originated in rather esoteric research and were then developed by JBL engineers for use in commercial loudspeaker systems. These are methods of *directing* sound rather than generating it. The acoustic lens spreads an otherwise narrow beam of sound over a much wider angle. The radial refraction principle controls the sound distribution from two sets of loudspeakers to give an integrated stereo "image" relatively independent of listener location.

Finally, I must mention one last "revolutionary" design of the 1950's that was utterly unique. Does anyone remember the Bradford "perfect baffle"? If a conventional loudspeaker is mounted in a very small box—not much bigger than the speaker itself—the trapped air restricts cone motion at low frequencies, and the combination sounds more like an intercom than a hi-fi speaker. If a hole is cut in the back of the box to "relieve the pressure," sound waves emerge out of phase with those from the front, and bass is still missing. The "perfect baffle" supplies the answer. Simply hang a hinged trap door in the opening in the back so that it is free to swing back and forth in response to the air pressure in the box (Fig. 8). The presence of the trap door keeps low frequencies from getting out, but the fact that it is free to move allows back pressure to be relieved. Perfectly logical; *ergo*, the perfect baffle! Believe it or not, these things sold. Every major hi-fi dealer had one or two in his demonstration room, and hundreds of people bought them, even *after* a demonstration.

Where are the revolutionary speakers of tomorrow? When people ask me why no one seems to be working on a completely new approach, I ask them why no one seems to be working on a completely new kind of violin. Manufacturers do investigate every new idea that comes along. But like all of the new ideas that were supposed to supplant the internal combustion engine, none of them has yet shown as much real promise as the thing they're supposed to replace.

I believe the next big breakthrough in loudspeakers will come not in the design of the speakers themselves, which steadily get better and better, but in the overall system made up of loudspeakers *and* listening room. We already have reached the point where the acoustics of your room affect what you hear more than the choice between two similar-sounding loudspeakers. Some form of electro-acoustics may well be the next major area of challenge for loudspeaker engineers.

George Augspurger, long-time follower of speaker-design trends and writer on electronic subjects, is the manager of the Technical Services Department at James B. Lansing Sound, Inc.



INSTALLATION
OF THE MONTH

HI-FI HIGHBOY

IN setting out to design a cabinet to contain his stereo equipment, ex-musician (and present-day railroad engineer) Ralph G. Massie of Wheelersburg, Ohio, found that, for him, the conventional low horizontal stereo console was inefficient. He therefore chose an upright design that placed all operating controls at no lower than waist level.

The electronic components in the Massie system were all constructed from kits. Visible between the two tape decks is a Heath AJ-53 AM tuner, a Dyna FM-3 FM tuner, and a Dyna PAS-3 preamplifier. The preamp feeds another Dyna unit, the Stereo-70 power amplifier, concealed in the bottom section of the cabinet. The tape decks are a Concertone 802 (at right), and a Bell T-347. The tilt-back tape-deck installation provides the convenience and professional appearance of vertical mounting without the attendant tape-threading difficulties.

The turntable on slides is a Weathers Townsend Model with an ADC 660 cartridge. Not seen in the compartment adjacent to the Weathers is a Garrard Type A Mk II automatic turntable with a Pickering U38/AT cartridge installed. The top compartment of Mr. Massie's cabinet houses his record collection, in which small jazz groups and big bands predominate. (Mr. Massie used to play a trombone in a thirteen-piece dance band.) The bottom compartments are used for the storage of blank tape and various accessories and appurtenances (such as a splicer, demagnetizer, and microphones).

Each of Mr. Massie's home-built living-room speaker enclosures houses a University three-way system consisting of a C-12HC woofer, C-8M mid-range, and T-202 super tweeter. Distributed throughout the Massie home are four pairs of remote stereo speakers, among them a pair of Electro-Voice Sonocasters for outdoor use.—L.K.

WHAT'S WRONG WITH

HIGH FIDELITY means accuracy. This being so, two perfectly accurate high-fidelity components should, by definition, sound exactly alike. And the electronic art is today so far advanced that top-quality amplifiers *do* sound exactly alike—or almost so. This can be readily verified at a hi-fi showroom by listening to the same program material as played by several of the best amplifiers. If the amplifiers are playing at the same volume, have the same tone-control settings, and the same components are used for the rest of the system, it will be difficult or impossible to distinguish one amplifier from the other. (It would be unreasonable to attribute the identical sound to identical imperfections in all the amplifiers.) The *mechanical* parts of a high-fidelity system, however—the record itself, the phono cartridge, and the loudspeaker—are not so advanced. The last of these is a subject of particular concern to me, and I propose to examine here what I think is wrong with loudspeakers.

There is usually a major difference in sound quality between speakers of different make and model. The less accurate the speakers, the greater the differences tend to be. When two speakers are very different in sound, both may be grossly unfaithful to the original sound (each in its own way), or one may be more faithful than the other—but both sounds cannot be right. The differences exist not because speaker designers are trying to cater to a variety of tastes, but because they can't do any better. If an engineer wanted to satisfy differences in consumer taste, he has at hand a much easier way than designing different kinds of speakers—he could doctor the amplifier to produce exactly the kind of sound he wants. Electronic circuits are much more susceptible to precise design control than are speakers. Yet no one would shop for an amplifier with a permanently skewed frequency response to satisfy his particular taste in reproduced sound.

The wide variation in speaker sound is a reflection of the degree and quality of speaker faults, some of them sins of omission and some sins of commission. There are, as a matter of fact, changing fashions in loudspeaker defects, usually dictated by changing technology. For example, some time ago, when speakers had a very limited frequency range, any contribution to the sound in the low-bass region or in the high treble range, however erratic and distorted, was likely to be taken as evidence of high fidelity. The audibility of turntable rumble and record scratch was often considered a badge of excellence, exhibited proudly by many hi-fi buffs as

reflecting the "extended range" of their systems. (Actually, a speaker with peaky response in bass and treble emphasizes rumble and surface noise much more than a smooth speaker of wider frequency range.)

When the frequency range of loudspeaker systems was legitimately extended—that is, extended with a reasonable degree of smoothness—there remained a difficult problem. The bass speaker tended to exhibit a strong peak in the upper part of its frequency range, a peak very difficult for designers to control. It was therefore common for speakers to have a pronounced emphasis in the mid-range band. Design engineers were stumped for a while, but advertising copywriters were undaunted. Since mid-range emphasis tends to project the sound unnaturally in front of the speaker—unnatural relative to the live musical experience—admen made a virtue of necessity and proclaimed that the speaker had "presence." Loudspeakers with presence were often described by equipment reviewers as having a well-projected, forward sound. The reviewers charitably failed to report the strong nasal quality such speakers lend to non-nasal instruments—the violin and the human voice, for example. The blare of mid-range overemphasis and the bad imitation of wide frequency range are still available in the speaker market, but they are less prevalent than they once were. Today, other sins have in part taken their places. Since I am a loudspeaker designer, I write from the inside, and I would like to point out what these sins are.

● *Stridency.* The "presence" emphasis of the mid-range is moved up in frequency to the octave above 5,000 Hz. In addition, an increase in high-frequency distortion, both harmonic and transient, is tolerated for the sake of increased high-frequency range. Loud orchestral passages played through such speakers have a rough quality, as though the crackling of cellophane or tinfoil were contributing their voices to the music. The resinous, gutty edge of strings, normally a subtle enhancement of their natural resonant tone, becomes predominant. In extreme cases, the strings sound as though they were made of steel being played by metal bows.

To those who have never heard strings in a concert hall, this description cannot be very meaningful. One cannot judge color reproductions of paintings if one has never seen the originals or paintings like them. I believe that the most basic test instruments for evaluating loudspeakers are tickets to live concerts.

● *Inadequate treble dispersion.* This is one of the most important and one of the most misunderstood character-

LOUDSPEAKERS

By EDGAR VILLCHUR

istics of a loudspeaker. The off-axis sound of a loudspeaker with good treble dispersion will be much closer to its on-axis sound, but that is not the main advantage of good dispersion. What we hear from any loudspeaker is a combination of direct and reflected sound, and in a normally reverberant room the *major* part of what we hear is the reflected sound. The *total* sound quality of a loudspeaker, therefore, even when we are listening on-axis, is strongly influenced by its off-axis response. A loudspeaker with almost perfect on-axis response up to 20,000 Hz will sound dull and lacking in high-frequency energy from any normal listening position if its treble dispersion is poor.

Treble dispersion is better today than it ever was, but it still needs improvement. Poor treble dispersion not only creates the dullness referred to above, but is also responsible for what might be called a lack of spaciousness. Sound in the concert hall has an openness, a sense of space, created by the many reflections that reach one's ears from all directions. Speakers with poor treble dispersion produce a sort of hard, confined sound lacking in these qualities.

"Big" sound, if this metaphor means anything in relation to the live concert experience, must refer to sound that seems to surround the listener; loudness alone isn't enough, or may not even be necessary. Some concert halls provide more of it than others, and almost any concert hall provides more than a typical studio. Big sound in speakers—a most desirable quality when the music being reproduced is big—is largely a function of treble dispersion, and therefore depends on well-designed tweeters, not the dimensions of the cabinet or speakers.

The qualities of spaciousness and openness are unmistakable in the concert-hall sound. They are especially evident in the sound of a chorus in a stone church, while a small, heavily damped hall tends to lose them.

● *Dryness*. This is a term used to describe an overall weakness of bass reproduction, not necessarily accompanied by a limitation of the low bass range. You may hear organ pedal tones or the sound of double basses, but not in proper balance, and the reproduced music lacks the natural warmth that the original had.

Dry speakers have good transient response in the decay, or dying-away, portion of bass sound. The attack of a drum beat, however, which is composed of mid-range rather than bass-frequency elements, is likely to have an exaggerated crispness. The thinned-out bass fails to support the attack sound, which takes on an

unnatural prominence. This extra crispness, sometimes praised as "tight bass," may be quite impressive unless one is familiar with the sound of the real drum.

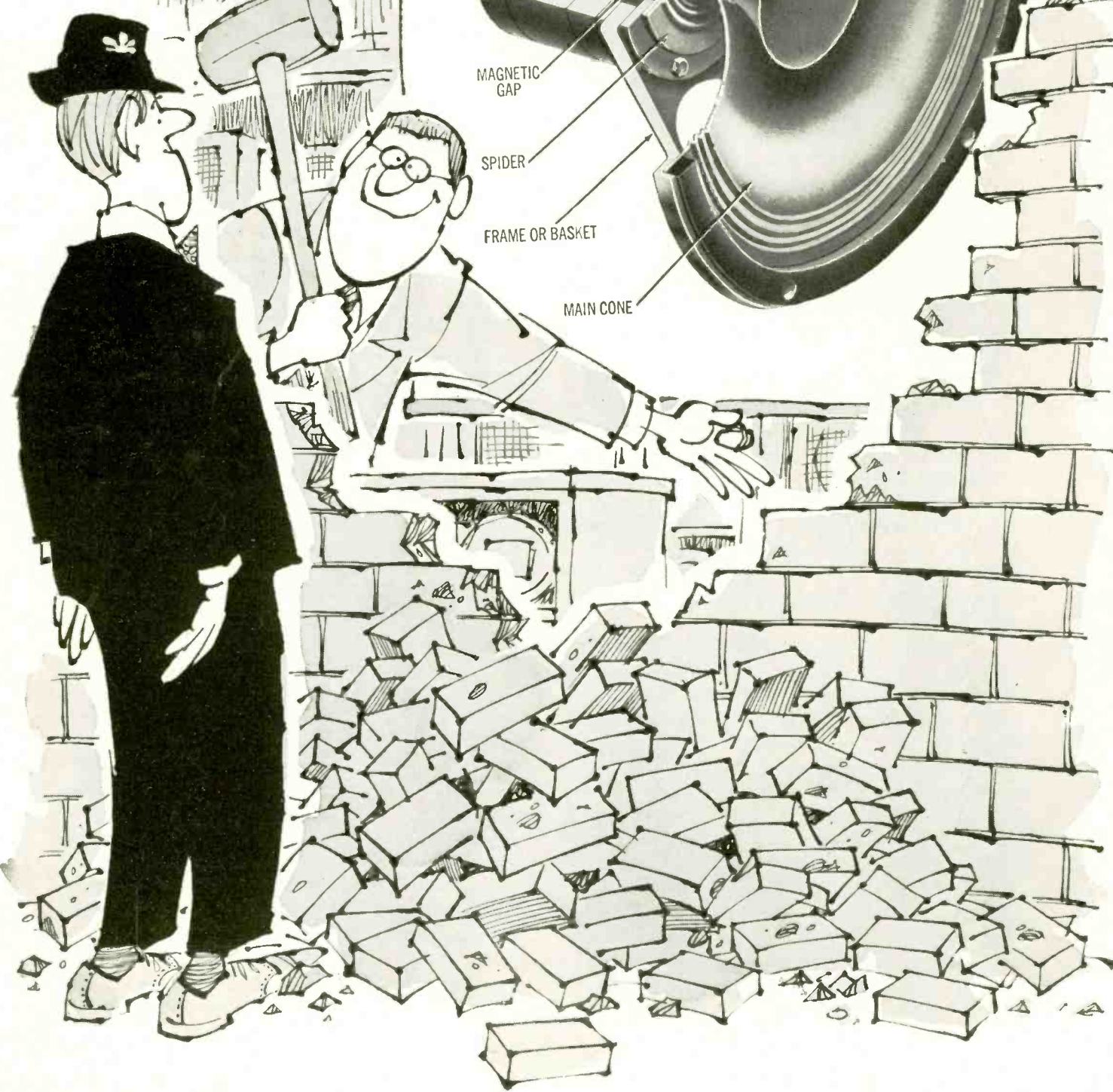
Dryness is much more common today than it was in the early 1950's, when very large speaker cabinets often produced the opposite effect, an over-emphasis of the mid-bass range. Where it exists today, dryness is usually the result of the designer's attempt to increase the overall efficiency of an acoustic-suspension speaker system.

● *Nasality*. In the case of the human voice, this means that the artist sounds as though he were singing through his nose. It is more difficult to elaborate on the term as it applies to musical instruments. The oboe has a natural nasality which is an important part of its timbre, while nasal-sounding strings are ludicrous. In the final analysis, the ability to separate the natural nasality of an instrument from the unnatural nasality contributed by a speaker must (again) be based on a reasonable familiarity with the original live sound.

WITH these major sins out of the way, I would like to add a few suggestions for speaker comparison when shopping. First, make sure that the rest of the equipment used for the demonstration is of high quality. Second, check to see that the amplifier controls have not inadvertently been left at improper settings. Third, make sure that the tweeter and mid-range level controls of the speakers are at a reasonable setting for the acoustical environment of the listening room. I can personally attest that these three hints are most valuable. Once, when shopping for records, I heard some over-sharp sound coming from the neighboring audio-equipment showroom. I walked over to find out what speakers were being used, and discovered to my chagrin that they were speakers I had designed. I consider myself the world's leading authority on the faults of my own speakers—but the faults being displayed were the wrong ones. Someone had left the amplifier treble controls all the way up, the loudness switch was on, and a phono cartridge of questionable quality was being used.

To end on a more cheerful note: many speakers today do a really remarkable job of reproducing the complex qualities of musical sound, and it can be predicted with certainty that someday they will do even better. In the meantime, since speakers vary more than any other audio components, the choice is a most critical one.

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VOICE-COIL FORM

SURROUND (CORRUGATED)

BACK PLATE

VOICE COIL

WHIZZER CONE

MAGNET

FRONT PLATE

MAGNETIC GAP

SPIDER

FRAME OR BASKET

MAIN CONE

THE CONCISE DICTIONARY of LOUDSPEAKER TERMINOLOGY

By VICTOR BROCHNER



JUST A STEP inside the door of his local hi-fi salon, the average shopper will encounter a wall separating him from the equipment he wants to buy. This wall is called "vocabulary," and it is sometimes at its thickest and highest over in the loudspeaker department, where a haze of terminology—phase, flux, suspension, gap, woofer, mid-range, and tweeter—surrounds, baffles, and overhangs him. We are occasionally tempted to believe that, if we put a name to something, then we understand it, and this dangerous fallacy probably accounts in part for some of the nonsense we hear around us. The speaker vocabulary, however, rightly understood, is pene-

trable, and it is with the notion of knocking down at least part of the wall of incomprehension that we present herewith a short and authoritative (although by no means complete) dictionary of the most common words and phrases used to simplify communications within a very complicated field. The author, who is currently assistant to the president of H. H. Scott company, has impressive credentials for such a task, including the production of a line of speaker systems and amplifiers that bore his name and his long concern with the establishment of audio standards through his work with the Institute of Electrical and Electronics Engineers. —Editor

SECTION I—THE SPEAKER STRUCTURE

Acoustic Lens—Like an optical lens (used with light), an acoustic lens (used with sound) is a device that produces convergence or divergence in a moving wave. When used in loudspeakers, the acoustic lens widens the dispersion of the higher-frequency sound waves that otherwise tend to form a narrow beam of sound. Acoustic lenses can take the form of parallel, bent plates; closely spaced arrays of bars, rods, or other solid objects; or multiple holes or slots in plates in front of the speaker. Most high-frequency speakers achieve wide dispersion by employing a small, light, sometimes dome-shaped cone rather than by using a lens.

Acoustic Suspension—When a speaker is installed in a sealed box, the air in the box acts as a spring that resists the back-and-forth motion of the speaker cone. If the cone itself is mounted on a highly compliant suspension, so that it moves very freely, its motion is determined more by the spring-like action of the air in the box

than by the mechanical action of the suspension itself. Because the air "spring" is much more linear than the mechanical one of the suspension, this arrangement minimizes distortion in the bass range, where the cone goes through its largest excursions. In a sense, the cone is "suspended in air," which gives rise to the term "acoustic suspension." The derivation of the term is perhaps a bit forced, but it is expressive. (See also *Infinite Baffle*)

Baffle—Originally, a baffle was a flat, rigid plate, usually made of wood, upon which a speaker was installed. Its purpose was to reduce the amount of cancellation between the sound-pressure wave produced by the front of the speaker cone and that produced by the rear. Why should they

cancel? Assume the cone is moving forward. The air compressed in front of the cone flows around the edge of the speaker to the back and tends to annul the partial vacuum created by the forward motion of the cone. This effect is appreciable only at low frequencies.

A flat baffle must be quite large to be effective at low frequencies. For example, for absolute isolation of the front and back wave at 40 Hz, it must be about 14 feet in diameter! This is not very practical, especially for bookshelf installations. The term *baffle* is still sometimes applied to any device or cabinet used to house a speaker.

Basket—(See *Frame*)

Bass Reflex—When a speaker is mounted in a sealed box, the sound wave emitted from the rear of the cone is of course confined within the box and so prevented from interfering with the front wave. If an opening, or port, is provided in the box and its size suitably related to the volume of the box and the characteristics of the speaker,

NOTE

Because of alphabetical listing, a definition may use terms that are themselves not yet defined.

something quite interesting takes place: over a significant part of the low-frequency range, the speaker's rear wave emerges *in phase* with the front wave and reinforces it. The basic reason for this is that the mass of the air in and near the port and the stiffness (or compliance, or springiness) of the air in the box form a resonant system that produces a phase reversal.

How the phase reversal comes about is a bit involved, but a simple experiment can demonstrate it. Hang a weight (corresponding to the mass of air in the port) on a rubber band (corresponding to the air in the box). Hold the other end of the rubber band in your hand (corresponding to the speaker cone) and move it up and down very slowly. The weight will move up and down in step with the motion of your hand. Now gradually increase the speed of motion. At one critical speed (frequency), the weight will move *down* when your hand moves *up*, and *vice versa*. Its phase has been reversed. This is analogous to the reversal of phase of the back wave in the bass-reflex cabinet. For this reason it is also referred to as a "phase-inverter" system or, when considered from the point of view of the resonant action of the enclosure, as a Helmholtz resonator.

Coaxial Speaker—When a tweeter is mounted on the axis of a woofer and inside its cone, the resulting combination is called a *coaxial speaker*. (Frequently, the units of a coaxial system are not geometrically coaxial, but are slightly displaced from each other laterally. This can improve the smoothness of the frequency-response curve in the region of the crossover frequency.)

In some designs, an independent woofer, mid-range, and tweeter are all mounted coaxially, forming a true three-way coaxial. In other designs, the mid-range frequencies are reproduced by an auxiliary cone (called a *whizzer*) attached at (and driven by) the woofer voice coil and having an unsupported or free edge. The frequency transition, or crossover, from the main bass cone to the mid-range whizzer cone is achieved mechanically. The crossover from middle to high frequencies is effected electrically.

Cone—The diaphragm of a direct-radiator loudspeaker, usually conical in shape, is the part that sets the air in motion to create a sound wave. The walls of the cone may be straight or curved. Straight-sided cones are most often used in woofers because they offer maximum rigidity. Wide-range, single-cone speakers use curved cones because these break into concentric modes of vibration at higher frequencies, the outer sections becoming "decoupled" and tending to remain stationary as the driving frequency is increased. This effect decreases the effective cone size at high frequencies, which in turn reduces the moving mass and helps maintain the speaker's high-frequency response. The smaller effective cone size also produces a wider dispersion of the high frequencies, thus preventing a "beaming" effect.

Speaker cones are usually made of felted

paper, which provides a desirable combination of strength, light weight, and good mechanical damping. The material is "dead"—it does not ring like a bell when struck, and consequently produces far less spurious response than would a material like glass, for instance. Aluminum-alloy cones have been used in a few cases; they are exceptionally light but not well damped, and are very difficult to fabricate and to handle in assembly. Titanium has also recently come into use in at least one currently manufactured speaker. Foamed polystyrene and polyurethane offer exceptionally high stiffness-to-mass ratios, and have been used in the form of thick cones and even flat-faced solid cones. They have not fully lived up to their promise, however, primarily because their internal damping has turned out to be less than anticipated. Foam cones are being successfully used in some designs, sometimes coated with aluminum foil. Polymerized plastic cloth is another material currently in use.

Cone Bead—A thickened section, usually circumferential, used to stiffen a cone.

Cone Corrugation—A circumferential U-shaped "ripple" in a cone that has a stiffening effect acting against any unsymmetrical deformation of the cone. It introduces a compliance in a radial direction and can be used to control the break-up of the cone at the higher frequencies. For example, a series of corrugations can be designed progressively to decouple the outer sections of a cone as the frequency increases, producing better treble response and improved angular distribution. Multiple corrugations at the outer edge of a cone are often used as a compliant edge suspension that supports the cone while permitting axial movement. (See *Surround*)

Cone Stiffness—The resistance to deformation of the cone itself. Hard, stiff materials produce strong cones but tend to break up into undesirable modes of vibration if not carefully controlled. The term *cone stiffness* is often used incorrectly to refer to the stiffness of the cone's suspension. If the cone is hard to move, then the suspension is stiff. If the cone resists deformation when pressure is applied, then the cone is stiff.

Crossover Network—An electrical filter used to separate the signal coming from the amplifier into two or more separate frequency bands in a multi-speaker system; for example, bass to the woofer and treble to the tweeter.

Diaphragm—The moving, sound-radiating part of a speaker cone. In addition, this term applies to elements that are not conical in shape, such as the dome-shaped radiators of some tweeters and mid-range units, the variously shaped moving elements of horn-loaded speakers, the driven elements of electrostatic speakers, etc. (See *Cone*)

Direct Radiator—A loudspeaker whose moving element (cone or diaphragm) radiates sound directly into the air. The air in

front of the speaker may be partially confined by a partition with openings, forming a front air chamber, or by obstacles composing an acoustic lens. If a direct radiator is placed behind an expanding passage coupling it to the air, it becomes a horn-loaded speaker (see *Horn*). Consequently, "direct radiator" really has two meanings: it refers to a system, such as a speaker mounted in an enclosure, and it also means the speaker itself if it is designed for use as a direct radiator.

Distributed Port—In a bass-reflex cabinet, a series of small holes which, taken all together, compose the "port." Its purpose is to increase the acoustic resistance of the port, which may be desirable in some cases. (See *Ducted Port*)

Dividing Network—(See *Crossover*)

Doublet (Dipole)—This does not refer to the outmoded article of clothing, but to a speaker that radiates sound into the air from both sides of its diaphragm—such as an ordinary speaker without a baffle. An acoustic doublet has a frequency response and power capability that fall off rapidly in the bass range. If made large enough, it can provide reasonable bass response (depending, of course, on who is defining "enough" and "reasonable"). Its distribution pattern concentrates sound along the speaker's axis, with a minimum in the plane of the cone edge. When used indoors, the distribution is made more uniform by reflections from the room walls.

Driver Unit—This term applies primarily to loudspeakers with relatively small, light diaphragms designed for use in horn speakers. It is also used on occasion to refer to a single direct-radiator speaker (to distinguish it from the assembly of a speaker or speakers in an enclosure, which is also called a "speaker" or a "speaker system").

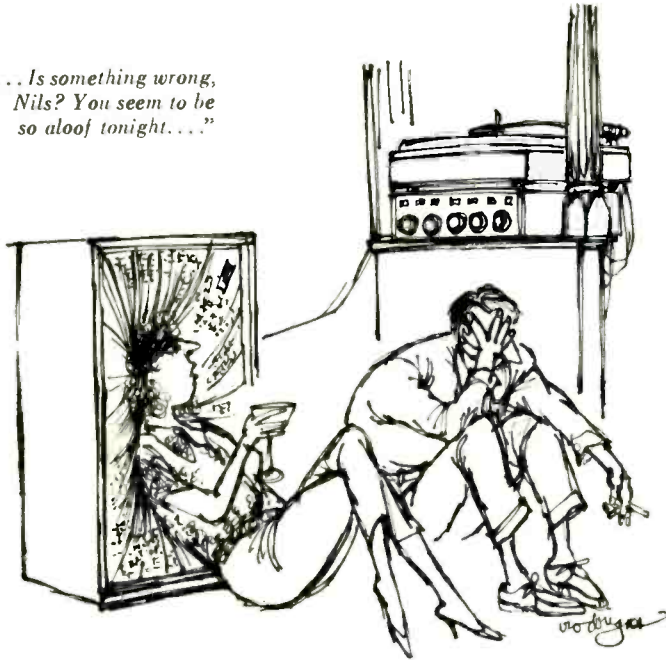
Ducted Port—The auxiliary opening, or port, of a bass-reflex cabinet is sometimes equipped with a tube or duct joining the air outside the cabinet to that inside. In small bass-reflex cabinets designed to produce extended bass response, if a simple port is used, the required opening is so small that there are excessive energy losses due to friction as the air oscillates in the port. If a duct is used, however, the opening can be made larger and the frictional losses reduced.

Dynamic Speaker (Moving-Coil Speaker)

—A speaker in which the motion of the diaphragm is produced by the interaction of the varying magnetic field of the speaker's voice coil and a surrounding fixed magnetic field produced (usually) by a permanent magnet. The voice coil (whose varying magnetic field results from the audio signal fed to it by an amplifier) is generally composed of a number of turns of wire forming a cylinder.

Edge Damping—A viscous compound applied to the surround of a cone speaker. An audio signal current starts the speaker's

"... Is something wrong, Nils? You seem to be so aloof tonight..."



voice coil moving, but because of the inertia of the cone, the voice coil starts its motion before the cone does. Since the cone also has flexibility, this sets up a wave in the cone that travels radially outward to the edge, where it is supported by the surround. At this point it is reflected and travels back toward the voice coil—to be reflected outward again. The resulting wave-like motion of the cone surface gives rise to irregularities in the frequency response. The edge-damping material on the surround mechanically absorbs the outward-travelling wave and thus smooths the response.

Electrostatic Speaker—One of the old high-school physics demonstrations of the effects of static electricity went like this: two pith balls are suspended by thin silk cords so that they touch. They are then both charged electrically by contact with a plastic or glass rod that has been rubbed to produce a charge. Being identically charged, the pith balls immediately fly away from each other. The experiment illustrates the force that exists between similarly charged elements. It is proportional to the intensity of the charge. This effect is utilized in electrostatic speakers. In the simplest type, a thin, conductive membrane acting as the diaphragm is spaced a short distance away from a perforated metal plate. In addition to the audio-signal voltage applied between the two conducting surfaces, a fixed d.c. bias voltage is applied. In another type, the push-pull electrostatic speaker, the diaphragm is suspended between two conducting surfaces and there is greatly reduced distortion because of the more linear and uniform drive.

Flat Speaker—A speaker in a very shallow cabinet, sometimes in a "picture-frame" design; or, a speaker designed to be very shallow so that it will fit into a flat cabinet; or, a speaker with flat frequency response. Take your pick.

Frame—The basket-like structure that forms the "chassis" for a loudspeaker and holds everything in alignment. To do this, it has to be strong and rigid and yet not "ring" when subjected to vibration. Frames are made of stamped sheet metal, castings, or epoxy plastic. They must be strong enough to withstand being fastened to a surface that is not perfectly flat (as in a speaker cabinet) without warping.

