HOW TO DO YOUR OWN SIMPLE STEREO TROUBLESHOOTING
FILLMORES EAST AND WEST: BILL GRAHAM ON THE ROCKS
A VIEW OF THE FIRST HALF-CENTURY OF "MODERN" MUSIC
sound in a 150-degree arc, virtually eliminating the highly directional quality you find in many speakers without wide-dispersion tweeters.

Add it all up. Now, for some startling arithmetic.

You'd expect a 4-way floor-model speaker system that sounds better than any other speaker system in the world (even better than any other Fisher system!), to cost $300 or more. Even if it came in an unfinished cabinet.

And you'd expect a cabinet as elegant as the three styles of the XP-16 to cost another hundred dollars, at least.

So when you put the world's best-sounding speaker in the world's best-looking cabinet, you'd expect to pay more than the actual price, $299.95.

$299.95? It doesn't add up, does it?

A word to the wives is sufficient.

In case you're a wife, attracted by the beautiful speakers pictured above, and you want to know how to tell your husband you want a pair, just show him the opposite right-hand page.

And here are two new Fisher speakers your wife can place anywhere she wants.

Wives have unorthodox ideas about speaker placement. Like putting one speaker under your Tiffany lamp. And the other somewhere in front of the couch where you can rest your coffee cup.

Which produces, with conventional bookshelf or floor-model speakers, a rather strange stereo effect. (The strings seem to be coming from behind you, while the percussion is right there, near your elbow.)

Fisher has solved this problem. With some rather unique speakers, called the WS-70 and the WS-80. (The "WS" stands for Wide Surround®.)

No matter where in the room you place these revolutionary new speakers, they give you good stereo sound reproduction.

How is that possible?

The new Fisher speakers are omnidirectional. They disperse sound in all directions, not just in front of the speaker.

Here's how they work.

There's a woofer that points up (acoustically sealed in back, as are all Fisher woofers). The woofer sound radiates upwards against a sound deflector and outwards in a 360-degree circle. (The $99.95 WS-80 has an 8-inch woofer, while the $79.95 WS-70 has a 6-inch woofer.)

As for the mid-range and treble, the WS-70 has a 3-inch treble cone pointing upwards and radiating up and out, in a 360-degree circle; whereas the WS-80 has a mid-range speaker pointing up. Sound from this mid-range is deflected by the tweeter core and is dispersed in a circle. The tweeter disperses sound up and outwards in a 360-degree circle.

End of the wife problem.
This new Fisher speaker weighs 105 lbs., takes up 10 cubic feet of space, and costs $299.95.

How are you going to tell your wife you want a pair?
Even the most tolerant of wives might balk if you were to tell her you’re thinking of installing 20 cubic feet of stereo components in the living room. So you don’t mention the word “stereo.” Instead, you talk about those bare corners badly in need of a matched pair of beautiful Country French miniature armoires in gorgeous cherry wood (or Contemporary in walnut, or Mediterranean in pecan).

And you talk about Fisher. Not Fisher, the world’s leading maker of stereo components. But Fisher, the maker of the world’s most beautiful cabinets. (You can refer to our old-world master craftsmen who authenticate every detail of the furniture designs. And to the men who spend literally days polishing and rubbing cabinet wood till it glistens. Etc.)

There’s no reason to tell your wife about the really important parts of the new Fisher XP-16, unless she asks you.

Then, of course, you begin at the beginning.

**Not one, but two 12-inch woofers.**
By itself, a 12-inch woofer moves a lot of air. So you can imagine what a pair of 12-inch woofers can do. (If your imagination fails you, just stick your hand in front of the woofers of the XP-16 during a loud orchestral passage with heavy bass. You’ll feel the air move!)

When you have a big woofer, you need a massive magnet structure to move it. In this case, you need two massive magnets, one for each woofer. So Fisher installed a 5-lb. magnet in each woofer. The result? You appreciate it most when there’s one of those sustained organ-pedal notes at a frequency of, say, 33 Hz (that’s low C). It may be the first time you’ve ever heard that note in your living room.

The 8-inch mid-range driver.
The mid-range driver is the most critical component in a speaker system. In the XP-16 it covers the frequencies from 250 to 2,500 Hz. Most of the musical information on a record or tape falls into this range. Which is why Fisher puts an 8-inch mid-range driver into each XP-16 speaker. (8 inches is as large as the diameter of many bookshelf woofers.) The 8-inch mid-range is responsible for that smooth, effortless, natural quality of the XP-16’s sound.

The mylar dome tweeter.
Usually a tweeter as fine as this 1½-inch mylar dome driver would be called on to deliver the entire audio spectrum above, say, 2,500 Hz. But that’s not the case here. In the XP-16, each component does exactly what it’s best at doing and no more. So the tweeter reproduces only the frequencies from 2,500 to 7,000 Hz. Cleanly. Transparently. Without coloration.

The horn-type super tweeter.
This is the driver that makes the XP-16 sound unique. Because it’s the super tweeter that reproduces the frequencies that add richness and life to the sound. And the horn-type super tweeter has one big advantage over the dome-type tweeters: dispersion. The horn disperses...
The new Fisher XP-16.
An audio engineer talks about the new VM professionals.

Murray Allen owns one of the world's keenest ears. He played sax and clarinet with big name bands like Skitch Henderson's and Bobby Sherwood's before becoming an engineer. And has done sessions for Bobby Melton, The Hi-Lo's, Julie London and many other famous names. Murray was one of the first to experiment in multi-track recording and recently pioneered in the use of 16-track. He is now with Universal Recording Studios where he engineers records and commercials, including The Schlitz and United Air Lines television campaigns which are currently on the air.

"The VM professionals are really worthy of the name. I've never seen so much professional control in home-type equipment. The VM 1521 receiver, for example, does a lot of things even more expensive units I've played with can't.

"The bass and treble controls really give you a lot of room. And it's got a high and low filter you can switch in and out. The separation is terrific, too.

"I mean you can take something like a bass and clarinet duo and completely isolate the bass on one channel, then completely isolate the clarinet on the other.

"Another thing, I live in an area where FM is very RFy. The VM 1521 has a new filter that handles it better than anything I've heard.

"The speakers are something else, too. VM calls them the Spiral Reflex System. Built on the twin wave theory, that's very efficient. And clean. Really clean. Especially the percussions. Even the transients don't get distorted. It even gets those low guitar sounds.

"And I really like the VM 1555 automatic turntable. The cueing. The belt-driven platter. The extra length on the tone arm. The photo-electric tripping mechanism. All of them are terrific.

"And the spindle gently lowers records all the way down to the stopped platter. Really takes good care of them.

"You know how hard it is to reproduce a clean piano or harp. Well, the 1555 does a beautiful job. Absolutely no wow.

"I listened to an album I engineered on a VM professional rig, and I can honestly say it was closer to the master tape than I'd ever heard. I could even hear tape noise which is really rare.

"I've decided to take my VM professional outfit to my office. Every day I deal with people who really know a good sound when they hear it.

"And it always pays to make a good impression."

For engineering specs on the complete VM Professional Series write:

VM CORPORATION
Dept. 74, P.O. Box 1247, Benton Harbor, Michigan 49022 or call direct, Area Code 616-925-8841.

(Ask for Dept. 74.)
THE MUSIC

JAZZ: LIVE AND GOOD AT MONTREUX
Report from the Fourth International Jazz Festival

Mozart's Symphony No. 36, "Linz"

Bill Graham of the Fillmores (East and West)
A close-up of the hip Sol Hurok of the rock scene

"MODERN" MUSIC: THE FIRST HALF CENTURY
Fourth in a series on the major stylistic periods in music history

STEREO REVIEW TALKS TO BEVERLY SILLS
Continuing a series of interviews with recording artists

COLUMBIA'S "NINE" FOR THE BEETHOVEN BICENTENNIAL
The Bernstein symphonies: a totally classical approach

NEW MUSIC FROM HELIODOR WERGO
Avant-garde recordings from an adventurous German label

OUR MAN IN THE CATSKILLS TALKS TO IKE AND TINA TURNER
"A wild, tearin' show, a real live professional act"

THE EQUIPMENT

NEW PRODUCTS
A roundup of the latest high-fidelity equipment

AUDIO QUESTIONS AND ANSWERS
Advice on readers' technical problems

AUDIO BASICS
Loudness and Pitch Perception

TECHNICAL TALK
Specifications 16—How to Interpret Performance Curves; Hirsch-Houck laboratory reports on the Advent Model 100 noise-reduction unit, the Sony ST-5100 AM/FM stereo S1200 stereo tuning, the Sony TA-1114 amplifier, and the Ampex 1455A stereo tape deck

SIMPLE STEREO TROUBLESHOOTING
The V/ohmmeter is a handy diagnostic tool

TAPE HORIZONS
More on Making

THE REVIEWS

BEST RECORDINGS OF THE MONTH
CLASSICAL
ENTERTAINMENT
STEREO TAPE

THE REGULARS

EDITORIALLY SPEAKING
LETTERS TO THE EDITOR
GOING ON RECORD
ADVERTISERS' INDEX

COVER: "THE MUSIC LESSON" BY GABRIEL MESTU (1629-1667). COURTESY NATIONAL GALLERY, LONDON. PHOTOGRAPH BY PETER ADELBE. EUROPEAN ART COLOR SLIDES, INC.
By WILLIAM ANDERSON

EDITORIALLY SPEAKING

THE GREAT BEETHOVEN BOONDOGGLE

W E ARE now five-sixths of the way into the Beethoven Bicentennial Recording Sweepstakes, and it has occurred to me that perhaps nobody, excepting possibly William Schwann, has been keeping score. Despite several block-busting releases earlier this year, it is perhaps too soon to say whether the final tally will be a record-breaker. Deutsche Grammophon has been steadily releasing install-ments in its twelve-volume, seventy-five record Beethoven Edition 1970 (the last will be issued in November, and the whole set sells for $299.50), there have been two collections of the nine symphonies so far (one by Eugen Jochum for Philips, reviewed last month, one by Leonard Bernstein for Columbia, reviewed in this issue), and one of the thirty-two piano sonatas (Daniel Barenboim for Angel, reviewed in May). We are entering the home stretch, however, Christmas is imminent, and the real flood of Beethoveniana is about to crest. Another package of the sonatas will be coming from Angel (the old Schnabel set, to be re-released on the budget Seraphim label), RCA is readying Claude Frank’s new recordings of them for Victrola, and Claudio Arrau is known to be working on still another set for Philips. London will be releasing Hans Schmidt-Isserstedt’s reading of the nine symphonies, and RCA’s vaults will yield nine more by Erich Leinsdorf. RCA will also be releasing the Guarnieri’s early quartets (their recordings of the late quartets were spring releases), plus five piano concertos by Artur Rubinstein (Angel already has two concerto packages—Emil Gilels’ and Barenboim’s).

This is by no means a complete list, but it is quite long enough to inspire a short question: Cui bono? Much as he deserves it, this lavish birthday party cannot benefit poor Beethoven, given his suspicious nature, it might even displease him. And though it appears unlikely that record companies have embarked on these grand projects crying ‘profit be damned, full speed ahead,’ the current state of the classical record market is not of the kind that should inspire a touching faith in the public’s tolerance for boondoggling. Why, then, do we indulge ourselves systematically, regularly, and almost religiously with these apparently wasteful and frivolous observances, these centennials, bicentennials, and the like? I would like to sug-gest that the reason lies in the celebration itself, and not in what is being celebrated, that the profits are in a coinage no bank would recognize. These calendared rites are candles held against the dark, reminders at once of our mortality and of the only kind of immortality we shall ever know.

Last year’s reminder was Berlioz. Beethoven this, and if nominations are being entertained for next year, I have a candidate (remember, it is the celebration that counts, not he who is celebrated). Johann Gottlieb Graun (1698-1771), violinist brother of “Montezuma” Graun and conductor of the royal orchestra in the service of Friedrich the Great, was, in a way, the Mozart of his day—he wrote, among other works, forty symphonies. I have not, to my knowledge, ever heard a note of his music, but since we’re going to need a centennial of some sort anyway next year, it might be that Frederick’s taste would prove as effective an excuse for celebrating as the Archduke Rudolf’s has.
One clearly stands out from all the rest

There are differences among the dozens of stereo receivers on the shelves.

What makes Bogen clearly stand out from the rest?

Crescendo Control, as a starter. That's the switch in the upper right hand corner. It's a Bogen exclusive. And it's on five of our eight receivers and compacts. What it does, quite simply, is restore, with no distortion, all the full brilliance compressed by engineers at every recording performance. It also allows extremely "low-noise" home recording and equal-volume-level playback.

Control Panel...clearly another Bogen stand-out. Convenient (and sensible) linear slide controls and push-buttons replace conventional, old fashioned knobs and switches. Adjusting is definite, precise. Push a few and see. Look at the styling around (and over) the controls...Bogen alone has escaped the "sameness rut." Walnut? Brushed bronze? Black-leatherette? Gold-tone? Modern orange-and-white? Whatever turns you on, style-wise, you'll find on a Bogen.

Power...as much (or as little) as you really need. If 65 clean watts fill your room, there's a receiver or compact just for you. If you happen to need 150, or something in between...one of the eight models will fill the bill, and fill your home with beautiful Bogen sound.

Value...is clearly significant. Our BR360 Receiver has been favorably recommended when compared with competitive models. However, there's a quality Bogen for any budget — because all Bogen receivers and compacts, regardless of price, have the same basic circuits, and differ only in power and features. Bogen quality and performance will never be compromised by price!

Bogen has the system.
What else do we offer to add to your listening enjoyment? Tape cassette recorder or 8-track stereo cartridge decks? Fabulous sound stereo headphones? Turntables? Bogen has them all. As for the famed Row 10 speaker systems...listen just once. They speak for themselves.

A word about "know-how." Far from a Johnny-come-lately in the field, Bogen has four decades of Sound Professionalism behind it. Competence takes longer than overnight.

Send for our colorful, informative brochure. It's fact-filled and free. We think you'll agree that one product line...one company...does clearly stand out...Bogen.
The greatest record and tape offer in our history... FOR EVERYONE—EVEN THOSE

Free... ANY 3 STEREO LP's or
WITH ABSOLUTELY NO OBLIGATION

<table>
<thead>
<tr>
<th>LP/Title</th>
<th>Artist/Composer</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANY 3 STEREO LP's</td>
<td>ANY 3 STEREO LP's</td>
</tr>
</tbody>
</table>

Stereo Review
OCTOBER 1970

PEOPLE WHO SWERE THEY WOULD NEVER JOIN ANOTHER RECORD OR TAPE CLUB!

ANY TAPE Or Cassette SHOWN HERE WORTH up to $20.94 TO BUY ANYTHING EVER!

Yes, take your pick of these great hits right now. Choose any 3 Stereo LP's (worth up to $20.94) or any 1 stereo tape (worth up to $6.98) FREE as your welcome gift from Record Club Of America when you join at the low lifetime membership fee of $5.00. We make this amazing offer to introduce you to the only record and tape club offering guaranteed discounts of 33 1/3% to 79% on all labels—with no obligation or commitment to buy anything ever. As a member of this one-of-a-kind club you will be able to order any record or tape commercially available, at savings up to 79%—guaranteed never less than 33 1/3%. No automatic shipments, no cards to return. We ship only what you order. Money back guarantee if you do not like it.

See for yourself why over ½ million record and tape collectors paid $5 to join Record Club of America when other record or tape clubs would have accepted them free.

OCTOBER 1970

RECORD CLUB OF AMERICA

$6.98 or $7.98!

Look What You Get

FREE Grand Master LP Catalog (check box below if you wish to receive any FREE records or tapes. Your $5.00 membership fee entitles you to buy any LP's or Tapes at discounts up to 79%... plus a small mailing and handling charge. I may return items shown here at any time for refund of money paid. I have found that this policy has worked to my advantage. All orders are shipped immediately.)

FREE Giant Master LP Catalog—lists readily available LP's of all labels! Thousands of listings; hundreds of labels.

FREE Giant Master Tape Catalog—lists readily available tapes in cartridges and cassette on all labels.

FREE Disc & Tape Guide—Club's own Magazine, and special club sales announcements which regularly bring you news of just-issued new releases and “tapes discount” specials.

FREE Any 2 Stereo LP's or 1 Tape shown here (worth up to $20.94) with absolutely no obligation to buy anything ever!

Guaranteed Instant Service

All records and tapes ordered from Disc & Tape Guide and special club sales announcements are shipped the same day received from the Master Catalogs may take .3 few days longer). ALL RECORDS AND TAPES GUARANTEED—factory new and complete, satisfactory or replacements will be made without question.

Money Back Guarantee

If you are not absolutely delighted with our disc, tape, or any other item ordered from Disc & Tape Guide, you may return it within 10 days at our expense, and a full refund will be made AT ONCE. Record Club of America guarantees this at no cost to you, whether you have received it or not. No other record or tape club makes this offer.

TYPICAL “EXTRA DISCOUNT” SALE

Savings of 50% And More From Recent Club Sales... Savings up to $3.49 per LP

Simon & Garfunkel—Bridge Over Troubled Water Col 5.98 2.99
Joe Cocker—You Are So Beautiful A&M 4.98 2.49
Peter, Paul & Mary—Album 1700 (Your Choice) Warner Bros. 4.98 2.49
Hera Alcohol—Greatest Hits A&M 4.98 2.49
Creedence Clearwater Revival—Green River—Happy Endings Fant 4.98 2.49
The Beatles—Let It Be Apple 6.98 3.49
Nat—Original Broadway Cast RCA 5.98 2.99
Tom Jones—Posh Parrot 5.98 2.99
Paul McCartney—McCartney Apple 5.98 2.99
Jose Feliciano—Fireworks RCA 4.98 2.49
Glen Campbell—Oh Happy Day Capitol 5.98 2.99
Barbra Streisand—Greatest Hits Col 5.98 2.99
Miles Davis—Bitches Brew Col 6.98 3.49
Leontyne Price—Vordi Hernandez RCA 6.98 3.49

Your $5.00 membership fee entitles you to buy or offer gift memberships to friends, relatives, neighbors for only $2.50 each, with full privileges. You can split the total between—the more gift members you get—the more you save! Special Note: gift members do not receive any FREE records or tapes.

1970 RECORD CLUB OF AMERICA, INC.

RECORD CLUB OF AMERICA

YORK, PENNSYLVANIA 17405

X917P

YES Rush me a lifetime Membership Card. Free Giant Master LP Catalog (check box below if you wish to receive) and Disc & Tape Guide at this united Special Introductory Membership offer. Also send me the 3 FREE LP's or 1 FREE tape which I have indicated below (with a bill for a small mailing and handling charge). I enclose my $5.00 membership fee. (Never another club fee for the rest of my life!) This entitles me to buy any LP's or Tapes at discounts up to 79%... plus a small mailing and handling charge. I am not obligated to buy any records or tapes—to your quota. If not completely delighted I may return items shown here at any time for immediate refund of membership fee.

[Blank Box] Also send Master Tape Catalog

[Blank Box] 3 FREE LP's

Also add Gift Memberships at $2.50 each to my request (Attach separate sheet with names and addresses. Indicate Master Catalog request.)

enclose $ over my $5.00 lifetime membership and any gift memberships at $2.50 each.

[Blank Box] CASH

[Blank Box] CHECK

[Blank Box] MONEY ORDER

Make a check or money order payable to

Record Club of America.

Mr. Mrs. Miss

Address

City State Zip

Dear [Name],

Thank you for your interest in our special introductory membership offer. We are thrilled to offer you this opportunity to explore the largest record and tape club with no strings attached! Our exceptional discounts, flexible returns policy, and expansive selection of records and tapes make us stand out from the crowd.

**Special Offer for New Members:**

- **First Month:** 3 FREE Stereo LP's or 1 Free Tape
- **Second Month:** 6 FREE LP's or 6 FREE Tapes
- **Third Month:** 12 FREE LP's or 12 FREE Tapes

**Guaranteed Instant Service:**

All records and tapes are shipped on the same day received, with guaranteed factory new and complete condition. If not completely satisfied, returns are accepted within 10 days at our expense.

**Money Back Guarantee:**

Every item is guaranteed for your complete satisfaction. Orders are shipped immediately, with no waiting or commitment. Money back if not completely delighted.

**Discounts:**

- **33 1/3% to 79%:** Discounts on all labels, including new releases and limited Special introductory offers.

**No Automatic Shipments:**

Orders are shipped only on request, ensuring complete control over your collection.

**Special Feature:**

Participate in our generous gift membership program, offering discounted memberships for friends and family. You can share the love of music with loved ones while saving on your own purchase.

Thank you for choosing Record Club of America. We look forward to introducing you to the world of music with our exclusive offers and unparalleled customer service.

Sincerely,

[Signature]

Record Club of America

America Club Headquarters, York, Pa. 17405

PS: Include your requested gift membership, if applicable. Your satisfaction is our top priority.
THE ABSOLUTELY UNVARYING CONSTANT SPEED FACTOR

Of all the parameters affecting tape recorder performance, few are as important as constant speed. Considering the havoc even comparatively small speed variations play with recorded sound, it’s rather surprising that most tape recorder manufacturers seem to give short shrift to this vital, performance-affected feature. On the other hand, the manufacturers of professional recording equipment go to great lengths and expense to insure both short and long term speed stability and constancy. And so do the people who make the Revox A77.

The Revox A77 is the only machine in its price class that incorporates a servo-controlled capstan motor that automatically adjusts and corrects itself so as to guarantee a maximum speed deviation of less than .2%.

According to Audio Magazine, “The electronic speed control held the speed exactly ‘on the nose’ at all input voltages from 1.35 down to 92 and at all frequencies from 40 to 70 Hz”. Stated simply, this means the Revox is unaffected by "the all too common fluctuations that occur in both line voltage and frequency.

When you consider the uncompromising design philosophy, meticulous craftsmanship and outstanding performance built into every Revox, you begin to understand why we say...

REVOX DELIVERS WHAT ALL THE REST ONLY PROMISE.

Revox Corporation 212 Mineola Avenue, Roslyn Heights, N.Y. 11577

LETTERS TO THE EDITOR

John Denver

■ Noel Coppage wonders aloud (“John Denver on Record,” August) why no one before Mr. Denver ever thought of slowing down the tempo of Mr. Boswell’s “Someone did. Lanee Kantrow did it and did it very effectively, also on RCA (LSP 4211), at least a year before Mr. Denver made his version which, according to Mr. Coppage, ‘will have to be the standard for others from now on.’

So send Mr. Coppage back to his closet and let him amuse himself some more with The Ballad of Spira Agnew.

Dale B. Garrett
Birmingham, Ala.

■ In a time when true folk music is almost forgotten by broadcasters, not to mention record stores, it is refreshing to read an article such as Noel Coppage’s on John Denver (August). Having seen him with the Mitchell Trio and heard him (infrequently) on the radio, I can say that he has impressed me with his style and ability to communicate. In 1970, when most young people’s knowledge of folk music is limited to Peter, Paul and Mary, Bob Dylan, and Judy Collins, it is hard for me to find many fellow fanatics. Let’s have some more articles on folk performers, such as Joni Mitchell, Ian and Sylvia, and Jerry Jeff Walker. The time is right for a new folk revival, and Stereo Review can assist in getting it revived. Thanks again, Mr. Coppage.

Gary David Abramowitz
Bronx, N.Y.

Pirated vs. Commercial Recordings

■ After reading Renata Scotto’s remarks about pirated recordings (August), I played my I Lombardi set with Miss Scotto again. Really, the sound is rather good. Where else but on pirated records could I find a good recording of this opera or any recording of Maria Stuarda, Norma, Giannina d’Arco, or L’Assedio di Corinto? Not only have the commercial record companies neglected a great many operas and “live” performances but an incredible number of great artists as well. Where are the commercial recordings of, for example, Leyla Gencer and Raina Kabaivanska?

I do agree, however, with Miss Scotto regarding the prices of these recordings. They are very expensive, and for no other reason than greed. But if the companies continue to insist on forgetting many operas and performances and give us only studio recordings, the privateers will continue to grow and prosper.

Frank F. Marinus
Ottawa, Canada

Classical Broadcasting

■ I enjoyed James Goodfriend’s recent defense of classical music broadcasts in his “Going on Record” column (May). Much more publicity of this sort is needed, as there has been far too little radio exposure to the classics. I should think the record manufacturers would be able to approach stations more strongly on this matter.

Graham Hunter
West Orange, N. J.

Transliteration

■ May I elucidate the point of what I tried to say in my earlier comment (“Letters,” May) on rendering Russian names into other tongues in print? Mesers. Fleischer and Knapp in the August issue do bring up the problem but seem to me to complicate it unnecessarily.

First of all, the purpose of changing a Russian name as written in original Russian characters into English, German, or Hindu- stani is to make that name intelligible to the reader who does not know all these tongues. The primary concern is the use of letters that are familiar to the reader. Thus, Stereo Review, written in English, would be expected to render Russian composer or performer names into understandable, readable, and pronounceable combinations of letters commonly used in American English today. That is all there is to it. Mysterious markings over, under, and alongside the standard letters of the English language are suitable solely for the use of librarians and their ilk (i.e., people who want to store data but do not want it to be disturbed on its storage shelves). For a music listener and performer, a literal transliteration is the only one that is useful. Hence, may I suggest that the best of the systems in use today for Russian-English interchange is that used by Chemical Abstracts, which is somewhat similar to the Library of Congress system, but a bit simplified for practical use. In the CA translitera-

(Continued on page 11)

STEREO REVIEW
The only record playback system engineered for stereo cartridges that can track as low as 0.1 gram.

New Troubadour Model 598

HERE is a turntable system designed exclusively for the new low tracking force cartridges—the long players that won't wear out your records. This unbelievable record playback device exceeds every broadcast specification for professional playback equipment.

Driven by the world's finest turntable motor (hysteresis synchronous type) the system reaches full speed in less than 1/3 of a revolution, locks in on A.C. line frequency and maintains speed accuracy with zero error, (built in strobe disc and pitch control provided).

The 12 inch turntable platter and massive balanced drive fly-wheel are both coupled to the drive motor by a precision ground flexible belt.

Empire's exclusive pneumatic suspension combines pistons and stretched springs. You can dance, jump or rock without bouncing the stylus off the record. The Troubadour will track the world's finest cartridges as low as 0.1 gram.

With dead center cueing control the tone arm floats down or lifts up from a record surface bathed in light. Pick out the exact selection you want—even in a darkened room.

The extraordinary Troubadour system features the Empire 990—the world's most perfect playback arm. This fully balanced tone arm uses sealed instrument ball bearings for horizontal as well as vertical motion. Arm friction measures a minute 1 miligram. Stylus force is dialed with a calibrated clock main-spring, (more accurate than any commercially available pressure gage). Calibrated anti-skating for conical or elliptical stylus. Exclusive Dyna Lift automatically lifts the arm off the record at the end of the music. With the arm resonance at an inaudible 6 Hz, it is virtually impossible to induce acoustic feedback in the system even when you turn up the gain and bass.

TECHNICAL SPECIFICATIONS

- 3 speeds—33-1/3, 45, 78 rpm
- Push-button power control
- Built-in 45 rpm spindle
- Rumble—90 db (RRLL)  
- Overall Dimensions (with base and dust cover): 17-1/2" W. x 15-1/8" D. x 8" H.  
- Dimensions (without base and dust cover): Width 16", Depth 13-1/2": Height above mounting surface: 3-1/4": Depth required below base plate 3-1/2": Swiss ground gold finish.

Troubadour 598 playback system. $399.95 less base and dust cover. Satin walnut base and plexiglas cover combination $24.95. The 990 playback arm also available separately, $24.95.


CIRCLE NO. 97 ON READER SERVICE CARD
Wait till you hear the difference this true stereophonic design can offer, the kind of sound no box can deliver. In Empire's world famous stereo cylinder, the woofer faces down for bass so "live," it gives you goosebumps.

Our full presence mid-frequency driver makes you feel you're listening to a live performance, while the ultra-sonic tweeter provides crystal clear response all the way to 20,000 Hz. Then Empire's wide angle lens diverges the highest of these high frequencies through 160° arc, more than twice that of ordinary speakers. This lets you use your Grenadiers anywhere. They need not be placed in corners or against walls. You don't have to sit where "X" marks the stereo spot.

The Grenadiers are functional. They have no ugly grill cloths; handsome finish goes all the way around and the marble top is meant to be used.

So if you are thinking about getting a great speaker system, take a good look at these Empire beauties. The Royal Grenadiers are probably the most powerful speakers in home use today. These magnificent 3 way systems can handle up to 125 watts of power per channel without overload or burnout. No orchestral crescendo will ever distort or muddy their great Grenadier sound.

Royal Grenadier 9000M/II, hand rubbed selected walnut veneers and imported marble top. $299.95.

Exciting new Grenadier speaker systems

Empire's newest Grenadier Model 6000 stands 24 inches high and has a diameter of 18 inches. The 3 way system can handle 75 watts of power, is priced at $99.95 (with imported marble top $109.95), and is available in walnut or dark oak finish. Frequency response from 30-20,000 Hz.

tion, which is easily readable by anyone at all used to American practice, the names given by Mr. Knapp would be as follows: Chai-kovskii, Prokof'ev, Kui, Stravinskii, Shostakovich, Rachmaninov, and Khachaturian.

The use of either the LC or CA systems would make possible the filing of data on records, tapes, books, etc. in a home library very simple and also practical in terms of telling the searcher what he is looking for in modern English noises or sounds.

G. M. KOSOLAPOFF
Auburn, Ala.

The Music Editor comments: "In the first place, I disagree with Mr. Kosolapoff that the names in the transliterations given above would be 'easily readable by anyone at all used to American practice.' It seems to me that anyone unfamiliar with Russian names in general and particularly with the names of these composers would be quite as likely to pronounce 'Kui' as 'Kwy' or as 'Koo-ee'; the 'd' in 'Rakhmaninov' would sound as in 'rack,' and the 'kh' in the same name would be completely mystifying, as would the 'i' in 'Stravinski' and 'Chai-kovskii'—and so on. And how do you pronounce the apostrophe in 'Prokof'ev'?

"In the second place, Mr. Kosolapoff's idea of a transliteration into a 'combination of letters commonly used in American English today' would further aggravate an already bad situation: that of different transliterations of Cyrillic names in different countries, thus Chaikovskii (U.S.A.), Tchai-kovsky (England), Tchaikowsky (Germany), etc. Music may not be an international language, but it is an international subject, and I, for one, would like to see a single accepted form of each composer's name, even if I had to learn how to pronounce it.'

Schwann Artist Catalog

"Many thanks to Editor William Anderson ('Editorially Speaking,' August) for letting us know that the new issue of the Schwann Catalog Artist Issue is available. I was beginning to wonder if Schwann was ever going to update the 1966 issue. It is certainly a pity that we cannot have it on a yearly basis, for it is, as Mr. Anderson says, a most invaluable reference for the serious record collector.

A. L. STARR
San Francisco, Cal.

Cataloging Tape

"Noel Coppage, in reviewing the Camarata Chamber Group's arrangements of Satie piano pieces on cassette in the August issue, says he knows of no previous Satie cassette releases. In fact, Angel has released two cassettes of piano music and one orchestral. But how is anyone—particularly the mere collector—to know what's available on tape as long as no accurate all-label catalog is published comparable to Schwann for discs? This vacuum harms the recording industry, the discographer-reviewer, and the consumer.

George Sponholtz,
Artists & Repertoire
Angel Records
Los Angeles, Cal.

Satie is indeed available on Angel cassettes: two programs of piano music with Aldo Ciccolini on 4XS 36482 and 4XS 36459 and one orchestral, including Parade and other works, on 4XS 36486. There is

At last! Only

LONDON® The Royal Family of Opera

could have produced Meyerbeer's

LES HUGUENOTS
Sutherland/Arroyo
Tourangeau/Vrenios
Bacquier/Cossa/Ghiuselev
Ambrosian Opera Chorus—
The New Philharmonia Orchestra
Bonynge

CELEBRATING JOAN SUTHERLAND'S
TRIUMPHANT 10TH YEAR IN AMERICA

OSA-1437

Her greatest 2 record album yet!

Joan Sutherland
FRENCH OPERA GALA

Arias from La Grande-Duchesse de Gerolstein; Robinson Crusoe; The Tales of Hoffmann (Offenbach), L'Etoile du Nord; Robert le Diable; Dinorah (Meyerbeer), Faust; Mireille; Le Tribut de Zamora (Gounod), Carmen; Les Pêcheurs de Perles (Bizet) Manon Lescaut; Fra Diavolo (Auber). Louise (Charpentier). Le Coeur et la Main (Lecocq)

L'Orchestre de la Suisse Romande—
Richard Bonynge

(Released in 2-record deluxe box and as separate records)

LONDON MAKES RECORDING HISTORY

CIRCLE NO. 30 ON READER SERVICE CARD

CIRCLE NO. 97, 98, 99 ON READER SERVICE CARD

11
also a piano program by Evelyne Crochet on Philips PCR 4-900-179. Tape cataloging it, at Mr. Spohnholtz points out, far from satisfactory, but the problems are immense. There are all those formats to keep track of, plus almost daily changes and additions in licensing arrangements, new producers, new reissues, cutouts, repackaging, and duplications. One sign of hope: Schwann is stepping tentatively into this area with its new supplemental catalog of country-and-western music, which will include, in addition to disc numbers, listings for the eight-track and cassette formats (though not four-track and reel-to-reel). Is the tape millennium at hand?

Romantic Revivals

- It is apparent from Lester Trimble's review of Anton Rubinstein's Fourth Piano Concerto (July) that he is grossly ignorant of the composers and music of the Romantic period. True, most of the music performed in concert halls today comes from the Romantic era. But these 'standards' constitute only a fraction of the music composed during this period. A Romantic revival is in swing, and long overdue it is, too.

Robert Porter
El Paso, Texas

Mr. Trimble replies: "It is apparent from Mr. Porter's letter that he is grossly ignorant of the historical fact that when a culture finds nothing better to do with its artistic time than to sift through discarded artifacts from the past, rather than create and enjoy new works of its own, it is at death as the proverbial dodo. The whole 'Romantic revival' hit strikes me as being very much like the recently faded craze for antique furniture. It was fun, but it lasted, and some people made a lot of money. But there weren't that many good antiques to be found. Now 'antique' shops sell any old thing they can lay their hands on. The runty old carved chair that great-grandmother tossed out now fetches a fine price and sits in a modern apartment amid plastic bubble-chairs and modern paintings. This is amusing, I grant, but only at 'camp.' I take music too seriously, perhaps. Though I can enjoy 'camp' in the chorus I set on, I don't care for it in art music. I am sure, on the evidence of Mr. Porter's note, that he is a scholar and very much immersed in the nineteenth-century music he champions. But if he is not yet satisfied when too much of the 'standard' repertoire is already Romantic, I wonder just what amount of nineteenth-century music it would take to really assuage his hunger. One thing is certain: two pieces of music can't occupy the same space at the same time, either in the concert hall or the recording studio. If a still larger portion of performance time (and money) is to be devoted to nineteenth-century music—and the minor-league stuff at that—we shall have to hear less of something else. In the meantime, the young people, for whom the words 'relevance' and 'now' count, will continue to stay away from the concert hall in droves and listen only to rock-and-roll. Can anyone seriously blame them?"

Barbershop

- In the several years that I have been a subscriber and avid reader of your fine publication, I don't recall ever having seen any mention of one of my favorite types of music—barbershop harmony. I for one would be thrilled to see your reviewers do analyses of the many excellent examples of barbershop chorus and quartet records being sold today, as would the 30,000 or so other members of the Society for the Preservation and Encouragement of Barber Shop Quartet Singing in America—many of whom I'm sure are subscribers to Stereo Review.

I was a musician, both serious and jazz, while in college, but now my only outlet is the San Diego Sun Harbor Chorus. I once felt any vocal music without instrumental accompaniment was unthinkable, but when I experienced my first 'ringing chord' over-tone in a quartet I was a goner.

Gene Hartzler, President
San Diego Chapter, S.P.E.B.S.Q.S.A.
San Diego, Cal.

The Music Editor replies: "I admire and concur with Mr. Hartzler's enthusiasm for a venerable form of music and I admit to including in my own modest musical background those years of singing lead with a barbershop quartet. Records of barbershop quartet singing, though, I think are another" (Continued on page 14)
The same precision that guides the automatic pilot of a 747 tunes the Pioneer SX-2500.

Just press the tuning bar and the servomechanism takes over. It stops the dial pointer precisely at the zero point of detector. The result: a dead center tuning which you can actually see when the tuning needle lights up. And you can tune from two to three feet away with the convenient remote control unit which also adjusts the volume.

Rated at 340 watts IHF (72/72 RMS at 8 ohms), Pioneer endowed the SX-2500 with extraordinary versatility. It has five inputs and seven outputs, accommodating two pairs of speaker systems. The FM section alone features five IC's and two crystal filters for superb selectivity. Employing three dual gate FET's, sensitivity is a matchless 1.8 mV, to pick up even the weakest stations. Or you can flip the Local Station Switch and decrease the sensitivity to pick up the strongest local stations only. When you're looking for stereo programs, the Stereo Selector Switch automatically tunes in those stations broadcasting in stereo only.

Whatever retirement you're looking for in an AM-FM stereo receiver, Pioneer has designed into the SX-2500. There are stepped tone controls ... loudness control control ... adjustable muting ... center channel output for three dimensional systems. Pre and main amplifier may be used independently with multi-amp stereo systems.

The SX-2500 offers more meaningful features. And in the same way that the 747 offers more conveniences, the Pioneer SX-2500 offers more meaningful features than any comparably priced stereo receiver.

See and hear the SX-2500 at your local Pioneer dealer. Complete with remote control unit, $549.95.

PIONEER®

Remote Control Unit

Pioneer Electronics U.S.A. Corporation, 140 Smith Street, Farmingdale, N.Y. 11735

WEST COAST: 335 WEST 134TH ST., GARDENA, CALIF. 90240 • CANADA: S. H. PARKER CO., 87 LE3M L.L. RD., DON MILLS, ONTARIO
Scott is your best investment in sound. But more important, it makes tuning perfect. Tuned for both lowest distortion and best reception. It makes tuning which scans the other tuner circuits and flashes a light when you're tuned for both lowest distortion and best reception. It makes tuning easy, but more important, it makes tuning perfect. Just one more reason why Scott is your best investment in sound.

Scott's Perfectune is a specially developed digital computer circuit which scans the other tuner circuits and flashes a light when you're tuned for both lowest distortion and best reception. It makes tuning easy, but more important, it makes tuning perfect. Just one more reason why Scott is your best investment in sound.

Quality Rock

As a college student and an enthusiast of both rock and "serious" music, I would like to suggest that people who think rock inferior to classical music (such as Mr. Jim Williams, who stated in the August "Letters" column that "though babies can be fed macaroni and cheese they have to grow up a little before they can digest steak") have been experiencing rock the wrong way. There is an immense difference between music produced by the Fifth Dimension and that by Crosby, Stills and Nash. The former is the type of music played on top-forty radio stations and is what most people base their opinion of rock on. If one goes to "live" concerts or listens to the so-called "underground" radio stations, he will experience very serious music of high quality.

Peter B. Trezise
Ann Arbor, Mich.

The Return of Bonnie Dobson

I was surprised to read in Noel Coppage's review of Bonnie Dobson's "Good Morning, Rain" (June) that "there should be a comfortable place for [Miss Dobson] in folk music." I assume this would be the same Bonnie Dobson whose listed recordings in the Schwann catalog date back to July, 1961. If I am correct, I hope that in the future you will assign reviews only to those whose interest in recorded music motivates them to at least read the Schwann catalog.

Harry M. Kriz
Alexandria, Va.

Mr. Coppage replies: "I hardly meant to imply that Bonnie Dobson didn't exist before 'Good Morning Rain,' merely that the public hasn't heard about her so far and that therefore her place in folk music (as it is now defined) presumably isn't as comfortable as it could be. The Schwann catalog is a handy tool indeed, but I think most reviewers (unless they are writing gossip for groupies) are better advised to spend any extra minute they can find listening to the music."

Delius Society

I am member of the Frederick Delius Society, and it occurred to me that there might be other music lovers among your readers who are interested in joining. The Society is very active in promoting the music of Delius. The dues are $3.00 yearly, and one has the opportunity to correspond with others who have similar interests. The address is The Delius Society, 45 Redhill Drive, Edgware, Middlesex, England. I myself would like to hear from any of your readers who are interested in Delius.

Robert E. Lyons
56 Kenneth Drive
Pittsburgh, Pa. 15223

Wrong-way Bookspan

I don't want to hurt Martin Bookspan's ego, but I must confess to the delight of accepting his Basic Repertoire in reverse. Over the years I have managed to gather a modest collection of recordings. Each time Mr. Bookspan reviews a work that I already own, I check his suggestions against my collection. Would you believe that in most cases when I have the work I have it in a recording that he tends to frown on? Obviously, in such a subjective realm, both he and I are welcome to our choices. Each time we disagree the "game" gets more exciting.

Donald R. Hager
Hyde Park, N. Y.

Mr. Hager has just discovered Bookspan's Law: When you have found someone with whom you invariably disagree, you have found the perfect critic.

Kooper on Rock Opera

This is about a little mistake Al Kooper made in the interview he gave Dom Cerulli (April). In talking about Peter Townshend's "rock opera." Tommy, Mr. Kooper said, "but everybody else [except Townshend] just sat down and said, 'Jesus, this is going to take forever to do and I just don't have the time' or 'I just won't do it.' " Well, this isn't completely correct. A little-known Philadelphia group called Orthanc has written an opera (it was started before Tommy was publicly known) and a suite. This is just one band, and there are probably others that have done the same or something very much like it.

Patrick White
Indiana, Pa.
There wasn’t room for a big improvement. So we made a little one.

Our engineers made three changes in Sony’s popular PS-1800 playback system. They added a little button called “Automatic/Manual”; streamlined its appearance and added “A” after the PS-1800. Obviously, none of these, earth-shaking changes.

You might never use the little button labeled “Automatic/Manual,” unless you ran across a non-standard record where the recorded material goes too far into the normally “dead” space surrounding the label. Such records are few and far between. If you run up against one of them, the automatic tonearm return on the Sony would ordinarily lift and return just before the record’s end. However, if you push the button to “Manual” the arm will track the entire record until you lift it off by hand (or push the reject button).

The styling change means that this superb playback instrument will enhance any room. And the “A” will help you identify it as the new model when you visit your hi-fi specialist.

What’s more important is what our engineers didn’t do to the PS-1800; what they left well enough alone. The servo control DC motor that keeps wow and flutter at an audibly low 0.08; rumble down 60dB (ARLL). A variable pitch control from ±4% (if you don’t need it, the built-in strobe disc assures that the variation is indeed tuned out). And the balanced, low mass tone arm is capable of tracking virtually any cartridge at its lowest recommended tracking force.

Not to mention the automation system, which uses a remarkable new solid-state device, the Sony Magnetodiode (SMD). Automatically, it lifts and returns the arm without imposing any drag on the arm during play. The SMD eliminates a variety of mechanical linkages formerly necessary for this function. And there’s a reject button (on the front panel so you don’t have to lift the dust cover to get at it).