Front Plate—The iron plate (see illustration at the beginning of this article) that conducts the magnetic flux toward the gap and voice coil from the outer part of the magnetic structure of a dynamic speaker. In general, the thicker it is, the more total flux results in the gap, and the greater the efficiency. (See definition of *Magnetic Flux* in Section II)

Gap, Magnetic—The space between the central pole piece and the front plate (see illustration) in which the radial magnetic flux is concentrated to drive the voice coil. The length of the gap is the radial distance between the pole piece and the front plate, presumably because this is the length traversed by the magnetic field.

Horn—A means of coupling a speaker or driver unit to the air. It consists of a passageway or pipe that expands in cross-section as the distance from the diaphragm increases. A megaphone or an ear trumpet illustrates the action of a horn. It is not, as is sometimes thought, an amplifying device. It accomplishes better power transfer between the diaphragm and the air by a process of acoustic-impedance matching. The efficiency of horn speakers is much greater than that of direct radiators, and can be as high as 40 per cent. For proper operation, the mouth diameter of a horn must be at least a quarter-wavelength of the lowest frequency to be reproduced. Consequently, low-frequency horns are quite large. They may be made smaller by

folding them and by placing them in a corner of a room. Horns are used mainly for tweeters and some mid-range speakers. There are various types of horns, including parabolic, exponential, conical, catenoidal, and hyperbolic. At the higher frequencies, the distribution (*i.e.*, dispersion) patterns of a horn vary considerably as the frequency changes, unless means are employed to make them uniform. These means include directive vanes, acoustic lenses, and multicellular construction.

Infinite Baffle—Strictly speaking, these are neither infinite nor baffles. In the definition of *baffle* above, it was stated that baffles must be large to be effective at low frequencies. If a (theoretical) baffle were made infinite in extent, it would have no restricting effect on low-frequency response because it would separate the front radiation from the rear radiation at all frequencies. A hermetically sealed enclosure behind the speaker does the same thing, so it is called an *infinite baffle*. An acoustic suspension speaker is a form of infinite baffle, although, being small, it makes applying the term "infinite" to it seem a little ridiculous. The main difference between an acoustic-suspension system and an infinite baffle is in the degree to which the speaker depends on its enclosed air (as opposed to its mechanical-suspension elements) to provide control of cone movement.

Ionic Tweeter—An ionic speaker dispenses with the usual diaphragm or cone by using a varying electrostatic field to activate a mass of air ionized by a high-voltage radio-frequency field. Ionic speakers are capable of extremely extended high-frequency response (up to 100 kHz or so) because the ionic "diaphragm" is very light. Horn loading is used to raise efficiency to a practical level. Such speakers require a power supply and r.f. oscillator.

Magnet—The permanently magnetized piece of iron alloy or ceramic (sintered iron oxide plus non-metallic components) that furnishes the steady magnetic flux in a speaker gap. The most widely-used alloy is Alnico (called Ticonal in England). The size and weight of the magnet are frequently (but incorrectly) considered as criteria of the sonic quality of a speaker.

Magnets that constitute the center pole of the magnetic structure are referred to as *slug* magnets; those that form the outer ring of the assembly are called *ring* magnets. Slugs are used in most speakers. Ceramic magnets are made in the form of flat plates—they are essentially ring magnets—and are therefore useful when a shallow-configuration magnetic assembly is desired.

Magnetic Structure—The assembly of all the magnetic flux-producing and flux-carrying elements of a speaker. This includes the cover plate, the surrounding structure, the back plate, and the center pole. All parts except the magnet itself are made of soft iron, which is far less costly than the magnet material but contributes a large part of the total weight.

Mid-range—A speaker covering the middle audio frequencies. The lower frequency limit may be as low as 200 Hz and the high limit several thousand hertz.

Open-back Cabinet—A speaker cabinet in which the back is left open, no attempt being made to confine the back wave of the speaker. This construction, typical of television sets, table-model radios, and the cheaper consoles, makes the speaker operate as a doublet, and consequently there is no deep bass response. In addition, an open-back cabinet frequently acts like a short, tuned pipe which reinforces the sound output at its half-wave resonance. In large consoles this generally produces a peak in the 100- to 150-Hz region, which creates the illusion of good bass response but is actually a poorly damped "boom" that is especially objectionable when a male voice is being reproduced.

Phasing Plug—Used in a horn speaker to eliminate loss in high-frequency response and to smooth out overall response, the phasing plug compensates for the different path lengths from different parts of the diaphragm to the throat of the horn and is installed between the diaphragm and horn throat.

Pole Piece—A cylindrical piece of soft iron placed on top of the center or slug magnet and serving to conduct the flux from the gap to the magnet. Sometimes the magnet itself extends up far enough to perform this function, and no pole piece is used.

Resonant or Tuned Pipe—A tube of suitable length designed to resonate (like an organ pipe) at a desired frequency. Depending on the manner in which a tuned pipe is coupled to a speaker or enclosure, and on whether one or both ends are open, it can be used either to reinforce or to subdue speaker response over a limited frequency range.

Ribbon Tweeter—A high-frequency speaker, usually horn loaded, using a stretched, straight flat ribbon instead of a

conventional voice coil. The magnetic gap is in the form of a straight slit and can be made quite narrow so that a maximum amount of flux is concentrated in it. The ribbon is an extremely light driven element and also serves as the diaphragm.

Sound-absorbing Material—Some kind of material (open-cell foam or loosely spaced fibers such as glass wool) which has the property of absorbing sound by converting it into heat is used in speaker enclosures to prevent internal sound reflections and consequent multiple resonances. Appreciable sound absorption occurs only at frequencies above several hundred hertz. In a small cabinet, a proper amount of damping material will cause the cabinet to appear larger to the speaker. The amount of damping material will thus affect the amplitude and frequency of the fundamental resonance of the speaker.

Spider—The flexible ring-shaped element that supports the voice coil in the gap and keeps it centered. Early speaker designs used thin curved arms of Bakelite mounted radially with respect to the voice-coil form—hence the term *spider*. Most modern speakers use soft impregnated cloth with circumferential corrugations, and some use foam discs. In high-frequency speakers using dome-shaped diaphragms there may be no spider used, since the diaphragms are quite rigid and are held in good alignment by the surround alone. To prevent distortion and for good bass response, the spider must be quite flexible and capable of accommodating large axial movements of the voice coil with only small variations in springiness.

Surround—The surround (or "skiver") performs the same basic functions as the spider, except that it is connected to the rim of the frame or basket and is used to support the outer edge of the cone. Surrounds may consist of corrugations in the outer edge of the cone itself, sometimes with the material reduced in thickness. A separate piece of impregnated cloth may also be used, either corrugated or in the

form of a concave or convex "half-roll" (U-shaped cross-section). Plastic foam, felt, and various soft plastics have also been employed. The same requirements of flexibility and linearity apply as for spiders. (See *Edge Damping*)

Suspension—A portmanteau term often used to refer to the *spider-surround* combination that holds the cone in place.

Tweeter—A speaker designed to reproduce high frequencies. Designs include the ionic, ribbon, electrostatic, and dynamic types.

Voice Coil—A helical coil of wire, usually wound on a light cylindrical form, fitting into the cylindrical magnetic gap. The audio-signal currents travelling through the voice coil create a variable magnetic field that interacts with the steady field in the gap produced by the magnet, thus causing the voice coil to move back and forth axially and in turn driving the speaker diaphragm. The coil may be single or multi-layer.

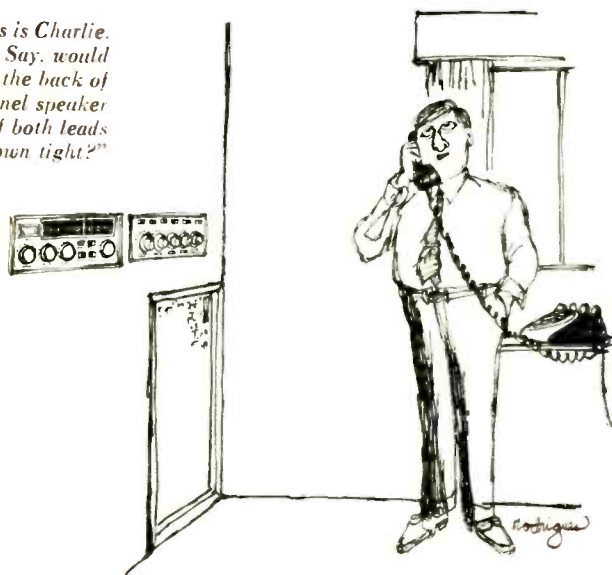
Voice coils are sometimes edge-wound with metal ribbon instead of wire and can be made self-supporting by cements, so that no form is needed. This eliminates the mass of the form and permits more conductor material to fill the gap, thus improving efficiency.

Copper wire is used in most inexpensive speakers and in most woofers. It is sometimes wound on forms made of duraluminum, which are strong, help to dissipate heat generated in the coil, and exert a desirable electrical damping effect on the speaker. In tweeters, the lighter weight of aluminum wire more than makes up for its higher electrical resistance, making it the material of choice over copper.

Voice-coil Excursion—The distance the voice coil moves axially in and out from its neutral or rest position. What is usually important is the maximum distance the voice coil can move before creating a certain amount of distortion. Large excursions occur only in the low-frequency range of a speaker. It is assumed, of course, that this excursion can be attained without the voice coil's striking any part of the speaker structure and without physically damaging the suspension or the voice-coil leads.

Voice-coil Overhang—In woofers, the voice coil is often made longer than the depth of the magnetic gap, so that the same number of turns always remains immersed in the magnetic field for varying degrees of voice-coil excursion. This is necessary to maintain linearity. The same result can be attained by making the voice coil *shorter* than the voice-coil gap. If the voice coil is longer, some of its turns are always outside the gap and do not contribute to the driving force, so that efficiency is reduced; this is the price one pays for better linearity. With a short voice coil, efficiency is maintained, but some of the magnetic field is unused, requiring a more powerful magnet. In this case, the price one pays is measured in dollars.

"... Hi! This is Charlie, next door. Say, would you look at the back of my right-channel speaker and see if both leads are screwed down tight?"



Woofers—A speaker designed primarily to reproduce the lower frequencies. Woofers may work up to several thousand hertz, but their output becomes quite directional in this region. Consequently, a somewhat lower crossover frequency (500 to 1,000

Hz) between the woofer and tweeter (or between woofer and mid-range) is often used. Woofers are characterized by large, heavy cones and large voice coils overhanging the magnetic gap (see definition of *Voice-coil Overhang*). The term "large"

is relative, the actual range being from perhaps 4 to 30 inches in diameter, but at least it can be said that, in a multi-speaker system, the woofer will almost always be larger than either the mid-range or the tweeter.

SECTION II—PROPERTIES OF THE SPEAKER

Compliance—The degree to which a material "gives" when a force is applied. Compliance is calculated by dividing the amount of deformation by the value of the applied force; it is expressed in inches per pound or, more usually, in centimeters per dyne. The compliance of a speaker suspension permits the cone to move in response to the applied signal from the amplifier. The amount of compliance must remain as nearly constant as possible over a wide range of cone movement. When compliance is uniform, the speaker-cone motion is said to be *linear*—that is, proportional to the applied force—and this enables the speaker to reproduce low frequencies without excessive distortion.

High-compliance speakers are linear over a large excursion range. They usually (but not necessarily) have a low resonant frequency. The exception occurs when the cone and voice coil are very light. Such speakers are very efficient in the middle register, but they do not reproduce bass well when used as direct radiators. For good bass reproduction, high compliance is not enough. The moving parts must be heavy and not too highly damped, either mechanically or electrically.

Cone Break-up—When a cone moves back and forth relatively slowly, it moves as a unit, like a piston. As frequency increases, two properties of the cone come into play: its flexibility and its mass. While the part of the cone near the circular line where it is joined to the voice coil follows the motion of the coil, the remainder of the cone tends to "flap" in various complicated modes. Indeed, at some frequencies, parts of the cone may actually move backward when the coil moves forward. The irregular manner in which different parts move is called "break-up."

Cone break-up usually results in sharp irregularities in a speaker's frequency response, as well as variations in its high-frequency dispersion pattern. The term generally refers to the *undesirable* modes of operation. However, if properly controlled, break-up can extend the high-frequency response and improve dispersion. A rigid piston becomes more and more directional as frequency increases, and its frequency response drops off as well. If a cone can be made to operate so that its outer zones move less than the inner ones at high frequencies, it acts like a smaller, lighter cone in this range, with more response and wider dispersion. This is the sort of thing that makes cone design and fabrication the most critical of any of the aspects of speaker design and manufacture.

Damping—Damping is one of those terms much used but not too well understood—and please, it is *not* "dampening!" If we push on an undamped speaker cone and then let it go, it will take a certain time to return to its original neutral position. But it won't stop there—it is likely to go back past neutral, reverse itself, and perhaps oscillate through several cycles before coming to rest. If it behaved ideally, it would return to the neutral or rest position instantaneously and stay there. We have to pay a penalty for the fact that we have made the cone out of material that has mass (and hence inertia) and have then compounded the felony by holding it in place with springy material—the suspension. Inertia makes the cone reluctant to get started and inclined to keep moving after the applied force has been removed. Adding a spring mounting results in a tendency to oscillate like a pendulum. This is most pronounced at one frequency—the resonant frequency of the speaker, which is at the lower end of the frequency range it covers. (See *Hangover*)

Fortunately, at frequencies appreciably above the loudspeaker's own resonant frequency, we have to contend only with the inertia, which has an odd effect: the higher the frequency, the lower the velocity. On the face of it, progressive loss of speaker-cone velocity should lower acoustic output as frequency goes up. However, the laws of acoustics come to the rescue, because the ability of the cone to transform the energy of its motion into sound *increases* with frequency, and this just makes up for the reduced velocity, so that the frequency response is uniform—up to a point, but that's another story.

At and near resonance, though, we have trouble. Here, the cone can be moved so easily compared to its behavior in the middle frequencies, that there is likely to be a peak in response. Something must be done. To go back to the analogy of the pendulum, we could perhaps quench its enthusiasm by immersing it in water: the resistance of the water to the motion of the pendulum restricts its motion. And (we blush to say it) that is called damping.

If the response peak is not to be present at resonance, the amount of damping must be just right. The "correct" amount of damping is called *critical damping*, that point at which the moving element does not overshoot, or pass its rest position, after being deflected. It happens that speaker output is down 6 db at resonance when the system is critically damped. When a system is *less* than critically damped, there is increased response at speaker resonance.

When it is *more* than critically damped, there is a fall-off in bass response.

Damping can be of three kinds: mechanical, acoustical, and electrical. Mechanical damping is achieved by proper selection of the materials in making the cone suspension. Acoustical damping involves creating resistance to air flow—for example, by using a distributed or resistance-loaded port in a bass-reflex enclosure or simply by covering the back of the loudspeaker with a material that offers resistance to air flow. Electrical damping is a little more complicated because it must take into account also the damping factor of the amplifier. When the voice coil moves through the magnetic field in the gap, it generates a voltage across its terminals in a direction opposing the applied audio signal voltage. This reduces the flow of current and the resulting motion. Electrical damping is increased by having a high magnetic-flux density in the gap and by having an amplifier damping factor of at least 5 or 10. Speaker damping is not increased significantly by higher values of damping factor in the amplifier.

Doubling—Literally, the creation of large amounts of second-harmonic distortion by non-linear cone motion. The second-harmonic component of a signal (double the fundamental frequency) can actually be much greater than the fundamental frequency, giving the illusion of bass response that is not really there. Actually, most of the distortion created by driving a speaker hard at low frequencies is third-harmonic distortion, which is really *tripling*, but that does not make it any more desirable.

Hangover—This has nothing to do with the effects of alcohol, nor, when it is called "overhang," should it be confused with a lengthened voice coil. In the discussion of *damping*, we indicated that an under-damped speaker cone tends to keep oscillating—for a small part of a second—after the actuating signal has ceased. This hangover tone has a characteristic frequency—approximately the resonant frequency of the speaker. It can be excited, however, by any signal that stops suddenly, principally in the bass range. Hangover is readily recognizable because it is always the same frequency: it produces "one-note bass," and is especially annoying at the ends of syllables in male speech.

Linearity—A speaker is said to have linearity when there is an exact proportionality between the excursion of its diaphragm and the audio signal driving the voice coil. Non-linearity results in distortion. Two factors affect linearity: the suspension and

the magnetic driving system. The cone suspension obviously becomes non-linear as the excursion increases beyond a certain point, since any material can be stretched only so far. Non-linearity in the magnetic driving system occurs when one end of a non-overhanging voice coil moves out of the magnetic gap, where, since it is encountering a greatly reduced value of magnetic flux, more signal power is required to drive it properly.

Linearity is also used to refer to the variation of power output with respect to power input as the latter is increased.

Loading—A wonderfully impressive term much used—and misused—in discussing loudspeakers. The general idea is that a speaker cone has difficulty in "getting a bite" on the air adjacent to it, especially at the lower frequencies, and anything that will help this situation is said to improve the *loading* of the speaker. A horn loads a speaker. Placing a speaker in a room corner also loads it (in the bass range) because its output, which would otherwise be omnidirectional, is concentrated into one-eighth of a sphere. Putting a speaker in a baffle or a closed box loads it because it confines the rear wave which otherwise interacts unfavorably with the front wave. But the *elasticity* of the air in a closed box does not load the speaker in a similar manner (however, it does affect cone motion).

Magnetic Flux—The magnetic structure of a dynamic speaker is designed to produce a radial magnetic field in the air gap between the pole piece and the surrounding iron of the cover plate. The degree of concentration of the lines of magnetic force—the strength of the field—is called *magnetic flux density*. Flux density is expressed in lines per square centimeter, or gauss. Ten thousand gauss is representative of a fairly high flux-density figure.

Another term used to specify the strength of a speaker's magnetic field is *total flux*.

If one visualizes the end face of a bar magnet where the flux density expresses the strength of the magnetic field, it can be seen that the pulling (or pushing) power of the magnet also depends on the area of the end face. If the flux density is multiplied by the area, we have a measure of the power of the magnet. This, then, is the total flux; it is measured in *maxwells*.

If we line up two bar magnets with their north and south poles facing each other, the gap between them will be filled with magnetic flux. A wire running through the gap at right angles to the axis of the magnets will have a force exerted on it when a current flows through the wire. This is the principle of the dynamic speaker. If the wire is looped around so that it conducts the current through the gap a number of times in the same direction, the force is multiplied by the number of turns.

Now, the more space there is available for the wire, the more turns can be put in—and the force increases proportionately. It is intuitively obvious that the amount of work that can be done by the magnet and coil combination, when a given current is flowing in the coil, is proportional to the volume of the space between the magnets—that is, the volume of the gap. Speaker efficiency is directly related to the gap volume and to the flux density (although other factors enter in as well). The two are combined in a figure known as *gap energy*. Gap energy is a better "figure of merit" with regard to the efficiency of a speaker than either flux density or total flux.

Mass—"That which, if a speaker didn't have it, it would be very efficient," as one facetious but accurate definition has it. However, the moving system of a dynamic speaker consists of a voice coil, its form (if one is used), and a diaphragm, all of which weigh something, so mass must be taken into consideration in speaker design.

Over most of its frequency range, the motion of a direct-radiator dynamic speaker

is determined almost entirely by its mass; the effects of the suspension stiffness and of air resistance are negligible. We might conclude from this that, the lighter we make the moving system, the better. But there are two catches: one is that the cone cannot be made so light that it would not have sufficient internal strength to keep it from buckling. The other is that reducing the weight of the voice coil either increases its electrical resistance loss (as when aluminum is substituted for copper wire) or reduces its driving force if its volume is made smaller. Since there are two factors working in opposite directions, there must be some optimum combination. It exists when the mass of the voice-coil is made equal to the mass of the cone plus the mass of the air adjacent to it. It is sometimes overlooked, but the reverse is *not* true: if the voice coil mass is fixed, the cone mass should be as small as possible.

Spurious Responses—These have already been partially covered under *Cone Break-up*, but speakers can, in addition, emit rustling, creaking, crackling, and tinkling noises (usually in very small amounts) which bear no relationship to the program material, as distortion products do. One of these noises has been referred to by the heart-breaking term "cone cry." There are also puffing and wheezing noises that are created by air being forced through various small passageways in the speaker structure. This is why the domes fastened to the cone over the pole piece often have openings backed by gauze or felt. If the horns of horn speakers are free to vibrate, they too can produce unwanted noises. This is also true of speaker cabinets that are insufficiently massive or rigid or that have small leaks which produce whistling sounds.

Stiffness—The inverse of compliance. Since it is usually undesirable in a speaker suspension, it is often defined by manufacturers as something a rival speaker has.

SECTION III—SPEAKER PERFORMANCE

Distortion—The function of a speaker is to produce a sound wave whose form, or variation with respect to time, ideally duplicates the waveform of the electrical signal. If the instantaneous relationship of sound output to electrical input is not linear, the waveform of the sound is changed.

Distortion resulting from non-linearity manifests itself in two ways. When the input is a sine wave, harmonics are created. These multiples of the wave's original frequency can be measured individually with a wave analyzer and so specified, or they can be measured as an aggregate by means of a distortion meter and specified as *Total Harmonic Distortion*, usually abbreviated THD. Some authorities maintain that since the higher harmonics are more objectionable to the ear, they should be weighted more heavily when the harmonic components are combined to give a distortion figure, but this is inconvenient and not usual-

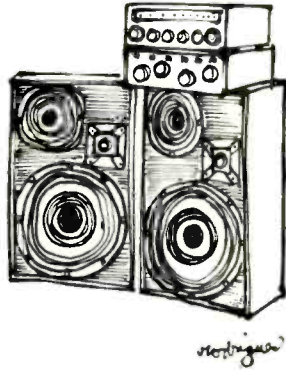
ly done. Except at low frequencies, it is difficult to get meaningful distortion figures because of irregularities in the frequency response and variations of spatial distribution with frequency.

When the input consists of two or more simultaneous sine waves, the output of a non-linear speaker contains not only the harmonics of the original waves, but their sum and difference frequencies, plus combinations of the sums and differences of all harmonics and fundamentals present. This is called *Intermodulation Distortion*. The IM distortion products are generally not related harmonically to the original waves and consequently are far more objectionable sonically than harmonic distortion products alone. They make music sound harsh, muddy, and poorly defined.

Two rather special kinds of distortion are *subharmonic generation* and *Doppler distortion*. The first involves the creation of

additional spurious frequencies *below* that of the fundamental frequency. The second may appear at first glance to be a form of doubling, but it is something else. Mr. Doppler is the man who figured out why the pitch of a train whistle varies as it comes toward us and then moves away from us. And that, of course, is what a speaker cone does—moves toward and away. Suppose a loud bass note is producing very vigorous cone motion while a high note is also being reproduced. The large back-and-forth motion of the cone at low frequency will cause a wavering pitch, or frequency modulation, of the high note. The effect is quite slight, but it undeniably exists.

Efficiency—Another of the magic words. Naturally, everyone wants efficiency. But exactly what is it? It is the ratio of the useful power output to the power input, multiplied by 100 so that it is expressed in per



cent. It is simply a number that tells you how much sound (acoustic output) you get for a given electrical input and is *not* necessarily an indicator of sound quality or any other desirable speaker attribute.

In the early days of hi-fi, when a 10-watt amplifier was considered pretty powerful, loudspeaker efficiency was important. (It still is in public address, sound reinforcement, and industrial applications.) But with today's powerful two-channel stereo amplifiers, efficiency is not of extreme importance, although it does determine whether one needs a powerful amplifier or a *very* powerful amplifier for a given speaker.

If a direct-radiator speaker is to reproduce the extreme low-bass range despite a fairly compact size, efficiency *must* be low. The only way to strengthen the bass is relatively—that is, by reducing the speaker's output over the rest of the frequency range. This is usually done by making the mass of the moving system large, which reduces the output by lowering the efficiency. If bass efficiency (again, this does not necessarily include quality) is to be increased *per se*, the speaker must be made large—or horn-loaded, which makes it even larger.

The figure for efficiency is really not very useful because at any given frequency it is not very easy to calculate or measure how much power is being fed to the speaker. It is much more helpful to know what rating of amplifier is needed to produce a given *sound pressure level* at some fixed distance from the speaker or in an average living room. Such ratings are available for some speakers, but they are really measures of *sensitivity* rather than efficiency, and will be discussed under that heading (below).

Frequency Response—Here at last is a measurement that seems to be relatively straightforward and really meaningful to the user. Well, "seems to be" is about right. Let us start with the most vague methods of rating frequency response and progress to the most definite. "Usable fre-

quency range" is the first. What does it mean? Probably no more than that the manufacturer is extending to the user his permission to put that frequency range *into* the speaker. What comes out may be another story. Next we have a range described as "X to Y Hz *within* 10 decibels (db)." This can mean that the variations in response are contained within a total range of 10 db (that is, plus or minus 5 db) or perhaps even within 10 db of some *average* value (which makes it plus or minus 10 db). Then comes the range that is described as being "plus or minus 5 db." This at least is definite. But it doesn't tell us where, in frequency, the variations are, or whether they are peaks or valleys or shelves or slopes in the frequency-response curve.

Suppose that specific information on frequency response is given in the form of a curve of output *vs.* frequency. Here too, we may be misled, for the curve may be a simple on-axis one (taken from directly in front of the speaker) in an anechoic chamber (reflectionless room). Let's ignore the fact that the same speaker measured in *different* "anechoic" chambers may not necessarily produce identical response curves. Is this an index of what we hear? There is good reason to believe that it is not. The off-axis response is also important. This is not only because we usually listen off-axis in stereo, but also that the off-axis response determines the nature of the sound reflected from the room's walls, floor, and ceiling, and this makes up the major portion of the sound energy that reaches our ears.

In the bass range, the listening room has a large effect on the response, raising the bass output above that obtained in an anechoic chamber. This can be measured rather well by using a multiple-microphone technique in a "typical" living room.

The moral: don't get angry at a speaker manufacturer who seems reluctant to publish a frequency-response curve. He may very well be afraid that it will be misinterpreted. But if he does publish a series of

curves, if they are smooth and show wide-range response off-axis as well as on-axis, the speaker is probably pretty good. At least as good evidence of quality is a curve taken in a reverberant room, but don't worry if the power response falls off somewhat at the high end—it should.

Impedance—Just as resistance in a direct-current (d.c.) circuit determines how much current flows when a given voltage is applied, impedance governs the current flow in an alternating-current (a.c.) circuit. Impedance can consist of any combination of resistance, capacitance (of a "condenser"), and inductance (of a coil). Anything that determines current flow is of interest here, since it is current that drives the speaker.

A speaker's voice coil has both resistance and inductance, but if we measure the current flow for a given applied voltage we find that there is less current flow than there should be if only these two elements are involved. There must, then, be another impedance in series with the circuit. As the voice coil moves back and forth in the magnetic field, it behaves like an electrical generator, producing an a.c. "back" voltage that opposes ("bucks") the signal voltage, reducing the flow of current. According to our definition of impedance, this can be represented as another impedance—and it is the additional impedance we have been looking for. Since it results from the motion of the voice coil, it is called *motionial impedance*. Its effect is quite complicated: at the speaker's own resonance it can be quite large because of the large excursion of the voice coil, and it acts as a resistance. Below speaker resonance, it is mostly inductive, and above resonance it is mostly capacitive.

With such a built-in mish-mash of resistances, inductances, and capacitances, it should be expected that speaker impedance varies wildly over the frequency range. It does. With a single speaker, there is a fairly broad region, usually around 400 Hz, where the impedance does not change much. This is the impedance value at which a speaker is rated. With multi-speaker systems that include additional capacitors, inductors, and resistors in the frequency-dividing network, the picture is much more complicated.

At the speaker's resonance, where the impedance is very great, the current flow is reduced, and consequently so is the power input to the speaker. But, fortunately, efficiency is considerably higher in this region, which compensates for the reduced power input. At other frequencies it is up to the speaker designer to see to it that frequency response remains uniform.

Why should we be concerned about impedance? Because the power output of a solid-state amplifier increases as its load impedance (the speaker) decreases. Below a certain impedance value, the amplifier output current becomes excessive. Distortion goes up and—if you're lucky—protective devices cut in before more serious damage occurs. Because of this, speaker manufacturers are becoming increasingly

concerned with controlling speaker impedance so that it is as uniform as possible over the frequency range.

Phasing—When two sine waves of the same frequency are so timed that they attain their maximum values together, they are said to be *in phase*. If one is delayed with respect to the other, the signals are *out of phase*. To apply this concept to speaker phasing, suppose we mount two speakers side-by-side in a cabinet, connected in such a manner that for a given signal one cone moves in when the other moves out. In the low-frequency range, a pressure wave will tend to move back and forth between the speakers rather than out into the room as sound, and the result is a decrease in bass response. The effect is less noticeable at higher frequencies because at these frequencies sound waves are much shorter and hence do not interact as readily—the sound from each speaker tends to form a beam straight out on the speaker axis.

Phasing is important in multi-speaker systems. For example, in the frequency range where the outputs of a woofer and a tweeter overlap, it makes a difference whether the two waves add or cancel. If they cancel (out of phase), a dip occurs in the overall frequency response. Correct phasing is not necessarily obtained by observing the polarities marked on the woofer and tweeter, because the crossover may introduce additional electrical phase shifts, and relative time delays are caused by the different path lengths between the two speakers and the listener. Smoothness of the frequency-response curve is the criterion by which we can judge whether the speakers are properly phased.

In stereo, another aspect of phasing appears. If identical signals (a mono record) are fed to the two separated identical speaker systems, the listener located at an equal distance from the two hears the sound coming from a point exactly centered between the speakers. But this takes place only if the speaker systems are in phase. If they are out of phase, there is no definable apparent source of the sound, and stereo program material cannot be properly reproduced spatially.

To facilitate correct phasing, speakers usually have one terminal coded. According to an EIA standard, one terminal should be marked with a "plus" or a color dot (preferably green), and application of a positive voltage at this terminal should cause the diaphragm to move away from the speaker basket.

Polar (Directional) Response—Also referred to as angular distribution and dispersion. At low frequencies, the sound waves produced by a speaker diaphragm spread out uniformly in all directions (except for the *doublet*—see discussion under that heading). As the frequency increases, the sound tends to become more and more concentrated into a beam that can be thought of as shaped like a cone whose apex angle decreases with increasing frequency. While polar response is always

specified for public-address speakers, it is seldom mentioned in connection with hi-fi speakers, where it is also important.

Verbal descriptions of this phenomenon (such as "60 degrees dispersion") tend to be vague. Since the sound level does not suddenly drop off from a fixed value to zero as one moves from directly in front of a speaker, the amount of decrease should be specified. Therefore, a statement such as "60 degrees at -10 db" is better, but the frequency at which this occurs should also be stated.

Graphic presentations are far more informative. There are two ways to do this. One is to show a series of frequency-response curves—on-axis and at various angles off-axis. This type of presentation can be quite difficult to interpret, because the off-axis responses tend to be rather irregular and may even overlap each other. The preferred method is to plot response at different angles for a given frequency, repeating it for a number of representative frequencies. These curves are called "polar plots," and often look like a daisy viewed head-on.

Power Rating—In effect, this figure denotes the power rating of the most powerful amplifier that can be used with a speaker with safety. Of course, a more powerful amplifier can be used if one is careful never to turn it up all the way. Most power ratings assume that "integrated program material" is being reproduced; a given power rating does *not* mean that continuous sine-wave power of this amount can be applied safely, since allowance is made for the random nature of program material, which varies in intensity and frequency from moment to moment. A continuous signal produces far more heating of the voice coil, which gets no chance to cool off as it does in the softer passages and pauses of program material. At low frequencies, the large excursions of the voice coil past the air in the gap helps cool it; excessive excursion may cause mechanical damage.

It is also assumed, for a given speaker power rating, that distortion will remain tolerable within the range of safety, but this may not always be the case. The power rating is emphatically not the power *required* to drive the speaker to a reasonable level (see *Sensitivity*). In fact, operation of most speaker systems at full power rating will drive the listener out of the room.

Presence—The property of some speakers to seem to project sound and give it what has been called a "forward" quality, particularly in reproducing the human voice. This effect is produced by a somewhat elevated response in the general vicinity of 3,000 Hz, where the ear has its maximum sensitivity to sound. Some people like it, claiming that it brings the voice "out of the box." However, it tends to make music overly brilliant and "hard" in sound. Many music lovers prefer "absence."

Sensitivity—This term is more expressive than "efficiency" in indicating how much sound is produced by a speaker for a

given power input from the amplifier. One practical way of rating sensitivity is to take the amount of power required by the speaker to provide somewhat louder than normal reproduction of a variety of recorded program material in an "average" living room of 3,000 cubic feet. And, like "efficiency," sensitivity in a speaker is not related to its sonic quality.

Transient Distortion—A waveform that repeats for a long period is considered a *continuous* or *steady-state* signal. A waveform that occurs only once in a while is called a *transient*. The waveforms of music and speech are constantly changing, and are therefore composed of transients. Transient distortion is the relative inability of a speaker to reproduce a transient perfectly. Since a reproduced transient can differ from the original signal in many different ways, there is no figure that expresses transient distortion—it is a qualitative term.

Transient Response—The way in which a speaker reacts when a transient is applied to it. This is of the greatest importance, since the function of a speaker is to reproduce transients. One would expect that a speaker with a flat, smooth, frequency response should have excellent ability to reproduce transients, and in general, this is so. On the other hand, very small, sharp peaks and valleys in the response curve can cause surprising amounts of trouble, which is revealed by transient-response testing. (See *Tone-burst Test*)

It is logical to conclude that transient response correlates closely with listening quality, and it is widely believed that this is the case. However, it should be noted that at least one series of experiments has failed to establish such a connection.

Tone-burst Test—(This is out of alphabetical order, but I wanted you to read the definition above first.) Transient testing on amplifiers is usually done by observing their reproduction of square waves. If the same thing is done with loudspeakers, the results are so scrambled that it is difficult to decipher what is going on. A better method is to use a steady-state signal that is started and stopped periodically, forming a "tone burst."

When the speaker output is picked up by a microphone and observed on an oscilloscope screen, two kinds of deviation from the original tone burst are usually most prominent: the burst builds up gradually (instead of instantaneously) to full amplitude, and some of it remains after the signal has been turned off, to die out over an interval of time. With a really bad speaker, it may be hard to tell when the signal has stopped, the "decay transient" almost completely filling in the space between bursts.

It may be noted that, according to our definitions, a repetitive tone burst is a steady-state signal and not a transient. However, we can test transient response with a tone-burst signal because it starts and stops abruptly and the interval between bursts is long enough to permit the transient produced by the speaker to die out.

CHARLES IVES:

Columbia and RCA Victor contribute welcome additions to a swelling discography

THE discography of the works of Charles Ives, it appears, may yet rival that of Georg Philipp Telemann. Just released are two new discs (from RCA Victor and Columbia) containing a considerable amount of Ivesiana: the virtually unknown *Orchestral Set No. 2*; a reissue of a good performance of the *Orchestral Set No. 1* (better known as *Three Places in New England*); a new recording of the middle movement of the same; the second and third recordings (!) of the vast, puzzling, overwhelming *Robert Browning Overture*; and a new and excellent version of *Washington's Birthday*.

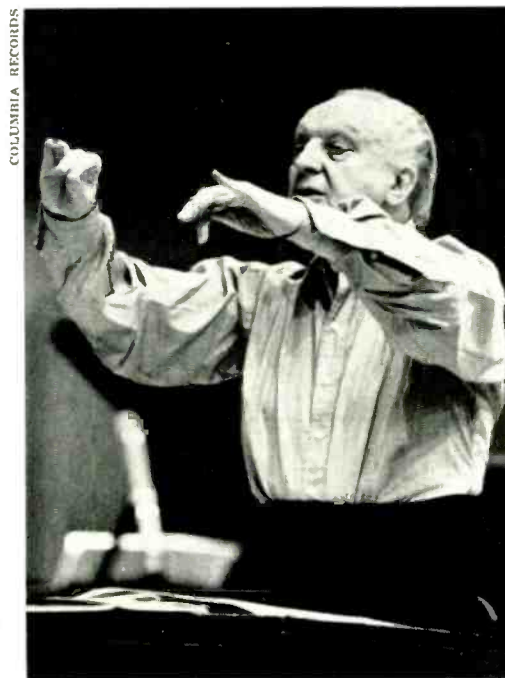
Ives was not (repeat: *not*) an untrained American primitive, writing unplayable scores in a snow-bound log cabin by Walden Pond; nor was he totally unknown twenty-five or even forty years ago. The time has come to discard all that silly and misleading Ives mythology. Ives *did* anticipate practically anything you can think of in modern music, but even that fact goes only part way toward explaining his extraordinary relevance today. Ives' really revolutionary idea—the one that still astonishes and even outrages people (when they realize its implications)—was the overthrow of the old notion of "manner" or "style" and the bald acceptance of all kinds of experience as valid material for a far-reaching and, yes, even profound conception of musical relevance. Until recently, we have been bound to the traditional (European) notion of just what a work of art is and what artistic experience can be—

i.e., a personal expression, historically determined, made consistent and unified by technique through style. Baloney! says Ives. Life is bigger and truer than that, and so art should be. Ives wanted to break down the traditional barriers between art, life, and nature so that life could flow across into art and *vice versa*. Read carefully the lines quoted from Ives on the Columbia-release jacket; better yet, listen carefully to the music.

In one paragraph (quoted from his "Essays Before a Sonata") Ives discusses the fellow who thought that "ragtime was the only authentic American music." In one form or another we still have these fellows around today. For Ives this was nonsense: "ragtime" was a perfectly genuine means of expression no more nor less valid—or useful—than any other. And use it he did.

The second movement of the Second Orchestral Set, "The Rockstrewn Hills Join in the People's Outdoor Meeting," is a 1911 version of a ragtime dance of ten years earlier—itsself based on a couple of old hymn tunes. The first movement, "An Elegy to Our Forefathers," is made up of bits of Stephen Foster; the last, "From Hanover Square North at the End of a Tragic Day, the Voice of the People Again Rose," has hymn-like lines that are probably quotations too.

But these are no mere collections of picturesque fragments; indeed, all of the material is entirely transformed into one of Ives' most austere beautiful works. The first movement, scored for strings, flute, brass, zither, bells, other percussion,

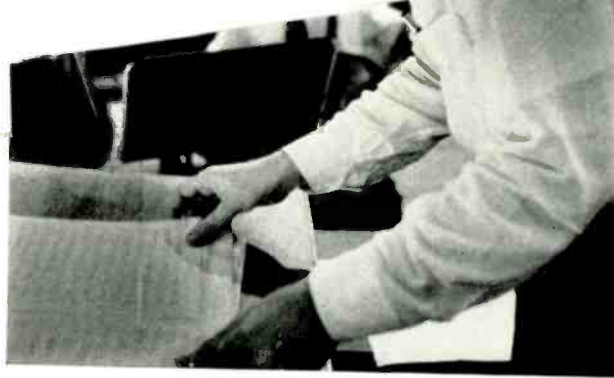


LEOPOLD STOKOWSKI
Enthusiasm and willingness

greater intensity. John
fect that the piece was written under the impact of the
sinking of the Lusitania in 1915—or rather of a moving
scene in Hanover Square in downtown New York at
that time when, amid the tension, crowds of people be-
gan singing quietly as an expression of deep emotion. It
was the sort of thing that Ives found tremendously sig-
nificant and moving; whether or not one knows the in-
spiration, its expression here—as a kind of collective
total experience—is impressive.

This is the second Ives recording done for RCA by
Morton Gould, and like the first (Symphony No. 1, in D,
LSC/LM 2893) it has much to recommend it and some
little to complain about. The recordings have almost cer-
tainly been put together in limited time, and the results
are not always what they could and should be (you can
apparently get away with an awful lot in Ives, but sooner
or later any tattered edges show). Some things in the
outer movements of *Orchestral Set No. 2* tell quite effec-
tively; but the difficult centerpiece, particularly, needs
more precision and nervous thrust. "Putnam's Camp"
is the best-performed item on the record (Gould clarifies
certain things that are often obscured), but it would
have been much more so in its proper place as the middle
movement of *Three Places in New England*. The impos-
sible *Robert Browning Overture* has impressive things in
it too, but the piece requires a staggering amount of work
to bring it off, and it is not brought off here. The RCA
sound is good, but the recording is marred (as was the
previous Gould-Ives record) by some extraneous noises.

A comparison of the Gould (RCA) and Stokowski
(Columbia) *Robert Browning* is instructive. This curious
and puzzling work is one of the lengthiest and most
serious compositions in an advanced idiom that Ives at-
tempted (it has many obvious parallels to the "Concord"
Sonata). It was deciphered from Ives' scribbled manu-
script by Lou Harrison and Henry Cowell, who also sup-
plied (with the "authorization" of the composer—what-
ever that means) four missing pages. Which pages it is
difficult to determine. The work has a strange introduc-
tion, a brief but rather touching Adagio, and then a wild
Allegro which gets to the peak of its dynamic and orches-



MORTON GOULD
Clarity for Ives' "Putnam's Camp"

tral intensity in about twenty bars and stays there—"a
kind of fast march," full orchestra and very loud—for
another eighty-five. There then follows an absolutely glo-
rious Adagio, surely one of the high points of twentieth-
century music (it is close to and can only be compared
with some of the most sublime Mahler slow movements).
The insane Allegro then comes back louder and longer
than ever. Somehow, Ives contrives to pile Pelion on Ossa,
climax on climax; there is one last blast, and then a very
brief and touching echo of the Adagio—a typical and
effective Ivesian touch (is it by him?).

Stokowski, with his less experienced orchestra, actually
achieves far more with the piece than Gould and the
Chicago forces because he tackles the difficulties with
what sounds like greater enthusiasm and willingness, and
what was certainly more rehearsal time. Stokowski has
also obviously been more concerned with problems of
balance and texture, areas in which he is, in any case, a
past master. The result is that the piece *almost* works; it
is, in any case, worth waiting for that Adagio.

The Columbia disc couples the Stokowski *Robert
Browning Overture* with the reissued Ormandy-Philadel-
phia *Three Places in New England* and a crackerjack
Washington's Birthday by Leonard Bernstein and the New
York Philharmonic. This last piece is one of the four
that make up the "Holidays" Symphony, but unlike "Put-
nam's Camp," it stands on its own with its complete and
typical slow dissonant-impressionist hymn-tune-atonal
opening, its lively, hilarious barn dance, and its long
fade-out finish, the country fiddlers and *Good Night,
Ladies* echoing into the night. The sonics for the three Co-

Columbia orchestras are good and reasonably well-matched in quality from piece to piece. *Eric Salz*

Ⓢ Ⓜ IVES: *Orchestral Set No. 2; Robert Browning Overture; Putnam's Camp*. Chicago Symphony Orchestra, Morton Gould cond. RCA VICTOR LSC 2959 LM 2959* \$5.79.

Ⓢ Ⓜ IVES: *Three Places in New England; Walton's Birthday; Robert Browning Overture*. Philadelphia Orchestra, Eugene Ormandy cond. (*Three Places*) New York Philharmonic, Leonard Bernstein cond. (*Birthday*) American Symphony Orchestra, Leopold Stokowski cond. (*Browning*). COLUMBIA MS 7015 \$5.79, ML 6415 \$5.79.

IRINA ARKHIPOVA: A SUMPTUOUS VOCALIST

Melodiya/Angel presents a vibrant new mezzo in unhackneyed Russian repertoire

AFTER my many laments in these pages about the sorry state of Russian singing (at least as evidenced by various Soviet recordings), it is a great pleasure to salute mezzo-soprano Irina Arkhipova, People's Artist of the USSR, on her new recital album of Russian opera and cantata arias for Melodiya/Angel.

Madame Arkhipova (who can also be heard in the Columbia set of *Boris Godonov*, M4S 696, M4L 296) is a sumptuous vocalist, quite on a par with the internationally eminent Teresa Berganza, Fiorenza Cossotto,

IRINA ARKHIPOVA
A welcome recital debut



CAPITOL RECORDS

and Christa Ludwig. Her rich voice is controlled with artistry and stunning ease. Although her low lack the plummy solidity of the true contralto, she handles the transitional passages with great skill and evenness. She exhibits a vibrant temperament, and shows how to project meaning and intensity without distorting her phrases. In short, a true artist! Happily, this welcome recital debut is not made via a round of mezzo warhorses, but rather with a few rarely heard and interesting landmarks in Russian vocal music. The long Arensky aria could have been written by Tchaikovsky, the *Khovanshchina* scenes offer gorgeous music from an opera that should be better known, and the Prokofiev items present that composer in his most lyrical vein. Rodion Shchedrin, a leading contemporary Russian composer, is represented by an excerpt not particularly strong in musical substance, but ingeniously contrived and put over with real bravura flair. The entire program is appealing, but, even if it were not, the richness and warmth of the singing assures listening enjoyment of the highest order.

The brilliant musical results, including the excellent choral and orchestral contributions, are captured in excellent sound and fine stereo, with only a slight noise intrusion in the transitional grooves. Melodiya/Angel's literary presentation, however, could stand improvement. If the *Arioso* on Side A is indeed from Tchaikovsky's *Moscow Cantata*, it is evident that Madame Arkhipova sings one excerpt while the printed text indicates another. And the Shchedrin text is not printed in its entirety. Nonetheless, this disc is a winner. *George Jellinek*

Ⓢ Ⓜ IRINA ARKHIPOVA: *Russian Opera and Cantata Arias*. Arensky: *The Fountain of Bakhchisarai; Zarema's Aria*. Tchaikovsky: *Moscow; Arioso*. Moussorgsky: *Khovanshchina; Marfa's Prophecy (Act 2); Marfa's Aria (Act 3)*. Prokofiev: *Alexander Nevsky; Bride's Song; On Guard for Peace; Lullaby* (with Teimuraz Mironov, boy soprano). Shchedrin: *Not love alone; Varrara's Song and Ballad*. Irina Arkhipova (mezzo-soprano); chorus and orchestra, Alexander Melik-Pashayev, Boris Khaikin, Gennady Rozhdestvensky, and Kiril Kondrashin cond. MELODIYA/ANGEL SR 40014 \$5.79, 40014* \$5.79.

ENTERTAINMENT

THE GOOD-TIME OF HERMAN'S HERMITS

New MGM release, their best effort to date, is marked by a cheerful, buoyant approach

WHEN, as it inevitably will, the rock-and-roll explosion cools off, there will still be some group practitioners of the art who will be very much with us. And for a very good and basic reason—they are enter-



HERMAN'S HERMITS: *An infectiously sunny delivery for songs of quality*

taining. Among the most entertaining at present are Herman's Hermits. Their newest MGM release, "There's a Kind of Hush all over the World," is not only their best effort to date, but an unalloyed listening delight as well. If you are beginning to be a bit bored by the teen-age hippies who, after the acid revelation, feel it incumbent upon themselves to pass off as entertainment their dim and murky views about what a dismal and prosaic lot all the rest of us are, then this album will come as something of a pleasant musical surprise.

The good-time music of the Hermits is, needless to say, scorned by the psychedelic groups and their followers, who dismiss it as corn-ball. I can understand the guilty unease of these self-proclaimed young prophets when they are confronted with the simple, cheerful, and buo- nces of Herman's Hermits—it's all just I can also understand why American teen-agers took to the group right from the start—with *Mrs. Brown, You've Got a Lovely Daughter*. But they've come a long way since those vaudeville-band days, when they sang such ephemera as *I'm 'Envy the Eighth, I Am, I Am*. This new album contains songs of real quality—such as *No Milk Today, Dandy, You Won't Be Leaving*, and, of course, the title song. With only one exception (*Jezebel*), I enjoyed every one of these tracks enormously.

The major strength of the Hermits, apart from their well-chosen songs and excellent arrangements, is nineteen-year-old Peter Noone, an endlessly engaging performer. His voice is modest in scale, but he brings such an infectiously sunny approach to all his material that an audience cannot help but respond. It is the same energetic, cheerful performance aura that Chevalier projected eons ago (and still, amazingly enough, does) when, at about the same age, he was just a kid from Menilmontant singing for tips in local cafés. Chevalier, too, has often had the charge of "corn-ball" leveled against him, but in his eighties, he is still performing before—and delighting—thousands of people.

I won't go so far just yet as to predict the same artistic longevity for Peter Noone and the other happy Hermits, but on the basis of what I hear in this album I think they have little to fear should the fashion in popular music suddenly change. Truly great entertainers need never worry about fads and fancies—they can make their own.

Hippies Go Home! Everyone else go out and buy this album, settle back, and enjoy.

Peter Reilly

© ® HERMAN'S HERMITS: *There's a Kind of Hush all over the World*. Herman's Hermits (vocals); orchestra. *No Milk Today; Dandy; There's a Kind of Hush all over the World; East-West*; and seven others. MGM SE 4438 \$4.79, E 4438 \$4.79.

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HIFI/STEREO REVIEW'S CHOICE OF THE LATEST RECORDINGS

CLASSICAL

Reviewed by WILLIAM FLANAGAN • DAVID HALL • GEORGE JELLINEK • IGOR KIPNIS • ERIC SALZMAN

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ BACH: *Cantata No. 4, "Christ lag in Todesbanden"; Cantata No. 182, "Himmelskönig, sei willkommen."* Herrad Wehrung (soprano); Frauke Haasemann (contralto); Johannes Hoeflin (tenor); Wilhelm Pommerien (bass); Westphalian Singers and German Bach Soloists; Wilhelm Ehmann cond. VANGUARD EVERYMAN SRV 225SD \$2.50, SRV 225 \$2.50.

Ⓢ Ⓜ BACH: *Cantata No. 45, "Es ist dir gesagt"; Cantata No. 105, "Herr, gehe nicht ins Gericht."* Agnes Giebel (soprano); Helen Waits (contralto); Ian Partridge (tenor); Tom Krause (baritone); Choeurs de la Radio Suisse Romande et Pro Arte de Lausanne; L'Orchestre de la Suisse Romande, Ernest Ansermet cond. LONDON OS 25996 \$5.79, OS 5996* \$5.79.

Ⓢ Ⓜ BACH: *Cantata No. 100, "Was Gott tut, das ist wohlgetan"; Cantata No. 175, "Er rufet seinen Schafen mit Namen."* Lisa Schwarzweller (soprano); Lotte Wolf-Matthäus (contralto); Hans Joachim Rotzsch (tenor); Hans-Olaf Hudemann and Carl-Heinz Müller (basses); Choir of St. Jacobi Cathedral; Hamburg Chamber Orchestra, Heinz Wunderlich cond. VANGUARD EVERYMAN SRV 230 SD \$2.50, SRV 230 \$2.50.

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ BACH: *Cantata No. 207a, "Auf, schmetternde Töne der muntern Trompeten"; Cantata No. 214, "Tönet, ihr Pauken! Erschallet, Trompeten!"* Ingeborg Reichelt (soprano); Emmy Lissen (contralto); Georg Jelden (tenor); Eduard Wollitz (bass); Chamber Orchestra and Choir of Barmen, Helmut Kahlhöfer cond. VANGUARD EVERYMAN SRV 231SD \$2.50, SRV 231 \$2.50.

Ⓢ Ⓜ BACH: *Easter Oratorio (BWV 249)*. Edith Selig (soprano); Claudia Hellmann (contralto); Georg Jelden (tenor); Jakob Staempfli (bass); Heinrich Schütz Chorale of Heilbronn; Pforzheim Chamber Orchestra, Fritz Werner cond. MUSIC GUILD MS 144 \$2.39, MG 144 \$2.39.

Performance: Invariably of high quality
Recording: Everyman very good; London excellent; Music Guild strident
Stereo Quality: All satisfactory

Explanation of symbols:

- Ⓢ = stereophonic recording
- Ⓜ = monophonic recording
- * = mono or stereo version not received for review

Of these five Bach discs, there is not one that is not worth owning. The first Vanguard Everyman recording contains about as good a performance of "Christ lag in Todesbanden" as has ever been made, plus an earlier and somewhat lesser work, the pastoral Cantata No. 182. Ehmann's forces have an utter directness in this kind of music; the sentiment is entirely devotional and yet quite inspiring.

Ansermet's Bach tends to be a little Romantic at times, but the spirit is very good. Of the two, No. 105, with its impressively grave opening chorus, is the more immediate-



WILHELM EHMANN
For Bach, direct devotional sentiment

ly appealing. The chorus is a little mealy-mouthed in No. 45 and generally sounds more French than German, but the soloists are all first-rate. London's reproduction is splendid, but the keyboard continuo is regrettably reticent.

As far as I can determine, both Cantatas Nos. 100 and 175 are first domestic releases. The performances are well paced and feature excellent instrumental playing. Of the soloists, Hudemann does a very commendable job with his rousing aria in No. 175, but the soprano in No. 100 has a tendency to be sharp.

If I have a special fondness for Everyman's third disc, it is because Bach in these two secular cantatas used music which he also utilized elsewhere. No. 207a, a birthday tribute for Elector Frederick August II, adapts the First Brandenburg Concerto in part, and

No. 214, written for the birthday of the Elector's wife, was later taken almost intact into the Christmas Oratorio. The performances are impressive and rousing, and Vanguard's sound, as with the rest of the series reviewed here, is quite satisfactory.

Finally, we have a commendable Easter Oratorio on Music Guild. With the exception of a middling, bovine-sounding contralto, the soloists are better than satisfactory; the choral work is fine and the instrumental playing is distinguished. Werner's performances are not always the most stimulating to be heard, but, particularly in the first half, he leads his forces with considerable vitality. Music Guild's reproduction tends to be a little strident in places where there is massed ensemble (particularly with trumpet), and the stereo version, which was afflicted in parts with surface noise, is also somewhat lacking in depth.

Every one of these records, incidentally, includes full texts and translations. I. K.

RECORDING OF SPECIAL MERIT

Ⓢ BACH: *Partita No. 4 in D (BWV 828); Partita No. 6 in E Minor (BWV 830)*. Alexis Weissenberg (piano). PATHÉ ASDF 897 \$5.79.

Performance: Remarkable
Recording: Comfortable keyboard sound
Stereo Quality: Mild enhancement of sound

Alexis Weissenberg was born in Bulgaria in 1929, was educated after the age of seventeen at Juilliard, and now resides most often in Europe. He had early recognition in this country, but later seems to have fared less well here. This is too bad, since he is obviously—to judge from this recording anyway—an artist of great merit. This is excellent playing by any standards, and Weissenberg knows how to take advantage of the piano's best qualities for this music without intruding the nineteenth- and twentieth-century tonal character of the modern instrument too much. This requires a fine touch, and controlled tonal quality as well as intelligent and expressive attention to ornament and articulation. He has an excellent sense of rhythmic and phrase motion and uses this effectively to clarify the contrapuntal lines—after all, it is in these areas that the piano can do something for Baroque music. He is on less sure ground with some of his progressive shading and tempo articulations, notably the excessive ritards. I also have quarrels with some tempos: for example, the Arias in both suites and the Allemande in the E Minor are surely much too fast. Nevertheless, even the mistakes in judgment are carried off in an almost convincing way, and one ends up disagreeing but on the highest level. The piano

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Berlin Philharmonic/Karl Boehm. 39 156; Stereo 139 156.



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adequate in spite of the age of the recording, but it takes pretty careful listening to discern any stereo effect. *W. F.*

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ BERG: *Wozzeck*. Walter Berry (baritone), *Wozzeck*; Isabel Strauss (soprano), Marie; Albert Weikenmeier (tenor), Captain; Richard Van Vrooman (tenor), Andres; Karl Doench (bass), Doctor; Fritz Uhl (tenor), Drum Major; Ingeborg Lasser (mezzo-soprano), Margret; Orchestra and Chorus of the Paris National Opera, Pierre Boulez cond. CBS 32 21 0002 two discs \$11.58, 32 21 0001* \$11.58.

Performance: Conception and orchestra first-rate; singing variable

Recording: Excellent

Stereo Quality: Contributes to musical clarity

This recording is an outgrowth of the remarkable series of performances of Berg's masterpiece at the Paris Opéra under the direction of the French avant-garde composer and conductor Pierre Boulez. These performances marked not only the debut appearance of *Wozzeck* at the Paris Opéra years after it had been heard in every other major opera house in the world, but the overdue recognition of Boulez as one of the most gifted conductors around. Ironically, it also marked one of the few triumphs for the composer-conductor in his native land, in which he has not lived for years, to which he rarely returns even to conduct, and with which he has intentionally severed almost all his ties. There are other ironies here, too. Coming as it does within a year or so of Deutsche Grammophon's *Wozzeck* recording featuring Fischer-Dieskau and Karl Böhm, this version, for all its intrinsic merits, must be measured against its predecessor and regretfully assigned second place.

First, the virtues. This is above all the performance of a single brilliant musician, of a composer who can grasp and project the conception of a work like *Wozzeck* as a big unity, and of a master of the orchestra who can clarify its every detail. Boulez is not, as a conductor and composer, a master of long line in the traditional sense, and he has not in fact had much experience in the theater; yet his reading lacks nothing in scope, and is not without a tremendous inner tension that is, in the end, profoundly dramatic. He is, for example, aware of the complex and fascinating web of relationships between the dramatic and musical structure of this work. He is aware—in a way that Böhm apparently is not—of the very contradictions and paradoxes of an atonal work that uses tonality and banal popular music, of an elaborately constructed piece of music that follows and mirrors every word of the drama, of a work of abstract musical thought that deals with the most direct (and "sordid") kind of social concerns and then universalizes brutality, grotesque caricature, desperation, sordidness, and hopelessness into tragedy through its musical expression. Boulez is aware that these paradoxes and conflicts are at the root of the very conception of *Wozzeck*, not to be glossed over, but to be expressed as part of the basic substance and meaning of the work. And he knows how to interpret these things in a purely musical way that not only does not harm the drama but heightens it. Not least of all, he knows how to handle an

orchestra—he makes the indifferent Paris Opera Orchestra sound better than the Berlin Philharmonic—so that it speaks for Berg and to us and, in the great climactic interlude between the last two scenes, becomes the principal protagonist of the work.