The price of the PS-1800A? No change. $199.50 (suggested list), includes turntable, arm, base and dust cover (cartridge not included). Sony Corporation of America, 47-47 Van Dam Street, Long Island City, New York 11101.
NEW PRODUCTS
A ROUNDFUP OF THE LATEST HIGH-FIDELITY EQUIPMENT

- **Atlas Sound** is marketing a microphone boom and stand assembly that can be used with any standard microphone. The Model BS-36W is adjustable in height from four to seven feet; the 62-inch boom, which is fitted with a swivel adapter, can be extended to 93 inches via an optional attachment. The assembly mounts on a triangular base fitted with rubber casters. All tubular sections are chrome plated. Price: $105.55.  
  Circle 144 on reader service card

- **Pioneer's** new SC-700 preamplifier is a relatively inexpensive stereo unit with input facilities for two magnetic phonograph cartridges, tuner, and two auxiliary high-level sources. Its bass and treble controls are of the step type, and cover a range of -12 to +9 dB at 100 Hz and -9 to +12 dB at 10,000 Hz, respectively, in 3-dB increments. Frequency response of the unit is 10 to 60,000 Hz ±1 dB, and the maximum continuous output is 4 volts per channel. The signal-to-noise ratio for the phono inputs is better than 100 dB. Harmonic distortion is under 0.5 per cent for a 2-volt output. Besides input-selector and tone controls, the SC-700 has a mode switch with positions for normal or reversed stereo, mono, or either channel through both speakers. There are also volume and balance controls, a separate on/off switch, and a front-panel headphone jack. A pushbutton operates the tape-monitor function, and another provides a 20-dB cut in volume for brief interruptions such as phone calls. The SC-700 comes with rosewood end pieces and measures approximately 12 x 4 1/2 x 10 inches. Price: $129.95.  
  Circle 145 on reader service card

- **Stanton** has recently introduced the 500AL magnetic phonograph cartridge with a 0.7-mil diamond stylus designed specifically for heavy-duty applications such as broadcast-station use. Frequency response is 20 to 17,000 Hz ±2.5 dB, and stereo separation is 30 dB. The cartridge’s output is rated at 1 millivolt for a recorded velocity of 1 centimeter per second. It is intended to work into a 47,000-ohm load and a capacitance of 275 picofarads. Recommended tracking force is from 3 to 7 grams. Price: $30.  
  Circle 146 on reader service card

- **Teac's** TCA-40 three-motor tape transport is a two- and four-channel quadrasonic playback deck that can acquire two- and four-channel record capability via certain modifications and the addition of recording electronics. The deck, which contains four playback preamplifiers, is solenoid-controlled with automatic reversing when sensing foil is applied to the tape. Frequency response for its two operating speeds is 50 to 15,000 Hz ±3 dB (7 1/2 ips) and 50 to 7,500 Hz ±3 dB (3 1/2 ips); wow and flutter are 0.12 and 0.15 per cent, respectively. The signal-to-noise ratio is 50 dB for the 7 1/2-ips speed. The TCA-40 has a tape-tension selector pushbutton and end-of-tape automatic shutoff. In addition to the playback head it has prewired but inactive two-channel record and erase heads. With the addition of an RA-41 record-preamplifier module (and adjustment by a qualified technician) the deck acquires two-channel recording capability; two record-preamplifier modules and replacement of the record and erase heads permit four-channel simultaneous recording. Each two-channel module incorporates two VU meters, two inputs and level controls each for line and microphones (inputs can be mixed), and playback-level controls for each channel. There are also record pushbuttons for each channel, a tape-monitor switch, and a stereo headphone jack. Both the transport deck and the record-preamplifier modules come in walnut enclosures. Dimensions for the two units are 17 1/2 x 12 x 7 inches (transport) and 17 1/4 x 4 1/4 x 7 1/4 inches (dual preamplifier). Different combinations of the modules have different model numbers and prices. The transport alone (TCA-40) is $365; the transport with one record-preamplifier module (TCA-41, shown) is $535; the transport with two modules (TCA-42) costs $695.  
  Circle 147 on reader service card

- **Electro-Voice** is offering free a thirteen-page booklet entitled Microphone Primer for the Professional Performer. Sections included are a glossary of microphone terms, operating tips, and brief treatments of such topics as microphone theory, pick-up patterns, and impedance matching. Also included is a chart listing the dynamic microphones currently in the Electro-Voice line and their performance features and characteristics.  
  Circle 148 on reader service card

- **Norelco** is introducing a new line of stereo components that includes the Model 790 AM/stereo FM/shortwave receiver. The short-wave frequencies covered are 6 to 18 MHz. The walnut-encased unit has, besides the usual volume, balance, bass, treble, and manual tuning controls, an automatic-tuning function with pushbuttons for three preselected FM stations. (A separate tuning dial is provided for the automatic function.) Other pushbuttons select station numbers and speeds. Price: from $250.  
  Circle 149 on reader service card

(Continued on page 18)
The CAD4 made cassettes respectable.

The CAD5 makes them preferable.

Until Harman-Kardon introduced the CAD4 a little more than a year ago, most people viewed the cassette recorder as a convenience rather than as a high performance recording medium. The CAD4 changed all that. Most of the seemingly inherent shortcomings of cassettes were designed out of the CAD4. Wow and flutter were drastically reduced. Frequency response was considerably extended. And speed stability optimized. In fact, Electronics World in comparing the CAD4 to several other top quality cassette machines, summed it all up when they said, "The Harman-Kardon CAD4 is the best of the group in performance..."

Now with the new CAD5, we have taken the next logical step in establishing the cassette as the medium of choice for the high fidelity enthusiast. By adding the widely acclaimed Dolby noise reduction system, we have for all practical purposes, eliminated the problem of tape noise.

In brief, the Dolby system boosts low-level, high frequency signals during recording and then attenuates them in a complementary manner during playback. This produces a 10 dB improvement in the signal-to-noise ratio without introducing any audible distortion or altering the original program material.

The result: the kind of dynamic range and clarity usually associated only with the most expensive reel-to-reel recorders.

We have also anticipated recent improvements in tape technology, by including a special control which provides the proper equalization and bias adjustments for the new chromium dioxide low noise tape.

To sum up, we set out to produce a tape recorder that combined simplicity and convenience with exacting performance standards. The CAD5 is that instrument.

For a more comprehensive description of the CAD5 and the Dolby system, please write. Harman-Kardon, Inc., 55 Ames Court, Plainview, N.Y. 11803. Dept S.

CAD5 (with Dolby) $229.95, CAD4 (without Dolby) $159.95.
NEW PRODUCTS
A ROUNDUP OF THE LATEST HIGH-FIDELITY EQUIPMENT

puts (phono, tape, and tuner) and such operating features as AFC, high-cut filter, loudness, and mode. There are also a signal-strength tuning meter, stereo-broadcast indicator light, an on/off pushbutton, and switching for two pairs of speakers. A stereo headphone jack is located on the side of the cabinet.

The Model 790 has a continuous power output of 25 watts per channel (8 ohms, both channels driven), under 0.2 per cent harmonic and 0.5 per cent intermodulation distortion at all power levels, and a frequency response of 20 to 20,000 Hz ±0.5 dB. The power bandwidth is 18 to 30,000 Hz; signal-to-noise ratios for the phono and tape-recorder inputs are 70 and 80 dB, respectively. The FM section has a sensitivity of 5.5 microvolts, a 4-dB capture ratio, and 48-dB selectivity. The unit has dimensions of 20 1/2 x 3 3/4 x 10 inches and weighs 20 pounds. Suggested retail price: $299.95.

Circle 149 on reader service card

• Shure's new A95 series of microphone line-matching transformers are available with phone plugs or Amphenol-type connectors at their high-impedance ends. The low-impedance ends are fitted with Cannon connectors, either male or female. The transformers are intended to be used for matching low-impedance microphones to high-impedance mike inputs (and vice versa). The high-impedance ends of the devices are rated at 50,000 ohms; the low-impedance ends offer a choice of two ranges—35 to 50 ohms and 150 to 250 ohms—for different cable impedances. Their shielded steel cases are 3/4 inch in diameter and range in length from 2 1/2 to 3 1/2 inches. Prices of the various models: A95A (male Cannon and Amphenol), $19; A95P (male Cannon and phone plug), $21; A95F (female Cannon and Amphenol), $22; A95FP (female Cannon and phone plug, shown), $24.

Circle 150 on reader service card

• Pickering is supplying their current line of phono cartridges with snap-in mounting inserts for quick tone-arm installation with proper alignment. The mounting flanges of the cartridge snap into the insert, which then snaps into the cartridge shell via the shell's normal mounting facilities. The plastic inserts come in four configurations designed to fit the cartridge shells of most popular automatic and manual turntables.

Circle 151 on reader service card

• Nikko's new Model 1101 AM/stereo FM receiver has unusually complete control facilities for two pairs of stereo speakers and two stereo headsets. These include separate slider-type volume controls for each channel of the main speaker pair, and a separate stepped rotary level control for the remote speakers. Two illuminated output-level meters continuously monitor the signals going to the main amplifier output and power amplifier input, three a.c. accessory outlets (one switched), and a complete set of inputs and outputs that includes a DIN jack for tape-recorder connection. Resettable circuit breakers protect the power supply and output transistors. An unusual feature is a slide switch that introduces bass boost for those speaker systems that might benefit from it.

Specifications for the Model 1101 include a continuous power output of 37 watts per channel into 8 ohms with both channels driven, with 0.3 per cent harmonic distortion and 0.6 per cent intermodulation distortion. Signal-to-noise ratios are 70 dB for the phono input and 75 dB for high-level inputs. Frequency response (auxiliary input) is 20 to 40,000 Hz ±1 dB. The FM-tuner section uses both crystal and ceramic i.f. filters and has a sensitivity of 1.5 microvolts, 40-dB separation at 1,000 Hz, and a capture ratio of 1.5 dB. The receiver is 18 1/2 x 6 1/2 x 14 3/8 inches overall and is available in a black metal or walnut cabinet for $399.95 and $419.95, respectively.

Circle 152 on reader service card

• CBS has introduced the M-400 cassette playback-only deck, an automatic-reverse unit that can also be set to repeat both sides of a cassette indefinitely. Frequency response is 70 to 10,000 Hz, and the noise level is under 6 millivolts for a signal output of 0.5 volt. Switching between the automatic-reverse and continuous-repeat modes is accomplished through a two-position rocker switch. A pushbutton permits tape direction to be reversed at any time. Further specifications for the M-400 are: wow and flutter under 0.25 per cent; crosstalk better than 25 dB; a fast-forward/rewind time of 90 seconds for a C-60 cassette. The M-400, which measures approximately 7 3/4 x 3 3/4 x 11 inches, comes with a walnut wrap-around cabinet. Patch cords are supplied. Price: $99.95.

Circle 153 on reader service card
Here's an easy and convenient way for you to get additional information about products advertised or mentioned editorially in this issue. Just follow the directions below and the literature will be sent to you promptly and free of charge.

Tear out one of the perforated postage-free cards. Please print or type your name and address where indicated.

Circle the number on the card that corresponds to the key number at the bottom of the advertisement or editorial mention that interests you. (Key numbers for advertised products also appear in the Advertisers' Index.)

Simply mail the card. No postage is required.

This address is for our "Free Information Service" only. All other inquiries are to be directed to, Stereo Review, One Park Ave., New York, N.Y. 10016.

The "Free Information Service" is available to all readers of STEREO REVIEW. If your copy is passed along, the next reader can also take advantage of this Service. All they have to do is tear out one of the remaining cards and follow the same directions.

STEREO REVIEW's Free Information Service makes it easier for you to "shop by mail."

---

### Free Information Service Form

**Please print**

<table>
<thead>
<tr>
<th>NAME</th>
<th>ADDRESS</th>
<th>CITY</th>
<th>STATE</th>
<th>ZIP CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Zip Code must be included to insure delivery (Valid 90 days after date of issue)*

---

**Please print**

<table>
<thead>
<tr>
<th>NAME</th>
<th>ADDRESS</th>
<th>CITY</th>
<th>STATE</th>
<th>ZIP CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Zip Code must be included to insure delivery (Valid 90 days after date of issue)*

---

**Please print**

<table>
<thead>
<tr>
<th>NAME</th>
<th>ADDRESS</th>
<th>CITY</th>
<th>STATE</th>
<th>ZIP CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Zip Code must be included to insure delivery (Valid 90 days after date of issue)*
Stereo Review's Free Information Service can help you select everything for your music system without leaving your home.

By simply following the directions on the reverse side of this page you will receive the answers to all your questions about planning and purchasing records, tapes and stereo systems: how much to spend, what components to buy first—and from whom; which records are outstanding and worthy of a spot in your music library; how to get more out of your present audio system; which turntable... cartridge... tuner... headphone... loudspeaker... etc., will go with your system. All this and much more.
We put a little more feature into each feature.

The Miracord 50H not only offers more features than any top quality automatic turntable on the market, but each feature offers more. Here's what we mean.

- Two worthy competitors offer a kind of synchronous motor. Neither motor, however, can qualify as a hysteresis synchronous motor. And, neither is a Papst hysteresis synchronous motor. The Papst is the one used in professional studio record-playing equipment. The Miracord 50H uses the Papst hysteresis synchronous motor with outer rotor for unvarying speed accuracy, regardless of the voltage or load fluctuation.

- When examining the cueing feature, be sure to ask whether cueing works in both automatic and manual modes. Because, in automatic, where one leading automatic turntable doesn't work, cueing represents the ideal device to interrupt play for just a moment when there are a stack of records on the spindle. The Miracord 50H provides silicone-damped cueing in both modes.

- Stylus overhang adjustment is essential for optimum tracking. Another automatic turntable does feature this adjustment, but it's internal and difficult to set. The Miracord 50H offers external overhang adjustment with built-in gauge—no shifting, no guess work, no templates. You can line up your stylus in seconds accurately.

- Now here's the feature no one has. Those light touch pushbuttons that make it so easy for you to enjoy all of those other wonderful Miracord 50H features. The pushbuttons provide simple, foolproof operation. For example, the 50H is the only automatic changer that can go from manual to automatic or vice versa without re-setting.

- Over the past few years, Miracord 50H has proven its reliability and enhanced its position of leadership by its superb performance in thousands of home music systems. The finest automatic turntable available today costs $175.00 At leading hi-fi dealers. Benjamin Electronic Sound Corp., Farmingdale, N.Y. 11735, a division of Instrument Systems Corporation.

Miracord 50H
Non-recording Cassettes

Q. Some of my cassettes apparently do not fit correctly into my machine because I cannot record on them, but for some reason they play back correctly. Others appear to be able to record on one side but not on the other. These cassettes were given to me by a friend after he had used them and perhaps his machine did something to the cassettes that made them unrecordable on mine. Any ideas?

ANDRE GILLAN
Los Angeles, California

A. Over the past year or two, I have received several letters on this same problem. I suspect that in most cases, it is not a defect in the machine (I discussed that problem a couple of columns ago) but rather the fact that the knockout tabs on the cassette itself have been removed. The illustration below will clarify the point. The two tabs can be removed easily by pressing them in with a ball-point pen. Once the respective tab for a side has been removed, an interlock built into all cassette players (as part of the Philips-enforced standardization) prevents that side from being recorded over or erased. If, at some later date, you wish to erase, record over, or add to the material on the side, simply put a piece of adhesive or masking tape over the tab area and the cassette is restored to its original recordable condition.

Broadcast-quality Equipment

Q. I have recently been taken on a tour of a local FM broadcasting station and discovered that they were using a GE magnetic cartridge in a Gray tone arm on their turntable, and, in addition, had a lot of other equipment with brand names that I had never even heard of. Can you tell me where I can get further information on such brands, since cost is secondary and I am anxious to set up my home stereo system with the best available equipment?

ARNOLD CULLAHY
Stamford, Conn.

A. Your ambition is laudable, but your approach is misguided. It is a mistake to think that the equipment one finds in a broadcast station is invariably the "best available" for the home. In general, broadcast equipment is designed to be rugged enough to stand up under 24-hour-a-day use, and niceties of performance are frequently sacrificed in favor of durability. In addition, much of the equipment, including the cartridge you mentioned, is designed for 600-ohm impedances, which have no significance for home equipment. You'll also find that the tracking force used with the record player is probably 3 grams or higher—a force that no self-respecting audiophile would dream of using. Frequently, the audio equipment found in broadcast stations is supplied by the company that manufactured their transmitter, and whose notions of audio-equipment standards are unfortunately somewhat behind the times.

"Mushy" Tapes

Q. A friend maintains that some prerecorded tapes are too heavy with oxide. This was in response to my experience that some of my older tapes have what might be described as mushy spots that occur at the same exact place each time the tape is played. The situation is not helped by head cleaning and so forth. If, indeed, excess oxide does build up on certain brands, what would be the recommended procedures for cleaning such tapes?

J. J. LOUX
Exeter, Pa.

A. I doubt that oxide buildup is the source of your problem. Mushy spots, I assume that you mean either a loss of volume, a loss of the higher frequencies, or both. Both of these could be caused by physical distortion of the tape.

(Continued on page 26)
"A smooth, open, and well-balanced response..."

"...can handle up to 95.5 watts of average power...the Model 33 may be used with just about any amplifier on today's market..."

"...no significant distortion at normal listening levels...above average smoothness for a compact speaker..."

"...Model 33 has a full bodied, well-balanced, transparent quality...seems to put the performers a bit 'more in the room'..."

Those are some of the things High Fidelity magazine had to say about the new KLH Model 33 speaker in the August 1970 issue. We can say more. For further information, write to KLH Research and Development Corporation, 30 Cross Street, Cambridge, Mass. 02139, Dept. SR-10, or visit your local KLH dealer.

Suggested retail price of Model 33—$99.95 (slightly higher in the west).
The fussiest fans in the business keep getting hooked on our line.
Today's audiophile is a demanding type. Demanding components for specific purposes. And demanding them when he wants them.

He's our kind of customer, and we've usually led the industry in meeting his demands. Before that, many of these components were available only in limited hand-made or professional supply.

We were the first to design and build plug-in heads for home decks. First to make automatic reverse. And first on the home deck market over two years ago with four-channel stereo tape decks.

To stay first in new product concepts, we manufacture all our own critical components. This gives us the design flexibility that other companies lack.

And we've found that projecting tomorrow's needs is the best way to keep reeling in today's fans.
In 1948, University Sound made home high fidelity possible.

In 1970, we made it perfect.

In 1948 University unveiled the world’s first popularly priced, full fidelity speaker—the 6201—and home high fidelity was born.

In 1970 University unveils the finest, fullest line of high fidelity products in the world—and home high fidelity is finally perfected.

THE VEGAS

Twice as big as a good-sized bookshelf speaker. With four times the sound. For about the same kind of money. 15” woofer and large enclosure mean the biggest, sharpest bass you’ve ever heard—regardless of price.

Specifications:
- Free-standing, three-way speaker system
- Frequency Response: 25-20,000 Hz
- Power Handling Capacity: 35 watts IPM
- Impedance: 8 ohms
- Components: University M-15T, 15” three-way full-range speaker
- Controls: Continuously variable brilliance control recessed in back
- Finish: oiled walnut
- Dimensions: 23” x 24” (W) x 15” (D)
- Walnut base optional

UNIVERSITY SOUND: the finest, most complete line of high fidelity speaker systems in the world from the world’s leading manufacturer of electroacoustic products.

P.O. Box 26105, Oklahoma City, Oklahoma • A quality company of LTV Ling Altec, Inc.

Overly Loud Speakers

I have a pair of inexpensive extension speakers on my patio. I find that when they are played in conjunction with my main speakers, they are much too loud. I tried using an L-pad level control in series with each of the extension speakers, but found that it burnt out after a while. Can you suggest a solution?

IVAN SILVERSTEIN
Chicago, Illinois

Although you do not mention it, I suspect that you own a high-wattage amplifier and that your main speakers are acoustic-suspension types. The high power would account for the burn-out, particularly since you probably had to keep the L-pads well turned down to equalize the volumes between the inefficient acoustic-suspension speakers in the living room and the efficient, though inexpensive, extension speakers. The solution to your problem of level balance would be to use either heavy-duty L-pads (which could be quite expensive) or wire pairs of fixed resistors as L-pads as shown. You can buy 25-watt resistors for about 35¢ each, although they may run warm. Certainly should be able to handle the power levels involved.

Assuming that your extension speakers have an 8-ohm impedance, then for a 6-dB reduction in level, R1 should have a value of 4 ohms and R2 should be 8 ohms. Since resistors will be hard to find in exactly these values, get the nearest available value that is within an ohm or two. The general rule is that an increase in the value of R1 and/or a decrease in the value of R2 will result in greater attenuation of the signal.

Because the number of questions we receive each month is greater than we can reply to individually, only those questions selected for this column can be answered. Sorry!
180 WATTS SANSUI POWER

SANSUI 5000A

180 (IHF) watts of Sansui power are built into the 5000A—an AM/FM stereo receiver that has been created for the connoisseur who demands the ultimate in tonal magnificence and clarity of sound. The Sansui 5000A features a new FM Pack with linear tuning for greater selectivity and pin-point station selection. All-Silicon AM tuner for maximum stability. Inputs for three separate sets of speaker systems. Records up to 4 tape decks simultaneously—just a few of the features which will make the Sansui 5000A the nucleus of your most comprehensive hi-fi music system for years to come. At your Sansui Audio Dealer. $399.95

SANSUI ELECTRONICS CORP.
Woodside, New York, 11377 • Los Angeles, California 90007

SANSUI ELECTRIC CO., LTD., Tokyo, Japan • Frankfurt a M., West Germany • Electronic Distributors (Canada), British Columbia

CIRCLE NO. 44 ON READER SERVICE CARD

OCTOBER 1970
HANDEL had no patience with privilege.
He spoke and wrote his mind.
Happily for us. Because E. Power Biggs has now chosen 9 rich examples of the master's work, most relatively unknown, for a new Columbia album. And better still, when you want to attend a Handel concert, George Frideric will still be there.

ON COLUMBIA RECORDS

STEREO MUSIC CENTER
from “shelf speakers”

we can’t seem to stop designing new and better cabinets... have you seen our brochure lately? it’s free.
for a fast reply, mail this ad with your return address.

SUBJECTIVITY necessarily enters into everything we perceive, and philosophers and psychologists have struggled to understand the various discrepancies between objective reality and our personal experience of it. In human hearing, one of the most puzzling elements of subjectivity is that the balance between the different frequencies in music changes as a function of loudness.

Nearly everyone has noticed that when one turns down the volume of a sound system, the music doesn’t just get softer. Its tonal balance changes also. The low notes seem to drop out, leaving the sound texture thin and tinny, and the sparkle of extreme highs suddenly seems dulled. Why, one might ask, does a change in volume also produce a change in quality? Why doesn’t the music sound “the same,” only less loud?

The answer is that the frequency response of the ear itself differs at various volume levels. At moderately high sound levels in the range of 60 to 80 dB (such as the sound of an orchestra playing fairly loud) the frequency response of the ear is almost “flat”; that is, all frequencies—high, middle, and low—are heard with a relative loudness proportional to their actual physical energy. But if the level is reduced, the higher frequencies, and especially the lower ones, no longer sound proportionally as strong as those in the mid-range (about 1,000 to 5,000 Hz). People noticing this tend to drop out, leaving the sound texture thin and tinny, and the sparkle of extreme highs suddenly seems dulled. Why, one might ask, does a change in volume also produce a change in quality? Why doesn’t the music sound “the same,” only less loud?

The causes for this nonlinear response of the ear are still a mystery, but the effects have been carefully studied in audiometric measurements made by two American scientists, Harvey Fletcher and Wilden A. Munson, some thirty years ago. Their data, summarized in the so-called Fletcher-Munson curves, form the basis for the design of the loudness compensation provided on many amplifiers, which boosts low and sometimes high frequencies at low listening levels in an attempt to provide the illusion of full sound even when the volume control has been turned down.

Even more puzzling, if less noticeable, is another aspect of aural subjectivity (as opposed to physically measurable sonic reality) by which change of loudness is also experienced as change of pitch. And to complicate matters, the direction of change is opposite in different parts of the tonal spectrum. High notes tend to sound slightly higher with added volume, even if their objective frequency stays absolutely constant. Low notes, by contrast, sound lower in pitch as the sound-energy level goes up.

Musicians had an empirical “feel” for these curious attributes of human hearing long before these factors were systematically explored by modern psychoacoustic techniques. As a result, they made allowances for the different ways in which the ear perceives the same note at high or low intensity. In scoring a pianissimo, for example, a composer would almost instinctively take account of the Fletcher-Munson effect in the way he imagined the balance of the high and low instruments. Similarly, he would have an unconscious awareness of the subtle changes in pitch perception at various volume levels.
Some people are only satisfied with one thing. The very best their money can buy.
They’re the people we build a $600 stereo FM receiver for.
Sherwood's SEL-200. Quite possibly the finest receiver of its kind on the market today, according to the great reviews we’re getting.
The SEL-200 does everything first class. It offers 60+60 watts RMS at 8 ohms. It boasts the industry's lowest FM distortion—0.15%. Our exclusive hush control gives the quietest interstation muting available.
Then on the face of things, there are separate main, remote and mono speaker switches. Meters to gauge zero-center tuning and signal strength. Front panel tape monitor and record-out jacks. And a full complement of well designed pushbuttons, selector switches and rear panel outputs.
On top of it all is a beautifully hand rubbed walnut cabinet (available, optional). And a 3 year warranty that covers parts and labor.
If all that doesn't sell you, take a good look at your own receiver. And then see our SEL-200. Just $599.00.
Remember, it's only money.

For more information, and complete specifications, write today.
Sherwood Electronic Laboratories, Inc.
4300 North California Avenue,
Chicago, Illinois 60618.
Four Japanese music critics rated the AR-3a best of fifty domestic and imported speakers.

In Japan, Stereo Sound magazine recently conducted a listening comparison test of fifty Japanese, American, British and German speaker systems. Four distinguished Japanese music critics brought their own records to test, and each spent four full days of 8 to 14 hours comparing speakers. The location of each speaker system was changed daily behind the acoustically transparent curtain which also concealed the size and identity of the tested units. The critics were asked to rate each speaker system as superior, excellent, good or unacceptable for each of seven kinds of music and were encouraged to use the volume and tone controls of the amplifier. A JBL SA600 amplifier and Shure and Ortofon cartridges were used.

The AR-3a received the highest score of all the systems tested. It was also the only speaker system rated excellent or superior in every music category by every critic. This is of particular interest since the critics were carefully prevented from communicating with each other during the test period.

Complete technical specifications of the AR-3a are available free on request.

Acoustic Research, Inc.
24 Thorndike Street, Cambridge, Massachusetts 02141
TECHNICAL TALK
By JULIAN D. HIRSCH

SPECIFICATIONS 16—How to Interpret Performance Curves: After an audio component has been tested by Hirsch-Houck Labs, the data must be converted into a form that conveys the desired information to the reader. An experienced audio engineer could probably examine our raw test data and interpret it at a glance. Yet the average audio hobbyist, to say nothing of the nontechnical reader, would find much of it incomprehensible or misleading.

Test results can be presented in three ways: in the form of tables, in graphs, and verbally. All of these are used in our reports. We rely heavily on verbal descriptions, which are most meaningful to nontechnical readers and also circumvent possible problems with misinterpretation of the data. Occasionally we use tabular data listing, but this is most useful when a comprehensive report on a number of similar products makes it desirable to list similar properties of competitive equipment so that they can be readily compared. Normally, the test data in our reports are presented graphically in those cases where simple verbal statements are inadequate.

It is apparent from some readers' correspondence that they are having difficulty interpreting our graphs. Therefore, some typical data will be presented and analyzed here, so that even a nontechnical reader should be able to follow the equipment reports in these pages.

Let us examine a typical amplifier (in this case, actually the amplifier section of a receiver). We measure the distortion of the amplifier at three power levels (full rated output, half power, and one-tenth power) at each of thirteen test frequencies between 20 and 20,000 Hz. Rather than simply publish the thirty-nine test data points, we plot on audio graph paper the distortion curves for the three power outputs as a function of frequency (see Fig. 1). Notice that we use a logarithmic vertical scale for distortion. This allows us to plot an extremely wide range of distortion figures without loss of clarity. In this case, the plot extends from 0.01 to 1 per cent, but the range could be extended at either end if the amplifier's performance warranted it. If distortion were plotted on a linear distortion scale, low distortion values would be compressed at the bottom of the scale and much of the detail sacrificed. In the case of some of the best amplifiers with distortion well below 0.01 per cent, the distortion curve would merge with the "zero per cent" axis and become unreadable.

What does the graph of Fig. 1 tell us about this amplifier? The close spacing and generally similar shapes of the three curves indicate that the distortion at any frequency above about 50 Hz changes very little with power. The rising distortion below 50 Hz at full power output is typical of many amplifiers, and indicates insufficient power-supply regulation to maintain rated power output at very low frequencies. This is a common phenomenon in receivers, where space and cost considerations limit the size of the power-supply components. But this limitation may not be significant from a listening standpoint unless the amplifier is used with low-efficiency speakers to reproduce material with strong low-bass content.

In Fig. 2, distortion is plotted as a function of power output at a fixed mid frequency of 1,000 Hz (1 kHz). This reveals three characteristics of the amplifier—its maximum mid-range power output (above which distortion increases rapidly), the distortion at typical listening levels of a watt or so, and the distortion at very low output levels. In this example, we see that the maximum output is about 45 watts per channel (with both channels driven), the distortion at most output levels is about 0.16 per cent (entirely negligible), and even at 0.1 watt the distortion rises to only 0.27 per cent. Some solid-state amplifiers with incorrect biasing of the output transistors show a large increase in distortion—as much as 1 or 2 per cent—at low power. On the same coordinates, we plot the intermodulation distortion (IM) as a function of power. This curve often resembles the harmonic-distortion curve, but is typically higher in value.

In these two simple graphs, we are able to describe, quite completely, the variation of distortion of an amplifier over a wide range of frequencies and power-output conditions. Even the page of tabular data from which these curves were prepared could not convey the same information as clearly and quickly.

TESTED THIS MONTH

Advent 100 Noise-Reduction Unit
Sony ST-S100 AM/Stereo FM Tuner
Sony TA-1144 Amplifier
Ampex 1455A Stereo Tape Deck

(Continued on page 37)
Now everybody can afford one.

Until last year the least-expensive Marantz FM stereo tuner you could buy cost as much as $750.00! Today, Marantz tuners are available in other than very-high price ranges. And so are other Marantz components. True, you can still invest well over $2000.00 in a Marantz system, but now we have components starting as low as $259. Though these lower-priced models do not have every unique Marantz feature, the quality of all models is exactly the same. Marantz quality. And quality is what Marantz is all about.

Take our tuners for example. You will find the Marantz Model 23 AM/FM stereo tuner attractively priced at only $259. Looking for a great Tuner/Preamplifier? Look at the Marantz Model 24 AM/FM Stereo Console. Just $339.

Need a preamp/amp? Consider the Marantz Model 30 Stereo Amplifier Console. 120 watts RMS (180 watts IHF). Priced at $450. In the market for a superior power amplifier? Shop for the Marantz Model 32 with 120 watts RMS (180 watts IHF). Only $295.

And for those who want the ultimate Marantz system, we offer: the Model 33 Stereo Console, the Model 16 Stereo Power Amplifier with 200 watts RMS continuous (300 watts IHF), and the Marantz custom-calibrated Model 20 FM Stereo Tuner. Total price—$1440 plus speakers.

Every Marantz component, regardless of price, is built with the same painstaking craftsmanship and quality materials. Your local dealer will be pleased to demonstrate Marantz systems. Then let your ears make up your mind.
Now that you know you want a Dual, the next question is which one?
It's not an easy decision to make. There's such a wealth of precision built into every Dual that even the testing laboratories can measure only small differences in performance among the Dual 1215 at $99.50, the 1209 at $129.50 and 1219 at $175.00.

This raises an interesting question for you to consider: What are the important differences to you among these three Duals?

Let's consider them in turn.

Even our lowest priced turntable, the 1215, boasts features any turntable should have (and few do).

Its low-mass counterbalanced tonearm accepts the most sensitive cartridge available today and tracks flawlessly as low as 3/4 gram.

Tracking force and anti-skating settings are ingeniously synchronized, so one setting does for both. The cue control is silicone-damped, and eases the tonearm onto the record more gently than a surgeon's hand.

The hi-torque motor brings the heavy 3 3/4 pound platter to full speed in less than a half turn, and maintains that speed within 0.1% even if line voltage varies widely.

And it even has a control to let you match record pitch with less fortunate instruments such as out-of-tune pianos.

Even a professional doesn't need more.

But you may want more. In which case the 1209 offers some refinements that are both esthetically pleasing and add something to performance.

For example: its tonearm tracks at as low as a half gram. Its anti-skating system is calibrated separately for elliptical and conical styli. Its counterbalance features a 0.01 gram click-stop. And its motor is hi-torque and synchronous.

Now what could the 1219 add to this?

The only true gimbal suspension ever available on an automatic arm. Four identical suspension points, one ring pivoting inside another.

And the Mode Selector, which shifts the entire tonearm base — down for single play, up for multiple play — so that the stylus will track at precisely the correct angle (15°) whether playing one record or a stack.

The tonearm is 8 3/4" long, and the 12 inch dynamically balanced platter weighs 7 pounds.

So the question really isn't which Dual is good enough, but how much more than “good” your turntable has to be.

If our literature doesn't help, perhaps a visit to your dealer will.

Exquisite Martell. There's nothing lost in translation.

No matter how you interpret Martell, it never loses its meaning. The taste is exquisite. The aroma, superb. And these beautiful qualities come through any way you serve it. The original is for purists in the snifter. But see for yourself how Martell translates your favorite drink into something eloquent.

M A R T E L L ... T H E L A R G E S T S E L L I N G C O G N A C S O F T H E W O R L D
similar data may be presented in different form. A common weakness of many published curves is the omission of intermediate calibration points, with a resulting ambiguity in interpretation. In our Stereo Review equipment reports, we use a logarithmic distortion scale, covering the full range of distortion required to describe the amplifier accurately, and with sufficient detail so that the desired information can be extracted from the curves.

~ EQUIPMENT TEST REPORTS ~

By Hirsch-Houck Laboratories

ADVENT MODEL 100 NOISE-REDUCTION UNIT

- Most audio enthusiasts have heard of the Dolby noise-reduction system, which is now used by most recording companies to improve the signal-to-noise ratio of their master tapes by some 10 dB or more. The professional Dolby equipment, which operates independently in four separate frequency bands, is large and expensive. However, a simplified single-hand version, known as the "B-Type," is now available at a much lower price.

The Advent Model 100 Noise Reduction Unit is an "add-on" B-Type Dolby system, designed to record and play back with any home stereo tape recorder. The operating principle is simple. When the input signal level is low (the only time tape hiss can be heard), the high-frequency response is boosted in the recording channel. The amount of boost is controlled by the signal level (there is no boost for high-level signals). During playback, a complementary treble roll-off is applied, also as a function of level. Ideally, the playback roll-off exactly compensates for the recording boost, resulting in a flat overall record/playback characteristic at all levels. However, any hiss introduced in the tape recording is reduced by the playback roll-off—it is not unusual.

Fig. 1. Distortion for reference, half, and low-power outputs is virtually identical except at low frequencies, where power-supply inadequacies cause it to rise at the reference power.

Distortion for reference, half, and low-power outputs is virtually identical except at low frequencies, where power-supply inadequacies cause it to rise at the reference power.

Although the Dolby system is dynamic, and the response characteristics of the recording and playback channels are constantly changing, the complementary actions of the two portions of the system are designed to be precisely matched and completely inaudible in their action. The success of the system depends on close control of signal levels at all points. A properly adjusted Dolby playback system will function with any tape made on any other correctly calibrated Dolby recording system. However, noise reduction in playback will not occur with tapes not made through a Dolby unit.

The Advent Model 100 is a compact, self-powered unit measuring 12 3/4 x 5 x 8 1/4 inches. Its profusion of knobs might seem somewhat formidable to the uninitiated, but it is really very simple to use. When connected to a system employing an amplifier or receiver, it is inserted in the tape-recording/tape-monitoring path of the amplifier. The inputs and outputs of the tape recorder are then connected to the Model 100. All the Model 100 circuits are duplicated for stereo applications.

Advent supplies both a reel of tape and a cassette recorded with the standard Dolby 400-Hz reference level. With the appropriate calibration tape played through the recorder, the individual channel playback-calibration controls on the Model 100 are adjusted for correct indications on its two meters. This assures that the Dolby circuits will receive the correct levels from any Dolbyized recorded tape.

To record a tape through the Dolby system, the recorder is loaded with the tape to be used, and a spring-loaded switch on the Model 109 is pushed while the machine is in the record mode. This records a standard-level 400-Hz tone which, upon playback, should deliver the same level to the Dolby circuit as the calibration tape did. If the output is high or low, the tape machine's recording-level controls are reset and the process repeated until the recording circuits are calibrated. If the recorder has three heads, this can be done in a single continuous operation instead of by several approximations.

After calibration, the recorder is ready to record and play back through the Dolby circuits, provided its controls (Continued on page 40)
Our second most important announcement since we invented high fidelity:

Introducing the Fisher 701, the

In 1937, Fisher announced the first high-fidelity system available to the public. (The original system is now in the permanent collection of the Smithsonian Institution.)

In the thirty-three years that followed, Fisher made other significant contributions to the science of sound reproduction.

But there has never before been anything like the Fisher 701. We believe it's the most important development in sound reproduction since the invention of high fidelity.

Why four channels?
The difference between four-channel and two-channel stereo is just as dramatic as the difference between two-channel stereo and mono.

And for a very good reason. With two-channel stereo, you normally have a speaker on the left, and one on the right.

And the sound reflects off the back wall, adding the acoustics of your living room to the music to which you're listening.

With four-channel, the back wall reflection is replaced by the sound from speakers on each side of the back of the room. Those speakers are providing information about the acoustics, not of your living room, but of the room in which the music was recorded. So you feel as though you were really attending a concert.

Introducing the Fisher 701.
Now that we've introduced four-channel, we'll tell you something about our new four-channel receiver.

First of all, it's not just a four-channel receiver. It's also the finest two-channel stereo receiver in existence (that, alone, would justify the $699.95 price tag).

As for FM, FM stereo, AM, or reproducing your mono or stereo records, the 701 is unexcelled.

So in a sense, the four-channel part of it is pure gravy.

And there's a way to make your stereo records and tapes sound like four-channel records and tapes.

Turn the mode selector to the 2-plus-2-channel position, and you get conventional stereo coming out of the left and right front channels, while the same signal comes out of the rear channels delayed slightly, and at a slightly reduced volume. The effect is to produce a slight reverberation, as if the music were being performed live, in a large room.

What four-channel program material is available?
As of now, the best source of four-channel program material is a four-channel tape deck, of which several models now are on the market. But several methods of transmitting four channels of information over FM stereo, and methods of providing four channels of information in a phonograph record, are being studied. We just want you to know that the Fisher 701 has the input and output jacks to make it compatible with all four-channel methods now being considered.

Three ways to tune the 701.
The Fisher 701 has conventional (yet unusually smooth) flywheel tuning.

And it has AutoScan® automatic push-button electronic tuning. Push a button and you're tuning across the FM band, silently. Release the button and you're tuned in to a station. Push the one-station-advance button and you're tuned in to the next station on the band. Tuned in with more accuracy than you could achieve with a meter or a scope.

Remote-control AutoScan® is also included at no extra cost (with the help of the Fisher accessory RK-40).

The FM section has five Integrated Circuits.
All the active elements in the FM section are Integrated Circuits. And those five ICs in the IF and multiplex sections of the 701 comprise a total of fourteen amplification stages. The result? A tuner section that brings in more stations than has previously been
thought possible. (FM sensitivity is 1.7 microvolts.) And bringing in more stations is just the beginning. Even when a strong signal from a local station threatens to overpower a weak signal from a distant station, the 701 pulls in that weak signal with incredible clarity. (Alternate channel selectivity is 65 dB!)

The wide-band AM. A lot of receivers with reasonably good FM have shamefully bad AM. But Fisher has a different policy. Our AM section is just about as good as it is theoretically possible to make an AM section. It closely approaches FM in quality.

The Fisher 701 has 250 (two hundred and fifty) watts of music power. 250 watts sounds like a lot of power. And it is, for a normal receiver. But considering that the 701 has to drive four speakers instead of two, 250 watts is not too much. It's just right.

(Actually, the 701 is capable of driving not one, but two sets of four speakers, one main, one remote. That's eight speakers in all!) The kind of distortion-free power the 701 delivers is made possible through some unique circuitry in the amplifier section. The Darlington output stages are fully integrated (for the first time in a piece of commercial high-fidelity equipment). Which means that the resultant circuit takes up less space, yet is more reliable than the more conventional circuit it replaces.

The control panel. Designing the control panel was quite a challenge to the Fisher engineers. Because they had two goals which at first seemed to conflict: Make the controls as easy to use as possible. And make the controls as versatile as possible. As you can see, the conflict was finally resolved. With some characteristically Fisher innovations. There are separate volume controls for front and rear channels. And the sliding volume controls move with the smoothness of professional studio faders. The volume of the left and right channels is controllable with the balance control. There are Baxandall (the best kind) tone controls, separate for bass and treble, clutched for front and rear. There's a tape-monitoring control that works for left and right channels: front and rear together, front separately, or rear separately. And there are loudness contour switches for front and/or rear channels. The high-filters also work on front and/or rear channels. A muting switch quiets the noise between FM stations. And a mode switch lets you listen to mono, two-channel stereo, four-channel stereo, four-channel reverse, or, as we've explained above, two-channel stereo with the two rear channels delayed and softened.

In addition to the controls we've mentioned, there's a speaker-selector switch and source-selector switch. And there are input and output jacks for everything imaginable; our engineers saw to that.

The four-channel era. The Fisher 701 is the first four-channel AM/FM stereo receiver. But we're predicting it'll be the first of many. Fisher's admirers in the industry will undoubtedly bring out four-channel equipment of one sort or another just as they've been following our lead ever since we invented high fidelity.

(For more information, plus a free copy of The Fisher Handbook, 1970 edition, mail the coupon on the front-cover flap of this magazine.)
with negligible effect on the audible frequency range. The stereo separation was between 50 and 35 dB from 100 to 2,500 Hz, reaching a minimum of about 14 dB between 10,000 and 15,000 Hz.

Recently acquired test equipment enabled us to make accurate measurements of AM rejection, which was 56 dB, compared with the Sony specification of 50 dB. The signal-to-noise ratio was also better than the rated 70 dB—we measured it as 74 dB.

Mechanically, the Sony ST-5100 was a delight to use. Our only criticism—a very minor one—is the dim illumination of the tuning meters, which can barely be seen more than a couple of feet away, even in a dark room. Its tuning was silky smooth, with the special "feel" that is emphasized—quite justifiably, we think—in the Sony advertisements for this unit.

And the sound of the Sony ST-5100 was superb. Its FM performance, with its dead silent background, exceptionally clean and easy sound, and general smoothness of handling, could hardly be improved. We even found the AM tuner quite acceptable to our hi-fi oriented ears! The Sony ST-5100, in its dark grey metal cabinet, sells for $219.50. A walnut enclosure is available for $29.25.

For more information, circle 157 on reader service card.

---

SONY TA-1144 AMPLIFIER

- The Sony TA-1144 integrated amplifier is a companion to the ST-5100 tuner reported on above. Like the tuner, it is newly styled, with a satin-finish, silver-colored panel accented by charcoal-grey borders and center section.