But whereas with the orchestra every gesture clarifies the musical and dramatic action, the problem with the singers is more complex. In Walter Berry, Boulez has a first-rate and moving *Wozzeck*, one who also understands Boulez' ideas and knows how to make them work in his own conception of the character; Berry is a serious rival to Fischer-Dieskau. But the rest of the cast is not up to the competition. Isabel Strauss is not nearly on a level with Evelyn Lear, who is the leading interpreter of the role today. And the minor characters, often vocally weak, opt

Next Month in

Hi Fi/Stereo Review

A Basic Library:
Music for the Ballet
by Clive Barnes and
William Livingstone

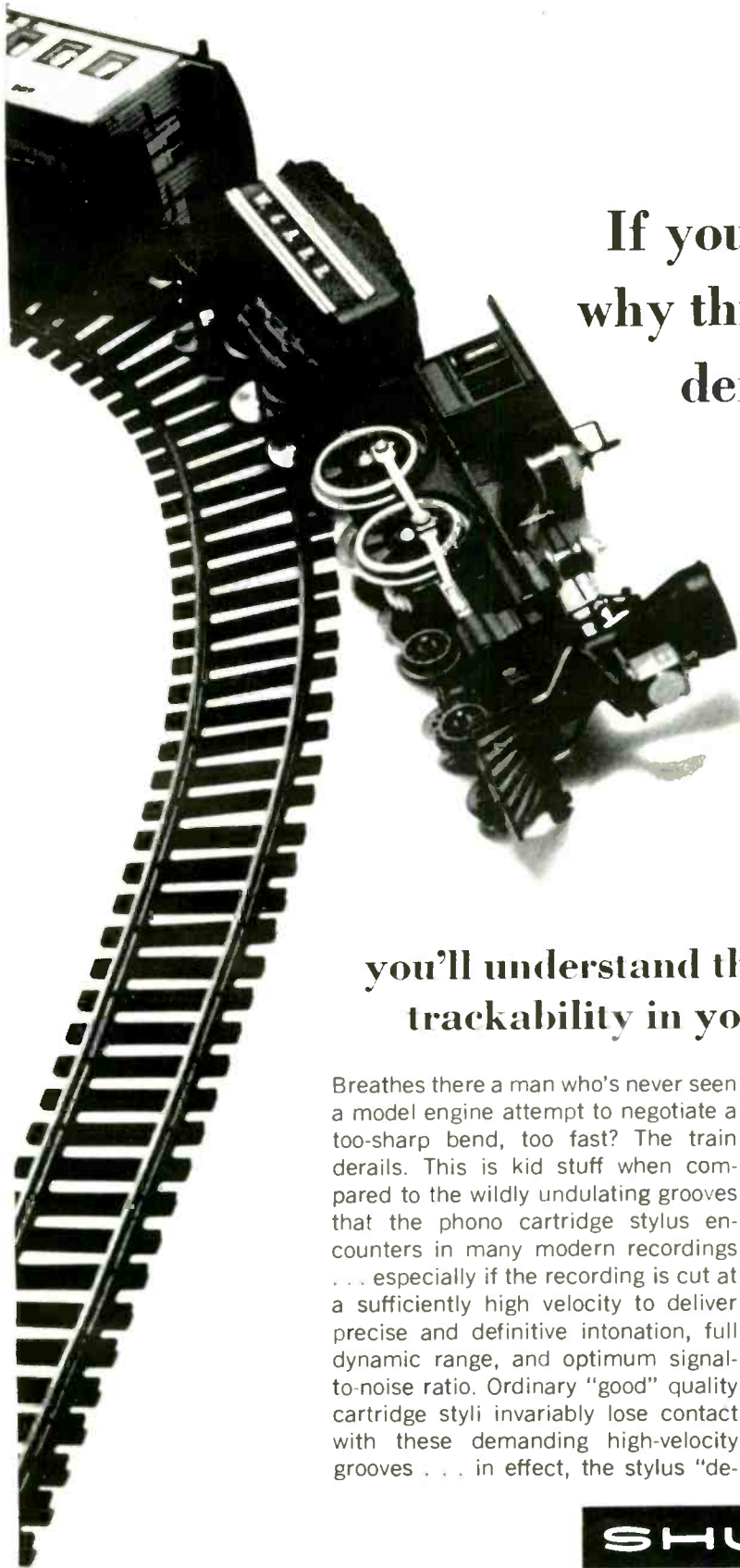
The War on
Music Depreciation

My Favorite Composers:
a symposium of the reviewers

PLUS
A Survey of
HI-FI FURNITURE

for musical and dramatic caricature. Effective as this sometimes is, it takes them rather far from Berg's specifications. Boulez argues that the problem of the *Sprechstimme*—Schoenberg's famous "speech song" so often used by Berg—is insoluble; therefore, he permits the singers to use a kind of cadenced speech which vastly cuts down and simplifies the far more complex vocal shapes set down by Berg. But Böhm's singers, Fischer-Dieskau, Lear, Fritz Wunderlich and others, do better at shaping their inflections around the lines set down by Berg (the Schoenberg-Berg ideal of touching the pitches and immediately leaving them is not an impossibility if capable singers first learn the pitch lines and then articulate around them; I myself train singers every summer at Bayreuth to do this). Furthermore, the pitch problem in this recording goes beyond the *Sprechstimme* into areas of pure singing precisely notated as such by Berg but not always adequately realized. The Doctor and the Captain are the worst offenders, but there are many inaccuracies of this sort throughout. One really has the impression that Boulez, with his fabulous ear for instrumental sonority, has permitted a degree of laxness in the vocal
(Continued on page 76)

HI-FI/STEREO REVIEW



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expression that he would never permit the orchestral musicians.

Incidentally, when this album was originally issued in England, it contained a third disc with a version of a talk on *Wozzeck* by Berg read in English translation and illustrated with musical examples performed by Boulez and his forces. This important document, which would, I believe, contribute a great deal to most people's understanding of what happens in this work, is unfortunately omitted from the American release.

The Deutsche Grammophon recording is literally stage directed, and engineered like a "live" opera with general (although by no means invariable) success. CBS rather works with Boulez for maximum musical and acoustical clarity and, in this very difficult work, largely achieves it. It will doubtless be argued that Böhm has a direct line into the "tradition," and that Boulez is a long way removed from the "German Expressionism" which is, we are told, the "style" in which the work is composed. By and large, I think this can be discounted. Böhm is, in fact, sometimes heavier, more Germanic, a bit less clear and somewhat less insightful just at the points where Boulez takes off. The intelligent listener, willing to accept Boulez' decision not to carefully control the vocal lines—or willing to look beyond this—will find a kind of inexorable logic and purity which is expressed not only as architecture but also as drama. But Böhm is not a weak conductor, and he has an excellent cast which sings and declaims something much closer to what Berg set down and, if you must choose, this is decisive. Either way, either version, there can be no doubt of the size and overwhelming scope of this moving work of art, at once a comment on and a summing-up of operatic history and yet still astonishingly contemporary and relevant in its musical and dramatic content. E. S.

RECORDING OF SPECIAL MERIT

⑤ ⑥ BIBER: *Sonata à 6, "Die Pauern Kirchenfabri"*; *Sonata à 2 Violini, Trombone, Violine; Sonata No. 8 from "Fidicinium Sacro-Profanum"*; *Battalia*. MUFFAT: *Suite No. 8, "Indissolubilis Amicitiae" from "Florilegium II"*; *Concerto No. 1, "Bona Nova," from "Exquisitioris harmoniae instrumentalis."* Concentus Musicus, Vienna, Nikolaus Harnoncourt cond. DEUTSCHE GRAMMOPHON ARCHIVE ARC 73262 \$5.79, ARC 3262* \$5.79.

Here's still one more fascinating collection by Concentus Musicus, that notable Viennese organization whose main field of endeavor is performing early music with the original instruments. Far from being a curiosity, a disc such as this one makes the most valid argument possible for this kind of performance. The renditions of suites and sonatas by Georg Muffat (a pupil of Lully) and Heinrich Biber are marvelously rich in sound. There are two programmatic pieces by Biber, the *Sonata à 6*, which depicts country churchgoers, and the *Battle* (which appeared in a fine performance by Newell Jenkins on Nonesuch recently, but played on modern instruments). There is a program, too, for the Muffat Suite No. 8, which is based on the Damon and Pythias story (the

suite is entitled "Indissoluble Friendship"), with one section, *Les Gendarmes*, featuring pistol shots. The works are played with a good deal of humor and imagination—the *Battle* is almost worth the price of the disc by itself. The sonorities of the instruments have been captured with lifelike flavor. I. K.

⑤ ⑥ BRUCKNER: *Symphony No. 4, in E-flat ("Romantic")*. Boston Symphony Orchestra, Erich Leinsdorf cond. RCA VICTOR LSC 2915 \$5.79, LM 2915* \$5.79.

Performance: Refined
Recording: Rather diffuse
Stereo Quality: Effective

⑤ ⑥ BRUCKNER: *Symphony No. 6, in A Major (ed. Nowak)*. Bavarian Radio Symphony Orchestra, Eugen Jochum cond.



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DEUTSCHE GRAMMOPHON SLPM 139136 \$5.79, LPM 39136* \$5.79.

Performance: Poetic
Recording: First-rate
Stereo Quality: Good

⑤ BRUCKNER: *Symphony No. 6, in A Major (ed. Haas)*. Leipzig Gewandhaus Orchestra, Heinz Bongartz cond. WORLD SERIES PHC 9048 (compatible stereo) \$2.50.

Performance: Imposing
Recording: Somewhat brazen
Stereo Quality: Adequate

⑤ ⑥ BRUCKNER: *Symphony No. 7, in E Major*. Southwest German Radio Symphony Orchestra, Hans Rosbaud cond. TURNABOUT TV 34083S \$2.50, TV 4083* \$2.50.

Performance: Lean
Stereo Quality: Adequate
Recording: Early stereo

In terms of musical substance, performance, and recorded sound, this is a mixed bag of Bruckner. I agree wholeheartedly with the statement in RCA Victor's liner notes that the Fourth Symphony is virtually an ideal introduction to this composer for the uninitiated, for it gives us the poetically lyrical Bruckner working on a broad tonal canvas, and yet without the apocalyptic aspects that make the last two symphonies both so overwhelming and so difficult for the unconvinced. Leinsdorf emphasizes the delicate,

poetic aspects of the "Romantic" Symphony, underplaying its epic qualities, and in this he is aided rather overmuch by the RCA engineering staff, which seems—in the first movement, especially—to have relegated the Brucknerian brasses to the background. Leinsdorf's tempos are just and well-proportioned in their relationships, but his performance is devitalized by the surprisingly diffuse recorded sound. My own choice for a recorded performance remains Walter's.

The Sixth Symphony of Bruckner is somewhat atypical both in its relative brevity and in its leanness when compared to the monumental Fifth and the expansive Seventh; in some respects, it is most akin to the First Symphony. It is in these two works that we sense the aspect of Bruckner that grows out of late Schubert rather than the Beethoven of the Ninth Symphony. Unquestionably, the high point of the Sixth Symphony is the intensely expressive, tragic slow movement, music which Otto Klemperer in his otherwise very vital Angel recording treated in curiously light fashion. From the standpoint of refined orchestral playing and superb recorded sound, Eugen Jochum's DGG disc is fine, but his stop-and-go propensities make the episodic finale sound piecemeal. The Leipzig Gewandhaus Orchestra on the World Series disc is no match for DGG's Bavarian Radio Orchestra, and the recorded sound is rather too brassy for my ears. Yet Heinz Bongartz, known to me heretofore only for a few decade-old Urania discs, reveals himself as a formidable Bruckner interpreter. His is the most deliberately paced reading I have heard of the Bruckner Sixth, but the sustained momentum developed throughout the nearly sixty minutes of performing time carries with it a sense of inevitability and fulfillment lacking in all the other versions I have heard, including Henry Swoboda's early Westminster disc. If your equipment can take some of the cutting edge off the brass and add a little richness to the strings, the World Series disc is a winner for sheer musicianship.

The late Hans Rosbaud (1895-1962) enjoyed special renown after World War II as a scrupulous and vital interpreter of the most advanced contemporary music. His 1959 recording of the Bruckner Seventh Symphony still stands as one of the most beautifully proportioned and vital readings I have ever heard. It is too bad that the tape from which the Turnabout disc derives apparently had had a bit too much wear and tear, for the clarity of sound is of marked inconsistency throughout the performance. Musically, this is a fine achievement, but with the technical defects, even the \$2.50 price would not lead me to choose this recording over those of Bruno Walter and Georg Solti. D. H.

⑤ ⑥ CHOPIN: *Four Ballades; Four Impromptus*. Tamás Vásáry (piano). DEUTSCHE GRAMMOPHON 136455 \$5.79, 36455* \$5.79.

⑤ ⑥ CHOPIN: *Four Ballades*. Ivan Moravec (piano). CONNOISSEUR SOCIETY CS 1266 \$5.79, CM 1266* \$4.79.

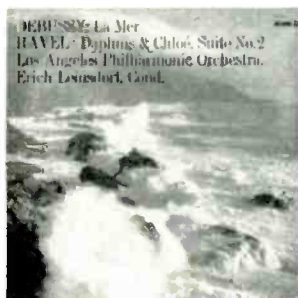
Performance: Vásáry skillful and often moving; Moravec personal and impressive
Recording: DGG excellent, CS superior
Stereo Quality: Both quite satisfactory

(Continued on page 78)

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Rudolf Kempe, The Berlin
Philharmonic. Choir of
St. Hedwigs. **PC-4039**

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Ein Heldenleben (A Hero's Life)
Antal Dorati, The Minneapolis
Symphony Orch. **PC-4041**

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Tamás Vásáry does not really command the big style in these works, in the manner of, say, a Moiseiwitsch or Cortot. He does, however, have the fleet-fingered virtuosity to equal many of his contemporaries without entirely resorting to their reserved, objective brand of Romantic interpretation. Everything here is very polished and elegant, and, on occasion, as in the third and particularly the fourth and most difficult Ballade, his playing is quite affecting. I was prepared to label his performances efficient, but these last two Ballades come closer to the grand-line style of playing that I prefer: they are well worth hearing. DGG's piano sound is excellent, albeit a little distant and glassy in tone.

Ivan Moravec's approach to the Ballades is quite different from what one usually hears today. Everything is extremely personal and dramatically intense; this is an interesting blend of inward poetics and extrovert heroics. In the first three Ballades, which I would recommend that every Chopin enthusiast hear, Moravec is as impressive as he was in his recordings of the Preludes and Nocturnes. This is wonderfully sensitive and vital playing, with beautiful control of dynamic shadings. The fourth Ballade, which incidentally was recorded—by Supraphon in Prague—about a year before the rest (Moravec evidently was so satisfied with it that he didn't wish to remake the work), somehow doesn't come off in the same way. It is an immensely interesting interpretation, but it is also a very slow one, in which the pianist tries to make every single passage as meaningful as possible. The result does not have continuity, and we get a series of fragmented, beautifully turned episodes with nothing to hold them together. But I would still want to own the recording for Moravec's marvelous way with the other Ballades. Not least among the pleasurable aspects of this disc is the rich, warm piano sound, which, except for slight distortion at the end of the fourth Ballade, is among the finest I have ever heard.

J. K.

again at the combination of impetuosity and poetic sensibility that Watts and Leonard Bernstein bring to this often-abused score.

Despite the reservations noted about the orchestral sound, this disc offers by far the most satisfying readings of these two concertos as coupled. For all the brilliance and intellect displayed, the performances by Charles Rosen on Epic and Leonard Pennario on Pickwick seem unyielding and hard-boiled in comparison.

D. H.

Ⓢ Ⓜ COPLAND: *Symphony No. 3*. New York Philharmonic, Leonard Bernstein cond. COLUMBIA MS 6954 \$5.79, ML 6354 \$5.79.

Performance: Not as good as it ought to be

Recording: Clear but confined

Stereo Quality: Unspacious for this music

Back in the Thirties and Forties, when The Great American Novel was a topic much discussed, composers were busy trying to

able combination but, alas, it is not. I wonder if Bernstein doesn't feel some reservations himself. I sense a certain lack of excitement, I miss the tension and vitality that might have made the piece much more convincing than it seems here. It all somehow lacks the feeling of a special event, of a celebration—which is what it ought to be; it comes off rather as just another Philharmonic subscription performance, never really brought *au point* or made to cohere, but nonetheless (since the contracts were signed) dutifully recorded the following Monday or Tuesday. The sound too is cramped where it ought to be spacious. Maybe, out of a sense of disappointment, I'm reacting too strongly. Those who have a feeling for the grand, large-scale modern symphony and who think they would enjoy a good example with a characteristically American flavor might well react very differently.

E. S.

DANZI: *Sinfonia Concertante in E-flat* (see HAYDN)

Ⓢ Ⓜ GEMINIANI: *The Enchanted Forest*. LOCATELLI: *Concerto a quattro, Op. 7, No. 6 ("The Plaint of Ariadne")*. Renato Biffoli (violin); Milan Angelicum Orchestra, Newell Jenkins cond. NONESUCH H 71151 \$2.50, H 1151 \$2.50.

Performance: Neat and stylish

Recording: Satisfactory

Stereo Quality: Good

Both of these scores, from the pens of Corelli pupils Francesco Geminiani (c. 1680-1762) and Pietro Locatelli (1695-1764), are recorded here for the first time. The Geminiani piece was composed for an elaborate Paris ballet-pantomime production of an episode from Torquato Tasso's *La Gerusalemme liberata*, and since the composer was writing for the French taste, it is not surprising to find elements of the Lully-Rameau stylistic tradition flavoring its essentially Italian utterance. The whole makes for agreeable listening, though I find less vitality here than in the best of the same composer's concerti grossi.

Less externally depictive and more operatically and emotionally expressive is Locatelli's fascinating evocation of the deserted Ariadne of Greek legend. Within the general framework of Baroque concerto structure, Locatelli has given us a work of extraordinary effectiveness, with a wealth of harmonic imagination displayed in it.

The recorded performances under Newell Jenkins' baton are firmly molded, if not of spectacular distinction. The recorded sound is warm and appropriate to the character of the music. I would certainly recommend acquiring this disc for the Locatelli work, which is several cuts above the average run of lesser-known Baroque works flooding the record shops nowadays.

D. H.

GRIEG: *String Quartet in G Minor, Op. 27* (see MENDELSSOHN)

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ HAYDN: *Sinfonia Concertante, in B-flat, Op. 84*. DANZI: *Sinfonia Concertante, in E-flat*. Jürg Schaefflein (oboe); Leo Cermak (bassoon); Michael Schnitzler (violin); Wolfgang Herzer (cello); Camillo Wanausek (flute); Ernst Mühlbacher (horn); Vienna Radio Orchestra, Hermann

(Continued on page 80)

COLUMBIA RECORDS



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write The Great American Symphony. T.G.A.S. was to be a large-scale symphonic work, serious in tone and scope, diatonic and freely tonal in technique, accessible and recognizably American in idea and character. The Copland Third, written in 1946 on a Koussevitzky commission, probably came as close to succeeding as any. It is clearly an attempt to fuse the elements of the Copland "popular" style—as developed in his ballet scores of the Thirties—to a framework of large scope and meaning. The charming and quite original third movement, with its perfectly set slow idea and charming *allegretto* off-subject, achieves exactly this; some of the earlier parts of the finale have real vitality and character. But much of the rest is grand and heavy in a way that I find far less attractive. The Copland fourths and fifths are there, all right, but they have lost much of the fresh simplicity which makes them so attractive in the ballets, and have taken on a certain amount of Shostakovich-like rhetoric. It may be that optimism is out of favor these days, and that anything with fanfares and flourishes is suspect. But I also think the attempt is not, in the first place, convincing; these modes of expression are rare in Copland and rarer still in his best music. Bernstein-Copland ought to be an unbeat-

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ CHOPIN: *Piano Concerto No. 2, in F Minor, Op. 21*. LISZT: *Piano Concerto No. 1, in E-flat*. André Watts (piano); New York Philharmonic, Thomas Schippers and Leonard Bernstein cond. COLUMBIA MS 6955 \$5.79, ML 6355 \$5.79.

Performance: Youthful and poetic

Recording: Rich; Chopin a bit over-reverberant

Stereo Quality: Generally good

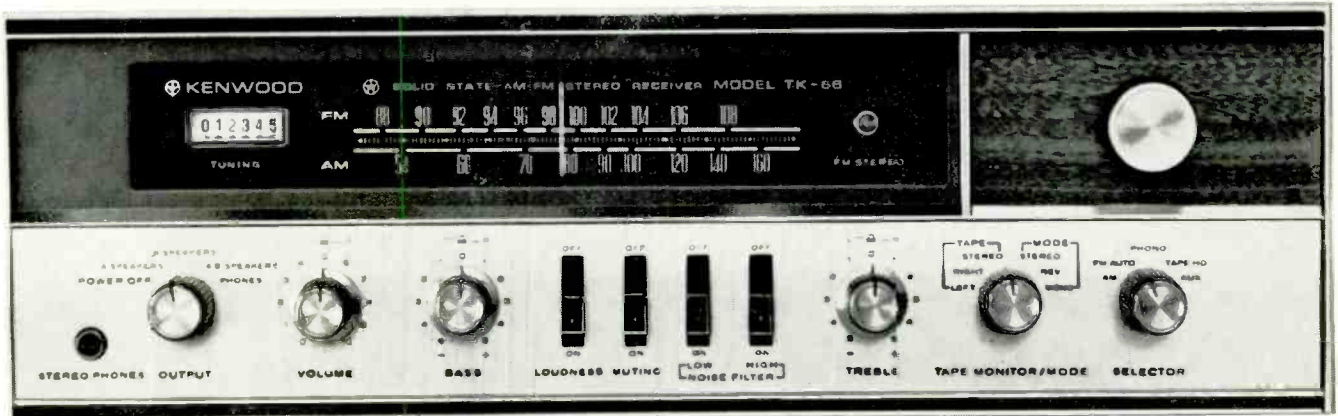
The extraordinarily gifted twenty-year-old pianist André Watts has made but a handful of recordings since his sensational debut with Leonard Bernstein and the New York Philharmonic in 1963: the performance of the Liszt Concerto heard here, a solo recital disc, and most recently the Chopin F Minor Concerto. Watts' performance of the Chopin has all the elegance, youthful poetry, and lyrical flow that one might have heard from Chopin himself when, in 1830, at the same age, he played the music for the first time. Schippers' accompaniment is knowing and sensitive, though the recorded sound becomes obtrusively reverberant relative to the rather closely microphoned piano.

The sound in the earlier Liszt concerto performance is more just, and one marvels

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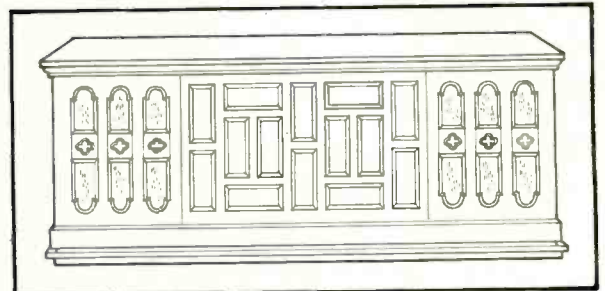


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RECORDS

Scherchen cond. WESTMINSTER WST 17100
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Performance: Good
Recording: Good
Stereo Quality: Good

The last recordings done by the late Hermann Scherchen have been coupled in a package of delightful listening with works featuring two sharply contrasted groups of soloists. Haydn gives us oboe, bassoon, violin, and cello in one of the most captivating scores of his mature years; Franz Danzi, Haydn's Munich-based junior by thirty years, chose the classic wind-quartet combination of flute, oboe, horn, and bassoon.

The Haydn opus is beautifully crafted and interlarded with bits of delicious humor—as in the mock-pathetic violin recitative that introduces the main body of the finale. Danzi is no Haydn in terms of musical inspiration, but he writes for his soloists very effectively indeed. Stylistically, his *Sinfonia Concertante* bridges the gap between early Beethoven and the first tinges of Romanticism that we associate with Weber, especially in the writing for solo horn. On its own terms, the Danzi work is most enjoyable.

Scherchen, who was seventy-five at the time of the recording, brings off a performance one would expect from a young sprout of thirty. The playing of soloists and orchestra alike is full of high spirits, the recorded sound excellent.

D. H.

IVES: *Orchestral Works* (see Best of the Month, page 65)

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ IVES: *Piano Sonata No. 1 (1902-09)*, William Masselos (piano). RCA VICTOR LSC 2941 \$5.79, LM 2941* \$5.79.

Ⓜ IVES: *Piano Sonata No. 1 (1902-09)*, William Masselos (piano). ODYSSEY 32 16 0059 \$2.49.

Performance: RCA more tight-knit
Recording: RCA has it
Stereo Quality: Good

Little did I dream, during the summer of 1964, when writing the Ives article and discography for the fall issues of *HIFI/STEREO REVIEW*, that William Masselos' legendary performance of Charles Ives' First Piano Sonata would one day have a double incarnation: a re-issue on *Odyssey* of the original 1953 Columbia taping and a brand new recorded performance for RCA Victor.

As for the music, I quote from my own remarks of that time: "The five movements of the First Sonata may lack the intellectual cohesion that binds together the four movements of the Sonata No. 2 (*Concord, Mass., 1840-1860*), but they are by no means inferior in musical interest. The first movement is a combination of Ivesian nostalgia and 'action' music with musical quotations from hymns and popular melodies. . . . The second and fourth movements (each with 'two verses and chorus') are brilliant ragtime studies, in which astonishing things are done with the *Bringing in the Sheaves* harvest hymn (the latter half of the second movement was arranged by Ives as the *In the Inn* movement of the *Set for Theatre Orchestra*). These two ragtime movements surround a slow movement of extraordinary evocative power and emotional intensity, and

the same mood is raised to a heroic level in the *Andante maestoso* finale."

Comparing the 1953 and 1966 performances by Masselos, I find the new version to be as profoundly illuminating as the earlier one was dazzlingly brilliant. Masselos has tightened up his readings of the big end movements and the central Largo, and he delivers the ragtime pieces with all the fiery punch that he did in 1953. What's more, the RCA engineers have aided him with full-bodied piano recording that endows his new performance with incomparably more impact than the earlier one. The Odyssey re-processing of the older tape is good, however, making the reissue disc a fine buy at the price. However, its main value, in view of the superior RCA recording, is documentary, and so the true Ivesian will be sure to have both of Masselos' readings. For those who will settle for one, the RCA disc should be the choice. *D. H.*

Ⓢ Ⓜ KODÁLY: *Hymn to King Stephen; Evening; An Ode to Music; Norwegian Girls; I Will Go Look for Death; Psalm 121; Psalm 114; Veni, veni Emmanuel; Christmas Carol; Communion.* The Whitehart Chorale, Lewis Whitehart cond. LYRIC CHORD LLST 7170 \$5.98, LL 170* \$4.98.

Performance: Highly expressive
Recording: Very good
Stereo Quality: Good

This charmingly diversified recording of shorter choral works by the contemporary Hungarian composer Zoltán Kodály, who died in March of this year, gives almost complete pleasure. The stylistic gamut alone is arrestingly wide, and the composer works within each form—be it motet, hymn, or psalm—with perfect ease and technical command. And this is to be found as completely in the earliest work on the program—*Evening*, a remarkably sensitive mood piece composed in 1904—quite as much as it is in the most recent ones: *Veni, veni Emmanuel*, a spare, moving religious work; *Communion*, a wonderfully affecting and utterly flawless anthem; and the rather larger-gestured *An Ode to Music*—all of which date from 1963.

There are winningly lighter touches to be enjoyed as well. *Norwegian Girls* (1940) is a swinging little bit of Hungarian folklore, and *Christmas Carol* (1929) has a beguiling, childlike sweetness about it. You can't go wrong on this music, if the composer's manner is at all to your taste.

The Whitehart Chorale makes lovely, mellifluous sounds here. It could even be that their conductor makes a little too much of open-vowelled legato at the expense of satisfactory diction. Most of the pieces are sung in English, but without the proof of the texts printed on the sleeve I would quite often have been reluctant to bet on it.

The recorded sound is spacious and attractive, although it is possible that a somewhat drier sound might have helped clear up some of the problems of articulation.

W. F.

Ⓢ Ⓜ LISZT: *Années de Pèlerinage.* Edith Farnadi (piano). WESTMINSTER WMS 1023 three discs \$9.57, WM 1023 \$9.57.

Performance: Brave
Recording: Fair
Stereo Quality: Good

(Continued on next page)

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CIRCLE NO. 40 ON READER SERVICE CARD

The New Criticism's re-evaluation of the music of Franz Liszt, I will straightforwardly concede, has baffled me for almost fifteen years now. As a matter of fact, I remember my first double-take on the subject, back in the earlier Fifties at a musical gathering in Elliott Carter's New York apartment.

I knew, of course, that Ye Olde Neoclassicism had pretty much had it by this time. But I must say that, amid such a gathering of composer-intelligentsia, it gave me a turn when I saw two of its most prominent members sitting at the grand piano—the considerably left-of-center Carter and Advanced Dodecaphony's new messiah, Milton Babbitt—both of them poring rapt over a frayed, yellowed piano score. Since neither Boulez, Stockhausen, nor Nono was, at least at that time, frayed or yellowed, I sidled rather sneakily over for a look. What I saw were just some piano pieces by Liszt; what I heard was both composers in admittedly casual analytical discussion of Liszt's uncanny foreshadowing of the "current" contemporary scene and a marveling over his precocity of technique.

I was somewhat taken aback. In the time of the Druids, when I was a student at a famous but numbingly reactionary upper New York State professional music school, faculty musicologists bounded gleefully around lecture halls as they pointed out the uncanny foreshadowings of late Wagner in Liszt's *Faust Symphony*. And we were, way back then, instructed in and readily convinced of what William Ober points out in Westminster's jacket notes: "Very little keyboard music written after 1850 does not reflect Liszt's expansion of the musical language . . . such diverse names as Busoni, Scriabin, Alkan, Ravel, Bartók and Prokofiev . . . indicate the range and ramification of his power."

I am second to no man in my admiration for Carter's music and in my respect for Babbitt's somewhat over-elaborate theoretical intellectuality. And, since I was younger and substantially less formidable than either man, it took a quick bite of the tongue to prevent my asking: "So, what else is new?"

My stubborn conviction that musical results—expressivity, sensibility, control, taste—are of more artistic significance than the most original means, no matter how far they cast their shadow over the future, is borne out (for me) by this massive dose of Liszt's piano music, encompassing six record sides, from Westminster. *Années de Pèlerinage* (Westminster here claims a first "complete" recording of this musical saga) is a three-volume collection of piano music. Book I (Switzerland) and Book II (Italy) are of relatively the same vintage: the 1830's and 1840's. Book III (Italy) came along some thirty years later, by which time Liszt had given up the flesh for the cloth.

Contained within this panorama are several of Liszt's piano works that are often played as separate entities (the *Dante Fantasia*, for one). But the overall effect—twenty-four pieces of varying length—I find utterly stultifying. Either the keyboard is being battered to death (*Orage* and its "storm" effects); or we are all schmaltzy, lyrical, and simple (*Pastorale*, *Eclogue*, *Le Mal du Pays*); programmatic (*Sposalizio*, *Au bord d'une source*); or pop-folksy (*Venezia e Napoli*). And by the time we reach Book III, with Liszt gone all *religioso* and deep, I'm even ready to put on *Parsifal*.

In sum, every bold, original progression

is spoiled for me by a jarring flash of vulgarity; every forcefully personal, original formal probing is sullied by hammy rhetoric. Liszt, to be sure, took the possibilities of the keyboard to the outer limits (leaving the late Henry Cowell with no alternative but to get *into* the piano). But give me Chopin's elegance, his more discreet originality, deeply "classical" and disciplined Romanticism any day.

It may be less than fair, but I'm afraid that Edith Farnadi's performance of this monster task is less than ideal. She digs down with manifold force in the big numbers; I guess she takes a noble crack at what people keep telling me is the Grand Manner. But she bores a little with what *should* be easiest to handle: namely, the slowish, simple numbers. They're nice enough taken individually, but when several turn up in sequence, she fails very clearly to find the special character of each.

DANISH INFORMATION SERVICE



CARL NIELSEN

Two new discs swell the Nielsen boom

Westminster's recorded sound is just a little mushy and covered (I had to do a bit of dial fiddling to get brilliance), but it, like the stereo quality, is serviceable enough. W. F.

LISZT: *Piano Concerto No. 1, in E-flat* (see CHOPIN)

LOCATELLI: *Concerto a quattro, "The Plaint of Ariadne"* (see GEMINIANI)

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ MENDELSSOHN: *String Quartet No. 2, in A Minor, Op. 13*. GRIEG: *String Quartet in G Minor, Op. 27*. Guarneri Quartet. RCA VICTOR LSC 2948 \$5.79, LM 2948 \$5.79.

Performance: Superior
Recording: Flawless
Stereo Quality: Good

This quartet from the pen of the eighteen-year-old Mendelssohn is both brilliantly crafted and full-blown in the intensity of its Romantic expression. It is Mendelssohn before he became a proper Victorian and a busy musical administrator. The Grieg Quartet, though dating from the period in the 1870's that saw the composition of the fine Ballade for piano, is no match for Men-

delsohn's. Grieg's vigor and characteristic harmonic and rhythmic touches are present in abundance, but the tonal texture is more suitable for string orchestra than for the intimate quartet medium.

The Guarneri ensemble does itself proud throughout this disc—most notably in the Mendelssohn, in which they display a tonal homogeneity and a warmth of phrasing that are truly striking. It is as though one instrument, not four, were producing the lovely sound that emerges from the speakers. Happily, the RCA recording staff has come up here with a string quartet sonority of the utmost intimacy, yet endowed with just enough room tone to enhance the naturally warm tone of the Guarneris.

This recording is the Guarneri Quartet's finest to date, rivaled only by their first Smetana-Dvořák disc. D. H.

MUFFAT: *Suite No. 8 from "Indissolubilis Amicitiae"; Concerto No. 1, "Bona Nova"* (see BIBER)

Ⓢ Ⓜ NIELSEN: *Symphony No. 1, in G Minor, Op. 7; Saul and David; Prelude to Act II*. London Symphony Orchestra, André Previn cond. RCA VICTOR LSC 2961 \$5.79, LM 2961* \$5.79.

Ⓢ Ⓜ NIELSEN: *Symphony No. 1, in G Minor, Op. 7; Helios Overture, Op. 17; Pan and Syrinx, Op. 49; Rhapsodic Overture—A Fantasy-Journey to the Faeroe Islands (1927)*. Philadelphia Orchestra, Eugene Ormandy cond. COLUMBIA MS 7004 \$5.79, ML 6404* \$5.79.

Performance: Both fine
Recording: Both splendid
Stereo Quality: Both A-1

All of the significant orchestral repertoire from the pen of the Danish symphonist Carl Nielsen—the six symphonies, the three concertos, and a half-dozen smaller works—is, with the release of these two discs, now available complete and in stereo. Though it was Leonard Bernstein's performance and subsequent recording of the Fifth Symphony for Columbia several years ago that sparked the Nielsen disc boom, most of the repertoire has been added to the catalog within the past two years.

Carl Nielsen's First, written in 1892 when he was in his mid-twenties, is a wonderfully sure-handed work. The melodies and some harmonic elements may derive in part from Svendsen, Gade, and perhaps Dvořák, but some highly original modulations and a remarkably well-developed sense of motion tell us already that this is no ordinary talent. The Scherzo, in particular, is fascinating, and in a subtle way daring for its time and milieu—the Copenhagen of the 1890's.

The music emerges in two quite different ways under the direction of Previn and of Ormandy. The Previn reading is loose-limbed yet finely controlled, and observes all repeats in the first, third, and fourth movements. The whole work is thus experienced as a fresh, deep-breathing piece, with an interlude of beautiful repose achieved in the slow movement. Ormandy, on the other hand, eliminates repeats, tightens up the pacing (thereby getting the whole work on one record side), and creates the sense of a young man in a hurry—effective in its own way, but rather doubtfully related, I feel, to the essential intent and character of the mu-

sic. Ormandy has also seen fit to tinker with the instrumentation of the closing bars, in which the conflicting-key dialogue between trumpets and basses leads to the final cadence. In this instance the basses have been reinforced by trombones.

Minor but intriguing Nielsen works occupy the other side of the Ormandy record: the *Helios Overture*, written in 1903 during a sojourn in Greece; *Pan and Syrinx*, the sonorities and harmonic texture of which anticipate many things in the Fifth and Sixth Symphonies; and a most amusing descriptive *jeu d'esprit* subtitled *Fantasy-Journey to the Faeroe Islands*. The latter two pieces are first recordings, and are gorgeously played and captured by the engineers. The *Helios Overture*, which evokes the progress of the sun across the heavens, is, in its opening pages, most impressive, but what follows is rather less so, being largely post-Brahmsian academicism. For all the Philadelphia sound, I find the Royal Danish Orchestra recording of the piece for Turnabout far more impressive, because the music is allowed to breathe naturally. Ormandy's reading is a jet-propelled affair, completed in ten minutes flat, as against the more spacious Danish treatment, which allows the sun an additional 2'40" to complete its circuit.

André Previn's bonus number is a brief but telling interlude from Nielsen's Biblical opera, *Saul and David*—music with a splendid stridle and eloquent melodic substance that whets the appetite for a recording of the entire score.

As to recording, both the Columbia and RCA discs are first-rate in their different ways. The Philadelphia is more closely miked and has a bigger string sound than the London Symphony, but Victor's pick-up leaves more "air" around the music, quite in keeping with the character of Previn's interpretation. True Nielsen fanciers will have to acquire both the Columbia and RCA Victor discs (as well as the Turnabout recording of *Helios* and the little-known, strangely moving *Saga-Dream*), but those whose interest extends only to the Nielsen symphonies may safely settle for the RCA Victor disc. D. H.

Ⓢ Ⓜ PERGOLESI: *Stabat Mater*. Evelyn Lear (soprano), Christa Ludwig (contralto); RIAS Chamber Choir and Radio Symphony Orchestra of Berlin, Lorin Maazel cond. PHILIPS PHS 900135 \$5.79, PHM 500135* \$5.79.

Performance: **Good**
Recording: **Excellent**
Stereo Quality: **Fine**

The composition of this somewhat uneven although often beautiful work took place under circumstances somewhat similar to the last days of Mozart, when that master was desperately trying to finish his *Requiem*. In the case of Pergolesi too, the *Stabat Mater* is presumed to have been his final work, although, unlike Mozart, he managed to live long enough to complete it (he died at the age of twenty-six in 1736). The work remains one of his most popular pieces today—there are seven other recordings currently available. This newest performance is fairly operatic in style—which is all to the good—and the two vocalists are excellent, as is the chorus. Maazel's sense of style is not always too keen (some of the phrasing is rather soupy, and appoggiaturas are on occasion

taken short when they would have made more sense long), but his accent on the tragic and lugubrious elements makes a strong impact on the listener. The recording is most satisfactory, and both text and translation are included. I. K.

Ⓢ Ⓜ PROKOFIEV: *Romeo and Juliet—Ballet, Op. 64 (excerpts)*. New York Philharmonic, Dimitri Mitropoulos cond. ODYSSEY 32 16 0038 \$2.49, 32 16 0037* \$2.49.

Performance: **Super-dramatic**
Recording: **Brilliant, a bit hard**
Stereo Quality: **Crackling**

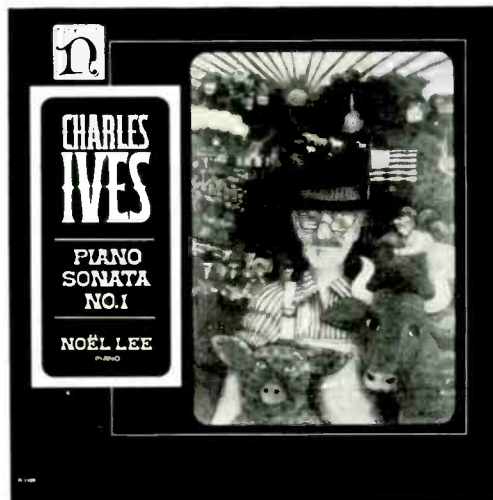
It is good to have some of the better performances of the late Dimitri Mitropoulos available again and at a budget price. His

reading of this ballet score is highlighted by vivid contrasts in dynamics and tempo, all with the aim of heightening dramatic effect; and it is in the opening Montagues and Capulets episode and in the shattering Death of Tybalt music that this approach works best. The recorded sound has more richness and body than in the original 1958 Columbia release, and at \$2.49 the Odyssey issue is a first-rate buy. D. H.

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ RIETI: *Concerto for Harpsichord and Orchestra*. Sylvia Marlowe (harpsichord), Chamber Orchestra, Samuel Baron cond. *Partita for Flute, Oboe, String Quartet, and Harpsichord*. Sylvia Marlowe (Continued on page 85)

record of the month



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STOCKHAUSEN'S *MOMENTE*

MUSIC TO BE AMUSED, OUTRAGED, AND TURNED-ON BY

Reviewed by Eric Salzman

WHEN Karlheinz Stockhausen's *Momente* had its American premiere in Buffalo a couple of years ago, I took one look at the chorus members sliding, scraping, and dragging their feet across the stage and dashed back to my typewriter. It's not often you get a ready-made lead like "Shuffle Off to Buffalo." As I went on to suggest in that review, the performers of this massive "far-out" excursion into a new kind of music are required literally—but most certainly not figuratively—to drag their feet. And so they do in Nonesuch's new disc version of this startling work. They also shuffle, clap, snap, rub, shout, stomp, whoosh, whoop, whisper, and even (occasionally) play and sing.

When the conductor first comes out on the stage (the recording is of a live performance), the audience applauds politely; the conductor takes his bow, gives the down beat—and the chorus applauds right back. The soprano cuts loose with her own series of solo screeches, hoots, burps, snaps, clicks, brrrrrs, bloops, and bleeps, these being punctuated from time to time by brass snarls, percussion whumps, and great electronic-organ tone clusters, and accompanied (if that is the word) by a pair of eerie amplified male voices and a multilingual noise chorus which is nothing less than the whole Babel-babble of the human race somehow let loose in a concert hall.

Is it a gag? I don't think so. Quite the contrary. This is all dead serious to the composer (if anything, almost too much

so), and we ought, I think, to take it dead seriously.

Then is it art? I don't know if *Momente* is really a work of art in the usual sense at all. It is a series of events and activities which may (or may not) be put together to form an unlimited number of realizations. These events or "moments" (some of them are actually several minutes long) may be shuffled or rearranged, expanded or extended by means of a system of interpolating bits of one into the midst of another. The *Momente* that now exists was completed several years ago; Stockhausen does not regard it as a finished composition, but rather an open-ended form, a "work-in-progress" which will be added to.

There are many paradoxes inherent in all this. The piece often has the effect of a very grand and cosmic-comic theater, full of John Cage-like gesture and ritualistic meaning. But comedy and theater are not the intention here at all. Stockhausen denies that he is a clown; this is, for him, a spiritual act, a kind of new existential pantheism expressed as an ordering of material taken from the entire world of experience. One may be reminded of Cage and the aleatory school—random bits of the real world breaking down the old distinctions between art and life, between the event and its cause. But these are, finally, highly ordered kinds of experience, closed and structured in a Germanic sort of way—especially in the monumental recorded form we have here. There is the effect of a kind of

super-collage made up of fragments snipped out of the real world of half-remembered, half-perceived experiences which are then set, not on tape, as with Cage, but for live performers who are themselves then taped.

Perhaps it is an advantage to hear the work in a recording, so that the visual element will not distract. With the "mixed media" theatrical implications gone, *Momente* emerges as if out of a short-wave receiver—we are picking up the universe, but we are never quite perfectly tuned in. Stockhausen regards the universe as a realm of gigantic possibilities upon which he conducts astonishing raids. He has the audacity to structure the spoils he brings back into his remarkable contexts of meaning and incomprehension, half-heard sounds and overheard conversations, half-understood but somehow meaningful splatters of sound and silence.

What emerges will outrage many, turn others on, and maybe only amuse the rest. These reactions are all partly legitimate and partly irrelevant. Stockhausen is, in fact, a kind of cockeyed idealist who believes that anything is possible, and that the act of turning the whole world into Karlheinz Stockhausen is itself an artistic and spiritual experience. Everything is his subject matter, and he presents us with the possibility of everything, all the possibilities and experiences of the universe embraced, re-ordered, and structured for us—in the name of Stockhausen. It would be a mistake to underestimate the importance of the effort. *Momente* is terribly relevant and especially at this moment. It is not necessarily the last word in hi-fi spectaculars (although it sometimes comes close), nor is it merely music-to-turn-on-by (although, for some, it will be that too). More important, it is a kind of commentary on ourselves and on contemporary life—the way it is, baby. One quickly gets used to the oddness of the material itself; the comic cabaret implications vanish. But one never quite gets over the impact of a kind of terrifying, structured incoherence born out of the new technology and finding, of necessity, new means and forms. Causal relationships are gone; so is narrative, plot. Anything goes; everything is possible (you see, it just depends on what you do with it).

Martina Arroyo is *the* interpreter of *Momente*; to my knowledge there has been no other. Let me say that she is simply sensational; she must be heard to be believed. The Cologne forces under the composer's direction make a lot of gay, grim, grand sound, thank you (they applaud very well). The recording is sound enough (pardon the pun), but more careful planning for stereo—perhaps worked out with the composer—would very definitely have been in order. May I repeat: no one is putting anybody on here; this is a dead-serious work and, like it or not, an important kind of contemporary experience.

© (M) STOCKHAUSEN: *Momente*. Martina Arroyo (soprano); Aloys and Alfons Kontarsky (electronic organs); chorus and members of the Symphony Orchestra of Radio Cologne, Karlheinz Stockhausen cond. NONESUCH H 71157 \$2.50, H 1157 \$2.50.

(harpichord), Samuel Baron (flute), Ronald Roseman (oboe), Anahid Ajemian and Charles Libove (violins), Harry Zaratzian (viola), Charles McCracken (cello); Sylvia Marlowe cond. DECCA DL 710135 \$5.79, DL 10135 \$5.79.

Performance: Immaculate
Recording: Good
Stereo Quality: Good

Vittorio Rieti's music is, I think, a rather special dish of tea. Neoclassic in orientation—School of Paris—it is as impeccably wrought as the work of any contemporary composer I can call to mind. There is quite literally never a hair out of place—infelicitous as that metaphor may be. The man knows exactly what he wants to do and knows exactly how to do it.

It isn't music that has "developed" much over the decades—your ears will tell you that as you listen to this record with its *Partita* (1945) and its *Concerto* (1955)—but its long-range consistency of idiom granted, one rarely encounters a stale bar.

It is, for the most part, rather "small" music: it makes no great gestures and, even at its most lyrical, no stronger a word than "tenderness" is required to describe the quality of its lyricism. Furthermore, although the works on this record are lightly touched by Stravinsky's neo-classic vocabulary, they, like all of Rieti's work, quite distinctly have their own aura. The composer, in short, is what the French call a *petit maître*. To many its characteristic smallness may seem merely frivolous. And although I personally take pleasure in it, it isn't an "in" kind of music

at the moment. But "in" or not, like or dislike, the listener who fails to respect its elegant perfectionism is missing some pleasure.

The two works Sylvia Marlowe has recorded here are typical. The *Concerto* has a certain lyric sweep and, obviously, an assertiveness that the more delicate *Partita* hasn't. But each work is ever so characteristic of the composer, and if you are unfamiliar with his music and my description of it hits a responsive chord, I suggest you get to know him.

Both of the works have been done to perfection by Miss Marlowe and the musicians involved. And the recorded sound and stereo treatment leave little to be desired. *W. F.*

Ⓢ Ⓜ STRAVINSKY: *Petrouchka* (complete ballet). Pittsburgh Symphony Orchestra, William Steinberg cond. COMMAND CC 11034 SD \$5.79, CC 11034* \$4.79.

RECORDING OF SPECIAL MERIT

Ⓢ STRAVINSKY: *Petrouchka* (complete ballet). Amsterdam Concertgebouw Orchestra, Hans Rosbaud cond. WORLD SERIES PHC 9051 (compatible stereo) \$2.50.

Ⓢ Ⓜ STRAVINSKY: *Petrouchka* (complete ballet). Paris Cento Soli Orchestra, Rudolf Albert cond. VANGUARD EVERYMAN SRV 234 SD \$2.50, SRV 234 \$2.50.

Performance: Rosbaud most interesting
Recording: Steinberg has it
Stereo Quality: Steinberg all the way

There is no lack of good recordings of *Petrouchka* from which to choose, whether one's preference is for the original 1911 score for

large orchestra (sens) or for the 1 down and sharply panned solo piano. All three of the recordings are from the 1947 edition, but each has its own aspect of the score richly colored performance. Those of Monteux and Ansermet; Albert underlines the balletic and theatrical elements in the music; and the late Hans Rosbaud (d. 1962) brings to bear on the score the keenly analytical musical mind that made his readings of avant-garde contemporary scores at Donaueschingen legendary just after World War II.

Only Steinberg has the benefit of the most advanced stereo recording techniques, and it must be said that the Command staff has done an absolutely superb job here. But the dividing of the Blackamoor scene between the two record sides is an inexcusable musical gaffe. Philips allows it to finish on side one, and the Everyman disc carries it over completely to the second side. The sound of the Rosbaud recording is clear and brilliant, the stereo sonics quite acceptable, and the reading of extraordinary interest. It is a virtual dissection of Stravinsky's musical texture, yet it still packs plenty of vitality.

The Rudolf Albert performance was recorded originally in 1959 for the Club du Disque Français and was issued over here on the now-defunct Omega label. The sound shows its age somewhat, but Albert's flair for sensitively delineating the dramatic elements of the score is still evident.

(Continued on next page)

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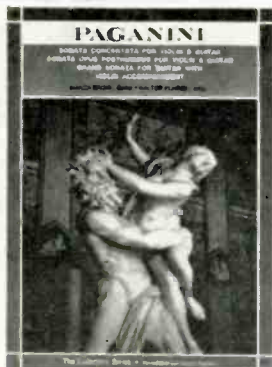
— PAGANINI

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Given a choice of *Pevouchkas* on records now, I would take Stravinsky's own as a priceless and moving document, either Rosbaud or Dorati for the analytical view—with Dorati getting a slight edge by virtue of greater drama—and Monteux for a documentation of the original 1911 score. D. H.

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ TELEMANN: *Ino (Cantata for Soprano and Orchestra)*. Yvonne Ciannella (soprano); Bach Collegium of Stuttgart, Helmuth Rilling cond. TURNABOUT TV 34100S \$2.50, TV 34100* \$2.50.

Performance: Very good
Recording: Very good
Stereo Quality: Very good

The incredibly prolific Telemann wrote this cantata in 1765, at the age of eighty-four. It is a lengthy work, consisting of three arias with long recitatives, and two dance intermezzos. Although the arias are not particularly memorable, the recitatives have a dramatic intensity not generally associated with the pre-Gluck era. And this is precisely where the interest of this recording lies: *Ino* was written after the Vienna premiere of Gluck's *Orfeo*, and its dramatic strength and colorful expressiveness certainly owe something to the venerable composer's identification with the music of the "future."

Yvonne Ciannella performs the demanding vocal part brilliantly. The orchestral playing is vigorous, and the recorded sound is sharp and clear. G. J.

Ⓢ Ⓜ TELEMANN: *St. Matthew Passion*. Sena Jurinac (soprano); Theo Altmeyer (tenor); Horst Günter (baritone); Franz Crass (bass); Leonard Hokanson (harpsichord); Oskar Birchmeier (organ); Lucerne Festival Choir; Swiss Festival Orchestra, Kurt Redel cond. PHILIPS PHS 2994 two discs \$11.58, PHM 2594* \$11.58.

Performance: Worthy
Recording: Very good
Stereo Quality: Excellent

A few years ago Kurt Redel directed the first recording of Telemann's *St. Mark Passion*. Now he provides a *St. Matthew*, written in 1730 when its composer was forty-five. Listening to it, one should try to avoid the obvious comparison with Bach's setting, for not only is Telemann's a far shorter and more compact work (no chorus or aria is more than three minutes in duration), but the aesthetic emphasis seems to be almost secular. There are, to be sure, moments of tension, but much of the score is surprisingly cheerful, almost like the much later sacred works of Mozart or Haydn. On its own terms, it is a fine work, although not always a great one (two exceptions that come immediately to mind are the opening *sinfonia* and Jesus' cry, "Eli, Eli," with the Evangelist's repetition of the same phrase). The performance, featuring generally first-rate vocal and instrumental forces, is enjoyable, although a slightly more dramatic approach, in keeping with the work's operatic character, would not have been out of place. The recording gives a good impression of having been made in a church. I. K.

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ VIVALDI: *Concerto, in C Major, for Flute, Oboe, Violin, Bassoon, and*

Continuo (P. 82); Sonata No. 1, in B-flat Major, for Bassoon and Continuo; Concerto, in D Major, for Violin, Flute, and Continuo; Concerto, in D Minor, for Flute, Violin, Bassoon, and Continuo; Sonata, in C Major, for Oboe and Continuo; Concerto, in G Minor, for Flute, Oboe, Violin, Bassoon, and Continuo (P. 403). The Baroque Ensemble of Paris (Jean-Pierre Rampal, flute; Pierre Pierlot, oboe; Robert Gendre, violin; Paul Hongne, bassoon; Robert Veyron-Lacroix, harpsichord). EPIC BC 1344 \$5.79, LC 3944* \$5.79.

Performance: Highly virtuosic
Recording: Very good
Stereo Quality: Satisfactory

This assortment of Vivaldi chamber works, most of which are not familiar from other recordings, is characterized, for the most part, by the same vitality in fast movements and songfulness in slow ones that distin-



ELISABETH GRÜMMER
In prime vocal estate as Weber's Agathe

guish the larger-scale orchestral pieces. A very high-voltage virtuosity, however, is required to make this thinner music "sound," and in this respect the Baroque Ensemble of Paris is thoroughly in its element here. Whether in the flute playing of Jean-Pierre Rampal or the oboe and bassoon performances of Pierre Pierlot and Paul Hongne, the renditions are uncommonly skilled. Stylistic points, such as correct ornaments and the embellishment of slow movements, are also honored. The ensemble work is particularly to be admired, and Robert Veyron-Lacroix's realizations are, as usual, very inventive. The close-up recording succeeds in balancing the instruments equally well. Only the insufficient identification of pieces is likely not to endear this disc to Baroque collectors. I. K.

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ WEBER: *Der Freischütz*. Hermann Prey (baritone), Prince Ottokar; Ernst Wiemann (bass), Kuno; Elisabeth Grümmer (soprano), Agathe; Lisa Otto (soprano), Anchen; Karl Kohn (bass), Kaspar; Rudolf Schock (tenor), Max; Gottlob Frick (bass), Hermit; others. Chorus of the Municipal Opera, Berlin; Berlin Philharmonic

Orchestra, Joseph Keilberth cond. SERAPHIM (S) 1B 6010 two discs \$4.98, 1B 6010* \$4.98.

Performance: First-rate
Recording: Good
Stereo Quality: Unspectacular

Weber's *Der Freischütz*—occupying a pivotal position between Mozartian *Singspiel* and the emerging German Romantic opera, embodying the best elements of German national art, and essential to the development of Richard Wagner while influencing Rossini and Meyerbeer as well—is a work of enormous significance in operatic history. But it is also a national opera, as intensely German as Smetana's works are Czech or Glinka's Russian, and it is thus usually relegated to respectful indifference abroad. It is doubtful that much will happen in the near future to alter *Der Freischütz*'s unique eminence in America—as the most consistently neglected genuine operatic masterpiece—but no comprehensive recorded library should be without it.

The version at hand, dating from around 1960, retains all the music but omits a large portion of the spoken passages. This is detrimental to dramatic continuity, but the opera is gotten on four dense record sides—reduced from the six which made up the original German release. The loss is partially redeemed by condensations of the omitted passages in the attached libretto.

The casting is excellent, chorus and orchestra perform with distinction, and signs of careful preparation are everywhere evident. Hermann Prey and Gottlob Frick turn relatively minor roles into major artistic contributions. Elisabeth Grümmer is heard in prime vocal estate; her singing, inflected with her customary sensitivity, is pure and effortless, and no one need look beyond this set for better renditions of Agathe's two beautiful arias. Lisa Oito's Änchen is an expert *soubrette* creation, not the last word in virtuosity or note-perfection, but charming in sound.

With a less than ingratiating tone quality, Rudolf Schock offers a nevertheless strong and stylish Max, and Karl Kohn portrays Kaspar with tonal strength and suitable villainy. Both contribute zestfully to the eerie Wolf's Glen episode, but the recording is early stereo, and the sonic possibilities of the scene are not fully realized.

The set has strong competition in a Deutsche Grammophon album (138639/40), which has sharper sonics and more dynamic leadership (from Eugen Jochum) than is offered here by the precise, steady, but not very exciting Joseph Keilberth. But for its vocal values—and its price—this Seraphim album stands out by a slight margin. G. J.

COLLECTIONS

IRINA ARKHIPOVA: *Russian Opera and Cantata Arias* (see Best of the Month, page 67)

RECORDING OF SPECIAL MERIT

Ⓜ VLADIMIR HOROWITZ: *Horowitz in Concert*. Haydn: *Sonata in F*. Schumann: *Blumenstück, Op. 19*. Scriabin: *Sonata No. 10, Op. 70*. Debussy: *L'Isle joyeuse*. Mozart: *Sonata No. 11 in A, K. 331*. Chopin: *Nocturne in E Minor, Op. 72, No. 1; Mazurka in B Minor, Op. 33, No. 4*. Liszt: *Vallée d'Obermann*. Vladimir Horowitz

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(piano). COLUMBIA M2S 757 two discs \$11.58, M2L 357 \$11.58.