- In its control flexibility and overall performance calibre, the TA-1144 is remarkably similar to the more powerful (and expensive) Sony TA-1120 amplifier. Its tone controls are separate for each channel, use slider-operated switches with a light but positive detent action, offering five positions each of boost and cut.

- The input selector, like that used on other Sony amplifiers and receivers, is a highly versatile yet simple-to-operate combination of two switches. The basic selection is by means of a three-position lever switch, for tuner, phono, and additional source. In its center position, control is transferred to a rotary switch, which can be set for a second phono input or one of three high-level AUX inputs. One of the latter goes to a standard stereo phone jack on the front panel, simplifying the temporary connection of another program source when the amplifier's rear panel is not easily accessible.

- The mode selector to the left of the center control group offers a complete range of operating conditions, including both normal and reversed-channel stereo, mono, and either left- or right-channel inputs, through both speakers. At the left side of the panel are the power switch, pilot light, and headphone jack.

---

The center of the panel is dominated by the three tone-control levers and the large volume-control knob. This control, like all the others on the TA-1144, has an exceptionally smooth and precise "feel." Sony has gone to some pains to enhance the tactile qualities of the controls on the TA-1144, as well as those of the ST-5100 tuner. While this doesn't affect the electronic performance, we appreciated their light yet positive operation, in contrast to the stiff, sloppy, or uneven control action we have encountered on a few other audio components.

- The balance control, located below the volume control, is a horizontal slide-type potentiometer. The remaining controls are pushbuttons, activating the two independent speaker outputs, loudness compensation, high- and low-cut filters, and tape-monitoring functions.

- In the rear of the TA-1144, in addition to all the normal inputs and outputs, there is a DIN connector for use with a similarly equipped tape recorder. An interesting feature of the TA-1144, which we first saw on the TA-1120, is the electrical separation of the preamplifier and power-amplifier.

(Continued on page 47)
Garrard of England is the world's largest producer of component automatic turntables. And our SL95B is generally conceded to be the most advanced automatic you can buy, at any price. Yet we confess to some startlingly old-fashioned ideas. Instead of rewarding the speedy, for example, we encourage the persnickety. In final assembly, each man who installs a part tests that finished assembly. The unit doesn't leave his station until he's satisfied it's right. For a faulty unit to be passed down the line, a man must make the same mistake twice. An occurrence we find exceedingly rare. If something isn't up to standard, he adjusts it on the spot—or sets it aside to be made right. Hardly the sort of thing production records are made of.

A modest record
But as Brian Mortimer, Director of Quality Assurance, has said, "We absolutely refuse to let units per hour become an obsession. It is simply a useful statistic."

"Each final assembly line for our 95B consists of nineteen men and women. "In top form, they turn out twenty units an hour. A rather modest record in these days of mechanized production lines. "But if we were to speed it up, we'd pay for it in quality. And, in my book, that's a bad bargain."

Of roots and heritage
We admit, however, to enjoying a special circumstance. Garrard recently marked its fiftieth year, all of them in the town of Swindon, England. In a time of people without roots and products without a heritage, many Garrard employees are second and third generation. Brian Mortimer's father, E. W., hand-built the first Garrard. And in all, 256 of our employees have been with us over 25 years. A happy circumstance, indeed.

To buy or not to buy
In an age of compromise, we indulge still another old-fashioned notion. Of the 202 parts in a Garrard automatic turntable, we make all but a piddling few. We do it for just one reason. We can be more finicky that way. For instance, in the manufacture of our Synchro-Lab motor we adhere to incredibly fine tolerances.

Bearings must meet a standard of plus or minus one ten-thousandth of an inch. Motor pulleys, likewise. To limit friction (and rumble) to the irreducible minimum we super finish each rotor shaft to one micro-inch. And the finished rotor assembly is automatically balanced to within .0008 in.-oz. of the absolute.

Not parity, but superiority
Thirty-odd years ago, H. V. Slade (then Garrard of England's uncompromising Managing Director) set policy which endures to this day. "We will sell a Garrard in the U.S. only when it is more advanced than any machine available there." Spurred by this commitment, Garrard engineers have produced every major advance in automatic turntables. Today's SL95B remains the world's premiere automatic turntable. Its revolutionary two-stage synchronous motor produces unvarying speed, and does it with an ultra-light turntable. Its new counterweight adjustment screw lets you balance the tone arm to a hundredth of a gram. And its patented anti-skating control is permanently accurate. The six Garrard component models range from the 40B at $44.50 to the SL95B (shown) at $129.50. Your dealer can help you select the right one for your system.
A Progress Report From Advent on Loudspeakers, Cassette Recorders, a New Kind of Tape, and Other Matters

AFTER MORE THAN a year in business, we (Advent Corporation) think it's time for an accounting of where we are and why.

We began, you may remember, with the intention of making products that would differ significantly from other people's—products that would fill special needs others weren't filling, explore genuinely new ways of doing things, and keep testing accepted limits of performance and value.

One of the products we had in mind was a new kind of color television set, a high-performance system with a screen-size several times the present limit for home use. We are happy to report that it's coming along nicely (and slowly, as such things do), and that the present prospects for pre-recorded video material make it look more appealing than ever.

Audio, however, was where we could do the most quickly, and our first product was:

The Advent Loudspeaker

Anybody who knew us might have predicted that we would make a loudspeaker system pretty early in the game, but few would have predicted that we'd make just one, call it simply The Advent Loudspeaker, and say flatly that it was the best we could offer for a long way into the future.

The reason for that was, and is, that it had become possible to design a speaker system as good as anyone would ever need for home listening—one as good in every measurable and audibly useful way as any speaker system of any size or price—at a cost slightly below what most people consider the "medium price" category. Our prior experience in design and manufacturing techniques convinced us that this could be done, and we did it.

We will be happy to send you full particulars on The Advent Loudspeaker, including its reviews. But we believe its sound will tell you quickly enough why it has become, in its first year, one of our industry's all-time best sellers.

(To avoid surprises in a showroom, we should note that our one speaker system comes in two styles of cabinet: the original walnut model, priced at $125, and a "utility" version that is actually in a rather handsome vinyl finish that looks like walnut, priced at $105. Both sound the same.)

All of the first year's reviews of The Advent Loudspeaker finished by saying that it was an auspicious beginning for a company. But it represented only one of our immediate directions. The next was:

The Advent Frequency Balance Control

One of the things to be learned in the design of speaker systems is that "flat" frequency response is in the ear of the beholder and virtually nowhere else. True, there are amplifiers and tuners with straight-line frequency response, but practically everything else—recordings, listening rooms, cartridges, loudspeakers—is anything but flat. Different things sound different, not because of basic differences in quality or performance in many instances, but because a recording engineer, or speaker designer, or room plaster had a slightly special view of the world.

There is nothing wrong with those differences. In our view. And one of the challenges for a speaker designer is to accept and cope with them by designing for an octave-to-octave musical balance that sounds "right" with the widest variety of present recording techniques. But there is no single perfect balance, and that lack is a source of discomfort to a number of critical listeners. It causes many listeners with really superb (and really expensive) sound equipment to keep trading for new and more expensive equipment in the hope that it will sound "perfect" for everything from Deutsche Grammophon's conception of the Berlin Philharmonie's sound to Columbia's notions about Blood, Sweat and Tears.

Anyone who keeps pursuing that ideal, and many who don't, would be well-advised to investigate our Frequency Balance Control, a unique device that enables listeners to alter the relative musical balance of any octave in the audible frequency spectrum. It is uniquely flexible and uniquely effective in dealing with sonic differences between recordings, equipment, and even the placement of speakers in a room—and in making things sound subjectively "right" more consistently than could be accomplished any other way.

The FBC, designed around our own experience

*Having helped found two successful companies previously, and having prior credit for some of audio's most significant products (including something like half of the loudspeakers in use in music systems and serious radios and phonographs in this country), our President, Henry Kloss, had some pretty firm notions about what he wanted to do now.
with subjective judging of sound quality, is worth
investigation by anyone who can’t just sit back and
listen, accepting the bad with the wonderful. At
$225, it is a far better, more pertinent investment
than most changes of components.

One of the special abilities of the FBC is the
reclaiming of many recordings from an unlistenable
state. The need for another kind of recording recla-
mation led to another kind of product:

The Advent Noise Reduction Units
(models 100 & 101)

Background noise in tape recording—specifically,
tape hiss—is a far bigger enemy of sound quality than
most listeners realize. One reason it isn’t properly
identified (and vilified) is that few people have heard
tape recordings without it. Lacking the standard of
blessed silence is something like never having seen a
television picture without “snow.” If you don’t know
it isn’t supposed to be there, you just look or listen
past it and accept it as part of the medium. But once
you see—or hear—things free of interference, life is
different.

Getting rid of tape noise is a prime function of the
now-famous Dolby® System of noise reduction, which
in its professional version is in use in virtually every
major recording studio in the world. We became inter-
ested in the Dolby System not only because it helps
rid even the best conventional tape recordings of
background noise, but because it had even greater
possibilities when applied to low-speed home tape
recording. Home recording at 3 3/4 and 7 1/2 ips has
been plagued by the problem of really excessive tape
hiss—which manufacturers have chosen either to
tolerate or to “reduce” by giving up frequency and
dynamic range in recording at those speeds. The
Dolby System makes it possible to remove that prob-
lem and get first-class performance at the low speeds
best suited, from the standpoint both of economy and
convenience, to home recording.

So we designed a product that would make the
Dolby System available—in a version designed by
Dolby Laboratories exclusively for home recording
and pre-recorded tapes—for use with any good tape
recorder. The product was our Model 100 Noise
Reduction Unit, a flexible and effective piece of
equipment that can make any recorder sound better
and can do wonders in opening up the world of low-
speed recording to the home user.

The Model 100 combines the Dolby System with a
recording control system that supersedes a recorder’s
own and provides a recording accuracy and simplic-
sity seldom seen in home tape equipment. One crucial
advantage of that control system, which provides sep-
parate input level controls (with input-mixing) and a
master record-level control, is that it gets stereo
recording balance right and does so easily. Improper
balance, almost guaranteed with many tape recorders,
is the chief reason for recordings (on even the best
recorders) that don’t sound like the original. It is, in
other words, the chief reason for many people’s dis-
satisfaction with their recorders.

The Model 100, at $250, is a required investment
for anyone who takes recording very seriously and
measures the results critically. But since some people
won’t need its tremendous flexibility, we also decided
to offer the Model 101—which, at $125, provides
identical performance at half the price. To make that
possible, we omitted the input-mixing provided with
the Model 100, supplied slightly less flexible recording
controls (it takes a bit longer to get stereo balance
just right), and provided one Dolby circuit per chan-
nel instead of two. (As in the professional studio
Dolby System, you switch the Model 101’s two cir-
cuits to function first for stereo recording and then
for stereo playback, but not for both at the same
time.) The result, again, was performance identical
to the more elaborate unit, at a price that makes
sense for serious recordists on tight budgets.

While designing the Noise Reduction Units, we be-
came interested in what the Dolby System and other
factors might do for a kind of tape recording that no
one was taking seriously enough. The result was:

The Advent Tape Deck (Model 200)

We had known before, and confirmed in our work
on the Model 100, that tape hiss was the underlying

*Slightly lower in some parts of the country.
*Slightly higher in some parts of the country.
reason for the compromised, AM-radio kind of sound quality that people had come to associate with cassette recording. Because the hiss was present in a quantity that made wide-range recording unpleasant to listen to on cassettes, it had effectively set an upper limit on quality—giving manufacturers little incentive to optimize any aspect of cassette recording, including mechanical performance.

We realized that once you used the Dolby System to get rid of the noise, you would then have reason to go on to improve all the performance areas that nobody was really attending to. So, to show just how good cassette recording could be, we optimized everything we could around a good cassette transport, added our Noise Reduction Unit, and held a demonstration for the press. The reaction, even though we couldn't demonstrate everything we wanted to in a rigged-together unit, was that we had proved that cassette performance could be as good as, and in some ways better than, the standard for records.

In the meantime, we worked on our own cassette recorder—which was to include not only the Dolby System and the necessary improvements in all areas of performance, but also the means, not given to our knowledge with any previous cassette recorder, to make really superb recordings. That meant effective and precise controls for setting balance and recording levels, including a VU meter that read both stereo channels simultaneously and indicated the louder of the two at a given moment.

We felt that calling the resulting tape machine a cassette recorder wouldn't fully indicate our conviction that it was probably the single best choice among all kinds of recorders for most serious listeners who want to tape records and broadcasts. So we called it The Advent Tape Deck (Model 200) and let its being a cassette machine speak for itself. At $260, it is a new kind of tape machine that we hope will prove the key, given “Dolbyized” commercial cassette releases, to making cassettes the medium most serious listeners prefer for most listening.

About midway in our development of the Advent Tape Deck, we became convinced that the Dolby System's contribution to performance would become even greater if it were combined with the use of DuPont's chromium-dioxide tape in cassettes. Lots of people had been talking about DuPont's "Crolyn," but nobody had hard facts on what it could do in cassette recordings. So we got samples, experimented with its characteristics, and were convinced that we had to supply a means to use it on our recorder. That meant a special switch on The Advent Tape Deck to provide the right recording and playback characteristics (a good bit different from those of other tape formulations) for its use. It also meant another product:

**Advocate Crolyn Tape**

Although DuPont's Crolyn tape was being used extensively in critical video recording applications, and justifying its advance press notices, no one had made the leap to marketing it for audio purposes for home use. We decided to do so because we felt that Crolyn was necessary for the very best in potential cassette performance.

We are, then, marketing Crolyn tape under the "Advocate" brand in cassettes. One of our hopes in doing so is to get others to market chromium-dioxide tape as well.

There is no doubt in our mind that it's worth the trouble. Chromium-dioxide has the ability to put greater high-frequency energy on tape than other oxide formulations, and is also increasingly sensitive as frequency goes up. Those are ideal characteristics for cassette recording, making possible a still greater signal-to-noise ratio in conjunction with the Dolby System and better overall high-frequency performance than any other tape we know of.

**The Advent Packet**

At this writing, we can't predict exactly what product is going to follow Advocate Crolyn tape. As you probably have noted by now, we develop products in what might be thought of as organic style, letting each product stand on its own. We don't sit down and decide to manufacture a "line" of speakers or amplifiers or tape recorders.

We are into other things at this point, and hope that they will be firm enough to talk about soon. In the meantime, we invite you to write us at the address below for any information you would like, including a list of Advent dealers.

If you like, ask for "The Advent Packet." That will bring you everything we have on all of our products, and also—unless you specify otherwise—put you in jeopardy of getting future informational mailings from us.

So much for the first year.


"Dolby" is a trademark of Dolby Laboratories. "Crolyn" is a trademark of DuPont.
than this, but was masked by nonaudible noise) to about 8-ohm loads with both channels driven to the clipping point. With 4-ohm loads the output was slightly less (38.5 watts), while with 16-ohm loads it was 25.5 watts.

The 1,000-Hz harmonic distortion was less than 0.07 per cent from 0.1 watt output (where it was considerably less than this, but was masked by nonaudible noise) to about 36 watts. Between 1.2 watts and 25 watts, the distortion was less than 0.02 per cent, reaching a minimum of 0.0086 per cent at 10 watts! 1M distortion was also impressively low: under 0.03 per cent from 0.1 watt to 15 watts, and reaching 0.05 per cent at the rated 30 watts.

The Sony TA-1144 not only operated as an essentially distortionless amplifier at 1,000 Hz; it maintained the same standards over the full frequency range. The basic frequency response of the TA-1144 was well within ±0.3 dB from 20 to 20,000 Hz. The filters had 6-dB-per-octave slopes, operating at about 60 Hz and 6,000 Hz. RIAA equalization was accurate within ±0.75 dB over its full range.

The amplifier had very high gain, requiring only 54 millivolts (AUX) or 0.44 millivolt (PHONO) for 10 watts output. The noise (we measured no hum) was, respectively, 72 dB and 68 dB below 10 watts on the two inputs. We were especially impressed by the dynamic range of the phono inputs, which did not overload until 100 millivolts were applied. We checked the output capabilities of the preamplifier section, and found that it actually delivered 9 volts before clipping. Since the power amplifier can be driven to full output with less than 1 volt, it is clear that the preamplifier does not in any way restrict the performance of the TA-1144. We connected a 600 pf capacitive load (equivalent to perhaps 20 feet of shielded audio cable) to the preamplifier output and found that it reduced the 20,000-Hz response by only 1 dB. Obviously, cable capacitance will not present any problems in most installations.

The dual step-type tone controls had somewhat novel but very useful characteristics. The first few steps of the bass control had their effect principally below 100 Hz, moving up to 200 and 300 Hz at the two highest steps. This permitted considerable control of bass response without causing unnatural heaviness or "boom." The treble control had a "shelved" characteristic, with nearly equal boost or cut of all frequencies above 2,000 or 3,000 Hz except at its limits, where its sloped response resembled that of conventional tone controls.

To say that we were impressed with the Sony TA-1144 would be an understatement. It is really the functional equivalent of Sony's highly regarded TA-1120 (with about 40 per cent less power) at less than half the price. Used with the ST-5100 tuner, it can form the nucleus of a truly outstanding hi-fi system at a very reasonable price.

The Sony TA-1144 is priced at $219.50, with a walnut cabinet available for $29.25 more.

For more information, circle 158 on reader service card.
The Experts Say It's Even Better

Audio, August 1970—C.G. Mc Proud on the AR-29:

"The Heathkit AR-29 is a worthy companion to the famous AR-15—somewhat easier to build, somewhat lower in power, somewhat less expensive—but nevertheless a superb receiver in its own right."

"... measured distortion of 0.15 per cent as typical over most of the audio range, even though the specifications rate the receiver at a distortion of 0.25 per cent."

"We noted a power output of 36 watts per channel at a distortion of 0.15 per cent, which is more than 50 per cent over their rated 35 watts (RMS) per channel. With both channels driven at 1000 Hz into 8 ohm loads, we measured about 50 watts—more powerful than their rated 35 watts (RMS) per channel. With both channels driven at 1000 Hz into 8 ohm loads, we measured about 50 watts—more powerful than their rated 35 watts (RMS) per channel."

"The assembly/operating manual that comes with the kits bears the usual Heath mark of excellence."

"You don't have to live with the AR-29 to know you have a good receiver. Turn it on and tune along the dial and listen to how stations drop in and stay solidly in place in both FM and AM."

"You will know right away that the Heathkit AR-29 is the best medium power receiver you have ever heard or are likely to hear."

Stereo Review, April 1970—Julian Hirsch on the AR-29:

"Its FM tuner had an IHF sensitivity of 1.75 microvolts, placing it among the finest in respect to sensitivity."

"Hum and noise were extremely low: -90 dB at the high-level auxiliary input and -71 dB on phono, both referenced to a 10 -watt output."

"We found the audio amplifiers to be considerably more powerful than their rated 35 watts (RMS) per channel. With both channels driven at 1000 Hz into 8 ohm loads, we measured about 50 watts—more powerful than their rated 35 watts (RMS) per channel."

"Harmonic distortion was under 0.1 per cent from 0.15 to 50 watts, and under 0.03 per cent over most of that range. IM distortion was about 0.1 per cent at any level up to 50 watts. At its rated output of 35 watts per channel, or at any lower power, the distortion of the AR-29 did not exceed 0.15 per cent between 20 and 20,000 Hz. The distortion was typically 0.05 per cent over most of the audio range, at any power level."

"Audio, August 1970—C.G. Mc Proud on the AR-29:

"The Heathkit AR-29 is a worthy companion to the famous AR-15—somewhat easier to build, somewhat lower in power, somewhat less expensive—but nevertheless a superb receiver in its own right."

"... measured distortion of 0.15 per cent as typical over most of the audio range, even though the specifications rate the receiver at a distortion of 0.25 per cent."

"We noted a power output of 36 watts per channel at a distortion of 0.15 per cent, which is more than 50 per cent over their rated 35 watts (RMS) per channel. With both channels driven at 1000 Hz into 8 ohm loads, we measured about 50 watts—more powerful than their rated 35 watts (RMS) per channel."

"The assembly/operating manual that comes with the kits bears the usual Heath mark of excellence."

"You don't have to live with the AR-29 to know you have a good receiver. Turn it on and tune along the dial and listen to how stations drop in and stay solidly in place in both FM and AM."

"You will know right away that the Heathkit AR-29 is the best medium power receiver you have ever heard or are likely to hear."

Stereo Review, April 1970—Julian Hirsch on the AR-29:

"Its FM tuner had an IHF sensitivity of 1.75 microvolts, placing it among the finest in respect to sensitivity."

"Hum and noise were extremely low: -90 dB at the high-level auxiliary input and -71 dB on phono, both referenced to a 10-watt output."

"... the AR-29 construction made a positive impression... assembly has been markedly simplified."

"Says Mr. Hirsch about overall performance: "The test data speaks for itself... no other receiver in its price class can compare with it."

Kit AR-29, 33 lbs. Assembled AE-19, pecan cabinet, 10 lbs. $285.00* $19.95*
World's Largest Electronic Kit Catalog

over 300 kits for every interest...save up to 50%

Join the millions who have discovered that they can build a better product than they can buy... have fun... & enjoy substantial savings in the process. No special skills are required to assemble Heathkit electronics... just follow our simple step-by-step instructions. Send for your free Heathkit catalog now... and discover the fun & satisfaction of building the best.

- NEW Solid-State Color TV
- Deluxe Tube-Type Color TV
- Stereo/Hi-Fi Components
- Transistor Organs
- Home Equipment
- Shortwave Radios
- Amateur Radio Equipment
- Musical Instrument Amplifiers
- Automotive Electronics
- Marine Electronics
- Trail Bikes
- Test & Lab Equipment
- Home Study Courses
- Scientific Instrumentation
- Radio Control Electronics

HEATH COMPANY, Dept. 40-10
Benton Harbor, Michigan 49022
Please send FREE Heathkit Catalog

Name
Address
City State Zip

SEND FOR YOUR FREE COPY TODAY!

OCTOBER 1970
Twin illuminated meters monitor the levels of either the incoming signals or the playback amplifier outputs. The MODE SELECTOR switch provides highly flexible control of the recorder's several operating conditions, with no external cables required. In the STEREO TAPE position, the line outputs carry the signals from the playback amplifiers, whether the deck is set to record or play back. The INPUT MONITOR position can be used only while recording, since it connects the incoming program material to the line outputs. In MONO 1, a signal can be recorded on channel one, and the output from the channel-one playback amplifier goes to both line outputs. MONO 2 provides a similar function for channel two.

The two remaining MODE SELECTOR positions are marked 1 ON 2 and 2 ON 1. They record the playback signal from one channel onto the other, with its level adjusted by a gain control concentric with the MODE SELECTOR switch. Simultaneously, new material can be added from the line or microphone inputs, controlled by the regular RECORD LEVEL knobs. In either of the two MONO recording modes, the ECHO/SOUND ON SOUND control can be used to add an adjustable amount of "echo" by re-recording a portion of the playback output on the same channel.

The line outputs and inputs are in the rear of the recorder (underneath it when the deck is installed horizontally). There are two pairs of line outputs—one controlled by the MODE SELECTOR to carry either the incoming or outgoing signal, and the other always carrying the playback signal. There are two microphone jacks on the front of the recorder. Plugging in a microphone disconnects the line input of the corresponding channel.

The Ampex 1455A has an automatic tape-threading system that makes loading tape a simple and tangle-free operation. The tape passes across the heads in a straight line and the tape end is simply dropped into a loading slot. When the transport is started, the tape automatically winds on a special fixed reel, concealed by removable plastic covers. While this is exceptionally convenient for playing tapes, the 1455A will record only in the normal winding direction. The automatic take-up reel therefore cannot be used for recording both sides of a tape, since it cannot be interchanged with the supply reel. When recording, the automatic reel covers must be removed, the automatic take-up reel unscrewed and replaced with a short straight spindle, and a conventional reel installed. The need for this is, unfortunately, not specifically pointed out in the instructions for the recorder, although it might be deduced from a careful study of the manual and a little practice with the machine. Since there is no built-in storage facility for the detachable spindle, or for the automatic reel, spring, and retaining screw that must be removed when recording, there is some slight risk of misplacing these small but vital parts.

On our test bench, the Ampex 1455A proved to be a fine performer. Playback equalization was accurately matched to the standard Ampex test tapes, which it reproduced at 7 1/2 ips with an accuracy of ±1 dB from 50 to 15,000 Hz, and at 3 3/4 ips within ±1 dB from 50 to 7,500 Hz. Performance was essentially the same in the reverse direction. The record-playback frequency response, using 3M Type 2102 tape (no tape type was recommended), was slightly elevated at the higher frequencies, and had some low-frequency irregularity due to head-fringing effects. At 7 1/2 ips, it was within ±4 dB from 60 to 20,000 Hz, and was down 8 dB at 20 Hz. At 3 3/4 ips, the response was about ±3 dB from 60 to 13,000 Hz, and down 12 dB at 20 Hz. The 1 1/2 ips speed was adequate only for voice recording, rolling off at 60 and 6,000 Hz. We also checked the 7 1/2 ips record-playback response with standard 3M Type 111 tape, which proved to provide a somewhat flatter high end, but dropped off to −3 dB at 16,000 Hz.

An input of 100 millivolts (line) or 1.2 millivolts (microphone) was needed for a 0-dB recording level on the 1455A's meters. The corresponding output was 0.78 volt at the line outputs. The signal-to-noise ratio was 44 dB referred to 0-dB meter readings. However, the distortion was only 1.2 per cent at that level, and did not reach the normal reference level of 3 per cent until a +7-dB (well off scale) signal was applied. Referred to this level, the signal-to-noise ratio was 51 dB. It was the same through both line and microphone inputs.

Wow was below the residual level of our test tape (less than 0.01 per cent). Flutter was 0.085 per cent at 7 1/2 ips and 0.1 per cent at 3 3/4 ips, typical figures for a good single-motor transport. Operating speeds were exact, and in FAST WIND the deck handled 1,200 feet of tape in a little under 2 minutes.

Once you get used to it, the Ampex 1455A is very easy to use. A minor annoyance is the delay of a couple of seconds when tape direction is changed, while the capstan drive slows to a stop and reverses its direction of rotation; another is the long delay required for the tape reel to stop turning after the tape has run out. We also missed any sort of warning light to indicate that the machine is in recording mode—it is difficult to determine by eye whether the RECORD safety buttons are depressed.

The sound quality of the 1455A at the two faster speeds was very good, distinguishable from the original program only by a slightly increased brightness at 7 1/2 ips. At 3 3/4 ips, most FM programs recorded off the air were reproduced without any detectable change. The sound at 1 1/2 ips was noticeably muffled and not suitable for quality music recording. The automatic reverse worked very well, and it was a convenience not to have to add conducting foil strips to the tape as is required on most auto-reverse machines. And, of course, prerecorded tapes produced by Ampex already have the 20-Hz reversing signal at the appropriate reversal points. The Ampex 1455A sells for $349.95, complete with two dynamic microphones that appear to have excellent quality and frequency response.

For more information, circle 159 on reader service card.
Altec's new 714A receiver. It's built a little better.

With 44/44 watts RMS power at all frequencies from 15 Hz to over 20 KHz (at less than 0.5% distortion), most receivers meet their power specifications in the mid-band but fall way short at the critical low and high frequencies. The above curve shows the typical low distortion at all frequencies from the new 714A receiver at 44 watts RMS per channel. For comparison purposes, we also rate the 714A conservatively at 180 watts IHF music power at 4 ohms. This means that the 714A will handle everything from a full orchestration to a rock concert at any volume level with power to spare.

With 2 crystal filters and the newest IC's. Ordinary receivers are built with adjustable wire-wound filters that occasionally require periodic realignment. And unfortunately, they are not always able to separate two close stations. So we built the new 714A with crystal filters. In fact, 2 crystal filters that are individually precision aligned and guaranteed to stay that way. To give you better selectivity. And more precise tuning. The new 714A also features 3 FET's and a 4 gang tuning condenser for high sensitivity.

And with a lot of other features like these. Separate illuminated signal strength and center tuning meters on the front panel. A full 7 inch tuning scale and black-out dial. The newest slide controls for volume, balance, bass and treble. Positive-contact pushbuttons for all functions. Spring loaded speaker terminals for solid-contact connections.

Altec's new 714A AM/FM Stereo Receiver sells for $399.00. It's at your local Altec hi-fi dealer's. Along with all the other new Altec stereo components—including a new tuner pre-amp, new bi-amp speaker systems and all-new high-performance music centers.

For a complete catalog, write to: Altec Lansing, 1515 South Manchester Ave., Anaheim, California 92803.
CAN YOU GUESS

WHICH FACTOR IS MOST RESPONSIBLE FOR THE LEADING POSITION OF THE BOSE 901 DIRECT/REFLECTING™ SPEAKER SYSTEM?

IS IT:

1 The Rave Reviews?
(Circle the number at the bottom of this page on your reader service card for complete reprints of the seven reviews and a list of BOSE dealers in your area.)

2 The 12 Years of Research? — research that went beyond the collection of graphs and numerical data into the basic problems of correlating the perception of music with speaker design parameters.
(Copies of the Audio Engineering Society paper 'ON THE DESIGN, MEASUREMENT AND EVALUATION OF LOUDSPEAKERS', by Dr. A. G. Bose, are available from BOSE Corp. for fifty cents.)

3 The Sound of Music Through the 901?
(Enjoy it at your nearest BOSE dealer or in the more comfortable surroundings of your friend's home.)

THE ANSWER:
(AS INDICATED BY CUSTOMER SURVEYS)

You can hear the difference now.
GOING ON RECORD

BIRTHS AND REBIRTHS

To anyone who has been following the course of the classical record industry over the last year, the current list of forthcoming releases will be surprising only in its details; the overall shape is just about as expected. The cutting back of most American-based companies is evident. At least one, Dover, has no present recording plans, and the future of several other labels is in doubt. There is the expected state of Beethoven releases to finish up the Beethoven year with a bang; there are the expected releases of little-known works are by the same composer. As

changes of plans will occur, to be sure. And, as in past years, listings are by composer with recitals and miscellany at the end; where performers are known they are indicated in abbreviated fashion, and couplings are indicated only where the works are by the same composer.

- **AREL, B.** For Violin and Piano, Ramondi, Miller (CRI).
- **BACH, C.P.E.** Sinfonias Nos. 1-4, Richter, Munich Bach Orchestra (DGG ARChive).
- **BACH, J.C.** 4 Symphonies for One and Two Orchestras, Hurwitz, Davis, English Chamber Orchestra (L'ISLEAU-LYRE).
- **BACH, J.S.** Catoii 21, Mathis, Fischer-Dieskau, Richter (DGG ARChive), Can- tatas 51, 190, Ameling, Wunscheimann (PHILIPS); Harpsichord Concerto 1; Violin and Oboe Concerto; Sinfonia, BAVi 1045, Concentus Musicae (TELEFUNKEN). Violin Concerti 1, 2; Pastii 2, Huberman (PER- NIAL); Flute Sonatas (complete), Baron (MUSICA HERITAGE SOCIETY); Sonatas for Violin and Harpsichord (complete), 2 Sonatas for Violin and Continuo, Monosoff, Weaver (CANTBRIDGE); 3 Sonatas for Violin da Gamba and Harpsichord, Wenzinger, Mueller (DGG ARChive); Violin Sonatas 1, 6, Pastii 2, Wilkorniska (CONNOISSEUR SOCIETY); German Organ Mass, Knabmeh (VICTROLA); Pastii 1, 2, J. C. Martins (CONNOISSEUR SOCIETY); Harpsichord Rec- ital, Kipnis (COLUMBIA); Italian Concerto, Chromatic Fantasy and Fugue, Toccata in G Minor, Fantasia in C Minor, Richter (DGG ARChive).
- **BACH, P.D.Q.** The Stoned Guest, Schickle (VANGUARD).
- **BADINGS.** Passacaglia for Organ and Timpani, Fiechter (LYRICHORD).
- **BARBER.** Adagio, Symphony No. 2, London Symphony, Barber (EVEREST).
- **BARTÖK.** Wooden Prince, Philharmonic Society Orchestra, Korody (QALZENTI); Mikrokosmos (complete), Szep, Zempleni (QUALENTI); Allegro Barhove, Hungarian Christmas Carol; Suite Op. 14, Barliquets, Op. 8, Folk Tunes, Antal (QUALENTI).
- **BAX.** Coronation March, Sargent (EVER- EST).
- **BEDFORD.** Music for Alban Monu- ment, BBC Symphony, Carewe (ARGO).
- **BEETHOVEN.** Missa Solemnis, Artopo, Stepi, Ormandy, Philadelphia Orchestra (COLUMBIA); Calm Sea and Prosperous Voyage, Symphony 5, Boulez (COLUMBIA); 9 Symphonies, Walter, Columbia Orchestra (ODYSSEY); Leinsdorf, Boston Symphony (RCA), Symphonies 1, 3, Egmont, Mengelberg (PERENNIAL); Symphony 3, Jochum, Concertgebouw Orchestra (PHILIPS); Kliezki, Baden-Baden Orchestra (EVER- YMAN); Symphony 6, Jochum, Concertge- bouw Orchestra (PHILIPS); Overtures: Leonore No. 3, Fidelio, King Stephen, Concert of the House, Bernstein, N.Y. Philharmonic (COLUMBIA); Creatures of Prometheus, Lane, Cleveland Orchestra (CO- LUMBIA); 5 Piano Concertos, Rubinstein, Leinsdorf (RCA); Fleisher, Szell (ODYS- SEY); Concerto 1, Dorfmann, Toscanini (VICTROLA); Concerto 2, Kapell, Golschmann (VICTROLA); Concerto 3, Schnabel, Stock (VICTROLA); Violin Concerto, Francesco- witz, Walter (ODYSSEY); Kogan, Svetlanov (MELODY/AngEL); String Quartets (complete), Guarneri Quartet (RCA); Early Quartets, Guarneri Quartet (RCA); Quartet 2, 16, Fonsalezy Quartet (PERENNIAL); Pi- ano Sonatas (complete), Variations; Bagat- elles, Schnabel, Seraphin (SOFONATI); Sonatas (complete), Frank (VICTROLA); Sonatas 1, 2, 4, 5, Hungerford (CARDINAL); Sonatas 14, 27, 32 (QUALENTI); Sonatas 15, 26, Bagattelle, Op. 35 No. 4, Moravec (CONNOISSEUR SO- CIETY); Sonatas 21, 30, Andante Favori, Laneiner (RCA); Sonatas 21, 23, Grifflen (COLUMBIA); Sonata 29, Serkin (COLUM- BIA); Eroica Variations; 32 Variations in C Minor, F Major Variations, Gould (COLUM- BIA).
- **BERIO.** Chemins; Sequenza, Trampler, Berio (RCA).
- **BIERLOZ.** Requiem, Dowd, Davis, Lon- don Symphony (PHILIPS); Nuits d’été, Vea- sey, Shirley-Quirk, Davis, London Symphony (PHILIPS); Harold in Italy, de Pasquale, Ormandy (COLUMBIA); Roman Carnival, Korinsky, Cincinnati Symphony (DECCA).
- **HIBER.** Sonata à 6 for Trumpet, Moscow Chamber Orchestra (MELODY/AngEL); Harmonia Artificiosa-Aviana: Partitas 1, 3, 5, Harmoniai (MUSICAL HERITAGE SOCIETY).
- **BISET.** Carmen (original 1875 version), Bumbry, Vickers, Furtwängler, Berio (ANGEL).
- **BLITZSTEIN.** The Cradle Will Rock (COLUMBIA).
- **BLOCH.** Schelomo; Voice in the Wilder- ness, Neisova, Bloch, London Symphony (EVEREST); Starker, Mehta, Israel Philhar- monic (LONDON).
- **BLOM.** Polovetsian Dances, Szell, Cleveland Orchestra (ODYSSEY).
- **BRAHMS.** Choral Works, Waldman, Musica Aeterna (DECCA); Piano Concertos 1, 2, Arrau, Haitink (PHILIPS); Concerto 2, Backhaus, Schuricht (EVEREST).
- **BRANT.** Henriette, Benjamin College (CRI).
- **BRIDGE.** F.: Cello Sonata, Rostropovich, Britten (LONDON).
- **Britten.** Prodigal Son, Pears, Shirley-Quirk, Britten (LONDON); 2 Concertos, Pears, Britten, Tuckwell (ARGO).
- **BRUBECK.** The Gates of Justice, M. Boatwright, Brubeck Trio, Cincinnati En- semble, Kunzel (DECCA).
- **BUSNOIS.** Chansons, Noneuché Consort, Rabin (NONEUCHÉ).
- **BUXTEHOLDE.** Organ Music, Moe (CANTBRIDGE).
- **CALABRO, L.** Environments for Clarinet and Brass, Bennington College Group (CRI).
- **CRAEGER.** Concerto for Orchestra, Bern- stein, N.Y. Philharmonic (COLUMBIA); String Quartets 1, 2, Composers Quartet (NONEUCHÉ).
- **CAVALIERI.** Rappresentazione di Animale e di Corpo, Troyanos, Prey, Geszky, Macke- rras (DGG ARChive).
- **CHARPENTIER, M.A.** La Peste de Milan, Waldman, Musica Aeterna (DECCA).
- **CHOPIN.** 4 Ballades, Entremont (COLUM- BIA); Piano Music, Rachmaninoff (VICT- ROLE).
- **COPLAND.** Billy the Kid, Rodro, Cop- land, London Symphony (COLUMBIA).
- **DEBUSSY.** Pelléas et Mélisande, Söder- ström, Shirley, Ward, Boulez (COLUMBIA); Fantaisie for Piano and Orchestra, Kars, Gibson (LONDON); Nocturne, Abédo, Boston Symphony (DEUTSCHE GRAMMO- PHON); Juxx, 6 Epigraphes Antiques, An- sermet (EVEREST); 3 Sonatas, Syunsch, Boston Symphony Chamber Players (DEUTSCHE GRAMMO- PHON).
- **DELIUS.** Piano Concerto, Kars, Gibson, London Symphony (LONDON).
- **DOHNÁNYI.** Variations on a Nursery (Continued on page 56).
BIRTHS & REBIRTHS

Thune, Katchen, Boult, London Philharmoni
c (EVEREST).

DONIZETTI: Anna Bolena, Subtilis, Home, Ghiaurov, Varviso (LONDON).

DRUCKMAN: Animus II, de Geetaani, Fisz, Gottlieb (CRI).

DUFAY: Missa Capit, Győr High School Choir, Szabo (QUALITON).

DUKAS: Sorcerer's Apprentice, Anser
met (EVEREST).

DVORAK: Symphony 9, Walter, Colum
bia Symphony (ODYSSEY); Concert Ov
erture; 4 Slavonic Dances, Szell (ODYS
SEYY); The Devil and Kate: Act 3 Prelude, Hell Dance, Neumann, Gewandhaus Orchestra (TELEFUNKEN).

EDWARDS: G: String Quartet, Composers Quartet (CRI).

ELGAR: Pomp & Circumstance Marches
1, 4, Sargent, London Symphony (EVEREST).

ELLINGTON: The Golden Broom and the Green Apple; New World a-Comin'; Harlen, Ellington, Kunzel, Cincinnati Symphony (DECCA).

ELWELL: 6 Songs, Makas (CRI).

FAURE: Elegie, Rose, Ormandy, Phila
delphia Orchestra (COLUMBIA).

FIELD: Piano Concerto, Mitchell (DECCA); Blumental (VICTORIA).

FINE: V. Pauk, Bennington College Group (CRI).

FRANCK: Symphony in D Minor, Sym
phonic Variations, Entremont, Marttinn, French Radio Orchestra (MUSICAL HERITAGE SOCIETY).

FROMM, H.: Choral Works, Texas State University Choir (LYRICHORD).

GERSHWIN: Piano Concerto, Pannorio, Sternberg (EVEREST).

GRIBNTH, P.: One String Quartet, Composers Quartet (CRI).

HANDEL: Julius Caesar, Tynyanos, Fischer-Dieskau, Schreier, Richter (DDG ARCHIVE); Messiah, Minton, Young, Somary (CARDINAL); Sutherland, Kremer, Krause, Bonynge (LONDON); Telemann, Young, Bogdan, Simon, Moriarty (CARDIFF); Coronation Anthems, Ambrosian Singers, Menuhin (ANGEL); Trio Sonatas, Harmon
court (TELEFUNKEN).

HAYDN: Trumpet Concerto, Moscow Chamber Orchestra, Barshi (MELODY/Angel); Sonata 34; Andante and Variations in F Minor, Landowska (VICTORA).


HUMMEL: Trumpet Concerto, Moscow Chamber Orchestra, Barshi (MELODY/Angel); Piano Variations, Blumental (VICTOR.

Ivanov, S. K.: Symphony 1; Serenade; Noct
urne, Prague Symphony, Solistes de Paris.

Foerster Woodwind Quintet, Husa (CRI); String Quartet, Fine Arts (EVEREST).

IVES: Three Places in New England, M. T. Thomas, Boston Symphony (DEUTSCHE GRAMMOPHON).

JANECEK: Lach Dante, Neumann, Ge
wandhaus Orchestra (TELEFUNKEN).


KALINNIKOV: Symphony 2, Svetlanov, USSR Symphony (MELODIA/Angel).

KUBIK: Symphony Concentrante, Kubik, French Radio Orchestra (CRI).

LADERMAN: Songs for Eve, From the Psalms, J, Raskin, Edwards (DESTO).

LAIO: Cello Concerto, Rose, Ormandy, Philadelphia Orchestra (COLUMBIA).

LASSUS: Motets from Musicae Opus Atque, Győr Girls Choir, Szabo (QUALITON).

LAVROFF: Spaces; Ode to Winds, Lazarof, Los Angeles Chamber Ensemble, U.C.L.A. Wind Ensemble (CRI).

LEHAR: Merry Widow, Schock, Schramm (EVEREST).

LEONCARVALLO: Zaza (EVEREST).


LISTF: Fantasy and Fugue-Ad Nos ad Salutarem, Prey, de Lucia (LYRICHORD).

LOEWE: 9 Ballades, T. Adam, Dunckel (TELEFUNKEN).

ULLY: Music for the Grand Ecrie, Paillard Orchestra (MUSICAL HERITAGE SOCIETY).

LUTYENS: Suddenly it's Evening, Ca
tana, Capriccio, Suddenly it's Evening, Ca
tana, Capriccio, Suddenly it's Evening, Ca
tana, Capriccio.

LAVROFF: Spaces; Ode to Winds, Lazarof, Los Angeles Chamber Ensemble, U.C.L.A. Wind Ensemble (CRI).

LEHAR: Merry Widow, Schock, Schramm (EVEREST).

LEONCARVALLO: Zaza (EVEREST).


LISTF: Fantasy and Fugue-Ad Nos ad Salutarem, Prey, de Lucia (LYRICHORD).

LOEWE: 9 Ballades, T. Adam, Dunckel (TELEFUNKEN).

ULLY: Music for the Grand Ecrie, Paillard Orchestra (MUSICAL HERITAGE SOCIETY).

LUTYENS: Suddenly it's Evening, Ca
tana, Capriccio, Suddenly it's Evening, Ca
tana, Capriccio, Suddenly it's Evening, Ca
tana, Capriccio.

LAVROFF: Spaces; Ode to Winds, Lazarof, Los Angeles Chamber Ensemble, U.C.L.A. Wind Ensemble (CRI).

LEHAR: Merry Widow, Schock, Schramm (EVEREST).