Performance: Mostly excellent
Recording: "Live" concert pick-up
Stereo Quality: Good

This is a good chunk of the two Carnegie Hall programs given by Horowitz in 1966: Mozart, Scriabin, and Chopin from April 17, Haydn, Schumann, Debussy, and Liszt from the program of November 27 and/or the repetition on December 10.

I am not completely convinced of the artistic value of documentary recordings such as this. The excitement of a "live" recorded performance is meaningful to some people and, certainly, many musicians achieve a more complete and inspired result in the concert hall than they ever can in retake, cut-and-splice recording sessions. But this is not necessarily the case with Horowitz. The conditions and meanings of music on records are not necessarily the same as those of "live" performance. And, finally, a good deal of the tension and vitality of the original performance event is simply not there in the replay. The effect is a little like that of watching the films of last Saturday's football game—the action is the same but it is hardly possible to recapture all of the suspense and excitement.

Nevertheless, like great documentary films, recordings like this have an inestimable historic value and some aesthetic worth, no doubt. If nothing else, here at least (and at last) is that perfumed, marvelously decadent, virtually atonal last sonata of Scriabin performed by the master Scriabinist himself; the hair-raising demonic trills are alone worth the price of admission. Next to it, the Debussy seems curiously classical and uncomplicated; Horowitz's performance is very stylish. The Schumann "Flower Piece" seems oddly restrained; it was perhaps impossible to achieve real intimacy under the circumstances, but a warm, lyric intimacy is what this fresh, romantic salon music really needs. On the other hand, the two Chopin pieces are quite effective. The Mozart sonata seems a little too measured and subdued—deliberately, carefully brilliant, as though Horowitz were determined not to make an external effect with an overly familiar work. The Haydn, on the other hand, is crisp and witty. The disaster of the album is the Liszt, which probably should not have been released at all. Admittedly it has a very grand sweep, but it actually eludes the fingers of this master technician at several points, and unless he is playing some early version unknown to me, he actually omits passages in one or two places (there is also an omission of a theme return in the Chopin Mazurka). These are almost certainly memory slips. The worst moments come in the final pages of the Liszt, when he begins the passage marked *sempre animando sin'al fine* at what is already the fastest possible tempo and then attempts to get faster. Whole fistfuls of notes fall by the wayside and the gallop becomes a scramble. There will be those who will argue that this is secondary and that we should be grateful to have this performance anyway. I don't agree; the ending is painful to me (and unbearable on repeated hearings), and it destroys the arch of the piece which, at its moment of greatest intensity, loses not only notes but shape and tonal quality.

It is said that the recording of the Horowitz come-back recital was doctored in or-

der to eliminate mistakes. I have been told that the same was done here, but if so it does not seem to have made very much difference one way or the other.

The recording is excellent for a location job. The stereo has a distant halo of resonance around a basically close sound. On the other hand, the mono piano tone never accumulates enough bass resonance at the moments of climax, due possibly to the close miking. But these are quibbles, considering the concert conditions under which the recordings were presumably made. I noticed the BMT subway rumbling underneath only once or twice and then just barely. But I do violently object to the earsplitting bits of applause that come crashing in before the last note of each piece dies away; the level of this *musique concrète* is brutally high, and it instantly destroyed my pleasure in virtually everything in the album: these tiny applause cuts are certainly unnecessarily loud. *E.S.*



MARIA KURENKO

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Ⓜ MARIA KURENKO: *Sings*. Handel: *Giulio Cesare: Piangerò la sorte mia*. *Rodolinda: Mio caro bene*. Berlioz: *La mort d'Ophélie*. Cherubini: *Ave Maria*. Mozart: *Or che il cielo* (K. 374): *Rondo; Motet—Exsultate, Jubilate* (K. 165). Maria Kurenko (soprano); orchestral accompaniment. COLLECTORS GUILD CG 668 \$6.50, plus 50¢ postage and handling. (Available from The Record Album, 254 West 81 Street, New York, N.Y.)

Performance: Excellent
Recording: Fair

This exceptional release resurrects the art of an exemplary singer. Although Maria Kurenko had a long career here and abroad, she is remembered primarily as an interpreter of Russian songs. The early LP catalogs listed her valued interpretations of Rachmaninoff, Moussorgsky, Gretchaninoff, and others—all regarded as models of the genre. But Maria Kurenko's art encompassed a much broader range: a pupil of the noted bel canto stylist Umberto Masetti in her native Russia, she excelled in a variety of coloratura and lyric roles in the Italian and French repertoires.

COLLECTORS GUILD

The recorded program here, presumably drawn from the artist's radio broadcasts, could serve as a model for enterprise and diversity. The Cherubini and Berlioz items are absolute rarities, the former characteristic of the composer's eloquent and polished style, the latter a haunting elegy in an exquisite orchestral setting, to my knowledge previously unrecorded. If the Handel and Mozart selections are not entirely unfamiliar today, they must have been so (certainly on records) at the time Maria Kurenko performed them. In Handel, she combines purity of sound with meaningful dramatic projection, and in Mozart her sense of style is assured and unflinching.

The sound is 1940-ish and entirely adequate, but some adjustment of bass and treble controls is necessary for best results. G. J.

Ⓢ Ⓜ MUSIC FROM POLAND 1956-1961. Penderecki: "To the Victims of Hiroshima," *Threnody for Fifty-two String Instruments*. Bacewicz: *Music for Strings, Trumpets, and Percussion*. Baird: "Erotica," love songs for soprano and orchestra. Serocki: *Sinfonietta for Two String Orchestras*. Stefania Woytowicz (soprano); Warsaw National Philharmonic Symphony Orchestra. Witold Rowicki cond. PHILIPS PHS 900141 \$5.79, PHM 500141* \$5.79.

Performance: From the source
Recording: Good quality
Stereo Quality: Effective

In 1956, Poland declared its independence from Russia and Stalinism, and a new development in the arts began almost immediately. At first this was a matter of introducing and exploring avant-garde works of art and techniques from the West. Today, Poland is easily the most "advanced" country in Eastern Europe and above all in music.

In 1956, Polish intellectuals quickly saw a link between intellectual and artistic freedom and a sense of national identity and "modernism." Of course, music, the most abstract of the arts, could be—with the least fear of political repercussions—the most experimental. Within a couple of years, composers of eighty were writing advanced serial music, and tonal writing virtually disappeared from the country.

The new sound of Poland derives partly (though it's been little noticed) from American sources: Varèse, Henry Cowell's tone clusters, and even John Cage. The music of the Greek Yannis Xenakis was another big formative influence. The typical Polish piece of today is built with great blocks of dense, sliding cluster sounds punctuated by splattered percussive effects of one sort or another. The *locus classicus* for the new Polish style is Krzysztof Penderecki's *Threnody "To the Victims of Hiroshima,"* written in 1959-1961 (not 1956 as indicated on the album notes here) and using a full string section scored largely in clusters. There are great bands of static cluster sounds (up to fifty-two simultaneous semi-tones) into which are woven a variety of rapping, wobbling, scraping, scratching, sliding, screeching string sounds, the whole producing an intensity that is almost unbearable. The piece suggests a kind of imitation of electronic noise bands set for human performers; the unremitting density of sound has a horrifying, unmoving, unyielding, agonizing presence. The program notes describe a "stream of energy," but there is no flow; energy is

drastically contained, and the work becomes a kind of accumulation of unreleased power. After it is over, you want to go out and break something.

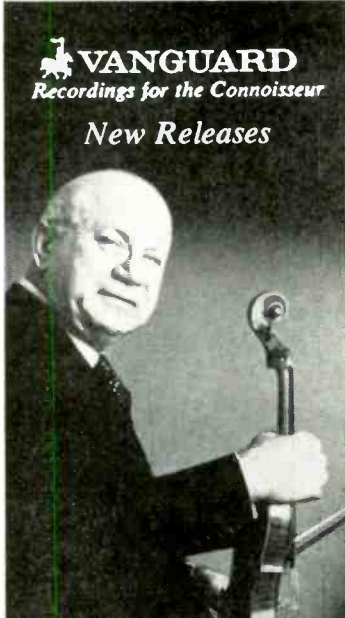
Penderecki's *Threnody* is the only really representative work recorded here. Baird's *Erotica* is, however, a most attractive piece, not a bit of musical pornography by any means, but a set of rather delicate lyric works out of Berg and Webern but with a flavor of their own. (In case you wondered, Baird is half-Scottish, which explains his name.) The other two pieces are souvenirs of 1956, when they must have seemed daring—Bartók with heavy doses of dissonance. Compared to what has been done since, they seem quaint and (more to the point) thin in real substance.

The Polish composers have had the advantages of a large public and the full re-

sources of the Polish state behind them. They have written consistently for orchestra (in this country such music might not ever have reached performance) and developed their ideas in close collaboration with a number of excellent, talented, and creative younger conductors (in this country, conductors with such repertoire would be quietly fired). Thus, although even the Warsaw Philharmonic is hardly a first-class orchestra by our standards, it can play rings around our orchestras in this kind of music. Rowicki is the dean of this group of conductors, and his results are impressive. The disc has good sound and effective stereo presentation to recommend it, too.

E. S.

YVONNE PRINTEMPS and SACHA GUITRY: *Recital* (see page 95)



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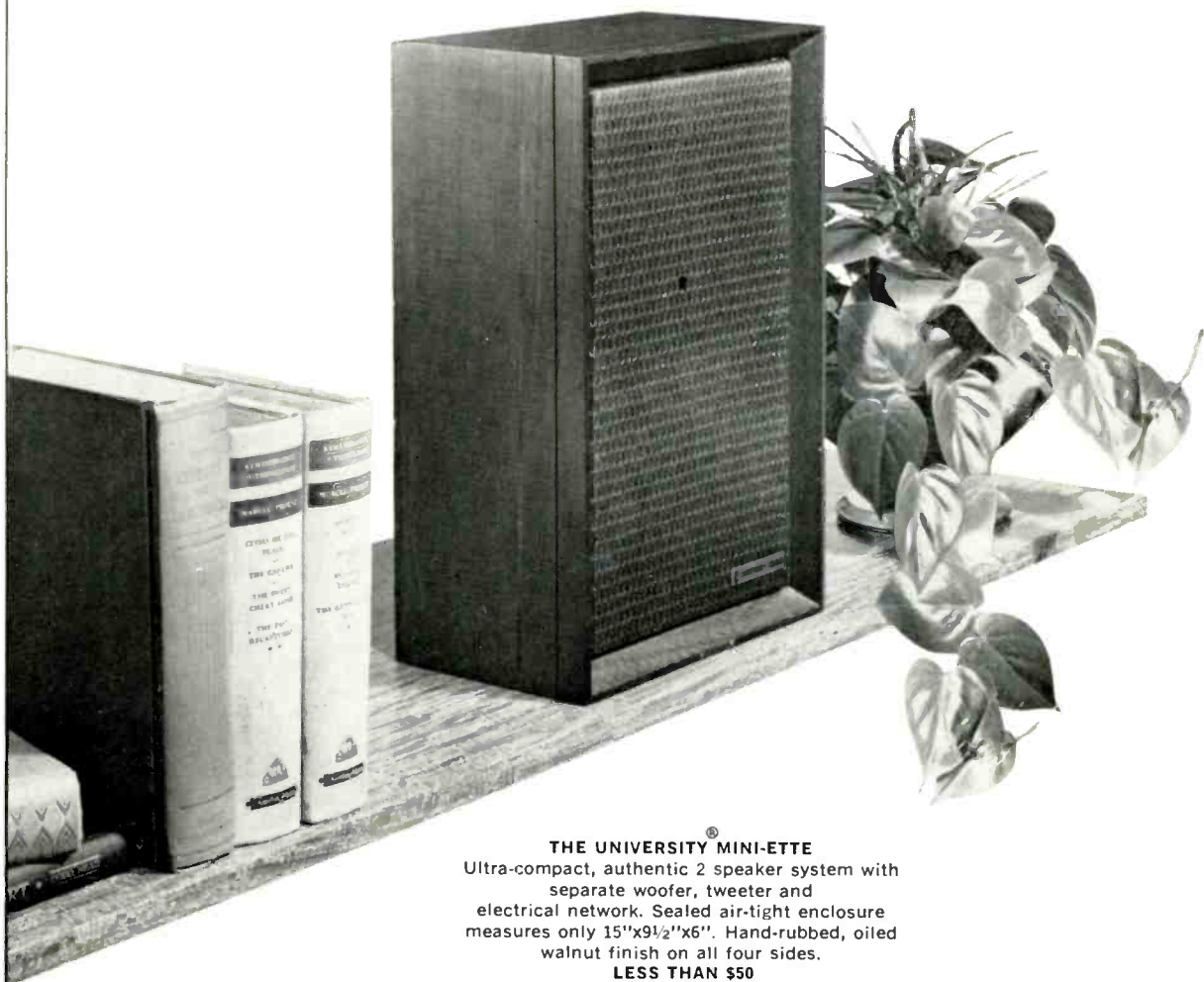
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Reviewed by NAT HENTOFF • PAUL KRESH • REX REED • PETER REILLY

⑤ ④ THE BARRY SISTERS. *Something Spanish*. The Barry Sisters (vocals); orchestra, Chico O'Farrill arr. and cond. *Que sabes tu; Manha de Carnaval; Vaya con Dios; Inka Dinka Doo*; and eight others. ABC ABCS 578 \$4.79, ABC 578* \$4.79.

⑤ ④ THE BARRY SISTERS: *A Time to Remember*. The Barry Sisters (vocals); orchestra. *In Mein Shtaitel; Hopkele; My Yiddeshe Mama; Sholem Tanz*; and seven others. ABC ABCS 597 \$4.79, ABC 597* \$4.79.

Performance: Fun
Recording: Good
Stereo Quality: Good

These two albums are as tightly packed as well—the Barry Sisters' bodices with fun and good listening. My personal favorite is "Something Spanish," probably because I am a little more familiar with the Latin groove than with the Yiddish idiom of "A Time to Remember." Yet I found at least two rousing numbers on the latter: *Sholem Tanz* (Freedom Dance) and *Hopkele*, another dance. Most of the other selections in the latter went just over the border from sweetness to sentimentality. But then, I will bow to the Barry Sisters' choice in this matter, in that, for all I know, *My Yiddeshe Mama* or *Mein Zein-dele* might have great meaning to listeners with the necessary associations. But "A Time to Remember" strikes even me as being about as good an album in its category as one is likely to find.

"Something Spanish" needs no such apology, however. It should be a thoroughly enjoyable album even to the uninitiated. The arrangements by Chico O'Farrill, the male vocal backgrounds, and the guitar solos of Yomo Toro add a high gloss to this delightful collection. The Barry Sisters' close-harmony singing on such standards as *Manha de Carnaval* (the theme from *Black Orpheus*) and *Vaya con Dios* is rich fare indeed, but the high point of the album is *Inka Dinka Doo*, the old Jimmy Durante hit, sung out of its mind (and in Spanish) by Merna and Claire. I like the Barry Sisters and I liked these two albums. I think you will too. P. R.

⑤ ④ BILLY BAXTER: *Billy Baxter and His Carnaby Street Vaudeville Band*. Billy Baxter (vocals); orchestra, Billy Baxter

Explanation of symbols:

- ⑤ = stereophonic recording
- ④ = monophonic recording
- * = mono or stereo version not received for review

cond. and Bert De Coteau arr. *How Could Red Riding Hood?; I've Never Seen a Straight Banana; Poor Kids; I've Never Wronged an Onion*; and eight others. ABC S 581 \$4.79, 581 \$4.79.

Performance: Dismal
Recording: Poor
Stereo Quality: Good

Winchester Cathedral is fast shaping up as one of the major disasters of modern pop music. Not that the original performance and the song itself were bad. I thought they



THE BARRY SISTERS
Good listening in Latin and Yiddish idioms

were humorous, affectionate, and nostalgic. *Winchester Cathedral's* success, however, unfortunately loosed upon the record-buying public a veritable plague of imitations, each noticeably worse than the last. Conceivably, "Billy Baxter and his Carnaby Street Vaudeville Band" might just sound the death knell for the whole doo-wah revival. It's that bad.

A glance at the titles mentioned above will give you a fair sampling of the level of humor employed throughout, and the performances are a worthy counterpart. Vaudeville itself died a slow, lingering death. The "vaudeville band" revival has clubbed itself to death in little more than a year. Okay. Everybody off this bandwagon—the next one ought to be along any minute. P. R.

⑤ ④ HARRY BELAFONTE: *Calypso in Brass*. Harry Belafonte (vocals); orchestra, Howard A. Roberts cond. *Jump in the Line;*

Cocoanut Woman; Tongue Tie Baby; Sweetheart from Venezuela; Man Smart, Woman Smarter; and eight others. RCA VICTOR LSP 3658 \$4.79, LPM 3658 \$4.79.

Performance: As before
Recording: Over-produced
Stereo Quality: Excellent

From the adulatory liner notes to the overstuffed arrangements and the performances, "Calypso in Brass" is an exercise in patronization—of the listener and of the people whose music Calypso is. Try a couple of excerpts from the liner notes: "Belafonte, more than any living man, made Calypso transcend the Islands and become known and loved around the world." Or, "Belafonte, an inspired boy, rebelled against the class taboos of his own Island home in order to learn and sing what was to become the finest export of the Caribbean, Calypso. He has been breaking down artificial barriers between cultures and classes ever since." This last excerpt is preceded by a paragraph in which Calypso music is described as being "looked down upon and accepted only by the very bottom of a stratified Island society." Get it? Belafonte may sing this music but, it is carefully made clear, he is not of it.

The orchestrations employed here call for a large orchestra with a blasting brass section and a continually "big" approach, which is used indiscriminately on everything. There is a large supporting cast of singers for Belafonte. On several numbers, notably *Sweetheart from Venezuela* and *Cocoanut Woman*, Belafonte performs a duet with a female partner. It is needless to add that neither lady (or are they the same?) is identified anywhere on the record or its jacket. Nor are any of the other voices that are heard from time to time.

In rare cases a performer comes to mean more than just what he is, a performer, good, bad, or indifferent. Lenny Bruce came to mean something beyond his performing abilities, as do The Beatles, as does Pablo Casals. All of these men, however, are or were symbols almost in spite of themselves. The world chose them as symbols, they did not assume the role. Their main business is, or was, their performing, and it was left to others to judge their significance. I find Belafonte's assumption of the role of spokesman for the entire pop-music culture of the Caribbean an annoyance and an affront to my judgment. Be it known that I heard and enjoyed Calypso music long before the advent of Harry Belafonte, and I expect I shall continue to do so long after he ceases performing it. P. R.

(Continued on next page)

⑤ ④ GENE CLARK: *With the Gosdin Brothers*. Gene Clark (vocals, guitar); Bill Rinehart, Clarence White, Glen Campbell, Jerry Kole (guitars); Chris Hillman (bass); Mike Clarke (drums); Leon Russell (piano, harpsichord); unidentified vocal group. *Echoes*; *Tried So Hard*; *Elevator Operator*; *The Same One*; and seven others. COLUMBIA CS 9418 \$4.79, CL 2618 \$4.79.

Performance: Dull
Recording: Good
Stereo Quality: Good

Perhaps, with the generation gap being what it is, reviewers of folk-rock recordings ought to state their ages. I'm forty-one. However, I don't think the generation gap can be used as an explanation for my conviction that Mr. Clark's first album is a failure in terms of both his singing and his writing. His medium is folk rock with an occasional touch of country-and-western; his message is derivative and diffuse. I assume the vocal group behind Mr. Clark is the Gosdin Brothers, but the skimpy notes do not make this clear. N. H.

⑤ ④ EDDIE "LOCKJAW" DAVIS: *The Fox and the Hounds*. Eddie "Lockjaw" Davis (tenor saxophone), orchestra. *When Your Lover Has Gone*; *Day by Day*; *Bye Bye Blackbird*; *I Remember You*; and six others. RCA VICTOR LSP 3741 \$4.79, LPM 3741* \$4.79.

Performance: Authoritative
Recording: First-rate
Stereo Quality: Excellent

Eddie "Lockjaw" Davis, a tenor saxophonist firmly planted stylistically in what could be called the Basie canon, is an instant swinger. Moreover, he has an unusually big, firm, hot sound and a conception that eschews excess. In this, his best album in some years, Davis is the only soloist, and he sustains interest throughout. The crisp, functional arrangements are by Bobby Plater. N. H.

⑤ ④ THE FREAK SCENE: *Psychedellic Psoul*. Lenny Pogon (bass, guitar), Dave Bromberg (guitar, harmonica), Don Lee Hesterberg (drums, assorted percussion instruments), Joseph Keushgenian (drums), Rusty Evans (vocals). *A Million Grains of Sand*; *Behind the Mind*; *My Rainbow Life*; *Mind Bender*; and eight others. COLUMBIA CS 9456 \$4.79, CL 2656 \$4.79.

Performance: Striving to be hip
Recording: Good
Stereo Quality: Very good

On the surface this album couldn't be more modish. The notes contain a psychedelic pronouncement by the record's executive producer—drop out of this anti-life society and "let the confines of your mind be taken down brick by brick." There are also quotations from such gurus as Marshall McLuhan and Timothy Leary as well as epigraphs from the works of Bob Dylan, Lenny Bruce, and Baudelaire. Inside there is the customary assemblage of electronic effects smoldering beneath various attempts at consciousness-expanding lyrics. But something's missing: music. The male vocalists show no evidence of why they should have considered themselves singers. The instrumentalists, while occasionally skillful, have neither an individual nor collective style of their own. And the lyrics are largely lumpish emulations of Bob Dylan and Simon and Garfunkel, among

others. But maybe most of this is a put-on in a grab for this society's quick bread. At least I hope that they don't take themselves seriously.

The notes, incidentally, list no personnel. The names listed above were acquired from fragmented sources, and I do not vouch for their entire accuracy. All—or most—of the male members take part in the (more or less) singing. N. H.

⑤ ④ FREE SPIRITS: *Out of Sight and Sound*. The Free Spirits (vocals and accompaniment). *Cosmic Daddy Dancer*; *Bad News Car*; *Storm*; *Angels Can't Be True*; *Tattoo Man*; *Don't Look Now*; *Sunday Telephone*; *Girl of the Mountain*; *I'm Gonna Be Free*; and three others. ABC S 593 \$4.79, 593* \$4.79.

Performance: A mixed bag
Recording: Good
Stereo Quality: Good

The Free Spirits are five young men with ex-



EDDIE "LOCKJAW" DAVIS
An instant swinger on the tenor sax

tensive jazz roots who bring love and gusto to rock music and in the process make it expand into areas broader than just pop-rock. They can't sing, and it's just as well, for their lyrics are simply ridiculous. But their musicianship is considerable, and they demonstrate a lot of taste on the instrumental passages. There is, for instance, some groovy tenor sax work by twenty-five-year-old Jim Pepper on *Don't Look Now But Your Head Is Turned Around*, which shows a remarkable Sonny Rollins influence. Guitarist Larry Coryell, a twenty-three-year-old Texan who admits to Django Reinhardt influences, even manages some marvelous Indian flavor when he plays sitar on his own composition *I'm Gonna Be Free*.

I really like this group, probably for all the wrong reasons. You're supposed to dig rock-protest junk because it's free from all influences, not because its sound contains a few echoes of the Establishment. Still, any group that even admits ever bearing of Django Reinhardt can't be all bad. R. R.

⑤ ④ GALE GARNETT: *Sings About Flying & Rainbows & Love and Other Groovy Things*. Gale Garnett (vocals); orchestra, Rick Rosmini cond. and arr. *I Make Him*

Fly; *Don't H I Am Shining* others. RCA 3747 \$4.79.

Performance: Dull
Recording: Good
Stereo Quality: Dull

There is a touch of Miss Garnett's peevish humor. In that of her own creation was very imitative a random attempt at the lyrics of a blown jazz song on the *the Rainbow* is given a variant go by Miss Garnett—to no effect, however; it is just as smudgy a performance as Miss Garnett gives her own works. P. R.

HERMAN'S HERMITS: *There's a Kind of Husb All over the World* (see Best of the Month, page 67)

⑤ ④ ANDRÉ KOSTELANETZ: *The Kostelanetz Sound of Today*. Orchestra, André Kostelanetz cond. *A Man and a Woman*; *In the Arms of Love*; *Alfie*; *The Sounds of Silence*; *Dommage, Dommage*; *Strangers in the Night*; and five others. COLUMBIA CS 9409 \$4.79, CL 2609 \$4.79.

Performance: Schmaltzy
Recording: Excellent
Stereo Quality: Flatulent

Let's face it: the "Kostelanetz sound" is the musical equivalent of chicken soup. Now those crooning choruses, drenching choirs of strings, and velvety sighs of overblown woodwinds have been blessed with another dimension in the form of a kind of pseudo-rock, or folk-rock, beat in a vague attempt, I suppose, to bring things up to date. The result is a soggy kind of compromise between the old schmaltz and the new thump that is utterly indigestible. In all this welter of cloying sound the mere tunes of numbers like *Born Free*, *Summer Wind*, and even *Cabaret* simply drown amid the bubbles like overcooked matzoh-balls. *Oo-oo-oo*, simper the chorus. *Oy, oy, oy*, sigh the strings. *Glonk-glonk-glonk* clangs the zither, or whatever it is. Is there a musical equivalent for bicarbonate of soda? P. K.

⑤ ④ PEGGY LEE: *Extra Special!* Peggy Lee (vocals); orchestra, various conductors and arrangers. *Hey, Look Me Over*; *When He Makes Music*; *Walking Happy*; *Amazing*; *A Doodlin' Song*; and six others. CAPITOL ST 2732 \$4.79, T 2732 \$4.79.

Performance: Superb
Recording: Variable
Stereo Quality: Good

Recently I commented on the lack of discrimination that Peggy Lee and/or her advisors exercise in the relative number and quality of her releases. Her latest, "Extra Special!" is another exceedingly mixed collection. In any Lee album one can expect at least one band to be of superb quality. In this album, which is a collection of previously released singles, the average is slightly higher. Both *A Doodlin' Song* and *Amazing* are direct hits. *A Doodlin' Song* is one of those gloriously relaxed and totally musical performances of which Miss Lee seems quite uniquely ca-

pable. She reaffirms her greatest gifts, however, in *Amazing*, in which the amber haze of her voice caresses and illuminates an intelligent lyric and a dream-like vocal line. I never fail to be astonished at how close to greatness Miss Lee so often comes in a single song. And I never fail to feel equal dismay at the speed with which she skitters off to crank out something like *Hey, Look Me Over* or *Walking Happy*, as she does here. Eventually, of course, Capitol will be able to start reissuing albums with only the best tracks from previous ones. But that seems such a circuitous route for anyone so gifted.

Yes, of course, buy this one. Miss Lee seems to be willing to wait for those reissues, but that doesn't mean you should. P. R.

Ⓢ Ⓜ GRACE MARKAY: *Grace Markay*. Grace Markay (vocals); orchestra, Bob Bain cond. and arr. *A Man and a Woman*; *Theme from "Sand Pebbles"*; *Born Free*; *How Insensitive*; *Summer Wind*; *What Now, My Love?*; and five others. CAPITOL ST 2687 \$4.79, T 2687* \$4.79.

Performance: Unoriginal
Stereo Quality: Good
Recording: Good

Not long after the surprising news that Capitol Records and their brightest talent, Liza Minnelli, had parted company came a press release hailing Capitol's newest star, a girl named Grace Markay. Miss Markay can carry a tune, but I hope she can quickly find a more distinctive style, because on the basis of her debut recording, she's going to have to hit on a more original approach to modern music if she hopes to stay around long. I see very little future for a singer who sounds like a combination of Enid Mosier, Nancy Wilson, Dakota Staton, and Gloria Lynne.

She's better on torch songs, but the people responsible for putting together this disc have included so much trash that she is seldom allowed the luxury of letting herself go. There's not much to be done with *All of a Sudden My Heart Sings*, and she doesn't do much with it. *Born Free* should never be sung—it's really a song about a lion—and the lyrics, when stretched to include human beings, sound silly. *What Now, My Love?* (which has just about had it) is here swung in a kind of Glenn Miller beat that should make Gilbert Bécaud throw his beret into the Seine and keep his music away from American arrangers forever. And it takes singers like Jackie Cain and Roy Kral to do anything acceptable with a song like the Beatles' *Can't Buy Me Love*. Miss Markay tries that one too. It eludes her. Summing up, I predict rather dire weather for Grace Markay: cloudy skies, with the possibility of thunder-showers. R. R.

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ ROD MCKUEN: *Through European Windows*. Rod McKuen (vocals); orchestra, Anita Kerr arr. *Paris*; *La mer sans soleil*; *Song Without Words*; *The Ever Constant Sea*; *Nathalie*; *I'll Say Goodbye*; *Like a Child*; *On the Road Again*; *Do You Like the Rain?*; and six others. RCA VICTOR LSP 3786 \$4.79, LPM 3786* \$4.79.