LEONCARVALLO: Zaza (EVEREST).


LISTF: Fantasy and Fugue-Ad Nos ad Salutarem, Prey, de Lucia (LYRICHORD).

LOEWE: 9 Ballades, T. Adam, Dunckel (TELEFUNKEN).

ULLY: Music for the Grand Ecrie, Paillard Orchestra (MUSICAL HERITAGE SOCIETY).

LUTYENS: Suddenly it's Evening, Ca
tana, Capriccio, Suddenly it's Evening, Ca
tana, Capriccio, Suddenly it's Evening, Ca
tana, Capriccio.

LAVROFF: Spaces; Ode to Winds, Lazarof, Los Angeles Chamber Ensemble, U.C.L.A. Wind Ensemble (CRI).

LEHAR: Merry Widow, Schock, Schramm (EVEREST).

LEONCARVALLO: Zaza (EVEREST).


LISTF: Fantasy and Fugue-Ad Nos ad Salutarem, Prey, de Lucia (LYRICHORD).

LOEWE: 9 Ballades, T. Adam, Dunckel (TELEFUNKEN).

ULLY: Music for the Grand Ecrie, Paillard Orchestra (MUSICAL HERITAGE SOCIETY).

LUTYENS: Suddenly it's Evening, Ca
tana, Capriccio, Suddenly it's Evening, Ca
tana, Capriccio, Suddenly it's Evening, Ca
tana, Capriccio.

LAVROFF: Spaces; Ode to Winds, Lazarof, Los Angeles Chamber Ensemble, U.C.L.A. Wind Ensemble (CRI).

LEHAR: Merry Widow, Schock, Schramm (EVEREST).

LEONCARVALLO: Zaza (EVEREST).


LISTF: Fantasy and Fugue-Ad Nos ad Salutarem, Prey, de Lucia (LYRICHORD).

LOEWE: 9 Ballades, T. Adam, Dunckel (TELEFUNKEN).

ULLY: Music for the Grand Ecrie, Paillard Orchestra (MUSICAL HERITAGE SOCIETY).

LUTYENS: Suddenly it's Evening, Ca
tana, Capriccio, Suddenly it's Evening, Ca
tana, Capriccio, Suddenly it's Evening, Ca
tana, Capriccio.
You'll hear more from this Telex 8 TRACK RECORDER

HEAR 8 TRACK STEREO CARTRIDGES YOU RECORD YOURSELF
Now have the fun of recording your own kind of music on 8 track stereo cartridges and save 75% per album. Recording in stereo from the 814 AM/FM Radio, external phonograph, tape deck, microphone inputs or any other source is easy. Just select the music you want, set the modern slide controls and monitor the recording on two VU meters. Four exclusive logic circuits control the recording totally and automatically. Model 814 features erase/record interlock and pause control.

HEAR STEREO CARTRIDGES AND AM/FM AND FM STEREO RADIO
Easy, one-step playback. Simply insert cartridge for immediate playback or switch to the AM/FM Stereo radio and listen to your favorite music through matched air suspension speakers or stereo headphones. "State of the Art" Integrated Circuit delivers 100 watts peak music power. FET stereo radio features blackout dial, tuning meter, stereo beacon and AFC lock-in. Additional features include Hi-Low Z phono input switch, slide controls, cartridge eject lever and walnut styled case to make the Model 814 the most functional, convenient 8 track cartridge recorder available.

HEAR THE COMPLETE LINE OF TELEX RECORDERS AND PLAYERS
The Telex 814S is priced at $349.95. Telex also offers the Model 812S without stereo radio for $299.95, and if you're looking for an 8 track cartridge stereo recording deck to complement your present music system, hear Model 811R — $169.95. We also have a complete line of playback-only models from $69.95 to $139.95. See your dealer. He can demonstrate the ease of operation, fun and money-saving features of these and other Telex models.

Whatever Your Choice—You'll Hear More From Telex

Write for free catalog.

TELEX CONSUMER PRODUCTS
9600 Aldrich Avenue Minneapolis, Minnesota 55420

OCTOBER 1970

CIRCLE NO. 60 ON READER SERVICE CARD
You’ll Hear More From the Telex 8 Track Cartridge Recorder

Make Your Own Kind of Music and Save

Roll your own. Record the now sound of the 70's in 8 track cartridges. And save up to 75% per album. The 811R is both a recorder and a playback machine. Your own personal recording studio. It’s all here.

No time-consuming set-up problems. Simply insert the cartridge and you’re on your way to instant playback. Recording is just as simple. Insert the cartridge, set volume controls with VU meter, and the logic circuits take care of the programming automatically.

Studio Quality Recordings

With the 811R you can record from any music source. Record for home or car from FM stereo radio, phonograph or another tape recorder. You make studio quality tapes every time. The logic circuit selector switch eliminates timing problems. Additional features include record interlock, VU meter, record gain controls, on-off pilot light and manual or automatic track selection with numerical program reference. All this in a handsomely styled wood base. $169.95.

Whatever Your Choice

“You’ll Hear More From Telex”

Telex’s Complete Line of Recorders and Players

Telex offers a complete line of 8 track recorders and players. Leading off the line is the 814S, an 8 track recorder/player with solid state FET AM/FM and FM stereo tuner with matched speakers. Next is the 812S, a recorder without the stereo tuner. Also comes with matched speakers. If you’re simply interested in a playback model to complement your system, Telex offers playback-only models ranging in prices from $59.95 to $199.95. See your dealer. He can demonstrate the full line of Telex 8 track cartridge recorders and players.
This was the year of the American university big jazz bands at Montreux. The Fourth International Jazz Festival featured three of them—the M.I.T. Festival Jazz Ensemble, the Kent State University Lab Band, and the North Texas State Lab Band—and they were the sensation and talk of the five-day gathering.

Europeans had never heard anything like this from university students, and not many could have heard it even from European professionals. And so they reacted as I had reacted, three years ago, when I first heard American student bands in action at the Intercollegiate Jazz Festival at Miami Beach. They just about fell out of their chairs.

It must seem paradoxical that big-band jazz should be flourishing on the American university campus precisely at a time when it is apparently languishing everywhere else. But the appearance is deceiving. The professional big band is no longer the paying proposition it was at the height of the swing era; the surviving touring big bands can be counted on the fingers of two hands. But there is still plenty of big-band activity in the studios behind the popular singers, on film and TV underscores, and on such TV guest shows as Jolmny Carson, Merv Griffin, and David Frost.

It is largely, although certainly not wholly, a matter of money and convenience. Maintaining a big band costs too much, and the players quickly get fed up with the incessant travel. Studio work—and now teaching—is more attractive. And that's where the universities come in. They have the money. They have time and facilities for rehearsal and experimentation. And the bands can travel just enough to keep everyone on his toes.

The situation is not quite so idyllic as I may have pictured it thus far. University presidents, deans, and administrators have been slow to grasp the significance and musical value of the movement. Until very recently most of the bands have functioned as extra-curricular activities. North Texas State, for many years, was the only school to give degree credit for playing in the band; it was the first, and is still one of very few, to give a degree in jazz.

But things are changing fast. Course credit is now common, if hardly universal. Composer-arranger courses are being introduced into the schools of music—including traditional conservatories such as the New England Conservatory, the Eastman School, the Peabody Conservatory, and the Philadelphia Musical Academy. The results are spectacular.

Among the leaders have been North Texas State University, Indiana University, the University of Illinois, the University of Miami, the University of Utah, and San Fernando Valley and Cerritos state universities in California. Of these only the North Texas State hand, under the direction of Leon Breeden was at Montreux, and it was predictably the best of the three appearing there, offering an astonishing example of musicianship, individual and sectional virtuosity, and ensemble discipline.

In one way, however, the M.I.T. Band, directed by Herf Pomeroy of the Berklee College of Music, was even more remarkable. Whereas the North Texas State and Kent State bands were composed, with few exceptions, of music majors, the M.I.T. band was made up exclusively of future engineers. It was this characteristic of the dedicated and accomplished amateur that lent to their performance an irresistible charm. Not being burdened, moreover, with aspiring student composers, the band also offered the most attractive repertoire, drawing upon such canny professional composer-arrangers as Quincy Jones and Mike Gibbs.

Kent State's repertoire was largely the work of their student director, Bill Dobbins, and North Texas State's was almost exclusively the work of various members of the band. There is much to be said for this, particularly as a means of letting student composers try their wings and learn their trade. And their accomplishment was, goodness knows, impressive.

But young jazz composers—and not only the young ones—have a tendency to overcompose, particularly when they have at their disposition bands of such capabilities. And the result, as a concert diet, tends to be more busy and ingenious composition than entrancing music. The writers are all accomplished and adventurous harmonists and orchestrators, but they are not good melodists.

There was much they could have learned throughout the festival—and may have learned—about the virtues of simplicity and the artful elaboration of melody from such old pros as Benny Bailey, Dexter Gordon, Gerry Mulligan, Yusef Lateef, and Tony Scott. And they could have learned much from the Junior Mance trio, which, with the infinitely accomplished Oliver Jackson on drums and the equally versatile Martin Rivera on bass, backed Gordon, Mulligan, and Scott in hour-long sets in a variety of styles that will remain in my memory as examples of all that is best in jazz.

A final note: most of the major American university big jazz bands can be heard on noncommercial recordings made under the auspices of the universities. Those interested in studying their accomplishments are advised to write to the respective universities for details.
Hear the Studio 1
IT'S THE FINEST HEADPHONE AVAILABLE TODAY WITHOUT EXCEPTION.

The Studio 1 features a version of the Telex audiometric transducer used in clinical hearing measurements. Telex spent over three years to develop this transducer. It's the first major breakthrough in headphone element design in over 25 years. Here is why.

To make accurate clinical hearing measurements, a headphone element was needed that would be absolutely stable in performance. An element that would not be affected by changes in temperature and humidity. Until now, no such element was available. And it had to be an extremely sensitive element. So it could respond efficiently to varying degrees of power input and frequencies. And it had to reproduce sound with less than 1% distortion at 120 dB sound pressure level. That's the threshold of pain in human hearing. But clinical measurements go beyond this level. So the element had to be capable of withstanding in excess of 130 dB sound pressure level. Without burning up.

There has never been a headphone that could meet these requirements. Never. That's why Telex concentrated all its resources on the development of a new audiometric transducer. It took 42 months to do it. And another four months of testing to verify the results.

At the Central Audiology and Speech Pathology Department of the Bio Communications Laboratory of the University of Maryland. Now Telex adapted this audiometric transducer to a stereo headphone. The Studio 1. It is the first and only stereo headphone of its kind. The Studio 1 reproduces frequency response from 20-22,000 Hz with unequaled fidelity and clarity. Without distortion. The Studio 1 has modern slide controls for volume and tone built into each ear cup. That's separate controls for each channel. And Telex developed a new cushion material for ear cup and headband. A soft, pliable surgical silicone compound that seals the sound in and follows the contour of the head for comfort. Even over glasses. The Studio 1 comes with a 25 foot coil cord. And the Studio 1 is attractive. Antique ivory white with burled walnut and black trim. It comes in a sturdy plastic storage case. For $99.95. The Studio 2 is the same headphone without volume and tone controls. For $84.95. The Studio 1 is the best stereo headphone available. Telex makes it that way. For you. Try it.

"You'll Hear More From Telex"
Mozart's

Symphony No. 38, "Linz"

Operas, piano concertos, and string quartets and quintets flowed in abundance from W. A. Mozart's pen during the final decade of his life, the period he spent in Vienna. Oddly, however, Vienna apparently had no need for symphonies, and Mozart produced only a handful during those final years. The three great ones of that remarkable six-week period during the summer of 1788, the Symphonies Nos. 39, 40, and 41, were evidently the result of some inner compulsion: there is no evidence that they were commissioned or, indeed, even performed while Mozart was still alive.

Forces outside Vienna, moreover, were responsible for the creation of the two symphonies prior to the glorious triumvirate of 1788. In 1786 Mozart's opera *The Marriage of Figaro* was given for the first time in Prague. It so captivated the local audiences that the composer was forthwith invited to write a symphony for performance there; what he produced was the radiant D Major Symphony, No. 38, that bears the name of the Bohemian capital. Three years earlier, Mozart and his wife of just a year, Constanze, were returning to Vienna from a visit to his birthplace, Salzburg. En route they decided to stop in the city of Linz to visit an old friend, Count Thun. "When we arrived at the gate of Linz," Mozart wrote in a letter to his father, "we were met by a servant sent to conduct us to the residence of the old Count Thun. I cannot say enough of the politeness with which we were overwhelmed. On Tuesday, 4 November, I shall give a concert in the theater here, and as I have not a single symphony with me, I am writing one for dear life to be ready in time." The orchestra at Linz apparently had neither flutes nor clarinets, and the scoring of the new symphony omitted those instruments.

Only five days elapsed between the arrival of the Mozarts in Linz and the first performance of the new symphony. And yet, incredibly, in that space of time a masterpiece of musical thought and invention came into being. Mozart's biographer Georges de Saint-Foix called the "Linz" Symphony "the first great classical vista which the 'Linz' Symphony "the first great classical vista which Mozart designed in the symphonic genre." The characterization is an apt one. Some of Mozart's earlier symphonies broke new paths in symphonic expression, but there had been nothing like the sheer exuberance and thoroughgoing inspiration of the "Linz" to overwhelm the listener with awe and delight.

Ten performances of the "Linz" Symphony are listed in the current Schwann catalog—and nearly every one of them has some special felicity. My own favorites among them are the performances conducted by Leonard Bernstein (London CS 6499), Antal Dorati (Mercury SR 18064), Eugen Jochum (included in Philips PHS 2 991), Otto Klemperer (Angel S 36128), and Bruno Walter (Columbia MS 6493). Dorati has frequently shown himself to be an unusually perceptive conductor of the symphonies of Haydn and Mozart, and this is the case with his recording of the "Linz," a fleet and intimate performance that also has considerable poetry. It is splendidly played by the London Symphony Orchestra and recorded with transparent clarity. The performances by Jochum and Klemperer are on a grander scale than Dorati's; both conductors respond to the more dynamic aspects of the score, and their respective orchestras (the Amsterdam Concertgebouw and the Philharmonia) are given richer and more reverberant sonic reproduction.

The recordings by Bernstein and Walter represent opposite poles of Mozart interpretation. Bernstein's is crisper in concept and execution, with a textural clarity like that of chamber music. Walter's is mellower—even lush—and though both conductors do not hesitate to caress a phrase when they feel so inclined, Walter's is a much more personal approach. Another contrast between the two is in the matter of exposition repeats: Bernstein observes the repeats in both the first and last movements, and Walter ignores them both. Ordinarily I am all for observing exposition repeats when called for by the composer, but in the case of the "Linz," in which the development sections of both movements are so brief, it seems to me that the repeats serve to throw the structure further out of balance. This is purely a matter of personal preference, however. In the final analysis, I think I would single out Bernstein's recording as my number one recommendation, repeats and all, principally because the Vienna Philharmonic players seem so responsive to Bernstein's every wish and so attentive to each other's playing.

The Bernstein performance is also available to tape collectors in a superb reel-to-reel version (London L 80199) that, in common with its disc counterpart, contains a brilliant account of Mozart's B-flat Piano Concerto, K. 450, conducted by Bernstein with himself at the piano.
You’ll Hear More From Telex

The ultimate professional quality reel-to-reel recorder—designed for the audiophile who demands the finest performance. The Telex Lab Series 2001 incorporates the identical design parameters which made Telex Magnecord the professional standard in both broadcasting and the U.S. manned spacecraft centers. Precision die cast frame allows exacting alignment of all critical components for absolute performance reliability. Superb recording and playback, comparable in every respect to studio equipment performance. All tape motions are push-button solenoid controlled for satin smooth, convenient operation. The Lab Series 2001 represents a totally new generation of Telex professional tape recorders now available for the individual audiophile.

Precise distortion-free sound with smooth tape flow and maximum timing accuracy regardless of line power voltage fluctuations made possible by Telex’s two-speed 3.75 and 7.5 IPS hysteresis synchronous capstan motor with Flutter-Filter belt drive, dynamically balanced flywheel and ball bearing inertial stabilizers. Pay out and take up reels are operated by two permanent split capacitor motors. Three separate, deep-gap erase, record and play heads are shielded by anti-magnetic mu-metal. Solenoid-operated tape gate provides precise tape tracking and forces wrap to insure positive tape-to-head contact. Positive but gentle tape handling is assured by military type, solenoid operated differential band braking. All tape motions are solenoid controlled and push-button operated.

Ganged volume controls for right and left channels provide mixing facilities for both microphone and auxiliary inputs. The source-tape switch allows for monitoring of the tape while recording. Built-in whisper fan maintains cool operating conditions for all power components. Two professional stereo headphone jacks on front panel—ganged playback controls adjust the desired volume and balance of right and left stereo channels. Solid state, modular electronics for professional recording and playback quality. An individual inspectograph is supplied with each unit. American made and carries a two year warranty. Lab Series 2001, only for those who will not compromise.

"You'll Hear More From Telex®"

Ganged volume controls for right and left channels provide mixing facilities for both microphone and auxiliary inputs. The source-tape switch allows for monitoring of the tape while recording. Built-in whisper fan maintains cool operating conditions for all power components. Two professional stereo headphone jacks on front panel—ganged playback controls adjust the desired volume and balance of right and left stereo channels. Solid state, modular electronics for professional recording and playback quality. An individual inspectograph is supplied with each unit. American made and carries a two year warranty. Lab Series 2001, only for those who will not compromise.

S799.95

9600 Aldrich Avenue South • Minneapolis, Minnesota 55420

CIRCLE NO. 63 ON READER SERVICE CARD

63
Our worst kept secret.

We were finally found out! Hirsch-Houck Laboratories, in a published report, said, "The trackability score for the Shure V-15 Type II Improved is by a comfortable margin the best we have measured to date." They also said, "Shure had, without fanfare, made a few other improvements." I suppose we'd better 'fess up. It's true. We'll be pleased to send you the Hirsch-Houck report covering such things as improved separation; perfect tone bursts; the first visually perfect sine wave; freedom from "shattering;" neutral sound; and how to convert your present V-15 Type II for only $27.00! Write to Shure Brothers Incorporated, 222 Hartrey Avenue, Evanston, Illinois 60204.

CIRCLE NO. 50 ON READER SERVICE CARD
HOW TO USE A VOLT-OHM-METER
TO DO YOUR OWN
SIMPLE STEREO TROUBLESHOOTING

By Craig Stark

Most of us know by now that a major stereo servicing problem almost always calls for a trip to the repair shop. But there are common ailments of audio systems that can be diagnosed and remedied by the audiophile himself with a little know-how and a few inexpensive tools. One of the most versatile and least costly of these tools is the V-O-M (volt-ohm-milliammeter). This handy instrument, also sometimes referred to as a “multimeter” or “multitester,” is available in imported versions from the major parts houses for as little as $5 or $6, and will serve for a variety of simple checks. It needs no connection to the a.c. power line, and so can be used anywhere. For the avid kit-builder it is almost a must, for final assembly instructions often suggest that a few precautionary measurements be made with a VOM before a newly completed unit is first plugged in. And a good VOM will also be called for if one has to turn to that part of the manual called “In Case of Difficulty.”

The designation “volt-ohm-milliammeter” indicates the basic electrical quantities the instrument is designed to measure. The volt is the unit of electrical force which causes current to flow, for example, in a wire; the ohm is the unit of resistance to that current flow; and the ampere is the unit of current itself. But since the ampere represents a rather large quantity, VOM’s substitute milliamperes—thousandths of an ampere—instead. (In practice, however, the average audiophile isn’t likely to make any use of the current-measuring function of a multitester.)

For each of the electrical qualities it can measure, a VOM will provide a number of ranges, selected by a multi-position switch or by different jacks into which the red (+) test lead is inserted. (The black lead always goes in a jack marked COMMON or —.) Sometimes other switches are used to set the VOM for a.c., d.c., or resistance measurements. To reduce the number of different dial markings needed on the meter face, the same scale is generally used for several ranges. Thus, for example, a 0 to 1.5 volt scale will also be used to indicate 0 to 15, 0 to 150, and 0 to 1,500 volts, depending on the setting of the range switch or the test-lead connections. Similarly, when measuring resistance (in ohms), the range-switch setting will tell you whether to multiply the indicated reading X 1, X 10, X 100, X 1,000 (1 k) and so forth.

To demonstrate how the VOM is used in audio trouble-shooting, let’s check out some typical problems. First, assume that your system consists of a turntable, FM tuner, preamplifier, power amplifier, and speakers. You discover one day that, while records play normally, the left channel is dead on FM. The fault may lie in the tuner itself, or in the cable that connects the tuner to the preamp. To check, turn off the system and remove the suspected cable. Set the VOM to its lowest “ohms” range—normally marked R X 1 or R X 10. To use a VOM as an ohmmeter a preliminary adjustment must be made: hold the probe tips together and turn the meter’s OHMS ADJUST control until the meter needle reads 0 ohms. On most VOM’s the ohms scale, usually at the top of the dial, is the reverse of the volts scale, so the 0 will be at the extreme right-hand side and the infinity (or open-circuit) symbol (∞) will be at the far left. (Note that 0 ohms does not indicate “no” ohms, but rather a short
circuit. The opposite of short circuit is open circuit.

Now connect the test leads between the center pin and the metal shell at one end of your audio cable, as shown in Fig. 1 (A). (It is helpful to use "alligator clips" at the ends of the test probes for most testing.) There should be no electrical contact between these points, so the meter should indicate an "infinite" resistance (i.e., the pointer should not move). If instead there is a reading of 0 ohms, this indicates that there is a short circuit in the cable (between the braided metal shield and the normally insulated inner wire)—and that's why your left FM channel is dead. If the cable is not shorted (or short circuited), however, it still could be open: a break in one of its conductors would also prevent the tuner's signal from getting to the preamplifier. To check this, clip the test leads first to the center pins at each end of the cable and then to the two shells—Figs. 1 (B) and 1 (C). Wiggle the lead while watching the meter needle. On each of these measurements you should get a steady 0-ohms reading, for there should be negligible resistance through the short length of the cable. An "infinite" or jumpy reading indicates a break within the cable, a so-called "open circuit." While an open circuit between the shells or ground connections of a cable will not always result in a complete loss of signal, it is probably the commonest cause of high hum level in a system.

As another illustration of troubleshooting with a VOM, let's suppose that FM works normally but the left phono channel is dead. Since the output of the phono cartridge goes through an additional amplifying stage within the preamplifier ahead of the FM, there is a chance that this part of the preamp has failed. To check whether it is functioning, turn the volume all the way down and remove the phono cable in question. Then, with the volume control turned down slightly from its normal setting, insert a bent paper clip (or similar metal object) into the jack where the phono cable plug would normally go. Wiggle the paper clip to insure that it makes contact. If the preamp is working you will hear a loud buzz in the speaker, indicating that your record-player trouble lies somewhere between the phono cartridge and the preamplifier end of the cable.

Figure 2 shows the various points where phono difficulties are likely to occur. The commonest place is within the tone-arm's cartridge shell (or slide) itself, so start by removing it from the tone arm. The instructions that came with your turntable or changer will show how to do this. Often a visual check will show that one of the very thin wires that connect the cartridge shell's rear terminals to the cartridge (with small push-on clips) has broken or that the clips are touching, creating a short-circuit. A short can be fixed with tweezers, but you must use care to avoid breaking the wires. If a wire is broken—right at the clip is the usual place—you may want to have a service technician fix it. If you're handy with a soldering iron and want to repair it yourself, however, you must observe several precautions. First, never solder to a phono cartridge itself, or to a phono clip while it is still on the cartridge. The heat of the iron may unsolder connections inside the cartridge. Secondly, use as little heat as possible and watch out that solder doesn't run up inside the clip itself. If the clip is pushed lightly onto a wooden toothpick, you'll have a handy way to hold it when soldering. In some cartridge shells the thin wires are crimped, not soldered, to the lugs, and sometimes lose contact. The cure is either to solder them or to tighten the crimp with long-nose pliers.

Even if everything looks okay with the cartridge and shell, however, you can make doubly sure with the VOM. What you want to check is the resistance between the four terminals at the back of the cartridge shell. Between each of the two pairs of terminals (L and Lc, for example) you should get a reading of the resistance of the cartridge coil for each channel. Typically, this is in the neighborhood of 500 to 600 ohms for a magnetic cartridge, and if one channel is working, you'll have no
difficulty with the VOM in determining which terminals are paired together. While there should be no connection ("infinite" resistance) between the two pairs of terminals, an open or short circuit within a pair must be tracked down. The cartridge itself can be checked the same way after the clips have been gently removed with long-nose pliers or tweezers (see Fig. 3). Ask the manufacturer (or dealer) about his repair policy if one channel of the cartridge seems to have an open circuit. If both channels of the cartridge check as open, the cartridge may not be a magnetic type, or you may be measuring it incorrectly. If only one channel shows a short or open circuit across the phono plug after the cartridge and shell connections have checked okay, the difficulty probably lies in the cable between changer and preamp.

One other phono difficulty deserves mention. Some automatic turntables incorporate "muting switches" designed to prevent noise from coming through the system during the changing cycle. Such switches operate by shorting out the cartridge leads except when the tone arm is playing a record. It is possible for them to become jammed, however, effectively muting the cartridge at all times. This problem may affect either or both channels. The source of the trouble can be checked by connecting your ohmmeter between the center pin and ground shell of the phono plugs that normally go into the preamp, and then running the changer through its cycle. During all or part of the change cycle, the meter will indicate 0 ohms.

The meter reading should rise to the normal cartridge resistance after the arm has lowered into play position.

Other uses of the continuity-checking facility of the VOM can now be described more briefly. As I recently learned to my chagrin, speakers can be burned out! If you suspect speaker damage, connect the VOM in its lowest resistance range directly across the speaker terminals (with the wires to the amplifier disconnected). If the speaker is okay, you should observe the following: (1) a slight but audible "click" at the moment the leads are touched to the speaker terminals; (2) a resistance reading that is perhaps one third lower than the speaker's rated impedance; and (3), if the speaker cone is visible, a slight inward or outward movement. The second and third items are particularly useful when you have an unknown speaker on your hands, both for identifying whether it is a 4-, 8-, or 16-ohm unit, and for phasing it correctly in relation to other drivers in a home-built speaker system. When installing factory-built speakers, proper phase can be assured if they are connected to the power amplifier's + and — ("ground" or "common") terminals in exactly the same way. Often, however, when you have, say, twenty feet of lamp cord to run between speaker and amplifier, it is sometimes not obvious which ends of the cord match. The VOM will indicate the proper match, allowing you to mark the ends of the speaker cables before you string them behind the bookcases and over to the speakers.

It's sometimes hard to be certain merely from visual inspection whether a particular pilot light or fuse is burned out or not. The VOM makes sure, for both will show a rather low resistance if they're good. (If bad, they will read infinite.) After a fuse checks okay, don't overlook the possibility of a defective power cord if an older piece of equipment stops functioning. Unplug it and connect the test leads of your ohmmeter across the power plug itself, and then turn the unit's switch to "on." You should see the VOM pointer move from "infinite" to the rather low resistance of the power-transformer primary winding. If it doesn't, suspect the power cord or the switch itself. Incidentally, breaks in power cords almost always occur in the first inch of wire coming out of the plug.

A firm note of caution is in order when using an ohm-
meter. Always make sure that the particular part of the circuit you are testing has no voltage present in it. A VOM can measure voltages, but not on their resistance ranges, and a mistake here is likely to burn out the meter.

The usefulness of the VOM to the audiophile is not limited to its ability to check electrical continuity. With everything from cassette recorders to children's toys operating on batteries, it is often desirable to determine when they begin to approach the end of their useful life. Though the rather expensive alkaline and mercury cells retain almost their full voltage to the end, most dry batteries fall off gradually and should be replaced when their voltage drops to about 75 per cent of the original value. This can easily be determined with a VOM operating in its d.c.-volts function. The only difficulty is that a battery should always be tested "under load"—that is, while current is being drawn from it. Otherwise it will simply indicate its rated 1.5 volts even if it has practically no life left. The best "load" to use, of course, is the actual device the battery operates, and this can often be done by inserting the VOM test probes (black to — and red to +) into the battery compartment while the equipment is running. Two fully charged standard 1½-volt cells connected plus to minus will give you 3 volts; three cells, 4½ volts; four cells, 6 volts; and so forth. If the test leads won't fit, you might try using bent paper clips jammed in at the appropriate connections to give you your measuring points. Sometimes this is not possible, however, so you must simulate the load to which the battery would be connected. This can be done by buying the correct ½-watt, 10 per cent resistor (about a dime each at any parts house) and connecting it as shown in Fig. 4. For testing a 1½-volt cell, a 10-ohm resistor should be used; a 9-volt "transistor-radio" battery should be checked with a 600-ohm resistor across its terminals.

Power-line fluctuations can occasionally cause audio difficulties, and the "a.c.-volts" function of your VOM can help determine whether the problem lies with your equipment or the utility company. Line voltage in this country lies between 110 and 120 volts a.c. (alternating current), and if it falls too far below the lower limit you may find your turntable running too slowly (musically "flat"). Too high a line voltage, which is sometimes found in an area with heavy-duty electrical machinery, will result in an inordinate number of burned-out light bulbs and frequently popped fuses on your otherwise perfectly operating amplifier. To check the line voltage and how it varies with the time of day, simply insert the test leads of your VOM, set to measure a.c. voltage on an appropriate range (150 volts or slightly higher), into a convenient socket. Caution: when inserting the leads, be sure not to touch anything but the insulated handles of the VOM test prods or you will get a shock that, for some people, at least, is ample large enough to be lethal.

The a.c.-volt scales of the VOM may also help you plug in the a.c. line cords of your system for minimum hum. To do this you must start by determining which slot of the a.c. wall socket into which your equipment is plugged is "hot" and which is "neutral" or "ground." This can be done by setting the VOM to indicate a.c. volts on a 120-volt or higher scale and connecting one lead of the VOM (there is no + or — polarity on a.c. readings) to a cold-water pipe or BX cable or other known ground point. (A hot-water pipe may be partially insulated from ground.) Insert the other multimeter lead into the two slots of the wall socket in turn; on one side you'll get approximately 120 volts and on the other, nearly zero. The zero reading indicates the neutral or ground side of the power line output, and this should be marked for future reference. Again, be careful! Don't touch the metal probe tips of the VOM when dealing with power-line voltages (see Fig. 5).

Next, connect the VOM leads between your power amplifier or receiver chassis and the previously deter-
to obtain the proper a.c. plug orientation for all your components.

The test just described can do more than prevent unnecessary hum. It can also be used to detect equipment (whether a toaster or a tape deck) in which there is a potential electrical-shock hazard. Normally, if you touch a metal equipment case or knob and an electrical ground (such as a cold-water pipe, radiator, or the neutral side of the power line), it may take anywhere from ten to fifty volts before you get a shock. The exact amount of voltage required to shock depends on the body resistance, which varies according to the individual and the environment. In a wet environment the body's "impedance" (its resistance to a.c. current) may be as little as 500 ohms; but in a dry area it may be as much as 1,500 ohms. The maximum permissible current allowed to flow between equipment case and ground is five milliamperes (Underwriters Laboratories standards), and though the usual VOM does not measure a.c. current directly, this can be translated into a voltage measurement you can make. Buy a 1,000-ohm, 10 per cent, $\frac{1}{2}$-watt resistor, and connect one of its leads to a long wire that is plugged into the ground or neutral side of the a.c. outlet. The other end of the resistor is connected or touched to the case of the appliance under test as shown in Fig. 6. With the equipment on or off and its power cord inserted either way, you should not get a reading of more than 5 volts a.c. with the voltmeter leads connected across the resistor.

Even apart from audio-system measurements, there are literally hundreds of uses to which a simple VOM can be put by the home handyman, and readers interested in pursuing this might wish to acquire Tom Jaski's How to Get the Most Out of Your VOM (Gernsbach Library, Inc.) or Robert Middleton's 101 Ways to Use Your VOM and VTVI (Howard W. Sams & Co., Inc.).

Technical Editor Larry Klein also has a book in print that is useful for slightly more advanced training: It's Easy to Use Electronic Test Equipment (John F. Rider, Inc.)

At this point it's worth discussing some other considerations in the use and selection of a VOM. Most VOM's have accuracy ratings of between 3 and 5 per cent. These figures may be misleading, however, as they are based on full-scale deflection of the pointer. Thus, using an ordinary meter, a 100-volt scale with an accuracy of 5 per cent will have a tolerance of ± 5 volts. This applies to any portion of that scale, even if you are measuring only, say, 20 volts, where there still might be a 5-volt error. This means that for accurate measurements a meter should have many ranges so that the reading can be taken on the upper portion of the dial. (Resistance measurements, by contrast, are most accurate near the center of the scale.) Inexpensive VOM's may have their ranges separated by a ratio of as much as 10 to 1; 5 to 1 is a fair compromise, and the best instruments have 3 to 1 ratios between ranges, insuring that you can make your measurement with the pointer in the upper two-thirds of the dial. The larger the meter face and the higher the "ohms-per-volt" rating, the more expensive the instrument. However, considering the infrequent use that the average audiophile will get out of his VOM, $10 seems about as much as should be spent.

The VOM is usually an audiophile's first piece of test equipment, and properly used, even the very cheap ones will give many years of reliable service. Don't drop it (the meter bearings are like those of a watch), and when checking voltages always begin on a very high range and switch downward, so the pointer doesn't bang off scale. Replace its batteries regularly (yearly is usually adequate), and give it good care; it will save many times its cost in needless service bills for your audio system.
BILL GRAHAM of the Fillmores (East and West)

"...we make it so that the performer cannot cop out and say the reason he didn’t do his thing was because the sound system was no good."

By Clive Barnes

POP MUSIC has produced impresarios of all kinds, sizes, shapes, appetites, and abilities. A few have been wonderful buccaneers of a new world, such as Brian Epstein, who piloted the Beatles to their first successes, or Kit Lambert (son of the late conductor Constant Lambert), who organized the triumph of the Who. Some others have done nothing but take the money and run. But of all the pop impresarios—here and in Europe—one man stands like a hip Sol Hurok above the rest. His name is Bill Graham.

It was Graham’s association with the Who, for instance, that resulted in that group’s presenting their rock opera Tommy at the Metropolitan Opera last June—a well-publicized blow right in the Establishment’s breadbasket—sweetening the air of that hallowed hall with the smell of both pot and money. Graham is the man more than any other—more than even the most profit-minded recording mogul—who can tell you what is happening and, more interestingly, what is going to happen in the new art form we call, for the time being, rock.

Bill Graham is the king of the rock scene. Once upon a time he was Fillmore West in San Francisco, then he became Fillmore East in a strange and rare movie theater around St. Marks’ Place and Second Avenue in New York. And his success with rock has been phenomenal. Especially since he doesn’t know that much about it. And even more, considering that he doesn’t care that much about it.

Graham is particularly interesting on the rock scene simply because he is not that obsessed by it. He has made a lot of money out of it, but I suspect he would have made a lot of money out of some product or other anyway. And that is really what it is—rock to Graham is a product. A product he rather despises, for very intriguing, and possibly even, from his point of view, valid reasons. At any rate, he has marketed the product with phenomenal success on two coasts, so it can’t be all bad.

Graham is easily one of the most influential people in pop music today. And this is not simply because of his position as head of the biggest concert organization in pop, for in that respect he is less important than many of the recording potentates. For Graham, much more than anyone else, has a feel for what is happening. In a sense he is a creative person, his creativity consisting in making choices and ensuring that things do happen.

He was born in Berlin in 1931, which, considering that he is Jewish, was quite remarkably careless. His father died two days after he was born, and he was placed in an orphanage in Paris. On September 3, 1939, when France and Germany declared war, Graham found himself on the right side of the French border. But not for long. The German invasion the next year set him and the other Jewish orphans tramping, under the leadership of a teacher, down to Marseilles. From Marseilles they marched on to Lisbon. From Lisbon they went to Casablanca, from Casablanca to Dakar, from Dakar to Bermuda, and finally, in September 1941, to New York.

It was quite a journey. He was brought up as a foster child in the Bronx, and didn’t discover that his sister and his mother had died in Belsen until 1945. He took the name Bill Graham from a telephone book after he became a citizen in 1949. Now he wishes he had kept
his original name, Wolfgang Wolodia Grajonca. Service in Korea (he won a bronze star—and two court-martials for insubordination) preceded a City College major in business administration. It seems that he was a brilliant but discontented businessman. He wanted to be an actor, he wanted to use his business skills with more imagination than most businesses permitted. In 1964, at the age of thirty-three, he was earning $18,000 a year. He walked out to become the business manager of the San Francisco Mime Troupe, where he was paid $120 a month. It was the turning point of his career, for it was through this move that Graham entered his kingdom of rock.

Graham himself puts it this way: "Well, first, to make things clear, I am not a rock fanatic, I'm a rotten American music freak fan, and the way I got into the Fillmore is very simple. I was with the San Francisco Mime Theater. In 1964 and '65 the producer and I were struggling—there were always financial troubles with all the radical theater groups—and by '65 we couldn't even pay the rent on our loft here in San Francisco.

"By this time I had gotten to know artists—poets, musicians, the film-makers, and so on—and I got this idea of a fund-raising thing for the new people. I invited Ferlinghetti and the Fugs, and the Mothers of Invention and Allen Ginsberg, and, well, a whole lot of the subculture of San Francisco and the Bay area. This was in November 1965, and to make a long story short it was a monstrous, monstrous success—and not just financially—we had thousands of people outside.

"And this was the very, very beginning of the whole thing. You see, we hit off the friendliest relationships with people. We liked the Jefferson Airplane and the Grateful Dead—and they liked us—and the Mothers of Invention, and all the others. The thing was that everything was very free, very open, and very joyful, and it was the first time a lot of these people had ever met each other. They had heard of one another or seen each other's work, but they had never been together.

"So the cops came, and the firemen came, and we had all kinds of hassles with them, and it broke up in the wee hours of the morning. A good time had been had by all and that was going to be the end of it. But we had hundreds of letters and telephone calls, so we did two other benefits."

Graham never got on especially well with the San Francisco Mime Troupe in the way of business, although he admired enormously much of what they were doing. But the parting of the ways had to come, and, oddly enough, Graham had already handed in his resignation before the first benefit. He had also promised that he..."
GRAHAM CRACKS:

"The schmucks graduated from some high school, picked up on a gimmick, and made a million bucks."

"What is it like to be a nothing, a nobody, at twenty and a world figure at twenty-one?"

"What rock star ever had the nerve to say 'I want to go to Vietnam to entertain the troops'?"

"I've never seen a rock festival make this world a better place to live in."

"What rock star ever had the nerve to say 'I want to go to Vietnam to entertain the troops'?"

"The problem with rock is that ninety-five percent of the people in the business have never stopped long enough to learn how to perform."

"I think these kids should understand full well the power they have on that stage—the power of suggestion, life-style, dress, politics, thought, freedom of expression."

"If you have to cut your hair or brush your teeth, or clean your clothes before the straight conservative next door will listen to you, then that is what you had better do."
would do what he could to get a little money behind him. So at this point Graham was out of work.

"The second benefit," Graham recalls, "couldn't be held in the loft because we knew we were going to have too many people, so I started looking around for a hall. In the middle of the Fillmore district—San Francisco's version of the black ghetto—there was a place called the Fillmore. I rented it for sixty bucks. That was on December 10, 1965. I rented it again for the third benefit in January, and the gentleman I rented it from said, 'You know my lease is up, why don't you take it?' So I did, and that was the beginning of Fillmore.'

Graham never makes any bones about his interest in money, although many figures in the pop world, some of them pretty well-heeled themselves, have criticized him for it. But money is clearly not his only concern—not, I would say, even his primary concern. He is a driven man, and the drive is not greed for money. "I of them pretty well-heeled themselves, have criticized money, although many figures in the pop world, some "

"I am not not an artist," he told me the other day, "but a neurotic madman like myself can make it possible for the artist to function properly on stage. I am not in an art, I am in a business in which art can be presented.

"We make it so that the performer cannot cop out and say the reason he didn't do his thing was because the sound system was no good, or the lights weren't good, or he didn't have his harpsichord. We'll do everything possible to make him look as good as possible. But in the end, it is the artist who has to walk out on that stage. And no matter how good my sound system is or how good the lights are, he opens his mouth, or plays his guitar, and that's really it."

A gritty, abrasive personality, Graham has had battles with almost everyone in rock, from the Jefferson Airplane—who fired him as their personal manager—onward. The reasons are fairly obvious. He is uncompromising and tough. Also he does not always accept these rock groups on the same high terms as they usually accept themselves.

Graham has few illusions about either the people or the product he is marketing. "The majority of groups in rock," he says, "the superstars included, are now in a major dilemma. The young mass public that has shrieked and freaked for years and years is now beginning to look for more than the sound, or the gimmick, or just the song. They want to see a performer. The problem with rock is that ninety-five per cent of the people in the business have never stopped long enough to learn how to perform.

"The Beatles are the geniuses of our era. They are totally professional and creative. But I have great doubts about the overall quality and quantity of productivity in the rock scene because there aren't that many creative people in it. You see, of all the dangers success brings to a young rock artist the worst is what I call the 'too-much-too-soon syndrome.' It is almost a disease, because when he starts to make thirty, forty, or fifty thousand dollars a night to reproduce his record hit on stage, the time that he takes to make his million replaces the time that he should be spending creatively. These kids are today's Primo Carneras. I see them in their velvets, with their Jaguars and their islands in the sun, and I may say to myself, 'Now, isn't that terrible.' But my subconscious thought is that the same thing would happen to any twenty-one-year-old in these circumstances. We cannot envisage it. What is it like to be a nothing, a nobody, at twenty and a world figure at twenty-one?"

His complaints of unprofessionalism in rock music have not made Graham a much-loved figure, but he is perfectly relentless on the point. Sometimes he looks to earlier pop stars and compares today's rock artists unfavorably with them. He told me: "Sinatra had his ups and downs, or Presley, or—whoever it is. It took Tony Bennett twenty years perhaps to get to a point where if the sound system went dead, he knew how to smile at an audience and say, 'Hello, let me tell you a little story.' But with the new rock kids, if something goes wrong with the lights, or if the piano's out of tune, they start blasting people out. And if they are not in good voice, they blame everyone but themselves. But what else can they do on stage? It would be better if they only learned how to say 'Hello!' And how consistent are they? Can many of them perform the twentieth night the way Carol Channing performed the nine-hundredth night in Hello, Dolly? That's the kind of thing that's lacking."

Graham does not berate those on the rock scene only for their musical standards. He doesn't always care for their political and moral attitudes. He told me: "I think these kids should understand full well the power they have on that stage—the power of suggestion, life style, dress, political thought, freedom of expression. They get up on stage and clench their fists and make a V-sign and say we should all get together and talk about love and togetherness and down with the pigs and down with Washington. How do they back up their statements? A Mongoloid idiot could say the same things.

"What rock star ever had the nerve to say, 'I want to go to Vietnam to entertain the troops'? They're not all bad over there, they're not all of them volunteers. So where is the rock star to go to the hospitals to entertain human beings? Which one is going to go to homes for the blind?

"Okay, a lot of them give free shows in the park—but who do they play for in the park? All the drop-outs, all the long-hairs. They don't have to be converted. Who has to be converted? It is the so-called conservative straight man, who is called a pig, and a bastard, and a ruthless killer. I am in agreement with their feelings about these people, but I should like to think that as an individual in this business I've tried to do a little more.
You're a human being. Would you kill your mother and couldn't believe you could say something like read it and said, 'Yes, yes, I did say it.' And I said, 'I just showed it to him, and said, Jerry, did you say that? He said, 'Yes.' And I walked away.

'Then Rubin said, 'Wait a minute, what are you doing standing there talking to that pig?' And I said, 'You mean the officer?' And he replied, 'No, the pig, the pig.'

I was in Atlanta a couple of years ago and Jerry Rubin was there. I had just read an article about a speech he had made at the Fillmore East in New York City. When I got to the Fillmore, Jerry was there. I showed him the article and he said, 'Yes, yes, I did say it.' And I said, 'I just couldn't believe you could say something like that. You're a human being. Would you kill your mother and father? And he said, 'Yes.' And I said, 'Thank you.' And I walked away.

Then Rubin said, 'Wait a minute, what are you doing standing there talking to that pig?' And I said, 'You mean the officer?' And he replied, 'No, the pig, the pig.'

He's not a pig,' I answered, 'he's a cop on the beat. He doesn't take bribes, he's got a wife and two kids. He's not a pig, he's a man.' Jerry said, 'He's not a man—he's a pig.' Then if he's a pig,' I said, 'you're a pig.' He said, 'Did you call me a pig? You're a pig.' So I picked him up and put him against the wall, but the cop broke it up.

'I was just steaming. I said, 'Can I tell you something, Jerry? I want to straighten you up in front of this cop—I want to beat your head in. You've got me boiling, and I'll tell you why. I don't like you, I don't respect you, but I consider you a human being. You called me a pig. Six days ago I was up all night in San Francisco raising $2,500 to give to the F.U.U. for your defense. You just called me a pig! And that's what's wrong.'

I don't know what that story has to do with rock music, but it has an awful lot to do with Bill Graham. There is always a quality of unpredictability in what Graham does. One month it will be bringing the Who to the Metropolitan Opera House, and the next month it will be writing a fervent open letter (typically, a paid ad) to Billboard, the trade paper for the music and record industry, addressed to managers and agents, and pointing out that the Fillmores, East and West, are, among many other rock concert halls, "fighting for their very existence." He blamed this on the "unavailability of quality/draw talent."

Graham feels that the superstars, playing fewer and fewer dates in bigger and bigger locations for larger and larger fees, may in time mean "the death of the visible and audible rock scene." The big stars are needed to attract the audience to see the newcomers. In this letter Graham points out: "Unless these acts do, from time to time, go back, or unless new blood is pumped into the business by means of the emergence of quality/draw attractions, it is my feeling that the end is near. I do not wish to continue operating Fillmores East and West simply for the sake of continuing."

Is this, then, the beginning of the end for concert rock? I very much doubt it, although the economics of live music, whether it is rock or the Philharmonic, are getting tougher and tougher. And if music ever does become just a matter of records and tapes, we might all be in trouble, whether we are the Beatles or Leonard Bernstein. It seems typical of Bill Graham to be sounding one of the first warnings.

MODERN" MUSIC: THE FIRST HALF CENTURY

"What unites most kinds of modern music is that they are compounded out of a reaction to a common problem: the crisis of traditional musical creation....This crisis is reflected in one very specific way: the withering away of the traditional functional tonal base of musical composition."

By Eric Salzman

A n artistic "style" is an artificial concept, and historical periods do not necessarily roll by on some predetermined, calibrated time cycle. Nevertheless, Western culture has shown an astonishing affinity for century and even half-century posting stages. Since the late Middle Ages, at least, the ferment toward the end of every hundred years has always somehow evolved or revolved into the new art of the following century. The period around 1900 was no exception; right on schedule, European late-Romantic art turned—with an amazing fidelity to Western tradition and the niceties of chronological evolution—into modern music. Somewhat less obviously, new forces were again set in motion around the middle of this century, forces that have already led to startling changes in art and music (not to mention every other area of life) and will, if culture survives, redefine the role of art in second-millennium society.

These latter-day changes are of a scope unimaginable since the Renaissance, at least. In fact, they suggest that the cycles and evolutions of Western art—as vaguely outlined above—will no longer continue in the mainstream evolutionary pattern with which we are so familiar. It is possible for an art or music historian to pin down the date of creation of a work by Titian or Bach or even Cézanne or Schoenberg on internal, stylistic evidence alone. But it is clear that a whole different set of criteria will be necessary to "explain" Cage or Rauschenberg or Vanderheek or even Ives.

In short, "modern music" began around 1900 and, in spite of the fact that many of its second- and third-generations practitioners are still active, it has entered a period of crisis, transition, and, probably, decline. The new developments after 1950 are the theme for another day.

A certain care is necessary in any discussion of this kind. The existence of certain useful historical categories should not obscure the larger flow. We consider the late eighteenth century as a separate period, that of "Classicism." But Classicism is also the last phase of Rococo and, from another equally valid point of view, the beginning of Romanticism and the nineteenth century. Histories of nineteenth-century visual art always begin with David, Canova, and eighteenth-century "neo-Classicism"; histories of "modern art" begin with "Impressionism" and sometimes go all the way back to the French Revolu...
tion, treating everything thereafter as one period. By the same token, the musical equivalents of late-Romanticism, Impressionism, and art nouveau (i.e., Richard Strauss, Mahler, Debussy, Moussorgsky) form a striking and clear transition to modernism. Nothing shows the links between the two eras better than the extended tonalities of Mahler, the unresolved dissonances of Strauss' Elektra, or the extraordinary harmonic, timbral, and structural innovations of Debussy, one of the most revolutionary composers who ever lived. The late-Romantic and Impressionist styles will be treated separately in this series but, in fact, it is hardly possible to separate any larger notion of modern music from the achievements of these composers and some of their contemporaries. The early work of all the principal pioneers of modern music—Schoenberg, Berg, Webern, Stravinsky, Bartók, and others—is an important part of the late-Romantic and Impressionist periods.

At this point the baffled reader might be tempted to conclude that, with a neat bit of sophistry, I have managed to prove that modern music does not even exist, a contention quite obviously disproved by any few minutes of listening to, say, Le Sacre du printemps or Pierrot Lunaire. Forgetting about logic, history, received opinions, folklore, and/or music appreciation lectures, anyone who listens to any small amount of modern music knows immediately that it indeed exists and has a character of its own. Sometimes the 'problem' of modern music seems to be purely an intellectual exercise, a pseudo-problem, a mere exercise in logic. Anyone who listens with half an ear knows intuitively that late Strauss is less 'modern' than early-middle Strauss, that Rachmaninoff is an anachronism (pleasant or boring, according to your point of view), and that something, however indefinable, unites the work of composers as disparate as Schoenberg, Stravinsky, Bartók, Webern, Hindemith, and, yes, Britten, Henze, Shostakovitch, Dallapiccola, Copland, and Kodály. All are (intuitively) "modern" composers, but what, besides historical period, could be said to unite them?

The fact of multiplicity is in itself important and interesting. But it is not that, at least not yet, that defines the music. What unites most kinds of modern music is that they are compounded out of a reaction to a common problem: the crisis of traditional musical creation, which itself reflects the larger crises and upheavals of twentieth-century musical life. This crisis is reflected in one very specific way: the withering away of the traditional functional tonal base of musical composition. Functional tonality is a unique creation of Western music which can be compared (in part) with the concept of perspective in painting. Perspective is, of course, a discovery of the Renaissance, while tonality, which has roots in the Renaissance, underwent its principal cycle of development between 1600 and 1900. Like the society that created it, it is based on a complex system of hierarchies within which each tone and each chord have specific functions or roles to play. Out of this are created patterns of stability and instability, of rest and of motion away from and back to implied goals. Traditional tonality is a principle of order within which every element and every event has a defined relationship with every other element or event. Out of the idea of function grows the concept of role, of expectation, of dissonance and resolution, of stasis and motion, of departure and return, of surprise and fulfillment, of primary goals and secondary goals, of delay, of direction, of dramatic opposition, of recapitulation. Through this kind of musical thinking, the smallest musical ideas could be built up, phrase by phrase, rhythm by rhythm, harmony by harmony, point by counterpoint, into some of the grandest artistic structures ever conceived by the mind of man.

But, grand as these achievements were, we now know that there was nothing immutable about the kind of musical thinking they represent. As so often happened in the
As the evolution of Western culture, these forms of expression grew to overripeness, expanded beyond their own inner capacities, until, like so many of the institutions of the society that produced them, they collapsed. The point of breakdown is not always so easy to define. Atonal as Wagner becomes in parts of Tristan and Parsifal, his music is still always built on the expectation (however often frustrated) that one musical event implies another. But this is no longer true in the music of Debussy, and it is still less true in all but the very earliest works of Schoenberg and Stravinsky. Modern music, however linked to the past in basic social and expressive intentions, can no longer depend on given assumptions but must set forth—again and again, newly for each work—its own definitions and inner relationships. After 1900 there are no longer any generally accepted musical assumptions, any 'givens' that precede the fact of composition or that would strictly imply that only one musical event may follow or be derived from any other. The style or styles of modern music can be understood as an attempt or series of attempts to explore (initially) the vast new range of materials opened up by the collapse of the traditional musical verities and (afterwards) to create new tonal, modal, pan-tonal, atonal, or twelve-tonal syntheses of these materials—in a word, not to throw over tradition, but to extend it and revitalize it in modern terms.

It is not really possible to generalize much beyond this. However, there are certain broad schools of development that can be outlined. One such area centered on Paris and had a wide influence. Another centered on Vienna, with a much more limited sphere of influence until the end of the period, when it became dominant for a brief time. A third grouping might include the various nationalist developments that took place outside the mainstream centers. Finally, there is a small but highly individualistic American group whose impact lies somewhat outside the scope of this sketch. If it is understood that these categories or schools of influence are far from absolute, we can examine them separately, taking the Paris (or Franco-Russo) group first and the somewhat related nationalist groups afterwards.

One of the principal starting points for any discussion of modern music is Impressionism—really the musical style of Claude Debussy. Debussy was the first European composer to write music outside of the Italian/German linear tradition of phrase melody and functional tonality. Debussy’s music does not go dum-dum-dum-duh-duh-duh-duh-lah; it does not depend upon counterpoint or voice-leading; it elevates texture and timbre to a major role; it sets up no certain expectations from one moment to the next; and it uses parallel symmetrical melodic and harmonic constructions (directional or gravitational tonality is asymmetrical; symmetrical forms in music suggest ambiguity and a floating or fluid feeling). Debussy is not concerned with dramatic conflict and resolution, but with the organic, patterned unity of fluid rhythm, tone color, accent, and dynamics, as well as what are traditionally called melody and harmony. In short, Debussy was the most revolutionary Western composer in three centuries—the first to compose in terms of totally conceived events and sonorous textures. Though Impressionism in the strict sense could be restricted to the work of Debussy himself (even he seems to have moved away from the purest form in his last works), there are strong Impressionist elements in the work of such composers as Ravel, Delius, the American Griffes, and others. An even more widespread impact is shown in the Impressionist influence on the work of the twentieth-century nationalists who found, in the freer tonal style of Debussy, a way of throwing off the heavy yoke of Germanic contrapuntal style, which dominated European music so strongly in the nineteenth century. Finally, on a deeper level, Debussy’s total integration of every aspect of the musical work—beyond melody and harmony in the usual sense—has been and continues to be a potent force in twentieth-century music, and overt traces of it can be found in the work of composers as disparate as Stravinsky, Berg, Ernest Bloch, and Pierre Boulez.

At the turn of the century, Paris was already more than merely the center of French cultural life; it was the artistic capital of Europe. The so-called "école de Paris" refers to the large number of important non-French artists active in the city (Picasso, Chagall, Brancusi, and so forth). In music, a group of Russian composers active in France (both before and after the Revolution) included Scriabin, Stravinsky, and Prokofiev, all of whom produced highly revolutionary works in the years preceding...
The succession of styles in the work of the painter Vasily Kandinsky bears a remarkable resemblance to the developmental sequence of Arnold Schoenberg's music. The early Crinolines, with its recognizable, almost realistically drawn subject matter, the expressionist Painting with White Form, and the geometric and abstract Three Sounds are very nearly history's visual correlates of such works as Verklärte Nacht, Pierrot Lunaire, and the Variations for Orchestra.

ing World War I. These works—Expressionistic in the case of Scriabin, "neo-primitive" and assertive in the other cases—combine an Impressionist influence with a free use of dissonance and an almost complete breakdown of directional tonality. Timbre—in the form of new and startling instrumental combinations—and, in Stravinsky and Prokofiev, rhythmic asymmetry and drive important roles. Stravinsky made exceptional use of folk material and folk modes—often accompanied by rhythmic energy and chord pile-ups that are more textures than harmonies; he also experimented with new theater and dance forms as well. Much of this music—the most famous example is Le Sacre du printemps—is remarkably dynamic, powerful, inventive, innovative—and arbitrary. One takes it as it comes; there is no other way.

These works are, in spite of their reputations, full of romantic Impressionism. However, there is a strongly anti-Romantic streak in Gallic culture which bobs to the surface of French artistic life every century or so in the form of some kind of neo-Classicism. In turn, this recurrent Gallic yearning for a pure, traditional order—really as much an expression of cultural sophistication and roots as anything else—has had a strong influence on Russian taste. Out of this odd symbiosis, the major (or at least the most conspicuous) movement of modern music was born. Many of the principal features of neo-Classicism were anticipated and paralleled by the apparently independent work of Ravel, but the dominant personality was Stravinsky. A related French school (Les Six including Milhaud, Poulenc, and for a while, Honegger), a large number of American students of Nadia Boulanger (Aaron Copland, Virgil Thomson, Arthur Berger, and others), and a somewhat more loosely related European group (Hindemith, Britten, Falla, Casella) make up the other major exponents of what was the dominant between-the-wars international style. Neo-Classicism consisted of (roughly) a new tonal synthesis based on reference to the Classical tradition (quotations or allusions, hints of Classical form), a free use of the diatonic scale (thus, within limitations, free dissonance), and a good deal of rhythmic energy, often marked by cross accents, changing measures, and other highly audible asymmetries. The giant, rhetorical orchestra of the late nineteenth century (and Impressionism) was abandoned for a return to smaller, simpler combinations. The crisp sound of winds and keyboard was favored. Clarity, directness, and wit were prime features. As in much Mannerist art, there was a good deal of play with the art forms themselves, often full of sophisticated references to tradition. A concerto becomes a witty treatise about the idea of a concerto, a contemporary view filtered through the ears and creative mind of a sophisticated and creative connoisseur. The forms are not really Classical at all, of course, but abstracted, built up in layers, in juxtaposed blocks and planes. Repetitive patterns are set up on one level and then juxtaposed with other patterns established on other levels, the whole united by the very abrupt changes and cross-accents that seem to separate them. Tonal polarities are established by assertion and juxtaposition. The term "additive form" is often used, but the quality of abstraction from Classical forms laid out in blocks, angles, and layers suggests an inescapable comparison with Cubism.

In any case, the past is never really reconstructed at all; it is more a subject for repartee, for amused contemplation, for modern connoisseurship, for nostalgia, for witty comment, or for a commentary on history, culture, and our experience of art. And the range of reference is not restricted to the actual Classical period; Stravinsky uses Baroque music, the works of Tchaikovsky, and even, in his late works, serialism in a neo-Classic way. Les Six used cabaret music or sentimental pop tunes; so did Kurt Weill, although in the ironic context of Brechtian thea-
ter. Outside of France, neo-Classicism tends to be more "serious," more direct, less of a refined, second-order phenomenon and sometimes rather abstract or "non-objective." With Britten it became a direct and highly expressive medium through which he amalgamates clarity, controlled expressivity, tradition, and an English way of speaking. The American version features a highly articulated, flat, patterned abstract surface which assimilates quite nicely certain features of rag-time and jazz. For Copland as for Kurt Weill, neo-Classicism (or, more accurately, neo-tonality) is a medium for incorporating popular elements in a controlled, telling way. Clarity, simplicity, and directness, originally an aesthetic position in reaction to overblown Romanticism, becomes an instrument for social thought. The assimilation of neo-Classicism to motifs of a new simplicity, accessibility, and popularization is a major theme of the Thirties and Forties, and very few composers who worked through those decades remained unaffected by it. Although Stalinist edicts and Nazi policy enforced these doctrines as national policy, the movement was world-wide and generally idealistically motivated. Tendencies toward a personal kind of neo-Classicism appeared quite early in Prokofiev's work (the "Classical" Symphony) and the impulse toward simplification and popularization occurred before his return to Russia in the Thirties. Demonic wit and irony are fundamental to Shostakovich's version of neo-Classicism, but over the years and with considerable difficulty he converted his bad-boy Gallo-Russian humor into more acceptable, sentimental, and rhetorical Russian popular forms. Throughout their works, both composers remain closer to neo-Classicism than to nationalism, although their version of it—lean, mordant, nondissonant but constantly modulating, slavishly Classical in form (sonatas, rondos, song forms, and the like), Beethovenian and Mahlerian in character rather than Bachian or Mozartian—is personal and quite different from that of Stravinsky or Les Six.

A basic part of the Stravinskian neo-Classic aesthetic grows out of what one might call the "craftsman" position. Unlike the Romantic artist who is expressing the most intimate personal thoughts, the craftsman/composer makes beautiful things; his own emotions are his own business. This important view—a major break with the Romantic past and a presumed return to the earlier position of the artist in society—was further elaborated by Paul Hindemith in his famous Gebrauchsmusik thesis. Hindemith's early mature work might be described as polyphonic Expressionism—dissonant counterpoint with much free chromaticism. However, even in the early Twenties, fragments of popular music and traditional forms appeared in his work in novel chamber-music combinations of great clarity and fluency. Again we have a personal neo-Classicism distinct from the international or French variety. Hindemith never seems to have reacted against tradition at all, but, in a musical sense at least, to have extended it quite directly. However, he rejected the Romantic view of the artist and tried to revive the medieval idea of the artist integrated into his society. Thus, he talked about and wrote a great deal of "music for use," music to be performed as much as listened to—performed by students, by amateurs in their homes, by friends, by second viola players, by professionals, by choruses, by instrumentalists of every conceivable variety. Hindemith was one of the most prolific as well as one of the most fluent composers of the century. Nearly all his works are based on the old German traditions of counterpoint. As he developed his Gebrauchsmusik ideals, his tonal style became more and more clearly defined (but always more loosely than traditional tonality demands), the textures simpler, the chromaticism and harmonic
style more schematized, the whole more accessible if also more academic. He formulated extensive theories, taught them widely, and even went back and revised early works to conform to them.

Thus we can see that neo-Classicism is a wide-ranging style and concept, encompassing composers as distinct from one another as Stravinsky, Ravel, Shostakovich, and Hindemith. All of these composers, however, were united in their attempt to revive Classical forms, to create some kind of new tonality (by assertion, by analogy, or by polarization, rather than by function), and in their desire for clarity, rigor, definition, and, eventually, accessibility and some measure of popular acceptance. It is an irony that a movement that started out as sophisticated and rather esoteric, led by composers with a rather aristocratic world view, should have ended up as an instrument of social policy and have finally petered out in a kind of misguided idealism and war-time patriotism. Neo-Classicism had only one last fling after World War II, in the form of large, abstract symphonic and operatic works, some of them mixed with twelve-tone elements.

The neo-Classic composers developed, among other things, the only new and viable contemporary theater forms and made a brave attempt to reintegrate new music and society and to restore the old social role of the composer. The style itself left behind a number of important techniques, and a notable (and little noticed) influence on recent pop style, as well as a considerable repertoire of durable works.

NEO-CLASSICISM was a relatively international phenomenon with, at most, some local accents. It stands somewhat apart from the long series of works and musics roughly subsumed under the term "nationalist." The roots of twentieth-century ethnic awareness go back into the previous century, and the social and political ramifications are extensive. Before 1900 only Russia and Czechoslovakia (Bohemia and Moravia), among Western nations, had produced important work out of the mainstream of music, and most of that is not entirely free of Germanic influences. The consciousness of national identity and a growing interest in folklore had an impact on many late-Romantic works, but these exotic elements are generally accommodated to the Central European tonal-harmonic tradition. In the rare cases where a composer—Moussorgsky is the best example—was led outside the tradition by the nature of his material, the music was considered rough or crude and subject to "correction" and revision. In the twentieth century, however, a wider field of action became possible. Most folk music is based on the old modes rather than on tonality,
and most of the new national musics are specifically concerned with the overthrow of German/Austrian tonal hegemony and the creation or revival of large-scale modal patterns—whether overtly based on folkloric or not. Many of these composers came under the influence of Debussy, the first composer to overthrow the tonal verities and one of the first to revive the old modes. Later on, some influence of Stravinsky and neo-Classicism became apparent, although generally without the more sophisticated artsy-craftsy aspects of that movement. An extraordinarily large number of composers can be fitted into this very general category, some of purely local significance, some—like Bartók and Kodály in Hungary, Janáček in Czechoslovakia, Khachaturian and Kabalevsky in Russia, Vaughan Williams and others in England, Malipiero and even Puccini in Italy, Falla in Spain, Chávez, Revueltas, and Villa-Lobos in Latin America, Harris, Hanson, and others in this country—of wider interest. Obviously, a very wide variety of styles are represented, but, in general, one can speak of new modal-symphonic syntheses. Free diatonic and modal ideas, often of a popular or folk derivation, with a highly accentuated or driving rhythmic and harmonic underlay, are built up into large-scale symphonic forms. Long lines move across free modal areas with harmonic structures built in pile-ups of thirds. The Classical/Romantic tradition is accommodated to express modified, conservative, and accessible twentieth-century styles; or, to put it another way, local musical speech is adapted to create an up-dated, accessible, large-scale, popular, but symphonic tradition. The various nationalist movements merge imperceptibly, in retrospect, with the more generalized popularizing tendencies of the Depression and World War II periods.

The above outline, although very widely applicable, is of course far too general to account for many specific and local variations and trends. In particular, it is inadequate for certain composers of marked individuality, most notably Bela Bartók, much of whose work (and style) transcends the above descriptions. Bartók's music has points of contact with virtually all the principal modern developments; it moves convincingly from atonal expressionism, to free modal tonalities, to a kind of updated Impressionism, to neo-Baroque counterpoint, to neo-Classical cross-rhythms, to folklorisms, to highly accented dissonance, to rhythmic and tone-color innovations, to an open accessible tonality—from one piece to the next and sometimes within a single work. The Hungarian reference point and the Bartók personality only remain constant.

A related but distinct and more complex question is the connection between modern popular (as opposed to traditional folk) and non-pop music. Properly speaking, pop music has its own history, but its development intertwines and interacts with that of other modern music at several points (and on several levels). The major developments of twentieth-century pop music have been American: Latin, Afro-Latin, North American, and Afro-American. One of the departure points was the traditional European harmonic-tonal vocabulary—but it is used in quite new contexts. The evolution parallel to the one we have been discussing is that of blues and jazz, which moved steadily toward the wider tonalities, freer rhythm, and even atonality of modern music. The dominance of rock and later developments—although also showing some "influences" of neo-Classicism, neo-modality, and even Expressionism—belongs to the "post-modern" period.

The history of popular music and jazz probably should not be isolated from the wider context of twentieth-century music, but the division is, for the present, quite necessary; this already overextended survey could hardly pretend to comprehend any larger scope. However, a word about the influence of pop forms on non-pop music is in order. Charles Ives was certainly the first composer to use ragtime, and Stravinsky was apparently the first to introduce it into European music. Milhaud and the other members of Les Six made considerable use of jazz in the Twenties, as did Copland and others. Nevertheless, these elements appear as ornamental or thematic elements rather than as the basis for a style. The situation is somewhat different in the case of Gershwin, who clearly tried to enlarge a pop-song (not a "jazz") style to major symphonic and operatic dimensions. Interestingly, however, Gershwin's pop style was already strongly influenced by Ravel! The most significant attempts from the other side were those of Kurt Weill and, afterwards, of Blitzstein and Bernstein. Much of this took place in the theater and is connected with the movement toward social significance and the desire to reach a wider public.

In apparent opposition to the various neo-Classical, nationalist, and popularizing trends of modern music, the development of German-Austrian Expressionism, atonality, and serialism seems esoteric, introverted, and apart. Yet the styles and techniques developed by Arnold Schoenberg and his disciples paradoxically show the most links with the past, and, after World War II, they emerged as the major international force in new music. Furthermore, the stylistic development of Expressionist and twelve-tone music shows quite precise parallels with that of other twentieth-century music and provides one of the turning points that took twentieth-century music into a new phase after the 1950's.

To understand all these seeming contradictions and paradoxes we must backtrack a bit and look at (or rather listen to) the early, "revolutionary" phase of the music of Schoenberg and his disciples. Schoenberg and Berg (Webern to a lesser degree) started out in the post-
Wagnerian, late-Romantic tradition. Schoenberg's early works form more than a footnote to the nineteenth century; they are themselves an important part of the last phase of Romanticism. Their point of origin is *Tristan*; they are contrapuntal, intense, chromatic, constantly modulating. Work by work—literally step by step—Schoenberg increases the intensity, the complexity, of the contrapuntal web and the chromaticism of the melodies; he delays the resolutions of the highly charged harmonic dissonances until resolution can no longer be expected and one no longer feels the pull of any tonality at all. Within a few years these three composers produced a considerable body of highly charged, Expressionistic works that suggest dark inner fantasy worlds. It is almost impossible not to evoke the name of their great Viennese contemporary Sigmund Freud; equally apt parallels might be found in the visual arts of the time. The visionary intensity of these works and their almost improvisatory freedom, the stream-of-consciousness flow, the sense of struggle and torment, and the total use of the chromatic scale without reference to home-base keys should not cause us to overlook the obvious affinities with Romanticism and the very skillful traditional way that great masses of atonal, contrapuntal sound are interwoven. Schoenberg's work of this period covers a great range: from the innovative Five Pieces for Orchestra, to the aphoristic Piano Pieces, Op. 19, to the highly Expressionist *Pierrot Lunaire* and the stream-of-consciousness monodrama *Erwartung*. Webern's intense miniature forms are already in evidence, while Berg's leanings toward an extension and recasting of Romantic expression and traditional forms are already in evidence.

Viennese Expressionism marks the complete conquest of the twelve-tone equal-tempered chromatic scale: all the black as well as all the white notes (to put it in the familiar terms of the piano keyboard) used equally and without the hierarchies typical of traditional tonality. But the early use of this vocabulary is emotionally charged and free-associative in character. In the Twenties, Schoenberg re-ordered and synthesized the use of this material in his twelve-tone theory and practice. There is really no need to recapitulate the theory behind this so-called "system" (Schoenberg abhorred the term). It is more important to recognize that, in making principles of order for total chromaticism, Schoenberg did not intend to create a purely intellectual or academic discipline. His aim was—and he was quite explicit about this—to revitalize tradition. Schoenberg considered himself the true twentieth-century classicist! His first fully twelve-tone work was a Suite for Piano with movements marked Prelude, Gavotte, Musette, Intermezzo, Minuet and Trio, and Gigue. The complex, chromatic-rhythmic counterpoint of this music confuses one at first, and inadequate performances have contributed to widespread misapprehensions. Schoenberg used to say, "My music is not avant-garde, only badly performed." With the advent of a younger generation of performers who can come to terms with this music on an expressive as well as a technical level, we can begin to grasp that it does indeed belong in the Classic-Romantic tradition of which it, in fact, forms the final chapter. Works like the Berg Violin Concerto, an intense, elegiac composition of great traditional beauty, have already entered the edge of the repertoire and, if traditional repertoire survives at all, the Schoenberg Violin Concerto will join it there. Berg's *Wozzeck* (pre-twelve-tone but highly concerned with detailed thematic and harmonic relationships nonetheless) is in a traditional form; many of Schoenberg's movements—even some of Webern's—are actually in sonata form. The casual listener could hardly be expected to figure this out—any more than he could be expected to follow the step-by-step permutations of the twelve-tone patterns which form the basis of each piece. But the underlying sense of order is there—not because the musical expression is purely an intellectual one, but because the composer wishes to absorb highly intense, free, and even Romantic forms of expression into a Classical synthesis.

The parallels between the music of the new Viennese school and the general development of modern music extend from backgrounds in late Romanticism, to seemingly revolutionary periods, to neo-Classical syntheses, and even to a turn toward "popular" motives and contemporary dramatic themes. After Schoenberg's enforced departure from Nazi Germany and emigration to America we find tonal works written for student ensembles as well as pieces referring to the war and to his re-affirmation of Judaism. Berg, who died in 1935, composed a Violin Concerto built on triads and incorporating popular and folk themes as well as a Bach chorale; both his operas

---

*But the early use of this vocabulary is emotionally charged and free-associative in character. In the Twenties, Schoenberg re-ordered and synthesized the use of this material in his twelve-tone theory and practice. There is really no need to recapitulate the theory behind this so-called "system" (Schoenberg abhorred the term). It is more important to recognize that, in making principles of order for total chromaticism, Schoenberg did not intend to create a purely intellectual or academic discipline. His aim was—and he was quite explicit about this—to revitalize tradition. Schoenberg considered himself the true twentieth-century classicist! His first fully twelve-tone work was a Suite for Piano with movements marked Prelude, Gavotte, Musette, Intermezzo, Minuet and Trio, and Gigue. The complex, chromatic-rhythmic counterpoint of this music confuses one at first, and inadequate performances have contributed to widespread misapprehensions. Schoenberg used to say, "My music is not avant-garde, only badly performed." With the advent of a younger generation of performers who can come to terms with this music on an expressive as well as a technical level, we can begin to grasp that it does indeed belong in the Classic-Romantic tradition of which it, in fact, forms the final chapter. Works like the Berg Violin Concerto, an intense, elegiac composition of great traditional beauty, have already entered the edge of the repertoire and, if traditional repertoire survives at all, the Schoenberg Violin Concerto will join it there. Berg's *Wozzeck* (pre-twelve-tone but highly concerned with detailed thematic and harmonic relationships nonetheless) is in a traditional form; many of Schoenberg's movements—even some of Webern's—are actually in sonata form. The casual listener could hardly be expected to figure this out—any more than he could be expected to follow the step-by-step permutations of the twelve-tone patterns which form the basis of each piece. But the underlying sense of order is there—not because the musical expression is purely an intellectual one, but because the composer wishes to absorb highly intense, free, and even Romantic forms of expression into a Classical synthesis.

The parallels between the music of the new Viennese school and the general development of modern music extend from backgrounds in late Romanticism, to seemingly revolutionary periods, to neo-Classical syntheses, and even to a turn toward "popular" motives and contemporary dramatic themes. After Schoenberg's enforced departure from Nazi Germany and emigration to America we find tonal works written for student ensembles as well as pieces referring to the war and to his re-affirmation of Judaism. Berg, who died in 1935, composed a Violin Concerto built on triads and incorporating popular and folk themes as well as a Bach chorale; both his operas
contain popular elements and are full of social commentary. Only Webern, intense, elliptical, pointillistic to the end, remained true to a single, pure vision.

The terms Expressionism and atonality have been applied to many kinds of music, some quite remote from that of the Viennese trio. But, apart from Schoenberg and his disciples, there was surprisingly little truly Expressionistic, atonal, and/or twelve-tone music in Europe before the Forties and Fifties. Then, after the war, atonal and twelve-tone Expressionism suddenly became the dominant international style, absorbing and diverting the thrust of post-war neo-Classicism and finally—after Schoenberg's death—making a convert of Stravinsky himself. One can expect to meet tonal chromatic or twelve-tone elements in the work of composers of the middle generation in almost every part of the world—Dallapiccola and Petrassi in Italy, Kfenek, Fortner, and later Henze in Germany, Leibowitz and Messiaen in France, Gerhard, Searle, and Hamilton in Great Britain, Sessions and his pupils (as well as Copland and the American neo-Classicists) in this country. Such influences can even be found in Eastern Europe and the Soviet Union. Some of this latter-day chromatic music is Expressionist, contrapuntal, and derived from Romantic tradition directly through its descent from the Viennese school. A great deal of it is built up in blocks or layers of sound—the additive, layer form of neo-Classicism put to new use. In the case of Messiaen (who extended the principle of layering with the use of rhythmic modes), of the American Milton Babbitt (who was the first to apply the twelve-tone order principle to rhythm, tone color, texture, dynamics, and articulation), and of a younger generation of Europeans (Boulez, Stockhausen, Berio), twelve-tone composition was a steppingstone across the river to the new, uncharted territory of serialism. Classical Viennese twelve-tone music was a remarkable re-creation of traditional discipline and form in a highly Expressionistic music which had itself evolved from late Romanticism. With the younger serialists it took the form of an abstract manipulation of discrete sound elements, a step partly anticipated by Webern (but only partly; Webern was always more of a traditionalist than is generally recognized). And at this point we are over the half century mark and on into something else.

If modern music proves on examination, and in retrospect, to be a more coherent whole than heretofore realized, it must also be admitted that it is not without its backwaters and fast-rushing side streams. There are the genuine eccentrics and prophets who were or are outside the mainstream but whose music suggests what follows. Webern, with his single-minded vision—"a novel in a sigh," as Schoenberg said; "the cutter of dazzling diamonds," as Stravinsky put it—has already been mentioned. His universe of isolated sound structures glittering in the void seems to return musical experience to its pure physical particles. Messiaen used bird calls, serialism, Gregorian chant, and Hindu rhythmic modes to achieve his highly personal, mystic visions. The Futurists and the Dadaists with their vague forays into music and sound (Russolo's noise machine; Schwitters' speaking chorus) were still less part of the mainstream of modern music. The American experimental group—little noticed in European-oriented histories and still not fully understood—is perhaps the most remarkable of all. The work of Ives, Varèse, Cowell, Ruggles, and others leads quite directly to such contemporary concerns as electronic music, multi-layer and multi-media forms, compositions in sound densities, random or statistical form, the use of simultaneous multiple time measures and even multiple styles, the projection of sound in space, new definitions of art work and the composer-performer-listener relationship, and many others: in short, the concerns of late twentieth-century post-modern music, and a topic for another day.

Eric Salzman is, of course, a Contributing Editor of Stereo Review. His book Twentieth-Century Music: An Introduction has been published by Prentice Hall in their History of Music Series.
Beaverly Sills, clad in a workaday blue shirt dress, her luxuriant aureole of pink-gold hair flying away from confining pins, her brown eyes gleaming and her full mouth permanently turned up at the corners, sat in a big winged chair—rather uneasily, as if she might dash from the huge airy room in her new Central Park West apartment (“At least I’m not commuting from Boston any more!”). It had been difficult to pin her down to one place for even a short talk; she had just returned from an unexpected hop to Cleveland—in illness in the family. She was thinking ahead to an atlas-worth of locations—San Diego, Buenos Aires, London, Milan. She had to be everywhere at once, everybody wants her, and time is suddenly chopped into prosciutto-thin slices.

“I must rush off to the New York State Theater very soon. I’m doing Abduction from the Seraglio on Saturday, and the young man I was singing with [Gary Glaze] broke his leg, and the man replacing him is unfamiliar with the staging, and I have a dentist’s appointment. . . .” She broke off, smiling, and if there was a certain amount of hardship in her busy life, it did not seem to weigh heavily upon her. After a long climb up the ladder of success, Beaverly Sills has reached the top, and the glory that began with her 1966 Cleopatra in the New York City Opera’s Lincoln Center opener, Julius Caesar, still delights her.

“There was a time,” she mused, “when, if I went to sing in Chicago, there would be three hundred empty seats I couldn’t give away. Now I sell out something like five thousand. I sell out everywhere. I’m an American—made in New York, but it conflicted with the opening of Roberto Devereux. That is aside from selling. I feel that I know her intimately.”

Miss Sills’ knowledge of Queen Elizabeth, a role she is also to sing at the New York City Opera this fall, has been gleaned from all kinds of reading. “I even know her medical record. That’s important, because from it you can evolve a way of talking and a way of acting. She had smallpox when she was a young girl, and that would account for the heavy white makeup she wore.” Having reached that eminence from which she can decide on everything from the operas she wishes to sing down to her costume designs, she has had Elizabeth’s gowns and jewelry copied. “Mrs. Capobianco [wife of Tito Capobianco of the New York City Opera, who will direct the production] is fashioning a putty nose for me that resembles Elizabeth’s. I have every intention of shaving my forehead as she did—actually, she was bald, but I’m not going to shave all my hair. I’m having her wigs copied, too.”

In spite of her emphasis upon the dramatic aspects of a performance, Miss Sills has never studied acting. It came to her through instinct and through work with her voice teacher, Estelle Liebling, and with various operatic coaches. The late Désiré Defrère was one of them. She recalls sessions in his studio at the Ansonia Hotel in New York. “I went there after school, carrying my books on my arm. And once I remember he looked at my feet and said, ‘We cannot talk about Thais when you are wearing saddle shoes and ballet slippers. Go and buy yourself some high heels.’ He was perfectly serious, and it was only after I returned with the shoes that he consented to discuss Thais! I have never sung it on the stage, but I did do it for Opera Cameri, the old television show. Yes, I should like to sing it in an opera house. And I have other French operas in mind, too: Louise, for instance. That, however, is all in the future. At present. . . .” She ran her fingers through her hair. “Time! I’ve had to schedule my vacation for the State Theater. They offered me another date, but I couldn’t accept that, either.” She shrugged philosophically. “I’m sure we’ll be able to work something out eventually.”

Scheduling problems have also interfered with a project dear to the hearts of all Miss Sills’ fans—her Metropolitan Opera debut. “They offered me Lucia for the 1970-1971 season, but it conflicted with the opening of Roberto Devereux at the State Theater. They offered me another date, but I couldn’t accept that, either.” She shrugged philosophically. “I’m sure we’ll be able to work something out eventually.”

The telephone rang. “Yes,” she said into the receiver. “Right away. She spoke back with a sigh and a laugh as she hung up. “Back to work,” she explained. There was just a second for a foolish question: “How do you like being a reigning prima donna?” Her loud warm laugh rang out. “I just love it!”

—Florence Stevenson
STEREO REVIEW'S SELECTION OF RECORDINGS OF SPECIAL MERIT

BEST OF THE MONTH

CLASSICAL

A SUPERBLY INTERPRETED GÖTTERDÄMMERUNG

Herbert von Karajan completes his traversal of Wagner's Ring for Deutsche Grammophon

It took seven years for Decca/London’s Culshaw-Solti team to complete its epoch-making first integral recording of Wagner's Ring cycle. Since the progress of technology inexorably commands that all things be accomplished faster (though not necessarily better), it should surprise no one that the Karajan-DGG combination has completed the same staggering task in less than five years: Deutsche Grammophon has now given us the final installment, Götterdämmerung, uncut on six discs. Since this is a recording, Karajan’s always controversial ideas about staging, which prompted many reservations when the staged equivalent of this production was unveiled in Salzburg in the spring of 1970, need no discussion. The discs do support, however, the favorable reception then accorded the musical values in Karajan’s interpretation.

It must be admitted, first, that the absence of voices of true Wagnerian caliber is undeniably felt in this performance, particularly since Karajan has abandoned the approach of scaling down his orchestra to the relatively delicate proportions heard in his earlier recording of Die Walküre. However, with the imaginative—and not too intrusive—employment of audio engineering skills, the voices are enabled generally to withstand the tides of the Wagnerian orchestra. If they are submerged at certain junctures, this is a condition we must accept in virtually all performances of Wagner nowadays, “live” as well as recorded.

To take the voices one by one, I found Helga Dernesch an outstanding Brunnhilde, even more impressive than she was in DGG’s Siegfried set. She is not likely ever to match the soaring power and absolute confidence of Birgit Nilsson’s commanding top register, but she imparts more human warmth to the personality, a quality very much needed in Götterdämmerung, whose Brunnhilde is a wronged, suffering, and ultimately self-sacrificing woman. And this is what Dernesch gives us: a very feminine character, beautifully sung, sensitively drawn, with the heroic dimension understated.

The Siegfried is a newcomer to the Karajan Ring. Press comments following the Salzburg performance found the vocal gifts of Helge Brilioth several sizes too small for the task at hand. On records, where the deficiency can be overcome by technical means, he sounds far more acceptable. The voice is of the sturdy baritonal timbre that denotes Heldentenor material. He sings expressively, always on pitch, and with a pleasing, clearly focused tone. Neither he nor Dernesch can rise fully to the demands of the big duet in the Prologue (“Zu neuen Taten”), but in succeeding scenes the tenor acquits himself with distinction; his dying scene is very affecting.

Christa Ludwig’s appearance as Waltraute is the most satisfying vocal episode in the entire performance. If I have any reservations about Karl Ridderbusch, it is that his singing is at times too beautiful for the evil Hagen—his “Hier sitz’ ich” monologue is thoughtful and mellow, lacking the menacing quality of Gottlob Frick’s interpretation—
though Frick, in the London set, is no match vocally for Ridderbusch’s bass-trombone sonority.

The Gutrune of Gundula Janowitz is not too strongly characterized, but it is superbly sung; the Gunther of Thomas Stewart, a shaky top note or two aside, is revealed as a weak but sympathetic character through clearly phrased, dignified, intelligent singing. Christa Ludwig lends star quality to her brief appearance as the Second Norn, as does Lili Chookasian as the First Norn. All others in the cast are first-rate; there are no weak links.

In this final stage of the recorded “Ring,” detailed comparisons between the Karajan and Solti interpretations should no longer be necessary; both conductors are known to be superb interpreters of Wagner, differing more in temperament than in their basic musical approach. In a general overview, compared with the blazing intensity of Solti, Karajan seems more reposeful, more concerned with the totality of the work than with illuminating certain episodes and passages with Solti’s kind of X-ray insight. And yet, excitement is not missing in Karajan’s interpretation: Brünnhilde’s arrival at the Gibichung’s in Act Two is as stirringly delineated as any Wagnerian climax I can recall. The comparison boils down to a difference between two completely valid audio-musical philosophies: the distant but somewhat more efficiently controlled perspective of Karajan versus the more close-to, more flexible, intermittently more exciting “on the scene” quality imparted by Solti and his engineering wizards.

Karajan does allow one important dramatic detail to escape him: he fails to convey the terror explicit in Wagner’s directions when, toward the end of the opera, the dead Siegfried’s arm rises menacingly toward Hagen. Gutrune’s shriek and some sound effects, properly registered in the Solti performance, make all the difference.

On the other hand, Karajan observes a detail which eluded Solti’s eagle eye—turning Hagen’s trill in the line “Aber schlachtet für Fricka, dass gute Ehe sie geben!” into mocking laughter which suddenly illuminates the malice intended.

All concerned can take pride in this Götterdämmerung.

George Jellinek

WAGNER: Götterdämmerung. Helga Dernesch (soprano), Brünnhilde; Helge Brütholz (tenor), Siegfried; Karl Ridderbusch (bass), Hagen; Thomas Stewart (baritone), Gunther; Gundula Janowitz (soprano), Gutrune; Zoltan Kelemen (baritone), Alberich; Christa Ludwig (mezzo-soprano), Waltraute; Edda Moser (soprano), Woglinde; Liselotte Rehmnn (soprano), Wellgunde; Anna Reynolds (mezzo-soprano), Floßhilde; Lili Chookasian (contralto), First Norn; Christa Ludwig (mezzo-soprano), Second Norn; Catarina Ligendza (soprano), Third Norn. Berlin Philharmonic, Herbert von Karajan cond. DEUTSCHE GRAMMOPHON 2716001 six discs $29.90.