Performance: Sensitive but coarse
Recording: Good
Stereo Quality: Good

Rod McKuen is like avocados or Gruyère

AUGUST 1967

cheese: it is possible to enjoy his music only after cultivating a taste for it. People who disregard the usual criteria by which singers are judged (pretty sounds and, lately, theatrical hysteria) can learn a lot from McKuen. There is a good way to try him out for the first time: lie on the floor, with all the lights off, and concentrate with the fierceness of a professional yogi. Don't rush to turn off the phonograph if his voice cracks down the middle, as it sometimes does. And don't blush with blasé "Oh, really!" sophistication if his lyrics get a little sentimental and corny, as they sometimes do. Just give him a chance and see what happens.

I have enormous respect for McKuen. Reasons: he has the guts to ignore the trends and fads which insist a performer must sing brainless trash to make money; he has at least tried to bring to the dwindling attention of lazy Americans the music of European composers like Jacques Brel and Gilbert Bécaud, who have done more than anyone America has produced since Harold Arlen to raise popular music to an art form somewhat approximating the level of poetry; he has taste; his songs tell stories about life the way he knows it, which is all anyone can ask of any artist. He is a sort of Hart Crane of pop music. It is not a very enviable position to be in financially, I should think. All the more reason to respect him. The man knows what his life is about, which is more than I can say for most people.

Though the battle McKuen fights is not yet over, it seems like a losing one. Most Americans have the attention span of a cocker spaniel. Nobody *listens* anymore. (Simon and Garfunkel are right. When was the last time *you* spent an evening in someone's living room actually concentrating on something other than the sound of people's voices dropping the ends of "dangling conversations"?) McKuen has fought his battle with little attention from anyone other than a few of the serious music critics. Except, of course, in Europe, where he is enormously popular. They don't care in Europe if you don't sound like Frank Sinatra. In fairness, I admit there are reasons why he may never catch on with the masses: he sings in a Gravel Gertie voice which often lies only slightly north of terrible. His songs are projections of feelings which follow logical patterns of thought. You have to listen. And sometimes he tries for shock effects beyond his limits and misses more notes than he hits. So what? Mabel Mercer can't really sing either, an amazing fact of life which has never kept her from becoming America's greatest interpreter of love songs.

I dare anyone to listen to the honesty of conviction in McKuen's simple handling of Bécaud's *Paris* without being moved. Or the way he throws himself into *Nathalie*. This is a great song, one of the finest compositions produced in the last ten years, and one that all the hippies were falling in love to when I was in Berlin two years ago. To my knowledge it has never been recorded by anyone in this country except McKuen. I usually hate for singers to speak words to music, but *Do You Like the Rain?* and *Song Without Words* are rare exceptions. The former is a poem tenderly spoken in bed to a lover. The latter projects thoughts between lush themes of music which could easily fit into the ball scene from *War and Peace* as a man writes too late to a love who has already left: "I wanted to write

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you one last long love song that said what I feel one final time . . . but by the time I thought of it, found a pen, put the pen to ink, the ink to paper, you were gone . . . and so this song has no words." No more apologies. He doesn't need them from me. R. R.

Ⓢ Ⓜ ZOOT MONEY: *Big Roll Band at Klook's Kleek*. Zoot Money (vocals, organ); Paul Williams (vocals); unidentified orchestra. *Chauffeur; Pre Been Trying; Mashed Potatoes U.S.A.; Barefootin'*; and nine others. EPIC BN 26421 \$4.79, LN 24241 \$4.79.

Performance: **High-spirited**
Recording: **Very good**
Stereo Quality: **Good**

Larger than the usual rock combo, Zoot Money's Big Roll Band—here recorded at Klook's Kleek in West Hampstead, England—communicates an infectious enthusiasm for black American rhythm-and-blues. Though imitative rather than creative, Money and his colleagues do have an earthy understanding of the idiom. Collectively the group has a solid but not stolid beat, and the organist (Money himself, I presume—the liner notes aren't clear) is a lithe swinger. The vocals too are close to black models. Of special instrumental interest is a swirling conversation

among flutes in *Florence of Arabia*. Essentially what puts this music on a level above the usual white attempts at Negro music is the lack of self-consciousness and the sheer pleasure in performing of these British players. Though limited in range and scope, this is a surprisingly satisfactory album. N. H.

Ⓢ Ⓜ JOE PASS: *Simplicity*. Joe Pass (guitar). *You and Me; 'Tis Autumn; I Had the Craziest Dream; Nobody Else But Me; The Gentle Rain; Who Can I Turn To?; Luciana; The Sands of Time*; and three others. WORLD PACIFIC WPS 21865* \$4.79, WP 1865 \$3.79.

Performance: **Impeccable**
Recording: **Superb**

Joe Pass is a virtuoso guitarist who stirs memories of Django Reinhardt with his sensitive jazzy soul readings. There is no excuse for not being impressed and even moved by his playing. Listening to this romantic tour of lovely songs, fondled with great care in his musical hands, is an experience of intense and quiet joy. Nothing epic or baroque or even neurotic here. Just brilliance and beautiful playing by a guitarist of many dimensions and colors. Highly recommended. R. R.

Ⓢ Ⓜ PEACHES & HERB: *Let's Fall in Love*. Peaches & Herb (vocals); orchestra,

Bert Keyes arr. and cond. *Let's Fall in Love; Just One Look; Close Your Eyes; True Love*; and seven others. DATE TES 4004 \$4.79, TEM 3004 \$4.79.

Performance: **Ingratiating**
Recording: **Very good**
Stereo Quality: **Excellent**

These performances by Peaches and Herb are direct, simple, and uncomplicated. This modestly scaled and youthfully happy album is therefore a considerable success on its own unpretentious terms. Billed as "The Sweethearts of Soul," Peaches and Herb seem to have a very good time singing together, and their enthusiasm is infectious. My favorite band was the title tune, but there were several others, such as *Close Your Eyes*, which I found delightful. This disc is highly recommended to all who are slightly weary of the bloated quality of so many current pop albums. P. R.

Ⓢ Ⓜ MICHEL POLNAREFF: *French Rock-Blues*. Michel Polnareff (vocals); orchestra. *Beatnik; L'Oiseau de nuit; Ballade pour toi; La Poupee qui sait non; Time Will Tell*; and six others. KAPP FCS 4240* \$4.79, FCL 4240 \$3.79.

Performance: **Terrifique!**
Recording: **Excellent**



LONDON'S "PHASE FOUR" SPECTACULARS

By PETER REILLY

LONDON Phase 4 records, the creation and the product of the American division of London Records, is a series designed to overlap the classical and popular music fields and to emphasize spectacular sound. Phase 4 started out some years ago with, if I remember correctly, the idea of reproducing the sounds of musical instruments in motion—an entertaining but perhaps not ultimately very fruitful field. That idea, with its limitations, has since been abandoned, and Phase 4 producers are now exploring both more sedentary (if no less spectacular) techniques and the meaningful and entertaining use of sonic movement in a better way: through reproduction of actual motion-filled events on records.

At least two of the current crop of Phase 4 releases—"Bullfight!" and "Circus Spectacular"—are pluperfect examples of the latter approach, and if anybody right now is taking this year's nominations for The Sound You Simply Must Hear, my vote is in. It is the sound of Carlo, The Human Cannonball, being fired with an ear-shattering roar of explosives out of one speaker and landing with a spectacular kerplunk in the other. Carlo's non-stop odyssey in "Circus Spectacular" wins hands-down over such other big-top attractions as Vandemeer's Seals; Tina and Her Waltzing Palominos; Pierre Gamoullian, who walked a

squeaky tightrope across my living room and then bicycled back; Madame Daimler and Her Dogs; and even over Hans Viktor, who talks to his Bengal tigers in a sinister German accent. "Circus Spectacular" is a wholly delightful album, and I recommend it highly. It ought to find a place in survival-kit equipment for parents stranded indoors with their progeny over a rainy weekend.

What is particularly good about "Circus" is that this re-creation of an actual event is accomplished with a complete consistency of approach and presentation. A large part of this consistency is owing to the presence of Ringmaster Harold Ronk, who explains what the listener is hearing, and to the spirited contributions of Merle Evans, conductor of the Ringling Brothers Barnum and Bailey circus band. The same cannot be said for "Bullfight!"; however—though it has its moments (that bull is rampaging practically on top of your shoeshine), it is lacking in side-to-side continuity. While the first side is devoted to the noisy sounds and music of an actual bullfight, the second is a radical about-face, being merely a collection of Spanish light classical music in traditionally lush arrangements. The crowd noises all through "Circus" and the one side of "Bullfight!" have been expertly handled, I might add,

and contribute much to the sense of excitement and actual participation.

Consistency of another sort is apparent in "Two Pianos in Hollywood," a box of one-flavor bon-bons played with enough bland schmaltz by Ronnie Aldrich (both pianos, by the way, are his) to satisfy even the ghost of Victor Young. "Heath vs. Ros Round 2" is the sort of sound-spectacular demonstration record, with scant musical content, best reserved for giving your equipment a workout—and with which, incidentally, London's Phase 4 Stereo, along with Command and Project 3, has regularly enjoyed great commercial success.

"FRANCE," with Stanley Black, his orchestra, and choruses (they sound as if they might number in the thousands), is, however, a rather uneasy compromise. Simply injecting a few Paris street sounds at random into a gigantic orchestral fabric does not, I fear, a listening experience make. I found "France" to be the least interesting—in some instances it was actively annoying—album of the group.

London's claim that "Phase 4 Stereo . . . is a marvel of sound" is not an idle boast. The sound is superb. I found it, particularly in the big orchestral sections, just a shade ahead of almost everyone else's in that particular silken sheen and depth that

I have no idea where Michel Polnareff stands in the pantheon of French rock, but if there is any justice, he should be well toward the top. He is good, and more important he is fun to listen to. In *Love Me, Please Love Me*, for instance, he yodels with the authority of a *Kammersänger* of the Grand Ole Opry, and in *Time Will Tell* his English is considerably better than that of many of the recent British groups. Prepare to have a good time with this one—it's for everyone, with or without a knowledge of French.

The liner notes are free-form Dylan-dreary doggerel. However they turned up one bit of information which gave me pause: that is that Polnareff has been "le beatnik since three." As this album proves, there's nothing like an early start. P. R.

RECORDING OF SPECIAL MERIT

Ⓜ YVONNE PRINTEMPS AND SACHA GUITRY: *Recital*. Yvonne Printemps, Sacha Guitry (vocals); orchestra, Marcel Cariven cond. Selections from *L'Amour masqué*; Mozart; *Mariette*; *La Grand Duchesse de Gerolstein*; and four other songs. PATHÉ FALP 50040 \$4.79.

Performance: Incomparable
Recording: Good

(Continued on next page)

have always seemed to me to be a unique characteristic of London recordings. The surfaces are incredibly quiet (another London specialty), and the packaging is colorful, lavish, and nicely informative about the technical aspects of the recordings. Unfortunately, The Human Cannonball seems to have been too busy to have his picture taken for the "Circus" album, but then I hear he's been having these awful headaches lately. . . .

Ⓢ RONNIE ALDRICH: *Two Pianos in Hollywood*. Ronnie Aldrich (two pianos); unidentified orchestra. *Lara's Theme*; *The Bible*; *More*; *Limelight*; *Moulin Rouge*; *Strangers in the Night*; and six others. LONDON Phase 4 Stereo SP 44092 \$5.79.

Ⓢ STANLEY BLACK: *France*. London Festival Orchestra and Chorus, The Mormon Choir Of England, Stanley Black cond. *I Love Paris*; *La Mer*; *Plaisir d'Amour*; *La Marseillaise*; *La Normandie—Can Can*; and six others. LONDON Phase 4 Stereo SP 44090 \$5.79.

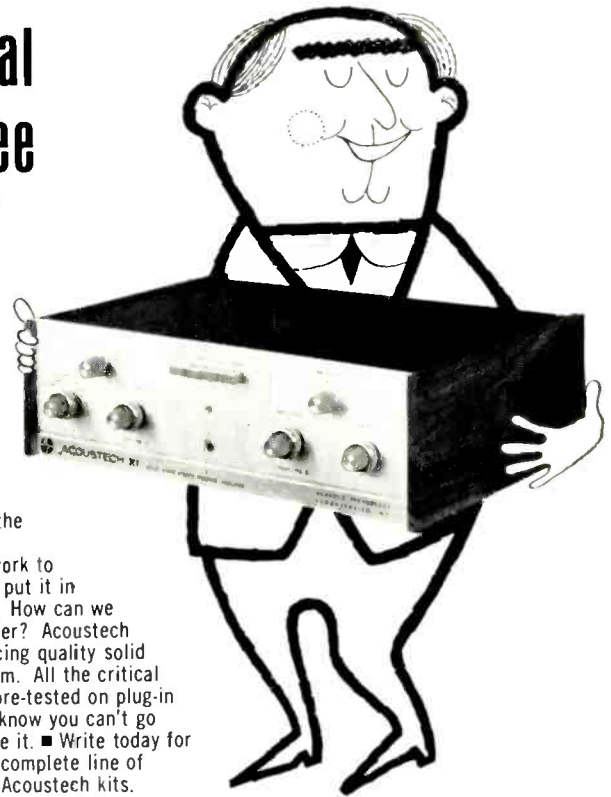
Ⓢ MERLE EVANS: *Circus Spectacular*. Circus band, Merle Evans cond. *Marche Indienne*; *Trombone Blues*; *Jungle Queen*; *I'm Flying High*; and fourteen others. LONDON Phase 4 Stereo SP 44095 \$5.79.

Ⓢ ROGER LAREDO: *Bullfight!* Unidentified orchestra, Roger Laredo, musical director. *Macarena*; *El Gato Montes*; *Rumba Flamenco*; *Ritnal Fire Dance*; and seven others. LONDON Phase 4 Stereo SP 44082 \$5.79.

Ⓢ TED HEATH AND EDMUNDO ROS: *Heath vs. Ros, Round 2*. Ted Heath and his orchestra; Edmundo Ros and his orchestra. *Granada*; *Daddy*; *Begin the Beguine*; *Tiger Rag*; and seven others. LONDON Phase 4 Stereo SP 44089 \$5.79.

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During a performing career that began early in the second decade of this century (her debut was in a little item titled *Alors, les belles nichous!*) and lasted until only a few years ago, Yvonne Printemps inspired the sort of praise from her theatrical peers, and the sort of unswerving adoration from the French public, that few actresses or singers have had the good fortune to enjoy. To the French and, in many ways, to Sacha Guitry (who wrote many of the operettas excerpted here and co-starred with Printemps in them), she was the legitimate successor to the legendary Hortense Schneider for whom Offenbach composed *La Belle Héloïse* and for whom Napoleon III openly acknowledged his admiration.

That Printemps was able to create her own legend is amply evidenced by a quote from Francis Poulenc reproduced on the back of this album. In part Poulenc says: "It was in *Jean de La Fontaine* [that I first heard her]. She sang the famous air by Lully, *Revenez, Amour, Revenez*. It was literally divine. I thought then, as I still maintain, that it is not necessary to interpret ancient music with the pedantry of a musicologist in order to do it properly. Yvonne Printemps sings as she breathes, as she lives. . . . One should not think, however, that, like some bird-of-paradise, she is not in control of what she is doing. On the contrary, I know of few artists who direct their instincts with such certainty—and it is there that the secret of her enduring enchantment lies. Yvonne Printemps, who could have done an incomparable *Manon*, *Louise* or *Traïts*, decided otherwise; instead she lavished her exceptional vocal gifts upon the world of operetta. But like her good friend André Messager she elevates the operetta form to heights previously unattained. If I look for one of her essential qualities in technical terms I think immediately of course of her sense of *legato*, so rare among female singers. This *legato*, which one can only maintain with impeccable breath control, gives to everything Yvonne Printemps interprets an incalculable human value. She transfigures everything she touches. . . . A recording by Yvonne Printemps holds a hypnotic fascination for me. Those recordings that I actually possess I play and replay as compulsively as lovers kiss the photographs of loved ones."

Everything that Poulenc says can be verified on hearing this album. My own particular favorites are the excerpts from *Mozart* which Guitry wrote with Reynaldo Hahn; the scene that comes at the end of the second act of *Mariette* (by Guitry and Oscar Straus) in which Printemps turns her spoken lines "Non, non, non," gradually into a sweeping waltz song, and the two songs by Lully *Ariette de Clovis* and *Au Clair de la lune*. In these last two songs Printemps displays all the personal style that so excited Poulenc.

Guitry, aside from his duties as vehicle writer for his wife, makes a very grand acting partner for Printemps. His voice rolls out majestically, speaking some of the most beautiful French I have ever heard, but I find him a trifle too stylized. The Guitry-Printemps alliance had many of the aspects of the Burtons' today, and during the fourteen years of their marriage they stood practically at the pinnacle of popular French theater. It is easy to understand why. Even on records they project a shimmering theatrical glamour which has all but disappeared. The music heard here is not of very much consequence,

but the performances are in the great tradition. For those with even a small amount of Francophilia this recording could be sold at double its price and still be very much a bargain. P. R.

Ⓢ Ⓜ SANDY AND DONNA RHODES: *The Lonesome Rhodes*. Sandy Rhodes (vocals and guitar), Donna Rhodes (vocals); orchestra. *The Last Thing on My Mind*; *Fully Prepared*; *Love Is*; *I Wanna Be Free*; *Not This Time*; and seven others. RCA VICTOR LSP 3759 \$4.79, LPM 3759 \$4.79.

Performance: Very good
Recording: Good
Stereo Quality: Good

If you remember, the last time we dropped in on Skeeter Davis she was complaining about the loneliness and heartbreak of stardom. Well, Skeeter has decided to take a more positive view of things; this month she



YVONNE PRINTEMPS
Shimmering theatrical glamour

is acting as a talent scout and authoress of liner notes. In these notes she introduces us to Sandy and Donna Rhodes, whom she discovered two years ago in Memphis.

It was a fortunate discovery. Sandy and Donna Rhodes are very good. Their voices make a taut blend, and Sandy is an exceedingly fine guitarist. They have a young, fresh sound, and in songs such as *Love Is* and *Blowin' in the Wind* they display enough expertise to lead one to believe that they might be able to make the big jump from country-and-western to pop music. Perhaps just because of their youth and freshness, I did not particularly care for them in such samples of Nashville worldliness as *Make Like the Wind (and Blow)* or *I Can't Grow Peaches on a Cherry Tree*. I think songs like that might be better left to more sophisticated types like Skeeter.

In any event, I enjoyed Sandy and Donna Rhodes, and I'm mighty glad Skeeter found them. P. R.

Ⓢ Ⓜ MONGO SANTAMARIA: *Mongo-mania*. Hubert Laws (flute, tenor saxophone); Bobby Capers (alto, baritone saxophone); Ray Maldonado, Fred Hill (trumpets); Wayne Henderson (trombone); Rodgers Grant (piano); Victor Venegas (bass); Carmelo Garcia (drums); Sandra

Crouch (tambourine); Marty Sheller (cowbell); Mongo Santamaria, Cuco Martine (percussion). *I Wanna Know*; *The Goose*; *Funny Man*; *Melons*; and six others. COLUMBIA SC 9412 \$4.79, CL 2612 \$4.79.

Performance: Exuberant
Recording: Excellent
Stereo Quality: Very good

Mongo Santamaria has fused the Latin-American and jazz idioms into a celebratory style that stirs both body and spirit. The individual horn solos don't bear particularly close analysis from a jazz perspective, but the ensemble feeling and the rhythmic thrust lift the group and the listener into transitory euphoria. That's what the man intends, and since that's what he accomplishes, this review ends here—except for a note of commendation for the uncredited engineer who has retained the full, bristling presence of these revelers. N. H.

Ⓢ Ⓜ PETER WALKER: *Rainy Day Raga*. Peter Walker (guitar); Monte Dunn (second guitar); Jeremy Steig (flute); Alex Lukeman (twelve-string drone); Bruce Langhorne (tambourine and bells); Jean-Pierre Merle (tamboura); Peter Winters (om). *Morning Joy*; *Rainy Day Raga*; *White Wind*; *Bianca*; and six others. VANGUARD VSD 79238 \$4.79, VRS 9238 \$4.79.

Performance: Excellent
Recording: Very good
Stereo Quality: Excellent

Since the back of "Rainy Day Raga" bears the encomium "Peter Walker plays on the ancient protein strings of the genetic code" from Timothy Leary, for whom Peter Walker serves as musical director at Leary's "celebrations," I naturally did the hip thing. I put on my psychedelic, kaleidoscopic glasses and ate the cover. Only when I was halfway through did I realize that it really was only a record jacket. (Well, I mean, you hear so much about "acid" treated postage stamps and dollar bills and all that. . . .) Luckily the half of the cover that I ate did not include the liner notes so at least I can fill you in on some of the specifics of an album that is extremely pleasant, and occasionally quite beautiful, listening.

"Raga," say Mr. Walker's liner notes, "employs the Indian concept of starting with a drone, adding a scale based on the drone, then a melodic line based on the scale, then weaving, reweaving, and interweaving the melodic line so that a freely improvised piece is constructed. When playing ragas on the guitar, my approach is to set up a drone pattern usually based on the first, fifth and fourth intervals of a western scale, and when I feel that steady pulse of the drone has been established, to work in a melody line based on a popular American folk song, or just any melody line that I find appealing." Later on Mr. Walker says, "An analogy would be that of a person trying to run backwards up a slide, resting between attempts, each time getting closer to the top, and finally running straight up and over."

I hope all that is quite clear to you, because I'm not quite sure that it is to me. As a listener I can say that Walker's performances and the ragas themselves tend to be moderately hypnotic and that the other members of the group perform admirably.

No dispute at all on one thing. The stereo version is absolutely the one you want. P. R.

JAZZ



RECORDING OF SPECIAL MERIT

⑤ ① LOUIS ARMSTRONG: *Louis Armstrong's Greatest Hits*. Louis Armstrong (vocals), with various jazz groups. *Mack the Knife*; *Black and Blue*; *Ain't Misbehavin'*; *Basin Street Blues*; *Cabaret*; *When It's Sleepy Time Down South*; *Indiana*; *Struttin' with Some Barbecue*; and three others. COLUMBIA CS 9438 \$4.79, CL 2638 \$4.79.

Performance: Easy to take
Recording: Good
Stereo Quality: Good

This is really a marvelous collection of Satchmo's hits, ranging from his original recordings of *Black and Blue* and *Ain't Misbehavin'* (done as memorial tributes to Fats Waller on an album no longer in print) to his recent hit recording of the title song from the Broadway show *Cabaret*. Little has happened to the voice in the years between, except that it has become more gravelly, less distinct, and consequently even truer to the mood evoked by Louis' early days with the Hot Five. Nostalgia creeps into his touching rendition of *Basin Street Blues*, and one can almost see the tears filling his half-closed eyes as he remembers New Orleans' Storyville, now replaced by a cheap housing project. And the positively historical *Struttin' with Some Barbecue* never sounded bouncier than it does in this recording from a 1956 jazz concert featuring Louis' All-Stars and narrated by Helen Hayes. (*Helen Hayes?*) There's no need to go into the individual merits of the numbers included; they are all classics, and they are all worth having in any serious collection of popular music. This is a recording that will never grow old or lose its importance. R. R.

RECORDING OF SPECIAL MERIT

⑤ ① ORNETTE COLEMAN: *The Empty Foxhole*. Ornette Coleman (alto saxophone, trumpet, violin), Charles Haden (bass), Ornette Denardo Coleman (drums). *Good Old Days*; *The Empty Foxhole*; *Sound Gravitation*; *Freeway Express*; *Faithful*; *Zig Zag*. BLUE NOTE BST 84246 \$5.79, BLP 4246* \$4.79.

Performance: Masterly
Recording: Excellent
Stereo Quality: Very good

Nobody laughs at Ornette Coleman any more or accuses him of putting listeners on. The man who detonated fierce polemics in 1959 and 1960 is now acknowledged internationally as an alto saxophonist and composer of rare stature and wide-ranging influence. This session, his first in a studio in four years, demonstrates his increasingly economical and stunningly complete alto artistry. By "complete" I mean Coleman's suc-

cess at creating a personal language in which his rhythms are as pliable as his melodic forms. Also evident here is his growing confidence on violin and trumpet (his use of a mute on the latter is particularly evocative in *Faithful*). And Coleman's compositions continue to be fresh in conception and absorbing in development. Bassist Charles Haden, who was with him in 1959 and 1960, remains in full empathy with Coleman's musical intentions and has the technique necessary to be as meaningfully free as Coleman is. On drums is Coleman's ten-year-old son, and this is not a case of intrusive nepotism. The boy's sense of time is remarkably advanced; and, more to the point of this album, he feels time as his father does, so this really is a trio. Coleman, incidentally, recently became the first jazzman to receive a Guggenheim grant in composition. This kind of recognition has been far too long in coming to jazz composers, but at least the initial choice couldn't have been sounder. N. H.

⑤ ① ELLA FITZGERALD AND DUKE ELLINGTON: *At the Côte d'Azur*. Ella Fitzgerald (vocals); Duke Ellington (piano); Duke Ellington Orchestra and the Jimmy Jones Trio. *Mack the Knife*; *Lullaby of Birdland*; *Misty*; *All Too Soon*; *Jazz Samba*; *Diminuendo in Blue*; *The Old Circus Train Turn-Around Blues*; *It Don't Mean a Thing if It Ain't Got That Swing*; and seven others. VERVE 2V6 4072 two discs \$5.79, 2V 4072 \$5.79.

Performance: Polished but familiar
Recording: Excellent
Stereo Quality: Excellent

The best thing about this album, recorded "live" at a concert on the French Riviera in 1966, is its price. For the price of only one record, you can get four pleasant if unexciting sides of free-wheeling jazz. Ella and Duke don't break any new ground here, nor do they do anything unexpected. But there is some darn good listening.

At the risk of being stoned to death by angry Ella fans the world over, I must admit that the First Lady of Song has never really knocked me out. She has always seemed to me a great singer of songs, but never a great interpreter of them. I prefer the latter. Because she simply never seems to demonstrate a head for music (only a driving technical skill at vocal fireworks), I can dismiss all three of her ballads on this album. None of them are very interesting—they are totally predictable. Also, she doesn't seem to work very well with the Ellington band. She is much more at home with the Jimmy Jones Trio. In the up-tempo groove, however, I have never heard her in better voice than in *Jazz Samba*. Here she sounds like an entire rhythm section going at once, and it is especially interesting to hear her voice take on the inflection of brush drums. The lady is a study in control. Too bad the lyrics never take on much meaning. On other songs, she sounds relaxed and groovy, but I'm pretty tired by now of her Armstrong imitation on *Mack the Knife*.

For the Ellington band, there is one high point: the first recording I've heard in years of the old Ellington triumph *Old Circus Train Turn-Around Blues*, featuring some magnificent sax work by Johnny Hodges. Few of the other soloists are identified. Pity, because there is some bravissimo trumpet



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work in *The Matador* and some piano calisthenics early-on in *Circus Train* that swing too much to be the Duke himself. R. R.

Ⓢ Ⓜ CHICO HAMILTON: *The Dealer*. Chico Hamilton (drums), Arnie Lawrence (alto saxophone), Larry Coryell (guitar), Richard Davis (bass), Ernie Hayes (organ), Archie Shepp (tenor saxophone). *For Mods Only; A Trip; Larry of Arabia; Thoughts*; and three others. IMPULSE AS 9130 \$5.79, A 9130* \$5.79.

Performance: Stimulating
Recording: Excellent
Stereo Quality: Very good

Chico Hamilton is a combo leader who keeps himself and his music alert by frequently introducing new instrumental voices on his recordings. Two such are on this session. Alto saxophonist Arnie Lawrence is flexible and reasonably inventive, and he gives promise of developing a uniquely lyrical quality. Guitarist Larry Coryell, twenty-three, is already a strongly personal force, and his performances reveal sweeping warmth, rhythmic depth, and the ability to create and sustain excitement. Coryell, who has also recorded in a folk-rock context with the *Free Spirits*, is one of an increasing number of young musicians who move easily between the jazz and new pop fields. The most impressive musician on this date, however, is established bassist Ron Carter, whose work is enough to make this album worth many hearings. Credit is also due composer-arranger Jimmy Cheatham, who helped devise three of the tracks. And, of course, the leader should not be slighted, for it is Hamilton who has fused these elements into a flowing session of substance and grace. N. H.

RECORDING OF SPECIAL MERIT

Ⓢ Ⓜ OLIVER NELSON: *Sound Pieces*. Oliver Nelson (soprano sax); jazz orchestra and trio. *Flute Salad; The Shadow of Your Smile; Sound Piece for Jazz Orchestra; The Lady from Girl Talk; Patterns; Elegy for a Duck*. IMPULSE AS 9129 \$5.79, A 9129* \$5.79.