TWO MONUMENTAL SUITES FOR UNACCOMPANIED CELLO

Mstislav Rostropovich performs the impassioned works of Britten with sensitive comprehension

For anyone rash enough to harbor the notion that Benjamin Britten has been, is, and always will be a rather facile, “fragile” composer, a new London release of his First and Second Cello Suites must give pause. I have been on and off the Britten bandwagon myself for years—mostly off. But as his opus numbers have gotten higher (the Suites are Op. 72 and Op. 80), a fascinating transformation seems to have been taking place, one not unlike that which makes Shostakovich’s Thirteenth Symphony seem to mark a point at which the composer’s lifelong experience with his materials has made him capable of achieving profundity without any search or strain.

These two Suites for unaccompanied cello are among the few monumental works in this medium to come forth in our time. They are long: the Opus 72 Suite takes over twenty-four minutes to play, and the Opus 80 Suite, although it has only five movements compared to the other’s nine, runs forty-seven seconds beyond the same twenty-four minutes. That is a lot of time, particularly when it is filled by a single, unaccompanied instrument. But it is a great feature of the Suites that, rather than seeming long, they impress with their monumentality and keep the listener right on the edge of his seat, following the inspired thread of musical discourse.

Unlike composers who, rightly or wrongly, are written about as “avant-garde,” who have in their various ways
shown that they believe "traditional" musical materials to be exhausted, Benjamin Britten has, in his "conservative" manner, continued to extend and deepen his vocabulary within the framework of a slightly expanded tonality. It is incredible to realize the present extent of his virtuosity, and the fecundity of an imagination that enables him to find fresh, surprising directions in which to guide every note, harmony, and rhythm. Since his sources are not hidden and fall within the confines of musical tradition and history, one might accuse him of being an eclectic. But that would not be saying much. Britten has absorbed everything from Bach to Indian ragas, but he has made it all his own. He must be one of the most musically erudite composers alive.

The earlier of these two Suites begins with a Canto Primo which, at first blush, seems almost like Bach. Not really—for one soon sees that Britten is engaging in the kind of "pan-diatonicism" Stravinsky once used to such good advantage to bring historical sources into the twentieth century. From that point, in the Fuga, Lamento, Canto Secondo, Serenata, Marcia, Canto Terzo, Bordone, and Moto Perpetuo e Canto Quarto, the composer blends a broad galaxy of materials, some of them exotic, in a style that always has strong modality or tonality to bind the whole. Each section has a particularized character, from the doublestopped Cantos (which are related to each other and occur four times in development of an initial idea) to the little bugle-calls in harmonics of the Marcia and some sitar-like ruminations in the Bordone. And the Moto Perpetuo climax is compelling indeed.

The Second Suite is equally inventive and impassioned. Rostropovich gives both pieces the most sensitive and comprehending performance imaginable. Technically, of course, he has easy command of even the most excruciatingly difficult passages. On a musical level, he seems thoroughly to understand and be in accord with the sentiments Britten has delineated. He spins them out with great expressivity, never hurrying over slowly spun but meaty thought, never lagging when furies should be unleashed. It is a virtuoso performance in every dimension, a sumptuous one, and so is the stereo recording.


---

**ENTERTAINMENT**

**A MUSICAL WITH HEART:**

**THE ME NOBODY KNOWS**

The original-cast recording is a showcase for a brilliant array of young vocal talent

The attractively bluesy musical The Me Nobody Knows is the Street Scene of the Seventies. It is about the people of our urban slums and how they survive, and it is filled with despair, and hope, and compassion, and wonderful music. All these qualities have been recaptured and preserved on Atlantic's exciting original-cast recording.

The cast is composed of youngsters from seven to eighteen, and some of the lyrics are taken from their own poems. These are genuine voices from the ghetto, and when they are raised on high, pitched above the noise of the violent city, they ring with truth and hope for a brighter future. Every singer on this disc is more talented, more accomplished, than nine out of ten of the show-biz creeps whose albums clutter up my mailbox each week. One child, Gerri Dean, sings a song called Dream Babies with a voice that is almost hair-raisingly polished and professional, leading me to hope that our future stars will not all be coming to us from television.

The music is up to the level of the performances. If I Had a Million Dollars, a song that reflects the fantasy dreams of the poor, is as good as anything Burt Bacharach has ever written. If you have never heard of The Me Nobody Knows, just wander into a record shop and play this one song—I guarantee you will not go away unmoved. Sounds vibrates with stunning combinations of rock chords and rhythms that almost—though not quite—distract from the vital lyrics. The music throughout, in fact, is so joyous and thrilling that you will have to listen carefully for all the truths, all the messages, all the
Meet the Bostonians—now, in their premiere performances, on Deutsche Grammophon.

To begin our association we went straight to Symphony Hall, America's most acoustically perfect auditorium. We brought with us our team of award-winning recording technicians and over three tons of the finest equipment in the world.

To capture the sound of "the Boston" in a fresh new way.

The Deutsche Grammophon way.

The results? Three extraordinary albums.

As you want them. On disc. On MusiCassette, 8-track cartridge and open reel.

The dazzling Italian conductor CLAUDIO ABBADO leading the Symphony in lush interpretations of Ravel and Debussy.

The brilliant young American MICHAEL TILSON THOMAS on the podium, evoking the complex individualism of Ives and Ruggles.

The BOSTON SYMPHONY CHAMBER PLAYERS painting the delicate moods and impressionistic textures of Debussy.

An historic introduction to the Boston Symphony Orchestra for the first time. Again.

The Boston Symphony Orchestra now exclusively on Deutsche Grammophon.
BACH, J. S.: Chromatic Fantasy & Fugue in D Minor (BWV 903), Italian Concerto in F Major (BWV 971); Toccata, in D Major (BWV 912); Toccata in C Minor (BWV 911); Well-Tempered Clavier: Prelude and Fugue No. 5, in D Major (BWV 850). Artur Schnabel (piano). PERENNIAL 8071, $6.00 (postpaid from Perennial Records, P.O. Box 457, New York, N. Y. 10023).

Performance: Historic Recording. 1938 and 1948 78-rpm

Something like twenty years ago, I remember wanting desperately to buy a long-out-of-print album of four ten-inch 78's containing Schnabel's recordings of the D Major and C Minor Bach Toccatas. I finally located a copy in one of New York's specialty record shops and was appalled at the price asked: twenty-five dollars. That was just a bit too much, especially since I had just laid out a huge sum for the complete Well-Tempered Clavier with Edwin Fischer. Schnabel did not record much Bach, but, as with his Beethoven, what he did record was worth hearing.

Everything on this reissue, taken from 78's made in the late Thirties and Forties (the Italian Concerto and Toccatas stem from 1938) can be heard today played on the harpsichord, mostly in more stylishly perceptive performances. Yet I do not mean to disparage Schnabel's concept of Bach. At the time of recording, his Bach was far less Romantically inclined than that of the majority of his contemporaries. His was basically an austere approach, but it was also impetuous and full of personality. Some of the playing is quite dazzling, the very last opening of the Italian Concerto, to take one instance, or the superb gigue of the D Major Toccatas. The slow movement of the Italian Concerto is extremely soulful, too. Schnabel always had ideas, even if they do not invariably appear successful by our later lights.

Of this material, which I am delighted to see restored to circulation (none of its has previously appeared on LP), the most impressive is the earlier: the later period—the Chromatic Fantasy and Fugue, for instance—does not find the pianist in such comfortable form technically. No matter: other Schnabel lovers will find this disc as interesting and valuable as I did. The sound is quite acceptable in the earlier pieces; curiously, the 1948 selections are not nearly as clear. Overall, the tranfers are very skillfully accomplished.

BACH, J. S.: Organ Works. Fantasia in G Major (BWV 572); Prelude and Fugue in A Major (BWV 536); Pastoral in F Major (BWV 590); Canon Variations on "Vom Himmel hoch da komm ich her" (BWV 769a). Arno Schönstedt (Arp Schnitger organ of the Pankratiuskirche, Hamburg-Neuenfelde). NONESUCH H 71241, $2.98.

Performance Understanding Recording: Excellent

Nonesuch's highly interesting series of organ anthologies continues with Volume Eight, an all-Bach disc. Longest and least often heard of the pieces here is the set of canon variations which Bach wrote almost at the end of his life to obtain entry into the Society of Musical Sciences. Arno Schönstedt, the fifty-seven-year-old resident organist of the Cathedral of Heford, Germany, performs all four works with sensitivity, intelligence, and solidity; this is not splashy playing, nor is there a high degree of interpretative personality, but Schönstedt does understand the instrument, and on this disc the organ itself is of more than ordinary interest. Built in 1688 by the renowned Arp Schnitger (who is also buried in the Pankratius Church), it is a splendid example of a medium-size (two manuals and pedal) Baroque tracker organ. I wish that the tuning had been better accomplished in the opening Fantasia, but for the rest of the program it is a rich, full-sounding instrument, and the reproduction of it is first-rate. This is a disc for organ fanciers: barring the comments about the tuning and the not always inspired playing, they should derive considerable enjoyment from it.


Performance Fine solo, poor orchestra Recording: Good

This reissue of the recording Richter made just after his Boston debut concert ten years ago shows us the great Soviet pianist in his coolest, most classical vein. Perhaps because of the lack of real artistic rapport with the conductor, Charles Munch, Richter does not create the profound poetic intensity that characterizes his most memorable performances, and there are depths in the Beethoven First Piano Concerto that are more rewardingly explored in Solomon's Seraphin recording and by Arrau in his complete Philips set of the concertos. Nevertheless, the First Concerto responds better than the Fourth might to a limpid, undemonstrative reading like this one, and Richter's exquisite touch and understated intelligence make the performance an excellent 'second version' for anyone who already possesses one of the more personal recorded performances and would like an occasional change of pace.

The trouble with the orchestral contribution is twofold, part having to do with interpretation and part with execution. Both absolutely and in the context of Richter's understated solo. Munch takes far too massive a view of the work—it all sounds too big and brassy. And his direction is constantly undermined by his chronic insecurity about the pulse of the quick movements in particular that contrasts sadly with Richter's firm, springy rhythm.

Such problems do not, of course, affect the fill-up, which is a wonderfully strong account of the neglected F Major Sonata that came between the "Wildstein" and the "Appassionata." Richter plays it with intense concentration, and in the opening Theme d'un Menuetto his sharp differentiation between the languid dance measure of the first theme and the crisply accented triplets of the episode underlines the affinity between this movement and the second movement of Mahler's "Resurrection" Symphony, for which the Beethoven may very well have served as a model. Again, more gracious accounts of the music are available, but this

Explanation of symbols:

- = reel-to-reel tape
- = four-track cartridge
- = eight-track cartridge
- = cassette

Monophonic recordings are indicated by the symbol m, all others are stereo.

OCTOBER 1970
one has an interpretive integrity that makes it most impressive.

B. J.


Performance: Vintage Schnabel
Recording: Good, considering 1942 source

As I recall from the various record books and critical periodicals of the Forties, this Schnabel version of the Beethoven Fourth Concerto was never as much admired as the earlier one he did with Sargent. His third version, with Dobrowen, is also considered to have been a better performance. But re-hearing the Stock-Schnabel collaboration, I found myself admiring anew the way the pianist treats the score—the maturity of his interpretation and his glowing conception of the piece. It is quite simply beautifully played. The stumbling block mentioned in those earlier reviews was the orchestral participation, which was considered heavy-handed. And it is, a bit, but that may also have been the fault of the original tubby-sounding bass. In the second movement, the string sound is a little too thick and the responsiveness of the players just a little sluggish rhythmically. Yet, overall, it is a far more enjoyable performance than I remembered. The reproduction of the piano, if slightly tinny, is remarkably clear and very prominent at all times. Since Schnabel's other two versions are not presently available in the catalog, anyone wishing to keep the pianist's masterful account of this music can buy the present reissue with confidence. I. K.

BEETHOVEN: Variations on a Theme from "Zaubertorte"; Duo for Viola, Cello, and Eyeglasses (see DVORAK, Cello Concerto)


Performance: Bombed
Recording: Very good

When Porgy and Bess opened in October, 1935, the composer of the 'folk opera' was invited by the Philadelphia Orchestra to put together a symphonic suite based on the musical contents. The following January the busy Gershwin did sit down and compose such a suite. A year later he conducted a performance of it, and a year after that, after a couple of hearings around the country, it vanished from the scene. I mention all this because the original suite by the composer was available in stereo for a time played by the Utah Symphony under Maurice Abravanel on New York's upper West Side who fall in love and stir up a gang feud in the neighborhood. These dances are served up in electrifying fashion by Bernstein himself for Columbia (MS 6251); Bennett's version for RCA is, once again, more blunting than firing. An abundance of material from the musical goes into the suite but it all comes out—well, sweet. I must say Bennett has a better grasp of his own intentions for both these medleys than other conductors who have recorded the Porgy and Bess version—he brings out essential values in his scoring I had not heard before, and at $2.98 the disc is certainly a bargain. But it's not my Gershwin, and it's certainly not my Bernstein. P. K.

Next Month in Stereo Review

Rex Reed talks to GRACE SLICK of the JEFFERSON AIRPLANE
Julian Hirsch Tackles SEVENTEEN CASSETTE DECKS
Dr. William Ober on the DEATHS OF MUSICIANS

RECORDING OF SPECIAL MERIT

BLOCH: Suite for Cello and Piano (1919). Gabor Rejto (cello); Adolph Baller (piano). ORION OIRS 6904 $5.98.

Performance: Superb
Recording: Excellent

Under the sponsorship of the Yehudi Menuhin Foundation, Orion Records has brought out an unusually attractive specialty in this Suite. Composed by Ernest Bloch for viola and piano in 1919, the work was subsequently scored by the composer for viola and full orchestra. That second version was given its premiere in New York in 1920. A third version, the one on this recording, was brought into existence by the present performer, who transcribed the work for cello and piano.

Perhaps it will give some indication of the success of this transcription if I say that, if one did not know that Bloch composed the work for viola, he would never guess his was not the original. I am sure anyone who admires Bloch's Schelomo will agree that the melodiousness and rich harmonic color were particularly well suited to the cello. This transcribed Suite, a logical addition to the oeuvre, is full of the exoticism and earthiness typical of Bloch. Lush it is, honestly and unabashedly so. Cellist Gabor Rejto, of the Almea-Trio, and pianist Adolph Baller give it a stunning performance. Not only are they splendid individual musicians, with tone and temperament to squander, but their ensemble rapport is perfect. L. T.

BRAHMS: Sonatas No. 1, in Cello and Piano (see DVORAK, Cello Concerto)

BRAHMS: Symphonies: No. 1, in C Minor, Op. 68; No. 2, in D Major, Op. 73; No. 3, in F Major, Op. 90, No. 4, in E Minor, Op. 98. Chicago Symphony, under the sponsorship of the Yehudi Menuhin Foundation, under the baton of the recently deceased Sir John Barbirolli when it comes to music with which he was singularly congenial: Elgar, Delius, Vaughan Williams, and Sibelius. I still recall vividly his superb performances of the Vaughan Williams "Pastoral" Symphony and Elgar "Enigma" Variations with the New York Philharmonic. When the then forty-year-old conductor fought a losing battle to retain his position (held 1937-1943) as successor to Arturo Toscanini.

Nevertheless, now, as then, I am unable to meet Barbirolli halfway in his readings of the major Austro-German compositions. I find lacking sufficient rhythmic backbone to sustain, for example, the musical architecture of the four Brahms symphonies. In the present Angel discs with the Vienna Philharmonic he seems to me just ponderous. The Scherzo of the Fourth, likewise, never really gets off the ground. The Third comes off best of the four, being the most lyrical. As to the shorter pieces, the Tragic Overture gets a generally strong reading, the Haydn Variations an acceptable one, the Academic Festival a noddy one.

Save for unnervingly ragged attacks in the exposition and recapitulation of the main theme of the Second Symphony finale, the Vienna Philharmonic makes gorgeous sounds for Sir John and is recorded appropriately. Nevertheless, unless you are desperate for an antidote to the ultra-taut Brahms readings of the Toscanini-Steinberg-Snell type, I cannot conscientiously recommend the Barbirolli set. Bruno Walter seems to me the preferable alternative for those who want their Brahms affectionate rather than epic. D. H.

BRITTEN: Suites for Solo Cello (see Best of the Month, page 86)

RECORDING OF SPECIAL MERIT

A 2-Record Set.

It isn't easy waiting.
But sometimes that's the price of perfection.
Even for Leonard Bernstein.
He's wanted to record the Verdi Requiem for 25 years. He considers it one of Verdi's greatest works. And one of his particular favorites. Because of its dramatic qualities; its excitement and horror combined into a sacred form. Still, he's had to wait.

Until now, he didn't have a chance to record the Requiem the way he wanted. His concert and personal appearance schedule was hectic. And nothing less than the finest soloists, chorus and orchestra would satisfy him.

Now he's satisfied. Because when everything came together, he knew how to make the most of it. He didn't let those 25 years go to waste.

ON COLUMBIA RECORDS

VERDI
REQUIEM
LEONARD BERNSTEIN
MARTINA ARROYO JOSEPHINE VERSEY PLACIDO DOMINGO RUGGIERO RAIMONDI
THE LONDON SYMPHONY ORCHESTRA AND CHORUS
ARTHUR OLIVIA CHORUS DIRECTOR

25 years in the wings.

Performance: Unusually interesting—period instruments
Recording: Excellent

For those intrigued by historic musical instruments, a number of recordings available now feature nineteenth-century keyboards. Unfortunately, most of these have faults: the recording is often too close-up, which makes the instrument sound harsh and mechanical; the piano itself is sometimes badly restored, so that notes do not always ring clearly, or damping does not occur properly; finally, the player comes to the instrument with too much force, with the result that a perfectly fine piano may sound as though it is being bludgeoned to death. The end result, of course, is that the listener will, in all likelihood, consider the old piano a museum curiosity, worthless except as an example of how poor earlier pianos must have been and how much better later improvements have made the instrument.

The present disc avoids two of these problems: the reproduction is excellent, and not too close-up, so that the sounds of the piano have a chance to blend, and Mr. Groschel (Heritage Society MIHS OR 358), about whom I know nothing, is extremely skilled and, for the most part, manages to make the instruments sound musical. But he even does more than that: he reveals an understanding Romantic temperament—he convinces one, especially in the Schubert, that the early nineteenth-century piano is absolutely the right instrument for the music. This is partly because he has an interpretive affinity for Schubert, partly because he avoids violent pounding, and, finally, because he appears to understand the mechanics of the instrument. There are some marvelous pedal effects on the Conrad Graf piano (it dates from the year Schubert died or thereabouts), including a warm, mellow clamped sound that contrasts beautifully with the normal, brilliant “pingy” timbre. To be sure, the treble is not always so responsive as the normal, brilliant “pingy” timbre. To be sure, the treble is not always so responsive to dynamic shading, and the instrument, because its string tension is less than a modern piano’s, has a tendency to sound very slightly out of tune. Nonetheless, I find the Schubert side extremely convincing, and the music as music quite captivating.

The Chopin side, played on an Erard piano built nine years before Chopin’s death, is less successful. There is no way of knowing from the album what the state of restoration of these instruments is, but it seems obvious that the Erard is not so satisfactory in its damping and repetition capacity as the Graf. It is not nearly so pretty-sounding an instrument, for that matter. In the well-chosen Chopin selections, Groschel seems at moments to have to fight the instrument: there are some smudged passages—undoubtedly so, in view of the difficulty of many of the etudes and the Ballade. But the Waltz you hear when what can be accomplished even with a recalcitrant piano, the pianist is consistently musical, and I would like to hear more from him. I. K.

RECORDING OF SPECIAL MERIT

CIMAROSA: Requiem, in G Minor, Eli Ameling (soprano); Birgit Finnilä (contralto); Richard van Voorn (tenor); Kurt Widmer (bass); Montreux Festival Chorus, Chamber Orchestra of Lausanne, Vittorio Negri cond. PHILIPS 839752 LY $5.98.

Performance: First-rate
Recording: Superior

Domenico Cimarosa, the composer of light operatic floats, charmingly unpretentious concertos and tuneful, unprofound harpsichord sonatas, wrote three Requiem, of which the present one was composed for the funeral of the wife of the Neapolitan and Sicilian ambassador to the court of Catherine II of Russia, Cimarosa, who had just been invited to the Russian empire by the Empress Elisabeth of Austria.

Engraving by C. Delblis (1867).

DOMENICO CIMAROSA

Recording: Revivable

The so-called “modern school” of instrumental performance style never seems to have extended its sway over the cello. The reasons for this undoubtedly have something to do with the incredible longevity of Casals and the untimely death of Feuermann. The return of these superb performances serves to remind us that a really thoughtful, probing, expressive classicism need not betray the character of the cello or of Romantic music. The Dvořák Concerto, recording the first to make Feuermann’s name and playing known in this country, must have been recorded before 1933 (no dates are offered on the Parnassus reissue) when the cellist was at, most, thirty or forty. The orchestral playing and reproduction are, at best, tolerable but oh, the cello playing! The Brahms sonata is sonically passable, and the RCA recordings of 1939 and 1941 are really quite decent. Feuermann’s own arrangements from the Händel G Minor Organ Concerto are a trifle silly, but the Mendelssohn is a gem and the Beethoven (both of them) are treated. I can’t recommend Feuermann’s playing too highly, not for nostalgia’s sake but most especially for the study and delectation of those who, like myself, never had the chance to hear him live.


Performance: Leon
Recording: A bit brass-heavy

DVOŘÁK: Symphony No. 9, in E Minor, Op. 95 (“From the New World”). London Symphony Orchestra, Witold Rowicki cond. PHILIPS 802903 LY $5.98.

Performance: Vital
Recording: Good

Presumably we shall be getting one day Witold Rowicki’s recording of the Dvořák Seventh Symphony in D Minor to round out the cycle of the Bohemian master’s four major exercises in this form. The Polish conductor’s excellent reading of No. 6 in D Major is still available on the budget-price World Series label. For this reason, I’m a bit surprised that Rowicki’s readings of the “New World” and “From the New World” are issued at full price, considering the formidable recorded competition, George Szell and Isaac Stern’s pair in particular. Dvořák offers all four of the late symphonies in a three-disc package, and the Kertész discs of the G Major and “New World” include as fillers the Tchaikovsky and “New World” include as fillers the Tchaikovsky, as Scherzo capriccioso and Osibello Overture, respectively. Thus the Rowicki packaging is no bargain if one considers quantity. Rowicki adopts a rhythmically vital but rhythmically robust and an essentially restrained approach to both works. Clarity of texture and unrelenting momentum are emphasized here, and the approach pays off handsomely in the Scherzo and finale of the G Major with, by turns,
JVC proudly introduces the expensive stereo that isn’t—model 5010.* Just look what it has going for you.

Its most outstanding feature is the Advanced Sound Effect Amplifier (SEA), JVC’s exclusive ±12db, 5 zone tone control that opens up new dimensions in sound. SEA divides the sound spectrum into 5 frequency ranges. Let’s you compensate for acoustic deficiencies in almost any room. Highlight a voice or musical instrument. Tailor sound to your own personal taste. The chart at the right shows the difference between SEA and conventional tone controls. But SEA is just the beginning.

There’s a new FM linear dial scale. Sophisticated FET. Wire wrapped contacts, 2-way speaker switch. 40 watts output at less than 1% IM distortion. A beautiful wood cabinet, and much more.

While you’re at your dealer, also check out JVC’s Model 5020, 75 watts IHF; Model 5030, 140 watts IHF; and our top of the line, Model 5040, 200 watts IHF.

Whichever you choose, you will be choosing the finest. See them all at your nearest JVC dealer, or write us direct for his name, address and color brochure.

*Suggested list price $229.95
A Meeting of Giants!

GEORG SOLTI

***

THE CHICAGO SYMPHONY ORCHESTRA

***

GUSTAV MAHLER

and

London Makes Recording History

SYMPHONY NO. 5 IN C MINOR
with
4 SONGS FROM "DES KNABEN WUNDERHORN"
with Yvonne Minton
CSA-2228

SYMPHONY NO. 6 IN A MINOR
with
SONGS OF A WAYFARER
with Yvonne Minton
CSA-2227

This great conductor continues his complete Mahler series with the magnificent orchestra of which he is music director. The sound of this fabulous combination has been brilliantly captured by London's team of engineers.
NEW
PE-2035
95.00

Now, there’s absolutely no reason you shouldn’t own a PE automatic turntable

If you’ve ever wanted to own a PE automatic turntable, but thought it was beyond your budget, the new PE-2035 is for you. At $95.00, it incorporates most of the exclusive features of the top-rated PE-2040. Ultra-gentle, fingertip cueing control . . . Fail safe stylus protector . . . Automatic record scanner . . . Single lever control for all modes of operation . . . Continuous record repeat. These are just some of the exclusive features. Visit your PE dealer for a demonstration of PErfection in PErformance and the complete story of why the PE-2035 is your inevitable choice of an automatic turntable under $100. Other PE models from $65.00 to $145.00.
For the Beethoven bicentennial, Columbia Records has brought out an album containing all nine of the composer's symphonies, recorded by Leonard Bernstein and the New York Philharmonic. Two special bonuses are also included: a 12-page booklet entitled "The Bernstein Years" that chronicles in photographs and text the years of Bernstein's tenure as Music Director of the Philharmonic, and an interesting final record side (formerly available with the Fifth Symphony on MS 6408) on which the conductor discusses the first movement of the "Eroica" and the Fifth Symphony, playing musical illustrations at the piano and with the full orchestra. His discussion of the Fifth Symphony is particularly fascinating. Ideas that Bernstein jotted in his sketchbooks but rejected for use in the Fifth Symphony have been orchestrated and inserted into the music at points where their use would have been logical. The contrast in quality and craft between the rejected versions and the ones in which Bernstein is dramatic and abstract, Bernstein's clever device provides an uncanny trip into Beethoven's thinking.

Of the nine symphonies in this commemorative issue, only three are new releases: the Fourth, Seventh, and Eighth. These were recorded, respectively, in 1962, 1964, and 1965. An earlier Bernstein performance of the Seventh Symphony (MS 6112), which dates from the late Fifties, has been in the Schwann catalog, and Columbia apparently intends to keep it there. It will certainly not surprise anybody to hear that Bernstein is an exceptionally clear-eyed interpreter of Beethoven. A hallmark of his conducting career has been that he forms ideas by a strict study of the scores themselves, and gives little heed to "traditions" of interpretation. Nevertheless, on listening to this complete retrospective show of the Beethoven symphonies, I've been struck by an aspect of his musician- ship I've been aware of only obliquely. Bernstein applies to the Beethoven symphonies a totally classic approach. This would be normal in the First, perhaps even in the Second Symphony. With the Third, though, it becomes noteworthy. Beethoven, by this juncture, had introduced into his music a very large burden of subjective drama, and conductors of generations earlier than Bernstein's have habitually stressed that element. In the Marcia funebre, those conductors whose roots were in the nineteenth century leaned very hard on the subjective message and emphasized the music's hortens, sepulchral atmosphere. Bernstein, on the other hand, created an atmosphere that would suit a Haydn symphony equally well. His emphasis is on rationality, craftsmanship, fine surfaces, balance, and proportion. He does not, for the most part, reach behind the notes to find subjective meanings and then bring them up for spotlighting.

Of the Ninth, in his day, was also considered a classicist. But it is fascinating to note how much less classical he was, in his 1939 recording of the Fourth Symphony (included in Seraphim IC 6015), than Bernstein on his newly issued Fourth. On the Bernstein recording, the opening measures are detached, cool, quite abstract. They set forth a musical proposition with exquisite clarity and attention to proportion, but make no attempt to step beyond the rational and civilized statement of a fact. Toscanini, on the other hand, created an atmosphere of mystery with the first note and intensified subjective drama with every phrase that followed: one might be sitting in an Italian opera house while the curtain rises on some bleak, ominous scene.

Bernstein's recording of the Fourth Symphony takes a place very high on the list of stellar performances. Until now, Toscanini's version with the BBC Orchestra had been my favorite, and I must admit that Bernstein's comparatively cool treatment of the opening Adagio is a bit disconcerting even after a number of listenings. There is no doubt, though, that the overall thrust of the symphony and Bernstein's adjustment of all internal details of form and texture make this performance far superior. Superior also, of course, are the modern sonorities. As an alternative to the subjective species of drama, Bernstein offers something else: a drama of muscular action, of kinetic thrust and poise, and of extremely explicit revelations of form. The Philharmonic's virtuosity is a joy to the ears. Woodwind passages are as subtle and bright as I've ever heard from a symphony orchestra. The ensemble work is ravishing too, notably in the last movement, where Bernstein reveals to the listener who classic drama has been heading all the time.

Bernstein starts off the Seventh Symphony with another pristine statement of idea. If anything, the surfaces of this symphony shine even more elegantly than those of the Fourth. There is, again, some shock at the disappearance of subjective dramatization. In most performances, the ascending scale passages beginning in the tenth measure would have a distinctly demonic sound. Not so here. Bernstein instead keeps his spotlight on the movement's opening motive, and the scales become simply a counterpoint—vigorous and meaningful, but in terms of motion rather than those of psychodrama.

Even more than the Fourth Symphony, the Seventh abounds in airy woodwind passages, and the Philharmonic's winds sound dazzling. So, too, do the strings. Perhaps because it is so infused with the spirit of dance, Bernstein seems utterly enchanted with the Seventh Symphony. Before the famous second movement, he establishes the buoyant character of the music, so that when the "apotheosis of the dance" arrives, it augments an already established atmosphere. The third movement sounds like still another kind of dance, and the fourth becomes an absolute paroxysm of kinetic energy. I have never heard a finer performance of this symphony.

The Eighth, being more peasant-like in behavior than those of the Nine, seems to pose a minor dilemma for Bernstein; one senses his hesitancy to let all the dirt under Beethoven's fingernails be seen. In lyrical passages such as the graceful Trio of the Menuetto, his playing sounds direct and comfortable. But there are few such passages. Most of the Eighth Symphony stumps on its heels; it does not dance urbanely on its toes. Bernstein, who almost never has recourse to a really dry staccato or an iron- fisted slurredando, must feel a bit odd with this music. Though his performance is handsome in every detail, some element of identification seems to be missing. Beethoven, in the Eighth Symphony, simply will not be scrubbed up.

As a slightly wry postscript, I'm obliged to mention that the "Eroica" recording included in this album produces a noticeably narrower frequency range of sound than does an earlier pressing of the same performance (BS 6774). I've had on my shelves for a number of years. Are the masters getting senile?

"...quite probably the best buy in high fidelity today."

—the Dynaco A-25 speaker ($79.95 assembled only)

from THE STEREOPHILE, Box 49, Elwyn, Pa. 19063

"... (sonically) we cannot see how any preamp, present or future, could surpass the PAT-4."

($89.95 kit, $129.95 assembled)

"...makes most loudspeakers sound better."

The Dynaco Stereo 120 power amplifier
($159.95 kit, $199.95 assembled)

These opinions from The Stereophile are even more meaningful since it is the most respected journal in the audio field, whose sole source of revenue is from its subscriptions.

Over the years Dynaco has proved faithful to its philosophy of providing outstanding performance at a most moderate cost. Proper initial design eliminates the need for model changes. The savings achieved are passed on to you. What is "state-of-the-art" when you acquire it will still meet contemporary performance standards years later.

Send for literature or pick some up at your dealer where you can see and hear Dynaco equipment.

DYNACO INC. 3060 JEFFERSON ST., PHILA., PA. 19121
IN EUROPE WRITE: DYNACO A/S, HUMLUM, STRUER, DENMARK
It would be difficult to overpraise the star of this recording, Maestro Ormandy. Not only does he produce an exquisite tone, making his instrument sing like a lark up into the top register and flowing everywhere on the air with such gentleness that it hangs there like a suspended zephyr, but he is also a consummately evocative interpreter. His performances of the three Robert Schuman Romances, Op. 94, are unbelievably beautiful, and he is ably supported by accompaniments of equal excellence from pianist Gilbert Kalish. The Romances being prime Schumann, this makes a happy collaboration of three great talents.

The "in fashion," "out-of-fashion" twists and contortions of the twentieth-century musical scene are among the cultural artifacts we have to put up with. However, as the liner notes to this record point out, it is certainly a fact that Hindemith's music is no longer considered "fashionable," as it was in the Forties. Even in those days, though, most people agreed that Hindemith's music could be, and often was, dry and somewhat routine. The Sonata for Oboe and Piano, a case in point, trundles along perfectly well, with all its counterpoint functioning. But it really doesn't say very much. Roseman and Kalish do all any two fine performers could do to vivify it, but it still sounds pretty workaday.

"Die Serenaden" is much more appealing. Subtitled Kleine Kastanien nach romantischen Texten, it blends six songs of love and nature with sections for various combinations of instruments. Each portion of the work flows so smoothly into the next that one is more aware of the whole structure than of any single section. This is creating form on a high level indeed. Still, it has to be said that, while some parts of "Die Serenaden" sparkle with vigor, others simply do their duty with obedience.

Soprano Lois Winter gives an altogether fine performance, as do the other musicians. The recorded sound is resonant and warm. However, I find the stereo separation a little emphatic from time to time, and the microphone logistics obtrusive. Isn't there an old saying about "the art that conceals art"? 

Lauder, and a fine sense of proportion in tempo and phrasing throughout the two final vocal movements—the last of which can sprawl in most uncelesch fashion without stem control from the podium. Birgit Finnila handles the Erlösche solo with the utmost simplicity and vocal warmth, and she blends beautifully with the soprano of Evelyn Mandac toward the close of the finale. The chorus displays splendid dynamic flexibility and body throughout the last half of the apocalyptic finale, and the orchestral playing, needless to say, is well-nigh flawless.

These observations follow a particularly close comparison with the Georg Solti reading on the London label: it is closely akin to Ormandy's, but harder-driven. For all the urgency Ormandy brings to the music, he also allows for ample breathing space between phrases and phrase groupings. As for recorded sound, both Solti's and Ormandy's stand at the top of the roster of presently available versions in brilliance, wealth of detail, and sonic impact. The London disc has the edge in terms of detailed microphoning, but the RCA offers a more pleasing sense of space and perspective in depth.

Among the nine other recordings of the "Resurrection" Symphony (things have come a long way since 1935!), Leonard Bernstein's

Such were my recollections as I put on the turntable Maestro Ormandy's repeat performance thirty-five years later, now with the Philadelphia Orchestra, two fresh-voiced young soloists, and a superb chorus. Would the miraculous urgency of that earlier performance also be repeated? After three listenting to the reference acetates provided for review by RCA, plus comparisons with other current recordings, in particular those of Solti and Klemperer, I find myself happily able to affirm that it has. The new Ormandy reading is substantially that of 1935 in tempo, dynamics, and irresistible rhythmic tension and momentum. But the details of phrasing, attack, and intonation are understandably even so much more refined, yet never fussy. There is ample thunder and lightning in the opening movement, a fine easy lilt—never sentimentalized—in the first Ländler, exuberance and fine communication of irony in the ensuing fast

RECORDING OF SPECIAL MERIT

MAHLER: Symphony No. 2, in C Minor ("Resurrection"). Birgit Fjellinna (contralto); Evelyn Mandac (soprano); Singing City Choirs; Philadelphia Orchestra, Eugene Ormandy cond. RCA LSC 7066 two discs $11.96. Performance: High-powered Recording: Very good

One of the all-time blockbusters of the 78-rpm era was the first electrical recording of the Mahler "Resurrection" Symphony (in fact, the first complete electrical recording of any Mahler symphony!), issued by RCA Victor on twenty-two sides. It derived from a performance in 1935 with Eugene Ormandy conducting the Philadelphia Symphony Orchestra. The recording was one of the first to charge energy, and the performance was rude by today's standards, but the effect on this listener, at a time when Mahler performances were scarcer than hens' teeth, was decisive. Within an introduction to a composer one had read volumes about, but had heard virtually nothing of!


Golden Crest seems determined to call our attention to off-beat items of classical music as well as to off-beat performers. A trio made up of flute, bassoon, and guitar might sound, offhand, like a dreary combination, but the Classic Guitar Trio offers a tonal palette that is quite ravishing to the ear. On the premise that Paganini was almost as fond of the guitar as he was of the violin and worked out many of his most celebrated violin solos on the guitar beforehand, the group has taken his Trio in D Major and arranged it for their own instrumentation. The results here are dazzling. The eight Schubert Minuets which make up side two are models of pure grace, most sensitively performed. Harold Morris, the guitarist and key figure of the group, stands out under Se (Continued on page 102)
Music doesn't have to be dead just because it isn't live.

RCA tapes put life in your recordings.
And we have whatever kind of tape it takes to do it.
Low noise mastering tape for the pros. In 1/4, 1/2, 1- and 2-inch widths.
Back-lubricated tape for Stereo 8 or 4-track cartridges.
Duplicating tapes for cassettes and reel-to-reel.
And Red Seal cassettes and Red Seal reel-to-reel for personal recording.
These tapes don't miss a note.
Your music sounds alive on RCA tapes.
Sound us out. Write RCA Magnetic Products, 201 E. 50th St.,
New York 10022.
Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.

Honeywell Pentax. Designed for Go-ers and Do-ers.

You like to go, and you go first-class. Whatever you do, whenever you buy, price is secondary to quality. You're the kind of man who likes to go, and you go first-class. Whatever you do, whenever you go, you get the kind of stuff that Go-ers and Do-ers.
If you already own a Sansui receiver, you might be tempted to buy the new SD-7000 tape deck for our name alone... but we'd rather you didn't. Because there are better reasons: for instance, the automatic reverse doesn't just reverse... it also repeats if you want to hear the same tape over and over, and it rewinds automatically if you just want to hear the tape's first side. Not only that, it gives you a choice of triggering methods: either foil strip or an "inaudible" 20 Hz. tone signal. And our exclusive Sleep Switch lets you set the Super-Deck to turn your entire hi-fi system off when the tape is over.

We put "inaudible" in quotes back there, because if you can't hear it, it's your speaker's fault -- not Super-Deck's.

The SD-7000's frequency response goes down past 20 to 15 Hz. -- and up again to 25,000 Hz. at the top end. In point of fact, you'll hear a little more of everything with this deck, thanks to its 60 db signal-to-noise ratio, and its low record-play distortion (only 1.2% at zero VU).... most deck manufacturers won't even quote distortion figures for their machines.

Naturally, there's more. All transport controls are feather touch solenoids with logic-circuit delays to prevent tape spill and breakage (remote control optional). Hysteresis-synchronous capstan motor, 4-heads. And lots more. $679.95 worth, in all, and more than enough to fill a four-page brochure full of features, fact and specifications.

But then, could you expect any less from SANSUI?
Werog is a small, adventurous German label whose production is being released here on the Heliodor label, a line of Polydor which is tended by Deutsche Grammophon (or vice versa). Got that? The first six releases are all of twentieth-century music, most of it European and most of it quite recent.

Initial interest will probably center on the Ligeti records, which include a complete performance of a work which is famous for a couple of its parts: the Requiem, portions of which were used in 2001. For better or for worse, the work as a whole is something quite different from what the fragmentary film suggests. For one thing, the optical soundtracks distort the music so much that most 2001 viewers came away with the impression that they had heard electronic music. In fact, all of this music is performed by voices and instruments and has been recorded as is without electronic alteration or any other kind. In one sense, however, Ligeti's musical thought has been profoundly influenced by electronics: the idea of composing music based on a sound continuum with changes, shifts, and transformations on a sliding scale, first proposed by Varèse many years ago, received a major push from tape and electronics. Xenakis, Ligeti, and Penderecki adopted these principles—systematically or intuitively—to instrumental and vocal music. This music, sinuously intense, and powerful, has achieved a surprising popularity: these three composers have become the most performed and the most recorded of younger Europeans. Like the Penderecki St. Luke Passion, which it greatly resembles—it is less dramatic but is much the better work—the Ligeti Requiem is largely made out of "clusters": frequency bands built up in seconds and changing very gradually on a continuum. However, the central section of the Requiem switches over to a pattern of extreme contrasts: huge leaps, choral masses and solo voice, shouts and silences, confused murmurs and long-held notes. This is partly due to the harpsichord, which is interesting from Ligeti's instrumental works, which consist of aggregates of harmonic and color clusters. On the organ this is achieved by changing registration and air intake while the pedal clusters may be depressed by mechanical means or by assistants. On the harpsichord it involves an ingeniously use of repeated notes and tremolos as well as registration shifts. The orchestra becomes a giant organ or electronic device, almost a continuum. However, the central section of the Requiem switches over to a pattern of extreme contrasts: huge leaps, choral masses and solo voice, shouts and silences, confused murmurs and long-held notes. This is partly due to the harpsichord, which is interesting from Ligeti's instrumental works, which consist of aggregates of harmonic and color clusters. On the organ this is achieved by changing registration and air intake while the pedal clusters may be depressed by mechanical means or by assistants. On the harpsichord it involves an ingeniously use of repeated notes and tremolos as well as registration shifts. The orchestra becomes a giant organ or electronic device, almost a continuum.

The two orchestral works are the best, the two recitatives for any kind and number of instruments. OTTE: Touches. ALLENDE-BLIN: Soux brises. Gerd Zacher (organ). HELIODOR/WERGO 2549 010 $4.98, © 3313 010 $4.98.


ZIMMERMANN: The Numbered, Ode to freedom in the form of a dance; Improvisations on the last name from "The Soldiers"; Tratto, for electronic sounds in the form of a choreographic study. The Manfred School Quintet. HELIODOR/WERGO 2549 005 $4.98, © 3313 005 $4.98.
"Sets a new standard for others to aim at."
—Stereo Review, June 1970

The Tandberg 6000X is something special* And Stereo Review said it all in its Hirsch-Houck Laboratories' test report.

*Stereo Review said it all. For the complete Hirsch-Houck review, write: Tandberg of America, Inc., 8 Third Avenue, Pelham, New York 10803

TANDBERG 6000X
We have nothing to hide!
TCHAIKOVSKY

1812

AND

ROMEO AND JULIET

CS-6670

AN OVERWHELMING
LISTENING EXPERIENCE!

CIRCLE NO. 32 ON READER SERVICE CARD
How we saved our new $139 speaker from medium-priced boredom and conformity.

Ordinarily, there's nothing more boring than a medium-priced speaker system.

Low-priced speakers can be exciting because a few exceptions sound better than they have the right to. And high-priced speakers are, of course, endlessly fascinating because each expresses a different designer's concept of the "state of the art."

But bookshelf speakers in the $110 to $150 range? When you've heard one, you've heard them all.

That's why, having already created some of the world's finest low-priced and high-priced speakers, we decided that something distinctly new and different should be done for the music lover with a middle-sized stereo budget.

The result was the Rectilinear XII.

First of all, we did something about efficiency. Unlike the conformist acoustic-suspension speakers in this price range, the Rectilinear XII is a high-efficiency tube-vented bass reflex system. All you need is 10 clean watts to drive it to ear-shattering levels. So you won't need a high-priced amplifier or receiver to enjoy your medium-priced speaker, even if you like to feel those bottom notes right in your stomach.

Then we did something about time delay distortion. The Rectilinear XII reacts faster to an input signal (it "speaks" sooner, with less time delay between electrical input and acoustical output, and with less lag between drivers) than any other cone-type speaker system except our own higher-priced models. Rectilinear seems to be the only speaker manufacturer to be concerned about this type of distortion, but the difference it makes is easily audible to any critical listener.

A nonconformist approach to crossover design is largely responsible for the superior time delay characteristics of the Rectilinear XII. The 10-inch high-excitation woofer is crossed over to the "fast," low-inertia 5-inch midrange driver at 330 Hz, a much lower frequency than is conventional in three-way bookshelf systems; the 3-inch tweeter takes over at 4000 Hz. To compound the unorthodoxy, we abandoned the customary parallel-type crossover network in favor of a very elegant series configuration, which gave us vastly improved phase response.

Finally, as our ultimate defiance of tradition, we listened objectively to our own speaker. Did it really sound as different as we had set out to make it? To our ears (which, after all, have a good track record), it did. The Rectilinear XII seems to reproduce music with a clarity and authority that few speakers, at any price, can even approximate. And certainly none at $139.

But this is something that each prospective buyer must decide for himself. So, if you're shopping in this price range, listen carefully to the Rectilinear XII. And, please, be cynical, jaded and hard to please. For your $139, you're entitled not to be bored.

(For more information, including detailed literature, see your audio dealer or write to Rectilinear Research Corp., 107 Bruckner Blvd., Bronx, N.Y. 10454. Canada: H. Roy Gray Co. Ltd., Markham, Ont. Overseas: Royal Sound Co., 409 N. Main St., Freeport, N.Y. 11520.)
balance out the long and remarkable finale. The recording catches the piano-and-string chamber sound extremely well. Altogether, this is a record that has class, style, a good deal of thought, and a lot of poetry. E. S.

SCHUMANN: Three Romances for Oboe and Piano (see HINDEMITH)

RECORDING OF SPECIAL MERIT

SCHÜTZ: Psalmen Davids (1619): Psalm 136, "Donket des Herren" (SWV 45); Psalm 6, "Ach Herr, straf mich nicht!" (SWV 24); Psalm 23, "Der Herr ist mein Hirr" (SWV 33); Psalm 128, "Wohl dem, der den Herren fähretes" (SWV 30). Canzone, "Nun lob, mein Seel, den Herren" (Psalm 103, SWV 41). Adele Stolte and Reinhard Riedel-Pax (sopranos); Frauke Haasemann (alte); Bernhard Michaelis (countertenor); Hans-Joachim Rotzsch and Johannes Hoffeln (tenors); Wilhelm Pomerien (bass); Instrumentalists and Westphalian Choral Ensemble, Wilhelm Ehmann cond. NONESUCH H 7125 $3.98.

Performance: Great Recording: Excellent

Schütz wrote his settings of twenty-six Psalms of David between 1612 and 1619, shortly after he returned to Germany from his studies in Venice under Giovanni Gabrieli. They were dedicated to his new employer, the Saxon Elector Johann Georg I, and they were intended to duplicate the splendor of the Venetian antiphonal. They were composed in 1612, shortly after he returned to Germany from his studies in Venice under Giovanni Gabrieli. They were dedicated to his new employer, the Saxon Elector Johann Georg I, and they were intended to duplicate the splendor of the Venetian antiphonal style. Hearing the present selection of five (Psalm 103 is in fact done with two different accompaniments, one more elaborate than the other), one must conclude that Schütz learned his lessons very well indeed. Especially in light of what Schütz’s music was like later on in his life, when the ravages of the Thirty Years War reduced the size of the performing ensembles available to him, these Psalms are fantastically colorful and grandiose. Wilhelm Ehmann, the renowned Schütz authority and choral director who has given us so many magnificent recordings of this composer in the past, does so again here. In every way, from the spectacular pomp of Psalm 136 ("Give thanks to the Lord") to the tender warmth of Psalm 23 ("The Lord is my shepherd"), these are splendidly sung and played performances. The recorded sound is first-rate, stereo has been very well used, and complete texts and translations have been provided. This disc is very highly recommended. I. K.

SEIBER: Concertino for Clarinet and Strings (see TAURIELLO)

STOCKHAUSEN: Telemusik; Mixtur. Ensemble Hudba Dneska, Bratislava, Ladislav Kupkovic cond. DEUTSCHE GRAMMOPHON 43546 $5.98.

Performance: Electronic and electronically transformed Recording: Superb

A striking element in Stockhausen’s work of the last few years (derived from American sources, by the way, although this is never acknowledged) is the use of electronically transformed sound. Mixtur, first performed in November, 1963, is a work for orchestra (the version at hand is actually for chamber orchestra and was made in 1967). sine-wave generators, and ring modulators. The sounds of a woodwind group, a brass group, and two string groups are altered by the operation of four oscillators, whose outputs alter the orchestral sound in the ring modulators. The modulated, "distorted" version is heard on four loudspeakers at the same time as the live version—hence the title "Mixture." This is a long work—twenty-seven minutes—of the kind that used to be designated (in hushed tones) as uncompromising. Like many other of Stockhausen’s works, it stands out as a transition in a series of transitions: somewhere between serialism and a kind of "junk" music, a brilliant, dogged, intolerant, isolated work. Subsequently Stockhausen has moved on to other things. From an uncompromising "intolerance" he has turned to ecumenism and mysticism (also both "American" trends). Both are present in Telemusik, re- alized at the studios of Radio Nippon Hoso Kyokai, Tokyo, in 1966. Stockhausen, the most extreme case of the European "personality-cult" composers of Romantic tradition, talks about composing "not 'my' music, but a music of the whole world, of all cultures and races." Telemusik is apparently full of all kinds of Eastern and ethnic musics. I say apparently, because their presence is not obvious; only the harshest traces, heavily intermodulated with sweeping, crushing electronic sounds, are detectable. Their real significance is that of an almost unperceived force, subtly altering the course of surface events—a notion that comes across, to the listener straining to catch their echo, as it... (Continued on page 110)
From Angel in Chicago, more.

With Giulini, con amore.

Last year, for the first time, we recorded the Chicago Symphony under Seiji Ozawa in two spectacular albums. Rimsky-Korsakov's Scheherazade and Bartók's Concerto for Orchestra.

The opportunity meant so much to us, we erected our own equipment from Los Angeles flew in our engineers and producers from London and New York and Los Angeles.

Critics praised the recordings. More important, people loved them and bought them.

What do you do for an encore? More. This time, the magnificent Chicago Symphony is under the direction of its Principal Guest Conductor, Carl Maria Giulini.

Roger Dettmer of Chicago Today summed up their relationship: "Their rapport has been, truly, a love feast..."

Mention of the Chicago Symphony always brings from Giulini that most universally understood of all Italian words... "amore."

The music is from three remarkably diverse composers: Berlioz' "Romeo and Juliet," Brahms' Fourth Symphony, "Petrouchka" and "The Firebird" from Stravinsky.

We offer them to you, on record and cassette. From Chicago. From Giulini. From Angel. Con amore.
It sounds as if you bought something more expensive.

The SR-T390DK
8-track cartridge tape deck, $129.95

Most cartridge tape decks make you sit down and record all the programs right straight through.

Some decks compromise; they let you stop after the first and fourth programs, but that's all.

Now Standard brings you the ultimate in recording freedom, the SR-T390DK. It stops after each program, so you can record only as many programs as you want. Or it tapes all the programs continuously, if that's what you want. (It's the same on playback, you can hear individual programs or all of them.)

Naturally we have more good reasons for saying our SR-T390DK sounds more expensive than it is. The microphone jacks are up-front where they belong. There's an automatic stop indicator light, a pause indicator light, a record indicator light and program indicator lights. There's full-time Automatic Level Control, so every program is perfectly taped.

Wow and flutter are below 0.2% rms, THD just 1.8% at 1 KHz. The cross-talk is 50 dB at 1 KHz.

Why not drop into your Standard dealer and test-play our SR-T390DK for yourself. And notice the rich walnut grain finish; that's to make it look more expensive, too.

WAGNER: Götterdämmerung (see Best of the Month, page 85)

COLLECTIONS

RECORDING OF SPECIAL MERIT

TAURIELLO: "Ilme" for Clarinet Solo and Orchestra, GRANDJANY: Arias in Classic Style for Harp and Strings. SEIBER: Concertino for Clarinet and Strings.

James Livingston (clarinet); Taka Kling (harp); Louisville Orchestra, Jorge Mester cond. LOUISVILLE ORCHESTRA FIRST EDITION RECORDS LS 701 $8.45.

Performance: Very good
Recording: Good

One has to admire the way Jorge Mester has raised Louisville Orchestra performing standards and, at the same time, one has to deplore his weak choice of recording repertoire in the past. Fortunately this disc makes up for a great deal. Antonio Tauroielo is one of the most imaginative of the younger Latin-American composers, and his Ilme—vertigo—for clarinet, piano, percussion, violins, and basses is a remarkably affecting work. It is a striking and dramatic tonal fantasy, full of dark shadows and brilliant searing lights. Seiber, a Hungarian long resident in England, was known largely as a serial composer, but this attractive, Bartók-ish Concertino seems to date from an earlier phase. The Grandjany is a piece of potted-palm cheap whose presence on this record is inexplicable. The performances are first-rate, the recordings well made but hissy.

E. S.

RECORDING OF SPECIAL MERIT


Performance: Superb
Recording: Excellent

Something over a year ago, Philips released a collection of eighteenth-century overtures conducted by Raymond Leppard, which I reviewed extremely favorably in these pages. Here is the follow-up to that collection, equally sizzling in performance and every bit as entertaining as its predecessor. Once again, variety is the keynote, although most of the repertoire comes from the second half of the century. Earliest, chronologically, is an oratorio overture, from Alessandro Scarlatti's 1706 Il Giardino di rose. Is Alessandro dull? Not in this piece (Continued on page 112)
Whatever your requirements for recording and playback, Stanton's Series 681 cartridges are the calibration standard. And there is a 681 model engineered specifically for each of these critical applications.

The Stanton 681A—For Cutting Head Calibration

With Stanton’s Model 681A, cutting heads can be accurately calibrated with the cartridge, for it has been primarily designed as a calibration standard in recording system checkouts for linearity and equalization. Frequency response is factory calibrated to the most rigid tolerances and the flattest possible response is assured for precise alignment of recording channels. Implicit in this kind of stability and constancy is a reliability factor unmatched by any other cartridge for this application.

The Stanton 681EE—For Critical Listening

In critical playback auditioning, whether a pre-production disc sample sounds too “dead” or “bright” is largely a matter of cartridge selection. Here too, Stanton provides the evaluation standard in its model 681EE. In this application, the Stanton 681EE offers the highest obtainable audio quality in the present state of the art. It is designed for low-distortion tracking with minimum stylus force, regardless of the recorded velocity or the distance of the groove from the disc center. High compliance, low mass and low pressure assure perfect safety even on irreplaceable records.

All Stanton Calibration Standard cartridges are guaranteed to meet the specifications with exacting limits. Their warranty comes packed with each unit—the calibration test results for that individual cartridge.

For complete information and specifications write Stanton Magnetics, Inc., Terminal Drive, Plainview, L.I., New York.
he isn't, what with two trumpets in the fast movements and some wonderful harmonic suspensions in the slow ones. The latter, chronologically, is Cimarosa's delightful bit of stuff from a 1793 comic opera about Thracian lovers. In between are works by Locatelli (an "Introduction and Airs") which is really a concertino group, Boyce, Johann Christian Bach, Rameau, and Mozart. A few of these have been recorded before, but most will come as a pleasant surprise to listeners. The Mozarotean overture to J. C. Bach's Cantata in D Major, with Mozart's own D Major Symphony, not one of the numbered ones, but a combination of the Fiuta giardiniere two-movement overture with an added finale—Mozart having needed a symphony for Salzburg in a hurry.

Boyce, who usually wrote in a Handelian manner, is more individualistic in his Over- ture to the Cambridge Installation Ode of 1749; the occasion must have been a fairly serious event, Henry Pelham, then Prime Minister, having been made Chancel- lor of the university. Leppard has been es- pecially taken recently with French Rococo operatic or ballet scores and has recorded some fascinating examples of what French composers were doing orchestrally. None is more intriguing than the Rameau Overture to Zuri, a 'Heroic Ballad' of 1748. The pro- duction sets the scene most graphically for the awakening of the four elements. The scoring is quite extraordinary (muffled bass drum, piccolos, flute, oboes, bassoons, strings, and continuo), and the musical effect is, to put it mildly, bizarre, unlike anything one might expect in a French opera of the mid-eighteenth century.

All these works are performed to perfection by Leppard and his excellent chamber orchestra. Everything is played with great crispness, as is usual with the best British ensembles. There is also a keen awareness of drama and lyrical potential, and, not least, the contributions of the individual instrumental solos are outstanding. I might have liked greater prominence for the harpsichord continuo (Leppard sometimes lets the harpsichord fall silent), but otherwise I have no complaints. It is a gorgeously re- duced collection of excellent music, and is accorded first-rate sonic reproduction as well. I. K.

**RECORDING OF SPECIAL MERIT**


**DECCA DL 710172 $9.98.**


The subtitle of this recital—"Virtuoso Show- stoppers"—is no exaggeration. If the selec- tions seem unfamiliar even to those who regularly attend violin recitals, the explana- tion is easy: they are the kind of pieces even virtuosos shy away from. Every one of them abunds in technical demands of hair-raising difficulty. In fact, even Ricci cannot articu- late the left-hand pizzicato passages in Pag- anini's "Nel cor piu non mi sento." Vara- tions with perfect clarity, and if he can't, nobody can. He performs the sequence of harmonics in the Wieniawski piece in a staggering fashion, and turns himself into virtually a one-man orchestra in Paganini's God Save the King.

Ruggiero Ricci is a demonic fiddler, and this is a fun record. And it isn't all finger-busting fireworks, either. These violinist-composers may sometimes have seemed de- termined to prevent the virtuosos from play- ing their parts, but actually they wrote for the instrument with an affectionately idio- mast art. This is certainly evident in the heretofore virtually unknown pieces of Hein- rich Wilhelm Ernst (1814-1865). James Lyons makes a good job of these kinds of violin-writing in his annotations.

**BERTRAM TURETZKY:** The New World of Sound. Erickson: Recercar a 3. Piskes: 3 Bagatelles with Continuas. Childs: Mr. T. (Continued on page 114).
To call it "an amplifier" would be like calling a Porsche "Basic transportation."

There is unusual satisfaction that comes from fulfilling a prosaic task in a far from prosaic manner.

Hence this amplifying system: the Sony TA-2000 professional preamplifier and the Sony TA-3200F power amplifier. Together, they perform all an amplifier's standard tasks in a satisfying impeccable manner; but their 67 levers, switches, meters, knobs and jacks allow you to perform some interesting functions that are anything but standard.

**Dual-purpose meters.**

The two VU meters on the preamplifier front panel, for example, are no more necessary than a tachometer on an automobile. But they do serve the dual purpose of simplifying record-level control when the TA-2000 is used as a dubbing center, and of allowing you to test your system's frequency response and channel separation (as well as those of your phonograph cartridge), and to adjust the azimuth of your tape heads.

**A broadcast/recording monitor console in miniature.**

The TA-2000 resembles professional sound consoles in more than its VU meters. In addition to the 20 jacks and seven input level controls provided on its rear panel for permanent connections to the rest of your hi-fi system, the TA-2000 boasts a professional patch board in miniature on its front.

Thus, you can feed the inputs from microphones, portable recorders or other signal sources into your system without moving the preamplifier or disturbing your normal system connections in the least. And a front-panel Line Out jack feeds signals for dubbing or other purposes into an external amp or tape recorder, with full control of tone and level from the front-panel controls and VU meters.

The tone correction and filtering facilities are also reminiscent of professional practice, allowing a total of 488 precisely repeatable response settings, including one in which all tone controls and filters are removed completely from the circuit.

**The amplifier—no more "black box."**

A power amplifier can be considered simply as a "black box" with input and output connections, a power cord, and an on/off switch; and such an amplifier can perform as well (or poorly) as the next one. But in designing the TA-3200F Sony took pains to match the amplifier's facilities to the preamplifier's.

Thus to complement the TA-2000's two pairs of stereo outputs, the TA-3200F has two stereo pairs of inputs, selected by a switch on the front panel. Other front panel controls include independent input level controls for both channels, a speaker selector switch, and a power limiter (in case your present speaker should lack the power handling capacity of the next one you intend to buy).

**Circuitry unusual, performance more so.**

The output circuitry of the TA-3200F amplifier is of the Darlington type, with single-ended, push-pull complementary-symmetry driver stages supplied with both positive and negative voltages (not just positive and "ground"). This system eliminates the possibility of DC linkage to the speakers, so the amplifier can be coupled directly to the speakers, with no intervening coupling capacitors to cause phase shift, distortion or low-end roll-off. (A switch on the rear panel does let you limit the bass response below 30Hz if you should want to, otherwise, it extends all the way down to 10Hz.)

As a result, in part, of this unique approach, the TA-3200F produces 200 watts of continuous (RMS) power at 8 ohms, across the entire frequency range from 20 to 20,000 Hz; IHF Dynamic Power is rated at 320 watts into 8 ohms (and fully 500 watts into a 4-ohm load).

But more important by far is the quality of the sound; intermodulation and harmonic distortion levels are held to a mere 0.1% at full rated output, and 0.03% at the more likely listening level of one-half watt. The signal-to-noise ratio is an incredible 110dB. And the full damping factor of 170 is maintained down to the lowest, most critical frequencies (another advantage of the capacitorless output circuit).

The companion TA-2000 preamplifier also boasts vanishingly low distortion and a wide signal-to-noise ratio, but this is less unusual in a preamplifier of the TA-2000's quality (and price). What is unusual is the performance of the phono and tape head preamplifier circuits; for though they have sufficient sensitivity (0.06mV) for the lowest-output cartridges (even without accessory transformers), these preamplifier circuits are virtually immune to overload— even with input signals 80 times greater than normal.

**Their sole vice: they are hardly inexpensive.**

Of course, at a price of $329.50 (suggested list) for the TA-2000 preamplifier, and $349.50 (suggested list) for the TA-3200F power amp, this system cannot be considered other than a luxury. But then, it was intended to be. For there are those who consider fulfillment of prosaic tasks is unfilling. And among them are not only many of our customers, but also many of our engineers. Sony Corporation of America, 47-47 Van Dam Street, Long Island City, New York 11101.
THERE ARE TIMES AT JACK DANIEL’S when you can’t do anything but sit and wait. So that’s exactly what we do.

You see, every drop of Jack Daniel’s is gentled for days through ten-foot vats of finely packed charcoal. Called charcoal mellowing, this time-taking Tennessee process is the old, natural way of smoothing out whiskey... and there’s nothing a man can do to speed it along. After a sip of Jack Daniel’s, we believe, you’ll be glad the folks in our hollow are content to do nothing when that’s what’s called for.

CHARCOAL MELLOWED ▲ DROP ▲ BY DROP

TENNESSEE WHISKEY • 90 PROOF BY CHOICE
DISTILLED AND BOTTLED BY JACK DANIEL DISTILLERY • LYNCHBURG (POP. 384), TENN.

© 1970, Jack Daniel Distillery, Lenoir City, Prop., Inc.


Performances: Mostly good
Recordings: Variable

These records are important because they represent a kind of grass roots new-musical activity taking place in this country outside of New York. Bertram Turetzky and the Hartt Chamber Players (of which Turetzky is a member, and members of which assist him on his own record) have rarely appeared in the Big Town, but they are remarkable virtuosos, specializing in adventurous new music Turetzky has, all by himself, called into being a whole new repertoire for the double-bass, a repertoire of which he is an astonishing virtuoso exponent.

This is at least the third of Turetzky’s solo recordings—all for small labels—and it contains imaginative music in smashing performances. The Erickson piece is scored for three double-basses, two prerecorded, one “live,” the whole most intriguingly and evocatively put together. The Bagwell of Raoul Pleskow (the only one of these composers working in the New York area) are delicate little serial-type pieces. Barney Childs’ “M. T. His Fancy” is a very elegant solo work by an interesting composer who has, for many years, lived far from the great centers, teaching English in Arizona and running an experimental college in the desert mountains of Eastern California. This fanciful “Fancy uses both kinds of rapping—knocking on wood as well as talking and singing—as part of a big range of new techniques very subtly used. The flip side is the quieter and more traditional side (except for some of the Felciano) but pleasant nonetheless.

“Inner Chambers” is a curious collection with a mystifying and inappropriate title. Elliott Schwartz is a New Yorker who has taught in New England for almost a decade. Texture is a simple and highly effective chamber orchestral piece which mixes slidding glissando and cluster textures with tiny fragments of familiar music. Its companion is a longer, tougher, more highly worked, more abstract piece of chamber music with a surprising and quietly beautiful finish. Arnold Franchetti’s Chamber Concertino is worlds away in style but it would be unfair to the work’s elusive originality to call it traditional. What the Schoenberg Violin Phantasy is doing in this company is anyone’s guess. The rather delicate performance and very dry recording is easily matched elsewhere. Otherwise the performances are excellent. Recording varies from fair to good, but there are a few physical problems here and there—hiss and pressing noise.
a new standard of headphone excellence

PRO 4/DOUBLE A

wait until you hear 'em!

The Koss Pro 4/Double A is all new from sound element to headband. It looks better and feels more comfortable, but the greatest improvement is in the sound. Your dealer has it. Ask him for a demonstration. The specs are great, too. If you're interested in those, ask us for 16-page, full color brochure.

KOSS ELECTRONICS INC. / 2227 N 31st Street / Milwaukee, Wis. 53208

OCTOBER 1970
Sony takes you into 4-channel from only $479.95

See them now at your Sony/Superscope dealer.
BRIAN AUGER AND THE TRINITY: Beforé, Brian Auger and the Trinity (vocals and instrumentals). I Wanna Take You Higher, Paradoxe: No Time to Live, Maiden Voyage, Listen Here, Adagio per Arche e Organo. Orst Vinyl, Just Me. RCA LSP 4372 $4.98, © PsS 1600 $6.95. © PK 1600 $6.95.

Performance: Very good

Recording: Excellent

This recording seems to have been dashed off with such effortless grace, and have come out so well, that one wonders just what Brian Auger and the Trinity are really capable of. They will, I am certain, produce still better recordings, although this one is more than satisfactory. One way to improve on it would be to write tighter arrangements, for neither of the lead instrumentalists—Auger on organ and Gary Winston Boyle on guitar—improvises well enough, I feel, to take the long solos featured here. Auger on piano is quite another matter; he has valid jazz credentials, and his piano improvisations are slightly understated, with that inimitable sense of timing that comes only after the dues have been paid.

Let me not leave any wrong impressions about Gary W. Boyle. He plays some of the most beautiful guitar I've heard as the band turns Gabriel Fauré's Paradoxe into a nice little rock tune, and also on the following piece, the Traffic's song, No Time to Live. On the latter, Auger, wanting to feature Boyle, keeps the organ—characteristically dominant in the band's sound—in a back-up role through most of the song. His back-up rhythms, it turns out, are even better than his lead work, and when he does take a long solo on that song, the organ sounds better than on any of his other solos. It's as if he is being rewarded for his modesty. It's a beautiful cut.

The recording contains one other outstanding selection, Albinoni's Adagio per Arche e Organo, and again it's outstanding because the organ and guitar are well-directed and not allowed to ramble. Sly Stewart's I Wanna Take You Higher is done up very well. But an experiment, frankly labelled as such by Auger, was a bad show. He used four drummers for Listen Here, subdividing the basic drum into four parts. The drum parts come off all right, but the guitar and organ solos grow monotonous.

But it's a fine, if somewhat enigmatic, recording (having really excellent, made-in-Canada, non-Dynagroove sound) and an important one to have if you're following the growth and development of this talented band.

N. C.

ERIC CLAPTON. Eric Clapton (vocals and instrumentals); Leon Russell (piano); orchestra, Delaney Bramlett arr. Slucky, Bad Boy, Lonesome and a Long Way from Home, After Midnight; Easy Now; Blues Power; Higher; Pavane; No Time to Live; Maiden Calls and Instrumentals). Before.

Performance: Pretty good

Recording: Good

This recording is so chock full of talent it can't miss. It. And I think that's a terrible waste of Eric Clapton's potential. Clapton has repeatedly shown he has his finger on a new musical form of blues, but for the moment he has settled for commercial success via the currently appealing vein of country music overlaid with a heavy rock-blues tempo. This record is so chock full of talent it can't miss as a must in any young kid's collection of dance discs. Maybe, soon, Clapton will have the security to stand alone and bring out an album that truly deserves the title "Eric Clapton."

R. R.

RECORDING OF SPECIAL MERIT

JOHN DENVER: Whose Garden Was This? John Denver (vocals, guitar); instrumental accompaniment. Tremble If You Must, Sail Away Home, The Night They Drove Old Dixie Down, M. R. Bogart's, 1 Wish I Could Have Been There (Woodstock), Whose Garden Was This?, The Game Is Over, Eleanor Rigby, Old Folks, Golded Slumbers/True, Sweet Life/Tremble If You Must It, Jingle Bells. RCA LSP 4414 $4.98.

Performance: Mellow

Recording: Very good

Uncluttered arrangements, good songs, clean delivery, and a delicate evocation of theme make this John Denver's best recording to date. The theme of the album has to do with qualities we have lost, the program being constructed around the imagery of Tom Paxton's song Whose Garden Was This?—humanity and beauty being sacrificed to "progress." It revolves around Tremble If You Must, which appears as a sort of introduction and epilogue. Denver could have chosen a number of easier things to do—one false move and all this would have turned to mush. Or it could have turned out like so many of the recent 'nostalgia' recordings that take a patronizing look at the Funky Old Past. It comes down to what kind of person one is when he is trying to make (Continued on page 120).
The most sophisticated

AUTOMATIC REVERSE

ROBERTS
MODEL S915

ROBERTS
MODEL 150D

ROBERTS
MODEL 120

STereo Review
stereo cassette system ever built!

Featuring ROBERTS MODEL 150D Stereo Cassette Tape Deck with Exclusive INVERT-O-MATIC Automatic Reverse Recording and Playback

Flawless full fidelity—a superb achievement in cassette performance—is now possible with the Roberts 150D. Custom-engineered for professional quality sound, the 150D has a frequency response of 30 to 16,000 Hz, comparable to fine open-reel recorders. And its exclusive INVERT-O-MATIC system provides two hours of uninterrupted play or record by automatically reversing the tape. Automatic shut-off, automatic stop, automatic reverse and convenient slot-loading are just a few of the features adding to the desirability of the Roberts 150D stereo cassette tape deck as an important adjunct to the home high fidelity system.

ROBERTS MODEL 120 AM/FM MULTIPLEX STEREO RECEIVER
...a masterpiece in craftsmanship and design... delivers 100 watts of music power. Has two tuning meters—one for AM/FM signal strength, one for FM station-centering. Built-in ferrite bar antenna can be moved for best signal reception. Two speaker system has specially designed speaker selector and output terminals. FET provides superior FM sensitivity and high image rejection. Power bandwidth (IHF) 20 to 30,000 Hz.

ROBERTS MODEL S915 HIGH EFFICIENCY SPEAKERS
...meticulously designed for the tape recorder user Has brilliance and sound depth for authentic high fidelity stereo. 10" woofer and 3-1/2" tweeter. 25 watts. 8 ohms. 50 to 17,000 Hz response.

For complete information, write

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

OCTOBER 1970

CIRCLE NO. 43 ON READER SERVICE CARD
something like this come out right, I guess. The way Denver does Mr. Bojangles, with no apology for emotion but without sniffling either, is a clear-cut example of why the album is successful.

The recording has its ultra-bright spots—and its flaws, of course. Whose Garden Was This? is eminently suited to Denver’s vocal style and is the song that comes out best, and he’s more at home with his own Sail Away Home and I Wish I Could Have Been There (as songs go these days, they are excellent and good, respectively) than with some of the others. I think he should stop doing Beatles songs. Golden Slender (for which he has written an interesting melody) is done in a folksy, understated way and just isn’t staged right, and his voice and the arrangement seem wrong for Eleanor Rigby (it doesn’t do much for the album’s theme anyway).

But the collection is more than satisfying. Denver continues to find excellent songs, to build a varied yet integrated musical essay, and to sing and play clearly and directly. If you value honesty and taste, try this. N. C.

RECORDING OF SPECIAL MERIT
DONOVAN: Open Road. Donovan (vocals and guitar), Open Road (vocals & instrumental); Changes, Song For John, Curly Land, Joe Beauty’s Thmen, People Used To, Celtie Rock, and six others. EPIC 50125 $4.98.

Performance: Top-notch Donovan in a new setting
Recording: Very good

Alas. A lot of people are concerned with two things when they shop for an automatic turntable. How it performs (which is good) and what-will-it-Harry-think-of-this-baby? (which is bad). The BSR McDonald 610/X is really a great turntable. It’s got a synchronous motor, dual-range anti-skate control, viscous damped cue and pause, and more.

What’s more, it’s what we call a Total Turntable. That means you get a Decromatic power base ($15 option elsewhere), our deluxe dust cover (likewise for $7.50) and a Shure M-93E elliptical magnetic cartridge (it lists for $40) all included in one low price. So while our price may seem the same as their price, it’s not.

BSR
McDonald

If your 610/X doesn’t impress your friends, maybe you need new friends.

As of this writing, Donovan has decided to maintain Open Road (with John Carr on drums, Mike Thomson on bass and guitar, and Mike O’Neil on piano) as a regular accompanying ensemble. Actually, it’s more than that, since all the guys sing and Donovan frequently uses them for background vocal coloration as well as instrumental backing. He calls it “Celtic Rock.” So be it.

Donovan has the extraordinary knack that all gifted song writers have of producing melodies so instantly ingratiating that you remember them from the very first time you hear them. Changes, for example, has been played a lot lately on FM radio, and I keep thinking it’s an old Donovan tune; it isn’t, but it’s a bloody good one. And Season Of Farewell is not, as one might expect, anything at all like Season Of The Witch; it is rather more reminiscent, in fact, of the Beatles. I wonder: if Donovan isn’t taking a rather sly poke at his contemporaries—especially given the current status of their canonaderie—Donovan’s stunning little turns of phrase are everywhere:

... soft and sensual sunset/somer set maugham fun set, let me not hear facts figures and logic/fain would i hear lore legend and magic.

He even takes a sturdy swipe at the Catholic hierarchy in Poke at the Pope. Donovan didn’t make many friends for himself in the youth underground last year when he came down hard on any kind of drug usage. Whatever one’s opinion of his opinions, however, he can’t be overlooked as a major performer. There are plenty of superstars around these days, but they still haven’t eclipsed Mr. Leitch. D. H.

BOBBY GOLDSBORO: Muddy Mississippi Line. Bobby Goldsboro (vocals, guitar, piano, keyboards, and vocals), Don Tweedy arr. Lodi; Jean, Everybody’s Talkin’, Proud Mary, Time Good, Time Bad, Mornin’, Mornin’; Lisa War; and five others. UNITED ARTISTS UAS 6735 $4.98, U 6733 (33 1/3) $6.93, U 8174 $6.98, K 0174 $6.98.

Performance: Detached
Recording: Good

Was this recording necessary? The arrangements Creedere Clearwater Revival used on Lodi and Proud Mary were already available on other CCR recordings. Available also on originals were the arrangements Nilsson used on Everybody’s Talkin’, Oliver used on Jean, Joe South used on Don’t It Make You Want To Go Home, and so on. Apparently reluctant to tamper with a good, or at least commercial, thing, the makers of this bomb took full advantage of the fact that nobody can copyright an arrangement. The one used on Sweet Caroline is almost note-for-note the same as the one that Neil Diamond had used on the song. There is a major difference, though: Neil is about nineteen times the singer that Bobby is. Four Goldsboro compositions are heard here (with presumably original arrangements), and only one is impressive—Broomstick Cowboy. That’s the only song on the disc that Goldsboro the singer seems to care about anything. And then he wrote Graveyard Of My Mind. That’s right, Graveyard Of My Mind. Honestly, ever since John Hartford got away with a few cornpone metaphors, every do-it-yourself songwriter this side of Little Rock is combing the cowbells of his soul for outlandish imagery. I plan to file this recording with little ceremony, in the Dempsey Dumpster of my mind. N. C.

GRATEFUL DEAD: The Workingman’s Dead (see Best of the Month, page 88)


Performance: Hollies over the hill
Recording: Very good

The Hollies of old are gone. About the only memorable item here is the title track, a vaguely inspirational tear-jerker extolling the virtues of loyalty. He Ain’t Heavy, He’s My Brother has been on the charts ever since the record’s release, and undoubtedly will bring some new prominence to this somewhat patched-up edition of the Hollies. Not much else, here, though. Much of it, in fact, comes perilously close to bubble-gum music (listen to You Love ‘Cos You Like It for a prime example). Who would ever have expected the Hollies to be in competition with The Archies? D. H.

RECORDING OF SPECIAL MERIT
IAN AND SYLVIA: Great Speckled Bird. Ian and Sylvia Tyson (vocals); instrumental accompaniment. Love What You’re Doing Child; Calgary; Trucker’s Cafe; Long, Long (Continued on page 122)

Send for free full color catalog on all our automatic turntables. BSRUSA Ltd., Blauvelt, N.Y. 10913

CIRCLE NO. 9 ON READER SERVICE CARD

CIRCLE NO. 14 ON READER SERVICE CARD
The newly developed pressure-sintered ferrite record and playback heads in the Concord Mark III tape deck carry a 25 year guarantee. These diamond-hard heads maintain their original high standard of performance longer than any others. There's no significant headwear, no deterioration in frequency response or signal-to-noise ratio — even under conditions of constant use.

But, there's more to recommend the Mark III than just the heads. The hysteresis synchronous drive motor assures a speed accuracy of 99.7% with line voltage variation of from 100 to 128 volts. Three heads with a 2-micron gap playback head deliver a 20 to 27,000 Hz response. It has advance-design IC preamplifiers — four of them. A unique flip-up head cover for easy access, and head-gap position markings for precise editing. Dynamic muting suppresses hiss. The tape transport mechanism assures a fast start-up — you don't miss a note. Two tape tension arms stamp out burble. A special flutter filter eliminates flutter due to tape scrape, cogging action. Consider these capabilities — sound-on-sound, variable echo, cue/pause control, independent record-indicator lights for each channel, and two calibrated VU meters. The Mark III, under $250. The Mark II, under $200 is similar to the Mark III except that it has ferrite erase head and high-Mu laminated recording and playback heads.

The top-of-the-line Mark IV has all of the performance quality and convenience of the Mark II plus dual capstan electronic automatic reverse and continuous play, no metal foil or signal required on the tape. Under $300.

Today, buy the tape deck that you'll still be enjoying in 1995. For free Concord Comparison Chart, write to: Concord Electronics Corporation, 1935 Armacost Avenue, Los Angeles, Calif. 90025. Subsidiary of Ehrenreich Photo-Optical Ind., Inc.
Kristofferson's charm eludes me. He sounds just a bit too much like a second-string Cash singing second-string John Hartford songs. With some exceptions—especially a moving, on-the-road story called Me and Bobby McGee. Kristofferson may very well turn out to be as large a talent as his already large reputation would have us believe. But I'm still from Missouri.

D. H.

THE ME Nobody Knows (see Best of the Month, page 87)

THE NAKED CARMEN (adapted from Bizet by John Corigliano, Jr., and David Hess). David Hess, Melba Moore, Robert White, Anita Darian, William Walker, George Turner, Mary Bruce and Her Stardubs, Pig Iron (performers); John Atkins (piano), orchestra, John Corigliano, Jr.

There are very funny things. The Flower Song as a scat歌老 Nelson Eddy record. The Detroit Symphony Orchestra accompanied by Anita Darian on kazoo. The Carmen Fantasette recorded live by John Atkins with studio audience. Mary Bruce and Her Stardubs complete with tap dance (but who is making fun of what?). A quotation from the liner notes: "Suddenly, Carmen is seen, not as a tragic opera, but as a dramatic confirmation that there is, indeed, more than one way to live." Yes indeed.

My wife Iona thinks the whole thing perfect in every way to Carmen, but then she hates Carmen. Her main complaint about the disc was that there wasn't very much of Bizet in it anyway. But then there wasn't much of anything in it, except perhaps some (Continued on page 126)
When your top-of-the-line stereo receiver has won accolades from all the pros, what do you do for an encore? KENWOOD replaces the TK-140x with an even better model—the KR-6160... with more power, great specs, and more luxury features, such as: terminals for 3 sets of stereo speakers, jacks for 2 sets of record players, 3 tone controls, new signal strength meter and FM tuning meter. New styling! AND the most imaginative innovation of all: microphone mixing with supplied dynamic microphone with front panel mic input jacks and sound level control.

Specifications:
- Power Output at 4 ohms, 260 watts ±1 dB
- Dynamic Power Output (IHF), 220 watts at 4 ohms; 180 watts at 8 ohms
- Continuous Power Output (per channel), 90/90 watts at 4 ohms; 70/70 watts at 8 ohms
- Harmonic Distortion, 0.5% (rated output)
- IM Distortion, 0.5% (rated output)
- Frequency Response, 15-40k Hz, ±1.5 dB
- Power Bandwidth (IHF), 12-30k Hz
- Input Sensitivity: PHONO, 2.5 mV; AUX/TAPE PLAY, 180 mV
- Hum and Noise: PHONO, 65 dB; FM: IHF Sensitivity, 1.6 uV
- Signal-to-Noise Ratio, 68 dB
- Capture Ratio, 1.5 dB
- Selectivity (IHF), 55 dB
- Stereo Separation, 35 dB
- AM: Sensitivity, 15 uV
- Price: $379.95

KENWOOD 15711 So. Broadway, Garden, California 90247
72-02 Fifty-first Avenue, Woodside, New York 11377
Dear Bill:

Sorry I didn't get back to you sooner, but I had to go up to Saratoga for a few days and naturally left my notes at home. As instructed, I caught Ike and Tina Turner's act at Grossinger's stately pleasure dome in the Catskills.

The performance I saw is going to be used as part of Milos Forman's new film S.P.F.C. He's the Czech director who made Loves of a Blonde and Fireman's Ball. It's his first American film. Buck Henry and Lynn Carlin (the girl from Faces) are the stars. Forman had planted them both in the audience at a table. The rest of the audience thought that only the show itself was being filmed. Actually Forman had filmed an identical show that afternoon in the empty house and was more interested now in getting the Henry-Carlin reaction scene. Carlin was supposed to be drunk, and she was doing such a convincing job of it that people at the surrounding tables were frowning in disapproval. There was no letdown on the Turners' part, however. It was still a roaring show.

Before the performance, things were surprisingly matter-of-fact backstage. Tina had just come out of the hospital after pneumonia, and this was to be her first performance since. The Ikettes were already there practicing their grinds with each other while the band drifted on stage. They were breaking in a new Ikette that night, and she was trying to listen to all the advice being given her by the other two while fingering the curlers at the ends of her wig. Tina arrived in fur coat and auburn wig, and the Ikettes snapped to attention. Tina took the new girl aside, showed her a few steps, and told her where to be on stage during the act. Then she retired to the john and came out without the fur coat and with brighter makeup. She stood at the side of the stage with the Ikettes lined up behind her—three sequined penguins: "Don't forget to shake a lot." The new girl is already shaking herself almost out of her panty hose. They are announced, and Tina pounces on stage followed by the wailing Ikettes.
Three quarters of an hour. A wild, tearing show, a real, live, professional act. Tina doesn’t talk very much, but when she does it’s earthy. Yet the act is all very healthy—along with that slightly androgynous quality so many great cabaret performers seem to have, Tina has humor in style and delivery. There are three islands of entertainment going at all times. Tina is the center, but there’s also Ike’s guitar and the frantic Ikettes—Buster Brown bangs and Busby Berkeley choreography. Every number has a clean edge—no tentativeness—they know what they’re doing. No wonder they’re a revelation to younger audiences.

The end is really effective, in a hokey way. They use a flickering strobe light that gives the feel of an old-time film—the action on stage seems to be a series of “freeze” shots in a rhythmic pattern.

After the show we all gathered at a table in the coffee shop. Tina eats a lot. “I’m eight pounds under my weight since my pneumonia.” Ike is a serious, polite man deeply concerned with trying to make the right kind of record to show them off. He feels that their last effort (“Come Together”) was good, but that they can do better. They met and married in 1958 and they have been performing together since 1960 when they had their first hit (“Fool in Love”). Ike feels that part of their current success comes from the fact that “People are tired of the electronic thing. Sounds can’t substitute for real feeling.” He’s relatively a little more earthy. Yet the act is androgynous quality so many great cabaret entertainers, such as Josephine Baker—must have looked like to white audiences.

Ike’s biggest ambition is to have the Turner revue draw as large numbers of people to their concerts as the Stones (with whom they toured) are able to. If so, he thinks it will mark a real black breakthrough—not even Aretha Franklin now draws anywhere near the same size audiences as the white groups do.

They play Vegas a great deal, and Ike claims that they do a different show every night. He sizes up the audience during the first number and then alters the repertoire according to its composition. When you think of the amount of activity that goes on during their performances, this ability to stay loose can only come from the kind of professionalism that takes years to develop.

A lot of Tina’s frantic sex style comes from the time when Ike, teasing her on stage, went on repeating choruses instrumentally long after Tina had finished her singing. So she grabbed the mike and started to wail. The song was “I’m in Love with You Too Long,” which they still do.

One thing should be said about the naivety of the act. The choreography, the flashy posed finishes (in one number Tina winds up standing like a triumphant Statue of Liberty while the Ikettes cluster around her dazed with admiration), and the outrageous costumes are what would be considered very grand indeed in raunchy black clubs around the country. But it is probably just this honest, unself-conscious gaudiness and freedom that appeals to the kids. It also definitely appeals to Europeans, who still, by and large, tend to think of blacks as amusing, incredible, and “sauvage.” (Tina: “Oh, honey, we’re very big in Paris. They got pictures and posters of us all around. We had a great offer to play the Olympia.”) That’s probably why Forman chose them for the film. His films are generally about “little” people trying to work out their limited ambitions within the framework of lower-middle-class society, the sort who would envy “the freedom of the Negroes.” (The other side of this coin is Tina’s comment: “When we were on tour with the Stones I used to see Mick Jagger standing in the wings trying to copy my shake. He could never get it!”)

It is the kind of act that a few years ago would have been sneered at by Negro (and other) liberals and equated with Amos and Andy. It is light years away from the sort of “white” black performers, such as Belafonte, Horne, and Diahann Carroll. The Turners are truly “funky.” The total abandon of all the females onstage (Ike is a little more uptight both on and off) and their obvious pleasure in exhibiting themselves gives you an idea of what the first wave of black entertainers—such as Josephine Baker—must have looked like to white audiences here and in Europe.

During the interview Tina was definitely holding court. She sat at the head of the long rectangular table; I was on her right and Ike on her left. No one sat at the other end. Although Buck Henry, when he joined the table, made a half-hearted try at sitting cater-corner, he eventually slid over to one side. Milos Forman and the manager also sat along the sides. Henry had a distracted, abstracted, rather displeased air and perched on his chair clutching a thick book. He had the unhappy, vulnerable look that actors often assume in the middle of shooting. It generally means they aren’t getting enough attention. Even with his extensive screen-writing credentials (The Graduate, Catch-22), he seemed to be holding the book defensively as if to prove that as a literary man he was above all this.