Performance: A knockout
Recording: Excellent
Stereo Quality: Excellent

Anyone worried about the stagnant state of jazz is urged to listen to Oliver Nelson. Although he has been spending a lot of time lately arranging for singers such as Jackie and Roy, he has nevertheless harbored a truly important talent as an instrumentalist in his own right. In this rich and welcome set, he proves it. He works in blinding colors, which he embroiders into his themes, all of which are of his own composition (with the exception of Johnny Mandel's *Shadow of Your Smile*, taken at a faster trot than Stan Getz's but with equal success). Take, for instance, *Patterns*. I see bright deceptive blue. This is one of the most singularly breathtaking pieces I've heard in recent memory. Time and rhythm are thrown to the wind, yet Nelson always seems to know exactly where he is. Steve Kuhn's piano drives me wild. *Patterns* is almost impossible to listen to sitting down. I paced the room and smoked seven cigarettes while it was playing.

On the big-band stuff, Nelson drives relentlessly in bright reds and yellows on *Sound Piece*, which I once heard the Kenton

band perform in Hollywood. It is more exasperating in the Nelson treatment, and less musical, but a good example of Nelson's kind of semi-classical writing with straight, driving jazz lines interwoven throughout. *Flute Salad* features some stunning work by Conte Condoli (where's he been?) in an atmosphere of pure, melodic, windswept Kelly green. This is one of the most delightful themes in any collection to date. *The Lady from Girl Talk*, the theme Nelson wrote for Virginia Graham's TV show, is a free-wheeling, full-bodied work that flows like liquid amber. It has smashing work by Shelly Manne on drums and a great pianist named Mike Melvoin.

Oliver Nelson on sax sounds as though he thinks high. His cool, masculine soprano is wailing up there in the clouds, but his feet are firmly on the ground. R. R.



OLIVER NELSON
Blinding colors on the soprano sax

COLLECTIONS

Ⓜ THE PANASSIÉ SESSIONS. Sidney Bechet (soprano saxophone), Pete Brown (alto saxophone), Tommy Ladnier, Sidney De Paris, and Frankie Newton (trumpet), Mezz Mezzrow (clarinet, tenor saxophone), Teddy Bunn (guitar); others. *Weary Blues; Revolutionary Blues; Rosetta; The World is Waiting for the Sunrise*; and twelve others. RCA VICTOR LPV 542 \$5.79.

Performance: Ardent
Recording: Good

Another valuable addition to RCA Victor's Vintage series, the bands on this disc are dates supervised by the French jazz critic Hugues Panassié in 1938 and 1939. Aside from the presence of the passionately commanding Sidney Bechet, the sessions are of particular value for the blunt yet lyrical trumpet of Tommy Ladnier, the subtlety of guitarist Teddy Bunn, and the incisive clarity of trumpeter Frankie Newton. Also evident is the often unacknowledged fact that Mezz Mezzrow, best known these days as a chronicler of the period, could occasionally play a better than acceptable jazz clarinet. Two tracks are among the most moving in the jazz discography: *Really the Blues* and *If You See Me Comin'*, the latter with a vocal by Teddy Bunn. N. H.

SPOKEN WORD



Ⓢ Ⓜ GEORGE CARLIN: *Take-Offs and Put-Ons*. George Carlin (comedian). RCA VICTOR LSP 3772 \$4.79, LPM 3772* \$4.79.

Performance: Conscientious
Recording: Good
Stereo Quality: Wasted

Mr. Carlin's territory, like Marshall McLuhan's, is communications, but what the latter attempts to penetrate by flashes of insight, the comedian seeks to explicate through simple parody. He writes the stuff he performs, and his close studies of disc jockey programs, soap operas, newscasts, and Westerns are certainly a cut above other efforts in this bailiwick. The trouble is that it's practically impossible to burlesque what is an absurdity in the first place, and the performer seems to grow desperate at times in his crusade to convey the essence of what is ridiculous in television commercials about toothpaste, news bulletins of disasters that must await disclosure until the end of an entertainment show, and those daytime hospital series that wallow endlessly in suffering. In his effort to convey his message, Mr. Carlin spells out not only a whole top-forty radio broadcast, impersonating all the hit records himself, but also re-enacts an entire six o'clock news broadcast from headline to weather report and the complete plot of a Western. The results are not unfunny, but if you really want to laugh, there is still nothing to compete with the originals. P. K.

Ⓢ Ⓜ BARBARA GARSON: *MacBird!* Original-cast recording. Dalton Dearborn, Jennifer Darling, Cleavon Little, Tony Capodilupo, Paul Hecht, William Devane, John Pleshette, Stacy Keach, David Spielberg, Joel Swick, Deborah Gordon, Rue McClanahan, John Clark (players); Roy Levine, director. John Duffy, songs and music. EVERGREEN RS 0004 two discs \$9.50, RM 0004 \$9.50.

Performance: Crude
Recording: Fair
Stereo Quality: Blustery

A couple of years ago the producers of *The Loved One* advertised it as a movie with something in it to "offend everybody." What, then, is one to say about this shabby political parody of Shakespeare? With me, it was hate at first sight when I read the four-act version of it in pamphlet form a year ago. The performance at the Village Gate in New York, of which this recording is an all-too-faithful mirror, is based on a revised script in three acts to which some extra scenes have been added, and it is even more hateful. If it is a funny joke to spin out for several hours a juvenile take-off on *Macbeth* in which the deaths of John Kennedy and Adlai Stevenson and the airplane accident that broke the back of Edward Kennedy are all attributed outright to a conspiracy led

by Lyndon Johnson, then I have no sense of humor. If it is witty to stir up mindless haphazard paraphrases from Shakespearean speeches with current vernacular in a hit-or-miss attack on every aspect of our domestic and foreign policy, then I am impervious to wit. It seems to me that the bigger the target, the more formidable must be the weapons and the more adroit the marksmanship of the attacker. But Miss Garson swings wild, plucking from a shabby arsenal the old half-truths of totalitarian tactics. She has no ear, no talent for construction and, of course, no taste. You might expect them to swallow this stuff in Moscow or in brain-washed Peking, but I am surprised that the technique got as far as it did over here.

The cause of *MacBird* is not helped much by its cast, for the acting is as heavy-handed as the text. The witches stir up a certain devilment, but Stacy Keach's rude approximation of Johnson's voice in the title role, Paul Hecht's non-impersonation of our late President, and Rue McClanahan's comedy-hour assault on Lady Bird's drawl vie for honors in ineptitude through endlessly drawn-out scenes. As "Robert Ken O'Dunc," William Devane comes through with some fairly expert mimicry in his final speeches, but it's too late by then to save one more sophomoric performance from tedium. Except for some amusing echoes of Shakespearean "hautboys" the music is raucous, the recording only fair. You don't have to be a hawk to hate *MacBird*!

P. K.

RECORDING OF SPECIAL MERIT

Ⓜ SEAN O'CASEY: *Juno and the Paycock*. Siobhan McKenna, Cyril Cusack, Marie Kean, Seamus Kavanagh, and others; Cyril Cusack, director. SERAPHIM 1B 6014 two discs \$4.98.

Performance: Incomparable
Recording: Excellent

"The whole world's in a terrible state of chassis" is the final and far-famed outcry of "Captain" Jack Boyle, the irresistible and irredeemable hero of *Juno and the Paycock*, and although this line and the scene that goes with it are unaccountably missing from this low-price reissue of a famous Angel (they were missing in the original issue too), it is good to have the rest of O'Casey's masterpiece back in the catalog. The play stems from the realistic, or Dublin tenement, period in the Irish playwright's development, before he went all metaphysical and symbolical in *Within the Gates*. Some churlish critics, like St. John Ervine, accused O'Casey of stooping to the baggy-pants routines of vaudeville to achieve his effects in *Juno*, but the play would hardly be endurable without its devastating comedic tone, set as it is in an atmosphere of hunger, poverty, squalor, and the heartbreak of young men maimed or dead in the Irish civil war of the early Twenties.

The "message" of *Juno and the Paycock*, that there must be an end to "murderin' hate," is made bearable by the humanity and reality of its development; it is a play that almost literally laughs itself to death. As for the performances in this album, they are adroit and appropriate almost beyond belief. Miss McKenna has more than once earned the world's acclaim as the aptly-named Juno, and she is supreme on these discs. Cusack is in every essence the escapist scalawag Boyle,

and all proud playwright instructed the text distributed lumped that is a derful ov

RECORDING OF SPECIAL MERIT

Ⓜ TENNESSEE WILLIAMS: *The Rose Tattoo*. Maureen Stapleton, Harry Guardino, Maria Tucci, Christopher Walken (players); Milton Katselas, director. CAEDMON three discs TRS 324 stereo or mono \$18.85.

Performance: Impassioned
Recording: Superb
Stereo Quality: Intelligent

Despite the heavy roseate symbolism hanging over it like the odor of cheap cologne (the heroine's husband is Rosario Delle Rose, who has a rose tattoo on his chest and wears oil of roses in his hair; his daughter is Rosa; she comes back from her graduation with a bouquet of roses, etc.—it's enough to start an allergic sneezing from rose fever), this tragicomedy about a repressed Sicilian woman in a Southern town remains one of the playwright's surest contributions to the contemporary stage. Serafina, with her bitter humor, her raucous energy, and the conflict that rages in her between piety and passion, is among the most convincing in the Williams gallery of troubled heroines. Her efforts to keep her daughter innocent and to deny the glaring evidence of her dead mate's infidelity while she succumbs to the charms of a well-meaning slob named Mangelcavallo ("A clown of a face like that," Serafina exclaims, "with my husband's body!") keep one on the thin edge between tears and laughter until the final seconds of the play's unexpectedly happy ending.

The current recording has the advantage of Maureen Stapleton's presence in the role of Serafina, to which she brings (as she did on the stage) the full measure of her wide-ranging gifts, transforming Serafina from a merely plausible study to a full-blown woman whose over-emotionality can incite our scornful mirth and seconds later bring us to our spiritual knees in admiration of her strength and resiliency of spirit. Harry Guardino is well cast also as the loud-mouthed but curiously sensitive truck-driver Mangelcavallo. Here Maria Tucci as the love-struck daughter Rosa and Christopher Walken as her sailor boy-friend seemed to me more real, under Milton Katselas' exacting direction, than the youngsters who originally played these roles on Broadway.

If there is any fault to find with the album, it is in the nature of the play itself—one of those atmospheric dramas which rely heavily on lighting and visual effects. The director has given the production a generous adornment of music for atmosphere, offstage voices and sound effects to suggest the life of Serafina's neighborhood, yet, for all the care with which they are stirred into the story, the action is frequently confusing, especially in the early scenes. A text would have been helpful, but none is provided, although there are handsome photographs of the set and scenes from the play in the accompanying booklet.

P. K.

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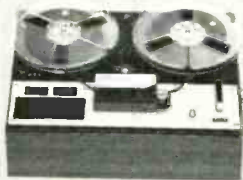
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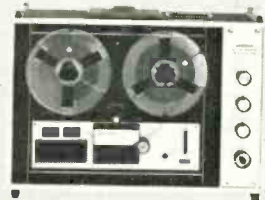
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HIFI/STEREO REVIEW'S CHOICE OF THE LATEST RECORDINGS

STEREO TAPE

Reviewed by DAVID HALL • REX REED • PETER REILLY • ERIC SALZMAN

RECORDING OF SPECIAL MERIT

Ⓢ GERSHWIN: *Porgy and Bess* (*Symphonic Suite arranged by Robert Farnon*). London Festival Orchestra, Robert Farnon cond. LONDON LCL 75013 \$7.95.

Performance: Glittering
Recording: Excellent
Stereo Quality: Excellent
Speed and Playing Time: 7½ ips; 34' 07"

This tape, one of the London Phase 4 Concert Series, is the most effective recorded performance, sonically, of Gershwin's great score that I have yet heard. The "symphonic suite" that Robert Farnon has fashioned out of Gershwin's truly inspired music for *Porgy and Bess* is also a highly impressive piece of work. Farnon has had the laudable good taste (and sense) to let the music speak for itself and has not taken it upon himself to "rearrange" and "re-interpret" these immortal melodies at the composer's, and of course the listener's, expense.

Although I hadn't really listened to a complete performance of *Porgy and Bess* in any version for quite some time, I was quickly struck again by the incredible stream of consistently melodic musical ideas of which Gershwin was capable. And to realize that in his time he was only one of several great melodists, while we live in a time when there are perhaps just one or two, is a singularly depressing thought.

The production and engineering of this tape are immaculate and the liner notes by Robert Sherman are probably as good as liner notes can be. P. R.

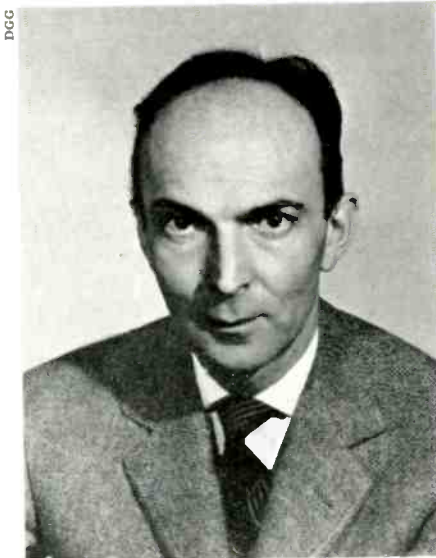
Ⓢ SHOSTAKOVICH: *Symphony No. 5, in D Minor, Op. 47*. Moscow Philharmonic Orchestra, Kiril Kondrashin cond. MELODIYA/ANGEL ZS 40004 \$7.98.

Performance: The Russian way
Recording: Big sound
Stereo Quality: Pronouncedly directional
Speed and Playing Time: 7½ ips; 41' 45"

Kiril Kondrashin takes a taut view of both the opening movement and the slow movement of Shostakovich's Fifth, as opposed to the broader and more lush approach of Bernstein (on Columbia tape) or Previn (on an RCA disc). Musical architecture seems to be the conductor's primary consideration here. His scherzo and finale, on the other hand, are considerably more deliberate, and the hand-

ling of the imposing fanfare transformation of the finale's main theme that concludes the work is radically different from the American performance tradition, which prescribes that the tempo be accelerated (as directed by the metronome marking in the score) immediately after the six-bar *molto ritenuto* that prepares the way for the last pages. Kondrashin, in company with Mravinsky and the Leningraders (once to be heard on an old Vanguard disc), sticks to the tempo slow-down emerging from the *ritenuto*, and thus broadens out the fanfare to Brucknerian dimensions.

To my way of thinking, this approach



IGOR MARKEVITCH
Slavic soul for Tchaikovsky's Manfred

paints the lily, making an already pompous ending all but unbearably ponderous. On the other hand, I feel that Bernstein's high-speed treatment is almost hysterically frenetic.

All things considered, I find this Melodiya/Angel tape of value chiefly as a documentation of the Russian way of playing what has proved to be a highly effective and durable repertoire work. The Moscow Philharmonic is no match for the New York Philharmonic or London Symphony in matters of ensemble and precision of intonation; but the recorded sound in its brash way is highly effective, especially in the directional effects achieved in dialogue episodes between high and low strings. All told, I'd pick the André Previn RCA disc as the best currently available recorded performance of the Shostakovich Fifth, with Bernstein's the best of the four-track tape versions despite the reservation noted above. D. H.

Ⓢ TCHAIKOVSKY: *Manfred* (*Symphony after the dramatic poem of Byron*), Op. 58. London Symphony Orchestra, Igor Markevitch cond. PHILIPS PTC 900110 \$7.95.

Performance: Tchaikovskian
Recording: Effective
Stereo Quality: Good
Speed and Playing Time: 7½ ips; 53' 11"

Berlioz's *Havold in Italy*, which had a great success in Russia, inspired the critic Vladimir Stasov to dream up another Byronic program—complete with *idée fixe* and final orgy of the infernal spirits—which the composer Balakirev passed on to Tchaikovsky who, somewhat hesitatingly, used it. The work, *Manfred*, once had a certain popularity, but it does not turn up very often nowadays, and it has been rather severely criticized, not entirely without justice. Still, except for the last movement (Tchaikovsky's heart was obviously not in the orgy), is not conspicuously weaker than other works of the same vintage; some of the ideas have wistful charm, and the *idée fixe* itself was a marvelously ingenious and effective dissonant harmonization. The colorful orchestration is well handled. The balletic middle movements are particularly successful here under Igor Markevitch's direction; but he does stumble over the difficult finale. The playing is top-level English work. The musicians supply definition and tonal quality, Markevitch supplies Slavic soul, and this nicely takes care of the English-Russian sources of the work. The recording has a good basic acoustic, although a high hiss surrounds the sound. E. S.

COLLECTIONS

Ⓢ LEONARD BERNSTEIN: *The Sorcerer's Apprentice—Leonard Bernstein Plays for Young People*. Dukas: *The Sorcerer's Apprentice*. Moussorgsky: *Night on Bald Mountain*. Piston: *Suite from The Incredible Flutist*. Rossini: *William Tell: Overture (Finale)*. New York Philharmonic, Leonard Bernstein cond. COLUMBIA MQ 878 \$7.95.

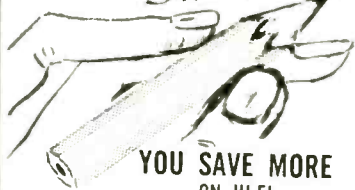
Performance: Bernstein rockets
Recording: Fancy
Stereo Quality: Effective
Speed and Playing Time: 7½ ips; 40' 30"

The first side of this tape is like a couple of reels from *Fantasia*. It was the Piston that I enjoyed the most. The performances are all Bernstein specials; I find them curiously fussy in certain details, but there can be no doubt that they give off vibrations. The tape dub is of fair quality, with deficiencies in the Dukas (where the timbral quality of the instruments and the texture and atmosphere

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- Ⓢ = stereophonic recording
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are especially important) and a noticeable amount of hiss. The basic recorded sound is lush but effective. E. S.

⑤ **ANDRÉ KOSTELANETZ AND HIS ORCHESTRA:** *Exotic Nights*. Guarneri: *Brazilian Dance*. Hovhanness: *Fantasy on Japanese Woodprints*. Moussorgsky: *Khovanschina: Dances of the Persian Slaves*. Miyagi: *Sea of the Spring*. Gotschalk (arr. Shanet): *A Night in the Tropics: Finale*. Albéniz: *Córdoba*. André Kostelanetz and his orchestra. COLUMBIA CQ 883 \$7.95.

Performance: Vivid
Recording: First-rate
Stereo Quality: Good
Speed and Playing Time: 7½ ips; 34' 51"

The free-wheeling Hovhanness and pioneering Gotschalk pieces are the prize items here. The prolific Scottish-Armenian-Bostonian Alan Hovhanness (b. 1911) has given us in his lengthy but intriguing *Fantasy* a most effective and dramatic East-meets-West opus, and New Orleans-born, Paris-trained Louis Moreau Gotschalk (1829-1869) is represented by a delightful study in Afro-Cuban rhythms that is a good seventy-five years ahead of its time.

The remainder of the pieces, including the one by Michio Miyagi from Japan, are relatively innocuous and unoriginal in terms of today's fund of common listening experience. The performances are for the most part vivid and virile, and the recording is excellent throughout. D. H.

RECORDING OF SPECIAL MERIT

⑤ **SABRE DANCE.** Khachaturian: *Gayne: Dance of the Rose Maidens; Sabre Dance; Masquerade; Galop*. Shostakovich: *The Golden Age; Polka*. Kabalevsky: *The Comedians; Galop*. Prokofiev: *L. Kijé; Troika*. Glière: *The Red Poppy; Russian Sailors' Dance*. Rimsky-Korsakov: *The Snow Maiden; Dance of the Tumblers; Christmas Eve; Polonaise*. Moussorgsky: *The Fair at Sorotchinsk; Gopak*. Tchaikovsky: *The Nutcracker; Trepak*. Borodin: *Prince Igor; Polortisian Dances*. Philadelphia Orchestra, Eugene Ormandy cond. COLUMBIA MQ 888 \$7.95.

Performance: Spirited
Recording: Sumptuous
Stereo Quality: A-one
Speed and Playing Time: 7½ ips; 39'

This is a fine collection of Russian "lollipops," with the *Prince Igor* dances being the only extended item and the luxuriant *Polonaise* from Rimsky's opera *Christmas Eve* being the only offbeat one.

Ormandy excels in this sort of thing—especially in items like the *Sabre Dance*, Rimsky-Korsakov's *Tumblers' Dance*, and Glière's *Sailors' Dance*, where he can bring a good bit of his own Hungarian verve into play. For once, the performances do not sound merely slick. There is lots of spirit here, backed by superb ensemble precision and first-rate recorded sound. D. H.

ENTERTAINMENT

⑤ **LOU CHRISTIE:** *Painter of Hits*. Lou Christie (vocals), unidentified vocal group and accompaniment. *Painter; Lita; Elusive Butterfly; Shadow of Your Smile; Rhapsody in the Rain; Back Track; Summer Snow;*

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HIFI/STEREO REVIEW

Everyone's Gone to the Moon; and four others. MGM STX 4394 \$5.95.

Performance: **A joke, perhaps?**
Recording: **Terrible**
Stereo Quality: **Terrible**
Speed and Playing Time: **3¾ ips; 32' 9"**

When I first put this tape on the machine, I heard a few notes of something called *Painter* and rushed to change the speed, discovering to my horror and secret amusement that it was set correctly. I turned it back on, listened to a group of screaming little girls who sounded like Huey, Dewey, and Louie recorded at 33⅓ and played at 78, quacking a repetitive chorus of "C'mon, c'mon, take me, mister, take me." True, so help me.

Then came something called *Lita* in which a group yells "cheep cheep" in falsetto soprano all the way through, while the person who is obviously Lou Christie speaks slowly in a deep basso profundo voice: "I didn't believe what the people were saying . . . but the caravan pulled out today." Then he switched into *sotto voce*: "Lita, I love ya baby. . . ." True, so help me.

By the time I came to an opus called *Everyone's Gone to the Moon* ("Church full of singing out of tune/Arms that can only lift a spoon/Everyone's gone to the moon"), I decided it must all be a joke. Lou Christie has got to be Mel Blanc trying to make a fast buck as a rock-and-roll singer between jobs as the voice of Bugs Bunny and Porky Pig. It's the only explanation I can think of for something as hilarious as this. R. R.

© SANDLER AND YOUNG: *Side By Side: On The Move*. Tony Sandler and Ralph Young (vocals); orchestra, Sid Feller cond. and arr. *Canadian Sunset: Autumn Leaves; Chicago; C'est si bon; Put On a Happy Face; Chanson d'amour*; and sixteen others. CAPITOL Y2T 2697 \$9.98.

Performance: **Good**
Recording: **Very good**
Stereo Quality: **Excellent**
Speed and Playing Time: **3¾ ips; 56'2"**

I think that the release of these two recent albums on one tape is a mistake, as indeed I think that most double tapes featuring pop vocalists tend to put a strain on one's attention span. They also tend to show up the performer's occasional tricks and flaws more readily than do a few selections heard at one sitting. And if, in addition, a performer or performers display a pervasive single mood in most of their material, then my reaction is unhappily quite often the reverse of that mood. Such is the case here. Sandler and Young are so continuously buoyant, cheerful, professional, and up-beat that after the first ten songs or so I began to feel a Scrooge-like gloom descending on me and doubtfully wondered what the hell they had to be so happy about all the time. Even *Sunrise, Sunset*, a song with a large measure of wistful wonder about it, has in Sandler and Young's performance a strong and inappropriate undercurrent of bouncy good spirits. This of course is a personal demur, and perhaps I would not have felt this way if I had not already been listening for well over half an hour.

Tony Sandler and Ralph Young are quite a good singing duo, but one whose performing future, I feel, lies in night clubs and television. They sing very well in a variety

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of languages, and they have a certain show-biz charm, which comes across fairly well on discs and tape. But their sound is unfortunately just that—a sound, and no more. In a club or on television I think I would enjoy them very much for about twenty minutes.

P. R.

THEATER MUSIC

RECORDING OF SPECIAL MERIT

⑤ **CABARET** (John Kander-Fred Ebb). Original-cast recording. Jill Haworth, Jack Gilford, Bert Convy, Lotte Lenya, and Joel Grey (vocals); orchestra, Harold Hastings cond. COLUMBIA OQ 901 \$9.95.

Performance: Superb
Recording: Exemplary
Stereo Quality: Superb
Speed and Playing Time: 7½ ips; 54' 28"

In every aspect this tape is a notable contribution to the art of recorded sound. I have owned the disc version of *Cabaret* for some time now, so I did not come unprepared to the score—of which more later—but I will confess to being taken aback by the technical quality of this tape. I had found the disc to be superb sonically, but the tape, almost astounding in its presence and brilliance, is a triumph. The next tape you buy should be this one.

As for the score, it is very good in its own derivative way. Ebb and Kander have devised a lively group of songs in the Brecht-Weill manner, and Don Walker has cleverly supplied arrangements which skillfully echo the work of Peter Kreuder and Friedrich Holländer in the early Thirties. The sense of *déjà vu* that pervades this whole effort is, of course, inescapable. Even the cover art is a prettied-up version of George Grosz. But then, theatrical glory these days seems to have more to do with reincarnation than creation, as witness Dolly and Mame and now Sally. It is easy enough to see the why of this phenomenon if you look at the typical Broadway musical-success audience. Middle-aged, a trifle smug, lethargic in response, and torpid in feeling, they resent having to deal with anything new. Much better to have the plot dimly recollected as you enter the theater so that you can slump back comfortably and enjoy the production numbers. (Eventually someone will pierce the expense-account haze of amorphousness that has settled over our musical theater, but I have a feeling it's going to be a long wait.)

The best things in the way of performance on this tape are Joel Grey, who is a malevolent wonder, and, unsurprisingly, the incomparable Lotte Lenya. I should mention in passing, however, that I find it a mite sad to hear a great star such as Lenya, who has done so much to popularize the brilliant achievements of her late husband, Kurt Weill, singing such obvious imitations of his work as *What Would You Do?* and *So What?*

The real excitement of this tape lies in the fact that it is so superbly and sensitively produced that it becomes markedly better entertainment than *Cabaret* itself as currently seen in the theater. (This strange metamorphosis also occurred with Bernstein's *Candide* and the much lamented *Anyone Can Whistle* by Stephen Sondheim.) Bravo and congratulations to Goddard Lieberson for the recorded production.

P. R.

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HIFI/STEREO REVIEW



TAPE HORIZONS

By DRUMMOND McINNIS

TAPES IN BUSINESS

PEOPLE who use their tape recorders only for fun (and even that not often) are pretty largely unaware of the vast potential the machines have for business uses, in sales, advertising, and in the day-to-day operations of retail stores.

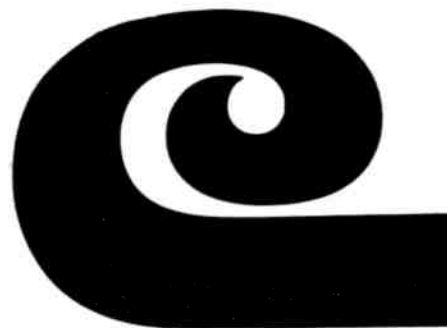
I met a salesman recently—coincidentally, a representative of a tape-recorder manufacturer—who claims his personal recorder saves him over an hour of work a day and increases his sales effectiveness to boot. With his recorder in the car, he rehearses his sales pitch en route to each call, then plays it back to see if he has made his points well or left out anything. On a few occasions, he has even left his recorded sales pitch behind when his customer was out or too busy to see him that day. Since his customers are all high-fidelity dealers, they all have a machine to play the tape back on.

"It never takes the place of person-to-person selling," he admits, "but it does work. One busy customer listened to my message, erased my tape, and then recorded his order on it and mailed the reel back to me. Another, who was unfamiliar with my latest model and didn't have one in stock yet, played my tape to one of *his* customers—and made a sale for future delivery. Mainly, though, I use tape to record my impressions of each sales call—we call them 'call reports'—as I'm driving away. That way, I never forget the questions the dealers ask—or what I answered."

In another business application, the father of a friend used a tape recorder to solve an inventory problem in his hardware store. Normally, you need three men on duty during inventory: one to read off the contents of the stockroom shelves, one to take them down, and one to wait on customers. When one of his two clerks came down with the flu just as inventory time began, my friend's father solved his manpower shortage with tape.

"Of course, it's always been possible to take an inventory alone," he told me. "You can take a pad and pencil with you and scramble up and down ladders from shelf to shelf. But it's awkward, and sooner or later you're going to drop either the pad or pencil or both, and that means another round trip on the ladder. When I got my first tape recorder, I tried calling out the items, but with nobody down there to control the volume and with the echoes increasing as I got farther away from the mike, it didn't work very well. I tried a low-impedance microphone with a long cable—and almost strangled myself. Then I thought a portable recorder might be the solution, but it was pretty awkward too, and too expensive to drop.

"Another problem with all these solutions was that the tape kept running through long blank stretches while I was climbing up and down the ladder, counting things, and just thinking. So I finally borrowed my son's recorder—one that has a voice-control feature—and bought a pocket-size FM wireless mike. I hung the mike around my neck, tuned my FM radio to it, and connected the radio's headphone outlet to the recorder's auxiliary input. When I had something to say, I said it, and the tape started turning by itself. When I stopped, the tape stopped. I found out that you have to use 7½ ips so that the machine will get up to recording speed fast enough, and that's the last problem I've had with inventories."



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