Forman is a bit of a hustler for himself—understandable; he couldn’t have accomplished what he has in his business without it. He has a gallery of listening expressions with which he would respond to Tina’s answers to my questions. Mostly he sat there with a Father-of-us-all air, intent on showing adequate appreciation for everything she said, but at times he would switch to fond amusement, as when Tina said, “Josephine Baker comes from St. Louis too? What was her hit? Was she jazz or swing? Wait a minute! I don’t think I ever heard of her.” At one point he suggested that they tour behind the Iron Curtain because the people would love them so. The facial accompaniment to the suggestion implied so much concern for the Turners, their talent, and all those lovable Poles, Czechs, and Bulgarians panting for their unique gifts, that it could only be equaled by someone like Jane Fonda on one of the talk shows, terribly “concerned” for the plight of the American Indian and almost sobbing into her St. Laurent “Indian” fringe outfit.

Tina’s reaction to the tour suggestion was typical: “Why, sure, honey, I’d love to. Who would we get in touch with about booking us?” Forman’s concern obviously didn’t descend to such mundane levels as booking agents, and he switched the subject to a film he had made about young people who were auditioning for a rock group. Tina had had enough of that by about the second sentence, and she switched to the time when Ike was auditioning Ikettes in Los Angeles and how bad so many of them were.

About that dress (it’s featured in the ads), Tina: “We went shopping on the Clamps Elysees, and in this little shop I saw this dress. So I bought it, and I bought fourteen others and two pairs of shoes. When I first wore the dress in front of an audience I saw them freeze. Then about halfway through they realized that I had a body stocking on underneath.” Ike: “She’s completely covered. But anything I hate and that looks ugly is a brassiere sticking out of a dress.” Tina: “You know, some places where we’re booked I get specific requests for that dress.” Well, see-through and body stocking or not, the pubic hair (or at least a cache-sexe) does seem to be visible in the photographs.

I have some other material, but it doesn’t seem very relevant to the Turners after looking it over. All best,
Lowest of the LOW!
Shamelessly Low Prices...

As one of America's largest wholesale distributors, we're guilty of shamelessly low prices. Our buying volume has made our prices the lowest. We seriously doubt you can find one lower... and that we're proud of. What's more, at S.C.A., you can select from hundreds of NEW, Factory Sealed, Full Warranty, Brand name, Hi-Fi Stereo components. If its in the Hi-Fi, Audio field... we have it!

Write for a lowest of the low quote...we're not ashamed.

STereo Corporation of America
2122 Utica Avenue, Brooklyn, New York 11234 (212) 338-8555

CIRCLE NO. 56 ON READER SERVICE CARD

FREE McIntosh CATALOG and FM DIRECTORY

Get all the newest and latest information on the new McIntosh Solid State equipment in the McIntosh catalog. In addition you will receive an FM station directory that covers all of North America.

MX112
FM STEREO/AM TUNER PREAMPLIFIER
- ALL SOLID STATE

McIntosh Laboratory Inc.
1 Chambers St., Dept. SD7
Binghamton, N.Y. 13903

NAME

ADDRESS

CITY STATE ZIP

SEND TODAY!

CIRCLE NO. 34 ON READER SERVICE CARD

parodies of different styles of pop music. The whole thing was cooked up by a couple of execs at Mercury. "The kids aren't listening to classical music anymore." "We've gotta bring the classics up to date for the kids, right?" Actually they are probably Carmen-haters too.

This is one of the most elaborate productions of recent memory—complete with multi-track mixing, marijuana-cigar wrappers, gate-fold booklet inserts, and color montage代理. It cost a lot of money to put it together... more than I like to think about.

Carmen Jones, anyone? Eric Salzman

RECORDING of SPECIAL MERIT

ESTHER OFARIM. Esther Ofarim (vocals), orchestra, Klaus Doldinger, Wally Scott, Boris Joic, Eridi Fossi arrs. Sometimes in Winter; You Know Who I Am; Sheebachovet; God Bless the Child; Stro Core Mud; Bird on the Wire; Canción de Cuna para Dormir a un Negrito, Moon of Alabama; Pont Sétéri (In Hunanaise); Don't Pass Me By; Go 'Way from My Window; Saturday Night at the World; Partisan. Philips PHS 600343. $9.48.

Performance: Perfection of every turn Recording: Excellent

Hearing Esther Ofarim for the first time is like finding a soft blue letter postmarked from Spain in the daily mail. You linger over it for a few seconds, anticipating its contents, and smile as each word fulfills your expectation. Your day is made. You are the fortunate receiver of a love letter, one you never expected, but are glad to have. Miss Ofarim has a crystal-clear silvery voice that lifts out of her throat with seemingly effortless buoyancy. She has the best qualities of Baez without the guitar-strumming hokum that almost always ruins those girl singers who do "folk." Esther is not a folk singer; she's not a pop singer. She's not of the musical comedy genre, nor is she a chanteuse. She simply sings, with heart, taste, phrasing, and an immaculate vocal instrument.

The selections, which are superbly chosen for contrast, include some nice songs and boast the talents of no fewer than four arrangers. Too many cooks have been known to produce an uneven chef-d'oeuvre, but this album spins sweetly and evenly from opening to closing, done to perfection on both sides. Esther chooses her material from an eclectic roster of composers with the assurance of a French housewife in a wine shop. When she is finished, her shopping sack is filled with the best musical potables today can offer: by Leonard Cohen, S. Katz, Kurt Weill, Mason Williams, and others.

My favorite numbers are Sometimes in Winter, God Bless the Child, Bird on the Wire, Canción de Cuna para Dormir a un Negrito, and an incredibly vital arrangement of Weill's Moon of Alabama, by Klaus Doldinger. From bitter Berlin through the ironies of today to the raw poverty of South America in one trip, Esther accomplished with loving care. I'm so glad Esther and everyone else cares so very much. This record has made my month. Make it make yours. R.R.

RECORDING of SPECIAL MERIT

PENDYRUS MALE CHOIR: Wales, Land of Song. Pendyрус Male Choir (vocals):
Beverley Humphreys (soprano); Bryan Davies (piano); Graham Elliott (organ); Glynne Jones cond. Llef; Suo Gân; Y Fedwen Arian: Anthem of Challenge; Laudamus; Great Is Jehovah (Schubert); Stândchen (Schubert); Sanctus (Cherubini). Gyseg Di (Davies). LONDON SW 99527 $4.98.

Performance: Stunning choral group
Recording: Superb

Mention of the music of Wales usually sends me into the state of benign stupefaction induced by one of those British short subjects in which a children's choir sings in an incomprehensible language while pictures of pockmarked landscapes and collieries and the apathetic families of out-of-work miners are reeled off. One ends up struck by how grey, rather than green, those valleys are, despite the efforts of the Forestry Commission. All this is to anticipate any prejudices I may share with my readers and to assure them that the Pendyrus Male Choir is in another league.

They seem out, in fact, to lick the invincible Red Army Chorus on their own home ground, and if you think this is exaggerating, just listen to them hurling their energies and glowing voices into Y Fedwen Arian, which turns out to be Welsh for See the Little Birch in the Meadow, once the staple of the Red Army singers' spectaculars. There are only two Welsh folk songs on the whole program—Llef and Suo Gân—and both of them are blessedly free of the usual drab church harmonies. The rest is Schubert, Cherubini, and a vaulting, extended Anthem of Challenge by Mansel Thomas that should storm any heavens within range. Gyseg Di (whatever that means), another forceful and exalted hymn, closes the proceedings in a religious vein. The concert was recorded in Llandaff Cathedral in Wales when the group was in particularly high spirits following a triumphant tour of Canada, and the sound is nothing less than glorious.

P. K.

RECORDING OF SPECIAL MERIT
MIKIS THEODORAKIS: In a State of Siege. Maria Farandouri, Antonis Kaloyanis (vocals); Orchestra, Evdoros Demetriou cond. POLYDOR 24 4503 $5.98.

Performance: Superb
Recording: Fine

If, a year ago, anyone had told me that the choral movement of the Beethoven Ninth Symphony would become a pop hit, I would have given him a free Miliza Korjus album and sent him on his way. It just goes to show how wrong you can be. This year is my turn: I recommend this disc earnestly, truthfully, and soberly, and predict that cults are going to be formed around it. "In a State of Siege," with music by Mikis Theodorakis and words by "Marina," is so exciting and unusual an album that, once listened to it is impossible to forget; on each replaying it seems even more hypnotic. What is it? It is an oratorio-suite-rhapsody sung completely in Greek. It is also blatant protest propaganda against the current Greek army junta. Not your taste? Well, try it. Theodorakis, who was recently released from captivity by the Greek government, wrote it during his internment. He is best known for his film scores, the most recent of which was for the award-winning Z. "Marina" must be

It's the new Kodak Instamatic X-90 camera. Does more of everything for you. Automatically. So you don't have to. And it uses the new Magicube Type X, for flash. The kind that doesn't use flash batteries. So you don't have to worry about them, either.

All sorts of things happen automatically when you drop the film cartridge into the new X-90. It automatically advances the film to frame #1. And to the next frame, after each picture. Automatically sets existing light exposure by electric eye; sets flash exposure as you focus. Automatically warns you when to use flash. And when you need to change a used-up Magicube. All this automation comes with a computer-designed f/18 Ektar lens of unusual sharpness. See the new Kodak Instamatic X-90 at your photo dealer's. Less than $145.
someone who was interned with him: hence the quotation marks. They are both artists.

The music starts out as an ominous minor-key suite with a strong Mediterranean feeling, as if you were standing on the shore of one of those idyllic Greek islands but saw dark clouds scudding in from the sea. Then the voice of Maria Farandouri enters with all the passion and fire of a people in revolt. She is soon joined by Antonis Kaloyannis, who sounds more conventionally Greek—fiercely independent—than even such a people in revolt.

A complete translation of Marina's fiery text is provided, and it is both moving and stirring. The orchestra is superbly conducted by Evdoros Demetriou, and the orchestrations by Yiannis Markopoulos are beautifully crafted. "In a State of Siege" is protest as art, something we might start thinking about here in the States. It is a serious album about a serious subject, but it is also wonderful music.

P. R.

COLLECTIONS

RECORDING OF SPECIAL MERIT

EARLY BLUE GRASS. Jimmy Martin and the Osborne Brothers; Lonesome Pine Fiddlers; The Monroe Brothers; Wade Mainer; Morris Brothers. Salty Dog Blues; Little Bitty; Goin' to Georgia; No Cove Service; Pretty Polly; 20/20 Vision; and eight others.

RCA @ LPV 569 $4.98.

Performance: Interesting

Recording: Serviceable

RCA's Vintage Series is performing a valuable service with their continuing release of early country-and-western music. "Early Blue Grass," the latest addition, is the best disc in the series since "Dust Bowl Ballads" by Woody Guthrie. Like the Guthrie album, although to a much lesser extent, it has great pertinence for today's young performers and listeners; both are good surveys of the roots of current styles, Guthrie's of the school that began with Bob Dylan, 'Early Blue Grass' of the avalanche of pseudo folk-lore that is currently inundating the pop field.

Essentially, bluegrass is a folk-rooted music developed by the mountain people of the mid-South, extending from the Ozarks to the Appalachians. Most of the material here was recorded in the Forties and Fifties, and though none of the groups has the bounce or flash of Flatt and Scruggs, who really brought bluegrass sound and style to the attention of the young, their score for the phenomenally successful movie Bonnie and Clyde, they do capture strongly the flavor of the music.

The real value of this album may lie apart from the actual performances. The mountain people are fiercely independent and as tribal in outlook as many of today's young people, and their music reflects these traits perfectly. Also, it is simple music, and is generally performed by small groups in a style that is rigid and at the same time improvisatory: rigid in form and improvisatory in execution. These qualities are present in the work of many of the better groups in contemporary pop. I recommend this disc highly to everyone interested in native American music and most particularly to those who are themselves interested in making music, be it with a guitar or a Moog. P. R.

RECORDING OF SPECIAL MERIT

DIZZY GILLESPIE: The Real Thing. Dizzy Gillespie (trumpet), various groups. N'Bombi; Matrix; Alligator; Closer, Soul Kiss; and four others. PERCEPTION PLP 2 $4.95.

Performance: Bebop alive and well

Recording: Good

This past summer I taught a course in jazz history at a New York City college. The most valuable result, for me, was a reaffirmation of my humility in the face of this marvelous music that I know so much about.

More to the point, I realized, in listening to many, many records over a very short period of time, how brilliant the major jazz talents really are. Louis Armstrong, Sidney Bechet, Billie Holiday, Lester Young, Dizzy Gillespie, Charlie Parker, John Coltrane—and so many others, too—soaring like sky-scrappers above a city of mighty towers.

So here is a new Gillespie outing and, as with Louis Armstrong, one is hard put to find words to describe his extraordinary qualities. Gillespie's has not been an evolving talent. Much of what he plays—the individual licks, the little runs and curlicues—are similar, sometimes identical, to what he was playing in his salad days in the Forties. But he always has been wise enough to frame his playing in the most up-to-date rhythmic settings. The current style, of course, is electric rock, and many of the pieces included here—virtually all the accompaniments—are drenched in the regular patterns of the rock rhythm style. And that's okay. Talents like Gillespie's are universal enough not just to stretch boundaries, but to reach across them— to bring together the disparate elements of 1940's bebop with 1970's rock rhythms. Dizzy's still around, don't miss him. He even sings.


Performance: Habit-forming

Recording: Excellent

The new Gary McFarland album could aptly use the same advertising slogan as Dr. Pepper: "Drink it at 10, 2, and 4." It's good listening at any hour. I might add, "Be careful, it may be habit-forming," since, personally, I've been heard on both Dr. Pepper and Gary McFarland for years. Gary is one of the nicest musical habits anyone could

(Continued on page 130)
Ear Pollution Is Unsound

These Lafayette receivers are better than 99% free of noise pollution. Creative engineering assures crisp, clean sound reproduction. The program you choose is the program you hear. Audio critics confirm, a sounder environment begins with Lafayette.

**LR-1500TA**
240 Watt AM/FM Stereo Receiver


**LR-1000TA**
150 Watt AM/FM Stereo Receiver


**LR-775**
100 Watt AM/FM Stereo Receiver


*Imported

---

FREE!
Golden Jubilee

1971 Catalog 710
468 Pages

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

CIRCLe No. 29 ON READER SERVICE CARD

**LAFAYETTE RADIO ELECTRONICS CORP.**
Dept. 11100, Box 10, Syosset, N.Y. 11791

Send me the FREE 1971 Catalog 710 11100

Name: ____________________________
Address: __________________________
City: _____________________________
State: _____________________________
Zip: ______________________________

OCTOBER 1970
possibly develop. Through the years, he has consistently produced music of taste and beauty.

The only fault I find here is the repertoire, which is a bit too familiar. Songs like My Cherie Amour and Michelle are not today, they're yesterday! However, they are more than saved from mediocrity by the McFarland touch, and what he does with the soft, pitiful wail in his voice on that ghastly Leonard Cohen song Suzanne is pretty incredible. I think it is the best recording of Suzanne I've ever heard. But everything McFarland does transcends the boundaries of conventional music. He throws his energies into his material with such dedication that he turns the mundane into some kind of major event. His approach to music is comparable to Katherine Hepburn's approach to acting: when you see her onstage in Coco you see a woman who is convinced she is doing a play that is as great as anything Shakespeare ever wrote. That enthusiasm, that love, that dedication, and that pride and self-confidence spill over into the audience, and you know, upon leaving the theater, that you've witnessed something miraculous. Similarly, Gary McFarland takes uninteresting material like Suzanne and that worn-out old disabled veteran My Cherie Amour and infects them (and his listeners) with new viewpoints, new enthusiasms, and new interpretations. He is to arranging and singing what Bill Evans is to the piano. I wish he would record a new album once a month. Today or yesterday, he's a habit I don't want to break.

**RECORDING OF SPECIAL MERIT**

**STANLEY TURRENTINE: Another Story.**

Stanley Turrentine (tenor saxophone); Thad Jones (flugelhorn); Cedar Walton (piano); Buster Williams (bass); Mickey Roker (drums). Get It; The Way You Look Tonight; Stella by Starlight; Quiet 'N' Time; Six and Four. Blue Note BST 84336 $5.98.

Performance: Dynamite modern jazz

Recording: Very good

Stanley Turrentine keeps rolling along. Almost single-handedly he is sustaining the life of the hard-driving, Lester Young-influenced but gutsy-sounding tenor-saxophone style that was so popular with black players in the post-bop years. He has been heard most often lately with his wife, organist Shirley Scott, but this time he plays with a sterling New York group in which he is joined in the front line by the fine flugelhornist Thad Jones.

Jones has spent most of his time with the big, brusque orchestra he co-leads with drummer Mel Lewis, and his stunning improvisational skills have usually played second fiddle to his role as leader, arranger, and jack-of-all-trades. So it's good to hear him in an old-fashioned, straight-ahead blowing situation. He makes the best of it, and so does Turrentine. I can't recall hearing any better playing from Jones for at least the last few years, and his Jesse de vierre has an obviously stimulating effect upon the Turrentine band. The program is well-balanced—two standards, a Turrentine original blues, a characteristically complex Jones tune, and a long, peppery line called Six and Four from Oliver Nelson. Good, un-hyped jazz, and well worth your attention. D. H.
The Sherwood S7100 AM/FM stereo receiver.

Into which Sherwood has packed an extravagant number of expensive features. Features you won't find on anything but expensive models. Except that the S7100 comes to you at an incredibly reasonable $199.

Just how extravagant did we actually get?

Well, look at the power specs. There's 100 watts (±1dB); 80 watts (IHF); 25+25 watts RMS (8 ohms), at under 1% distortion.

Our FM sensitivity (IHF) is only 1.9 µv.

Amplifier distortion at 10 watts is 0.20%.

Then, there's the special amenities. An FM interchannel hush control. A front panel extra tape record and dubbing jack. And a beautifully-oiled walnut cabinet is included at no extra charge. That's one extravagance no one else offers at this kind of price.

By rights, many of these features belong only on our higher-priced receivers. But the beautiful fact is, that this time they only cost $199.

For more information, and complete specifications, write today.
Sherwood Electronic Laboratories, Inc. 4300 N. California Ave. Chicago, Illinois 60618

SHERWOOD SOUNDS EXPENSIVE

CIRCLE NO. 49 ON READER SERVICE CARD
HOW TO LISTEN TO SUPERIOR MUSIC...

...listen on a TDKassette

Finally — and fortunately for all music lovers — there is now a tape cassette available that will make your cassette music sound virtually as good as your finest records. Pop, jazz, rock or classical — a TDK SD™ cassette will make your recorder sound instantly better.

The TDK SD cassette gives you clear, crisp, life-like fidelity with an incredible frequency response of 30 to 20,000 Hz, a SN ratio of better than 55dB, an extremely wide dynamic range and practically no hiss.

TDKassettes work smoothly and efficiently, no jamming, tearing or other little tragedies. Just ask for TDK — "the cassette that is in a class by itself".

TDK SD tape is available in 30, 60 and 90 minute cassettes. At fine audio, music, department and camera stores everywhere.

TDK World's leader in tape technology since 1932.

TDK ELECTRONICS CORP.
NEW YORK • LOS ANGELES • CHICAGO

CIRCLE NO. 57 ON READER SERVICE CARD
RECORDING OF SPECIAL MERIT


Performance: Praiseworthy
Recording: Very good
Playing Time: 35'46"

Originally released in disc form in the mid-Sixties, Richter's performance of the Beethoven Third Concerto was coupled then with the composer's B-flat Rondo for Piano and Orchestra. That filler is omitted here, having been already included on DGG cassette 923059, where it is coupled with the Rachmaninoff Second Concerto. Richter's interpretation is an excellent one, a little reserved in the opening movement, very beautifully drawn in the middle one, and full of fire and impetus in the finale. It is also the only cassette version of the concerto currently available. If the orchestral playing is not quite as outstanding as the pianist, it is at least serviceable, and the reproduction (bearing in mind, again, that this is a cassette) is exceptional: free of wow, very clean even in climaxes, and well defined in stereo spread. Once again, DGG has turned in one of the best-sounding cassettes one can hear today, although some may still complain about the hiss level. I. K.


Performance: Wide-awake Beethoven
Recording: Inadequate transfer
Playing Time: 50'06"

Beethoven was miserable when he was writing his Second Symphony. He was going deaf, and his doctor sent him to the village of Heiligenstadt in the hopes that the sim- ple, isolated life there would spare his hearing. But the work he turned out there was, by one of those paradoxes that delight the hearts of commentators, an exceptionally joyous one. What with the dashing energy of the Allegro con brio, the wide-open song of the Langhetti, the ever-increasing gaiety of the Scherzo and the Finale, it is hard to believe that the composer was contemplating suicide about the time of its writing. Indeed, it is the sort of symphony one turns to when the courage to live needs renewal, rather than for any kind of emotional self-indulgence.

This symphony has defeated many a conductor too literal-minded or simply too Teutonic to take wing with it. Leinsdorf does not get it off the ground, in a performance that sparkles increasingly with each new turn of musical events, and it is beautifully played by the polished Boston forces. The selections from the ballet, in an astutely edited suite of highlights beginning with the dazzling overture and concluding with that famous theme Beethoven used both in his Contra-Dancers and the "Eroica" as well as in Prometheus, make a satisfying bonus. The sound, however, is much less than satisfying. RCA is setting its own technological progress back by years in approving for release such poor transfers as this one. P. K.


Performance: Bod trip
Recording: Unspectacular
Playing Time: 51'44"

Poor tortured "young artist" of the Symphonie fantastique! His febrile hallucinatory program of musical adventures, from "early dreams and passions" to the "march to the scaffold" and "dream of a witches' sabbath," have now been immortalized on records almost as often as the tales told by Rimsky-Korsakov's garrulous Scheherazade. Most of these versions are not available yet on cassettes, however, so Karajan's recording would seem to be a welcome addition to the catalog. Alas, it isn't. After hearing Leonard Bernstein's high-strung and impassioned way with this work, I find the German maestro's approach relatively flat-footed and sluggish here, and the sound is more like early Victor Orthophonic than late-Sixties stereo as it comes off the little tape. The big, plastic way with an orchestra that is the Karajan hallmark does not really begin to happen until it is almost too late and too easy to manage—in the last two movements the orchestra comes to life in the March to the Scaffold and the Witches Sabbath, which it succeeds in turning into a really scary stretch of action. The rest of the time the long work just plods and broods, getting on the listener's nerves all right, but for all the wrong reasons. P. K.

BRITTEN: Young Person's Guide to the Orchestra (see SAINT-SAENS)

CHOPIN: Fourteen Waltzes. Artur Rubinstein (piano). RCA © RK 1071 $6.95, © RBS 1071 $6.95

Performance: Insensitive
Recording: Below par
Playing Time: 50'06"

How many waltzes did Chopin write, any- how? The encyclopedia of music I just consulted credits him with seventeen, but the Angel recording by Agustin Anievas contains nineteen. I have an Ingrid Haehler recording on the Vox label called "complete waltzes" that supplies seventeen, and another by Guomar Novaes with fifteen. Have new ones been turning up while my attention was engaged elsewhere? At any rate, Mr. Rubinstein plays fourteen of them here, and it is not the number that is disappointing. Once you have succumbed (as I have) to the fingers of a Novaes conjuring up the melodies and rhythms of these romantic works like breezes that pluck unearthly

Explanation of symbols:
© = reel-to-reel tape
© = four-track cartridge
© = eight-track cartridge
© = cassette

The first listing is the one reviewed; other formats (if available) follow it.

Monophonic recordings are indicated by the symbol ©, all others are stereo.
whispers out of the metal strings, it is difficult to regard the Rubinstein way with them as anything but vulgar and commonplace displays. Displays they are, for this pianist has always had enough virtuosity to make do for ten ordinary musicians, but his Chopin leaves me cold. "The point," he has said, "is not to try to define them all in a word or a phrase or to make them sound 'like Chopin Waltzes' but to consider each of them as a unique event and listen very attentively to what it has to say." I don't believe that Mr. Rubinstein has been listening very attentively of late—or maybe he has just grown numb to the charm of these scores. It comes to this listener that he still treats them sound "like Chopin Waltzes," and all alike, not each a unique event. The impression was not helped by the recorded sound. When I unwrapped this RCA cassette, the first by this company I have ever heard, I looked forward to something special. It was special, too, but not as I had anticipated. The first side was a muddy blur, but that turned out to be the fault of defective processing. Side two was clear, but glassy, and marred by the loudest hiss ever sent to my ears by a pair of hostile loudspeakers. A replacement graciously supplied by the company was technically acceptable, but still afflicted with a harshness of tone not entirely attributable to Mr. Rubinstein, and the hiss persisted. I feel I have no choice but to hush back until cassette sonics improve.


Performance: Finely detailed
Recording: Good
Playing Time: 43'

Prokofiev's wartime Fifth Symphony on the theme of "the grandeur of the human spirit" is for me the single achievement of the Russian symphonic literature to approach the mighty synthesis of form and expression represented by Beethoven's "Eroica." And like the "Eroica," the Prokofiev Fifth presents a formidable challenge to conductors: a truly just communication of its essence demands a canny balancing of tempo relationships within the movements, of dynamic contrast, of weighting of phrase, and of details with overall rhythmic pulse. Missculation in any of these areas throws the work out of kilter, so that an over-detailed treatment of the grandioso opening movement, such as Karajan gives it, the music seems ponderous, a lack of adroitness in the phrasing of lyrical episodes, as in George Szell's reading, makes the score seem rather an exercise in cut-and-dried academicism. For sheer sound, Karajan's Berlin Philharmonic is a joy to the ear, and he does deliver an eloquent slow movement—without a narrator. On the other hand, the educational value of the piece is enhanced by narration, and there are currently a variety of guides to choose from, Sean Connery and Brandon de Wilde among them. It remained for Leonard Bernstein to select a child to conduct the journey. He is a serious, inoffensive youngster named Henry Chapin, the son of a Lincoln Center executive. Master Chapin tells all about the instruments in an affable, civil manner, and Bernstein leads the orchestra through a credibly virtuosic performance of the piece, backing the boy with bridge passages that work out just right. On side two, Bernstein himself takes over the narration, this time employing the services of several gifted soloists as narrators in a visit to the musical zoo of Saint-Saëns' Carnival of the Animals. It is a wonderfully informative excursion, tracing all the parodies in the piece to their sources, and though I still like my Carnivale with Noel Coward reciting the appropriate Ogden Nash verses, or, better still, with no talking at all, I must admit that this visit with the elephants, turtles, kangaroos, and "personages with long ears" was pretty irresistible. The sound is a little hissy but full and clear.

LEONARD BERNSTEIN
Fine guided tour of two children's classics

STEREO REVIEW
performances, acting in combination, convey no sense of continuity; the music doesn’t move along—most of the time, that is (more about the exceptions later). Generally, the sound is hard and brassy, and the phrasing clipped, and I’m just not able to bridge the pauses this group affects. The band is, of course, cut to the formula laid down by Blood, Sweat and Tears: gravel-voiced vocals, an ungodly number of instruments, and a pretentious, stand-aside-amateurs air about it all.

But this double-sized tape does have its moments. Most of them are in the second half of the program and hunched around 25 or 6 to 4, Prelude, and Memories of Lorne, which appear consecutively. Prelude is quite impressive, an old-fashioned classical composition and a pretty good lightweight version of what it purports to be. The brass is under control on these pieces, which of course doesn’t make the band sound much like Chicago. After a brief and forceful appearance, it is hushed again on Where Do We Go From Here?, whose lyrics are typical of Chicago’s social commentary (hackneyed but sincere and worth saying). I have no quarrel with Chicago’s lyrics, and I appreciate the considerable effort taken to make this some sort of program rather than a string of sure-fire hits for the kiddies, but for some reason the band’s basic sound and I don’t get along.

LEN ANAL HORNE/GABOR SZABO: Lena Horne (vocals), Gabor Szabo (guitar), unidentified accompaniment. Watch What Happens; My Mood Is You; Message to Mother; Nightbird; The Fool on the Hill; Rocky Racoon; and fourteen others. SKYE © M 515 $6.95, © 5036-15 $6.98. Performance: Lena erratic; Gabor good. Recording: Good. Playing Time: 35′25″.

Oh boy, I thought, here’s Lena Horne singing some heard-of songs instead of a dozen of those esoteric non-melodies she usually records. Hot zinger, I thought, The Fool on the Hill, Something, In My Life, and much more. I should have kept looking at the tape instead of listening to it. Lena goes so flat on Fool on the Hill that I was embarrassed—and I was alone in the room. Here interpretation of Everybody’s Talking’ is about the most lackluster interpretation I’ve heard of that one, and I’ve heard plenty. Her handling of Something was vacuous. She does much better with In My Life, which, I imagine, to a jazz singer looks more like a Cole Porter tune, and she extracts about as much truth and beauty as anyone could from Yesterday When I Was Young. The fact is, though, that she is at her best with such an esoteric non-melody as My Mood Is You.

Gabor Szabo is more consistent, picking out silky accompaniment, with economy and precision. It’s a bit cool for some tastes, perhaps, but this apparently was intended as a sort of ice-cream recording. The recording is in an odd position, non-fans won’t like it much, and Lena’s loyal followers are going to have to strain to get a couple of those Beatles songs down.

HUGO MONTENEGRO: Colours of Love. Chorus and orchestra, Hugo Montenegro cond. Here Comes the Sun; Didn’t We; Undue; Holly Holy; Raindrops Keep Fallin’ on My Head, and five others. RCA © PK 1522 $6.95, © PHS 1522 $6.95. Performance: Now with the sound of then. Recording: Good. Playing Time: 34′20″.

Mr. Montenegro has hit on the lucrative formula of combining the music of today with the harmonies of yesterday, achieving a kind of modified-modern style that obliterates the generation gap by pouring musical maple syrup into the breach. Mr. Montenegro’s Good Morning Sunshine from Harr has had its hair cut and been bathed in the soap of an antiseptic arrangement so as to be suitable for performance in the most bourgeois breakfast nook. When raindrops are filtered through the Montenegro sound, they fall on your head with the gentleness of evening dew, and even a soulish piece of work like Holly Holy is practically ready for performance in the cotton fields by happily harmonizing slaves before he is through with it. If you like your music of the moment de-odorized, defused, and declined, by all means add this harmless, sweet-sounding cassette to your collection.

BARBRA STREISAND: A cassette full of her greatest hits. A cassette all of her greatest hits. Barbra Streisand (vocals); various accompaniments. People; Second Hand Rose; Why Did I Choose You?; He Taught Me; Free Again; Don’t Rain on My Parade; My Coloring Book; Sam; You Made the Pants Too Long; My Man; Gotta Give; Happy Days Are Here Again. COLUMBIA © 16 10 0852 $6.98, © HC 1249 (34′) $6.98, © 18 10 0254 $6.98. Performance: Recording: Good. Playing Time: 33′20″.

Some of us, most but not all under thirty-five or so, can naught but shudder at spectacles such as this. Applause won the Tony as best musical, and is, as they say, a box office smash, and yet seems to be a classic example of in-breeding in a tired blood line. Billed as “a new musical,” it is theater about theater, and based on an old movie (All About Eve) at that. The music is not new—it is recently composed, yes, but there’s a difference. The lyrics are the staple play-on-words-cum-namedropping that goes back to Oscar Hammerstein or further; the melodies are pleasant but irrelevant and insignificant, by and large. And yet, there it is. Maybe I’ve been missed all these years about what a sophisticated city New York is.

Lauren Bacall (Best Actress in a Musical) hasn’t a great deal of range as a vocalist, which you could have guessed by hearing her speaking voice, but, like Richard Burton and Rex Harrison before her, she has taste and timing, and so delivers a song better than some of the singers in the cast. I’m thinking of Harry Beck especially. Len Careiou, whose billing is relatively tiny, seems to me the most impressive singer on the recording. Penny Fuller (sounds like Shirley Jones) was in no voice when this tape was made, particularly on The Best Night of My Life, and she and Bacall provide some of the more interesting moments of the recording on the catty Who’s That Girl. Len Careiou is a competet, apparently well-trained vocalist, but not very exciting.

This isn’t bad musical-comedy music, but it’s disappointing—disappointing that musical comedy music seems to be about where it was twenty years ago. Is Geritol outlawed on Broadway?

SHOW MUSIC

APPLAUSE (Charles Strouse-Lee Adams). Original-cast recording. Lauren Bacall, Len Careiou, Robert Mandan, Ann Williams, Brandon Maggart, Penny Fuller, Lee Roy Reams, Bonnie Franklin (vocals); orchestra. ABC © L 511 $6.95, © X 11 (75′) $5.95, © L 811 $6.95. Performance: Good, indifferent, but not bad. Recording: Good. Playing Time: 42′17″.

Some of us, most but not all under thirty-five or so, can naught but shudder at spectacles such as this. Applause won the Tony as best musical, and is, as they say, a box office smash, and yet seems to be a classic example of in-breeding in a tired blood line. Billed as "a new musical," it is theater about theater, and based on an old movie (All About Eve) at that. The music is not new—it is recently composed, yes, but there's a difference. The lyrics are the staple play-on-words-cum-namedropping that goes back to Oscar Hammerstein or further; the melodies are pleasant but irrelevant and insignificant, by and large. And yet, there it is. Maybe I've been missed all these years about what a sophisticated city New York is.

Lauren Bacall (Best Actress in a Musical) hasn't a great deal of range as a vocalist, which you could have guessed by hearing her speaking voice, but, like Richard Burton and Rex Harrison before her, she has taste and timing, and so delivers a song better than some of the singers in the cast. I'm thinking of Harry Beck especially. Len Careiou, whose billing is relatively tiny, seems to me the most impressive singer on the recording. Penny Fuller (sounds like Shirley Jones) was in no voice when this tape was made, particularly on The Best Night of My Life, and she and Bacall provide some of the more interesting moments of the recording on the catty Who's That Girl. Len Careiou is a competet, apparently well-trained vocalist, but not very exciting.

This isn't bad musical-comedy music, but it's disappointing—disappointing that musical comedy music seems to be about where it was twenty years ago. Is Geritol outlawed on Broadway?
COMMERCIAL RATE: For firms or individuals offering commercial products or services. $1.25 per word including name and address. Minimum order $125. Payment must accompany copy except when ads are placed by accredited advertising agencies. Frequency discount: 5% for 6 months; 10% for 12 months paid in advance.

READER RATE: For individuals with a personal item to buy or sell. See our full text advertisement minimum! Payment must accompany copy except when ads are placed by accredited advertising agencies. Frequency discount: 5% for 6 months; 10% for 12 months paid in advance.

FREE: Send for money saving stereo catalog and $1.25 for 12 months paid in advance.

GREAT INFORMATION: First word in all ads set in bold caps at no extra charge. All copy subject to publisher's approval. Closing Date: 1st of the 2nd month preceding cover date (for example, March issue closes January 1st). Send order and remittance to: Hall Cymes, STEREO REVIEW, One Park Avenue, New York, New York 10016.

EQUIPMENT

WRITE for quotation on any Hi-Fi components: Sound Reproduction Inc., 460 Central Avenue, East Orange, N.J. 07018. 201 679-2600.

Hi-Fi Component Dealers: When writing advertisers please mention "We Will Not Be Undersold" prices. 15-day guaranteed "We Will Not Be Undersold" prices. 15-day money-back guarantee. Two year warranty. No correspondence. Goodyear Hi-Fidelity Center, 239 (HC) East 149th St., New York 10451.

FREE! Send for money saving stereo catalog and $1.25 for 12 months paid in advance.


LOW, Low quotes: all components and records. Hi-Fi, Hi-Fi. The Price is Right! Hi-Fi Components. J. Wright Co., 65-B Jensen St., East Brunswick, N.J. 08816. New low prices on all stereo components. Hi-Fi Components, Tape Recorders, at guaranteed "We Will Not Be Undersold" prices. 15-day money-back guarantee. Two year warranty. No correspondence. Goodyear Hi-Fidelity Center, 239 (HC) East 149th St., New York 10451.

FREE! Send for money saving stereo catalog and $1.25 for 12 months paid in advance.

EQUIPMENT

WRITE for quotation on any Hi-Fi components: Sound Reproduction Inc., 460 Central Avenue, East Orange, N.J. 07018. 201 679-2600.

Hi-Fi Component Dealers: When writing advertisers please mention "We Will Not Be Undersold" prices. 15-day guaranteed "We Will Not Be Undersold" prices. 15-day money-back guarantee. Two year warranty. No correspondence. Goodyear Hi-Fidelity Center, 239 (HC) East 149th St., New York 10451.

FREE! Send for money saving stereo catalog and $1.25 for 12 months paid in advance.


LOW, Low quotes: all components and records. Hi-Fi, Hi-Fi. The Price is Right! Hi-Fi Components. J. Wright Co., 65-B Jensen St., East Brunswick, N.J. 08816. New low prices on all stereo components. Hi-Fi Components, Tape Recorders, at guaranteed "We Will Not Be Undersold" prices. 15-day money-back guarantee. Two year warranty. No correspondence. Goodyear Hi-Fidelity Center, 239 (HC) East 149th St., New York 10451.

FREE! Send for money saving stereo catalog and $1.25 for 12 months paid in advance.

EQUIPMENT

WRITE for quotation on any Hi-Fi components: Sound Reproduction Inc., 460 Central Avenue, East Orange, N.J. 07018. 201 679-2600.

Hi-Fi Component Dealers: When writing advertisers please mention "We Will Not Be Undersold" prices. 15-day guaranteed "We Will Not Be Undersold" prices. 15-day money-back guarantee. Two year warranty. No correspondence. Goodyear Hi-Fidelity Center, 239 (HC) East 149th St., New York 10451.

FREE! Send for money saving stereo catalog and $1.25 for 12 months paid in advance.


LOW, Low quotes: all components and records. Hi-Fi, Hi-Fi. The Price is Right! Hi-Fi Components. J. Wright Co., 65-B Jensen St., East Brunswick, N.J. 08816. New low prices on all stereo components. Hi-Fi Components, Tape Recorders, at guaranteed "We Will Not Be Undersold" prices. 15-day money-back guarantee. Two year warranty. No correspondence. Goodyear Hi-Fidelity Center, 239 (HC) East 149th St., New York 10451.

FREE! Send for money saving stereo catalog and $1.25 for 12 months paid in advance.

EQUIPMENT

WRITE for quotation on any Hi-Fi components: Sound Reproduction Inc., 460 Central Avenue, East Orange, N.J. 07018. 201 679-2600.

Hi-Fi Component Dealers: When writing advertisers please mention "We Will Not Be Undersold" prices. 15-day guaranteed "We Will Not Be Undersold" prices. 15-day money-back guarantee. Two year warranty. No correspondence. Goodyear Hi-Fidelity Center, 239 (HC) East 149th St., New York 10451.

FREE! Send for money saving stereo catalog and $1.25 for 12 months paid in advance.


LOW, Low quotes: all components and records. Hi-Fi, Hi-Fi. The Price is Right! Hi-Fi Components. J. Wright Co., 65-B Jensen St., East Brunswick, N.J. 08816. New low prices on all stereo components. Hi-Fi Components, Tape Recorders, at guaranteed "We Will Not Be Undersold" prices. 15-day money-back guarantee. Two year warranty. No correspondence. Goodyear Hi-Fidelity Center, 239 (HC) East 149th St., New York 10451.

FREE! Send for money saving stereo catalog and $1.25 for 12 months paid in advance.

EQUIPMENT

WRITE for quotation on any Hi-Fi components: Sound Reproduction Inc., 460 Central Avenue, East Orange, N.J. 07018. 201 679-2600.

Hi-Fi Component Dealers: When writing advertisers please mention "We Will Not Be Undersold" prices. 15-day guaranteed "We Will Not Be Undersold" prices. 15-day money-back guarantee. Two year warranty. No correspondence. Goodyear Hi-Fidelity Center, 239 (HC) East 149th St., New York 10451.
Experience will ultimately give you a kind of "trained instinct" about proper microphone location, but if you’re just starting out, there are a few general principles that may prove helpful. First, you will usually want your mikes as close to the performers as possible, both to capture the "rosin on the bow" and to get a strong signal—well above the hiss level—on the tape. But there is an inherent trade-off between the "presence" achieved by close miking and the hall reverberation "fullness" produced by more distant placement. A solo violin recorded at three feet will sound shrill and dry; at twenty feet it will be muddied by room echoes. A six- to twelve-foot placement is a good compromise for most purposes, though pop singers and orators should be more closely miked. If there is a shell or hard wall behind the artist(s) you will be able to get some what closer and still preserve balance, because some room reverber will be reflected toward the microphones. Conversely, a heavy curtain behind the performers makes more distant miking desirable to help establish the best balance between direct and reverberant sound. Secondly, while typical cardioid-pattern microphones do pick up sounds from a fairly wide angle, their output (especially at the highest frequencies) tends to drop noticeably when you get much beyond a 45-degree angle from the front of the microphone. The area that should be covered, the microphone separation (if recording in stereo), and distance from the performers are therefore interdependent factors.

Third, beware of excessive stereo separation! Microphones ten feet apart may give a solo piano a "big" quality, but the sound may be nonlocalized and unnatural. A good technique to try with a piano or small group is to tape the two mikes together so they have an "X" pickup pattern. This gives wide coverage at close distance and yields an excellent stereo image. Watch out for reversed right-left channels when using this method, however.

Fourth, with singers (especially operatic sopranos and tenors) and brass or percussion instruments, aim your microphones slightly above the sound source. You’ll capture all the volume and strain of the high, hard notes, but reduce possible overload problems. Piano accompanists often want to keep the lid down. Try to persuade them to raise it at least partly (the "short stick" lifts it about a foot) or you’ll lose the ringing character of the high notes.

Best results usually involve suspending the mikes above the performers. Seven and ten feet are good starting points for sitting and standing artists, respectively. Most auditoriums provide rises points above the stage where you can anchor the microphone cables and lead them off to your recording location, but fixing the mikes’ final position at the end of their cables will sometimes tax your ingenuity. One problem can be solved if you loop the cable back and tape it to the microphone’s stand adapter. That way, the adapter’s swivel-action will enable you to set the needed downward slant of the mikes. Microphone separation, toe-in and toe-out, and fore-and-aft maneuvering of the mikes can then be accomplished with a set of control guys using lengths of black carpet thread tied to the microphones and led offstage to the wings or balcony. These provide flexibility in positioning and are invisible to the audience.
What good is a cartridge that tracks at 3/4 of a gram but delivers less than 3/4 of the music?

Great.
For tracking.
But not for listening.
If you love music, you want 100% of the music all the time. And many cartridges just don't deliver.

Pickering's XV-15 Series does. Every time.
The trouble with many pick-ups is that at higher frequencies they experience a severe loss of output. This leads to a lack of instrumental definition in those ranges so great it may be difficult to distinguish the precise sounds of the oboe, clarinet, flute, etc.

The sounds literally blend together masking the music—and not only at the higher frequencies. When distortion takes place in any part of the audio spectrum it can be reflected throughout the entire spectrum. The result: a masking effect over all the music.

In contrast to this, Pickering's XV-15 series delivers 100% music power 100% of the time.

Our point is simple: when it comes to cartridges, a track record doesn't count unless you sound great—at any frequency.

Pickering: for those who can hear the difference.

Pickering XV-15 cartridges range from $29.95 to $60. For more information write Pickering & Co., Inc., 101 Sunnyside Blvd., Plainview, N.Y. 11803.
We always believed that designing a speaker system was more art than science.

Then we got our computer.
While it didn’t change our minds, it did help us advance the state of the art.

The E-V FOUR-A $199.95.
A refreshing new listening experience.
Now at selected Electro-Voice sound rooms.