verpower a weak distant station, the at weak signal with fifty. (Alternate
tivity is 65 dB!) -band AM.
civers with odd FM have shame-but Fisher has a y. Our AM section
is good as it is possible to make an closely approaches

Our 701 has 250 (two fifty) watts of sounds like a lot of is, for a normal
ordering that the 701 our speakers instead watts is not too much.
the 701 is capable of e, 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 innova-
tions. There are separate volume controls for front and rear
channels. And the sliding volume controls move with the smooth-
ness 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.
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 overwhelm a signal from a distant station, the incredible clarity of the Fisher 701 pulls in the distant signal with amazing ease.

The wide-band AM section is just about a theoretical possibility. It is just about as close to theoretically perfect AM section. It is close to being FM in quality.

The Fisher 701 has 250 watts of music power. And it drives not only two, but four channels of power. It's just right.

(Actually, driving not two, but four channels of power, and with as much music and operational excellence, means it's not even right. But it's as close as it gets, and it's close enough.)
In 1937, we invented high fidelity.
The original Fisher system of 1937, now in the permanent collection of the Smithsonian Institution.
Out of the Research that Produced the 901

BOSE brings you the Second DIRECT/REFLECTING™ Speaker System

THE 12 YEARS OF RESEARCH

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.

THE RAVE REVIEWS

* Circle No. 16 on your reader service card for complete reprints of the nine reviews and a list of BOSE dealers in your area.

THE SOUND OF THE 901

Ask your franchised BOSE dealer for an A-B comparison with the best speakers he carries, regardless of their size or price.

THE BOSE 901

DIRECT/REFLECTING™ Speaker System

THE BOSE 501

DIRECT/REFLECTING™ Speaker System

1 THE DESIGN GOAL

Our objective was to produce a speaker in the $125 price range that would audibly outperform all speakers costing less than the 901.

2 THE DESIGN APPROACH

We preserved as many of the features of the 901 as possible to produce a speaker that sells for $124.80.

*Circle No. 17 for information on the design of the BOSE 501.

3 THE PERFORMANCE

You are the judge. If we have succeeded in our design goals, the result will be obvious to you when you A-B the 501 with any speaker selling for less than the 901.

"You can hear the difference now."

Natick, Massachusetts 01760

*Circle #16 for information on the BOSE 901
*Circle #17 for information on the BOSE 501
EDITORIALLY SPEAKING

DURCHKOMPONIERT BY COMPUTER

I N THE New York Times not so long ago, John Leonard, in reviewing Marshall McLuhan's book Counterblast, undertook a parodic definition of what he called "the First, Second and Third Precepts of Möbius the Looped." Mr. Leonard is perhaps the most preceptive and certainly the funniest reviewer I know, and his reformulations have almost unwittingly supplied me with my text for the issue at hand: "(1) Western man's fall from grace was a fall into Syntax, out of the haptic harmony into the alphabet soupçon. (2) With the invention of movable type, we sold our Gestalt for a mess of dainties; eye-candancy in the sensorium disequilibrates. (3) We shall escape our consequent dynamic of violence through subliminal tribulation via the LP record, the TV set and the computer." To paraphrase that: Paradise was lost when we took up with the printed word, it will be regained when we embrace the electron. Well, salvation will have to wait, for it appears that reports of the death of the printed word have been much exaggerated. You hold the ironic proof in your hands: a record magazine whose type has been set by a computer.

I have been an omnivorous reader since the age of four, when Santa dropped a copy of Flopsy, Mopsy and Cottontail into my Christmas stocking. Devoted as I am to recorded music, distracted (occasionally) though I might be by TV, print is still my medium, and though my supply of reading matter is reduced each time a billboard bites the roadside dust, newspapers, magazines, and books continue to glut my hungry eye. Mr. McLuhan will have to take my word for it that all this eye-candancy has not left me feeling out of touch or wanting weight in the sensory balance. What does disturb my equilibrium is finding that an old periodical friend has been to Denmark, so to speak, returning strangely altered in typeface and format. It is very unsettling at first, but unless the overhaul has been grandly drastic, I adjust quite rapidly to the new packaging—as soon, in fact, as I discover (pace McLuhan) that what has changed is not the message, but only the medium.

Friendly old readers of STEREO REVIEW will know that I have for some time been a "through-composed" magazine, consistent in our type faces, regular in our several departments, and uniform in style. That was by design, for our monthly compositions were all based on the same typographical key signature (Garamond Light, if you care). Considerations of efficiency and economy now dictate, however, that we play in another key. The computer has not told us just what it is, and though my first impulse was to call it Picket Fence Gothic, I'm sure it will soon look to me like Old Shoe Extended. This issue is not to be taken as a simple and complete transposition; we are still modulating, and in months to come there will be other consonant changes. But technical and musical content will be as heart-warmingly authoritative as ever, our regular contributors will remain their comfortable, unpredictable selves. I am sure no reader will ever have cause to suspect that the computer is also writing the reviews.
This is what happens when a big name thinks small. It's the TEAC A-24, and it's making cassette history. This deck is powered by a unique hysteresis synchronous outer rotor motor for compact convenience, powerhouse performance. And it comes complete with all the craftsmanship it takes to make a TEAC.

More exclusive features: a special end-of-tape sensing circuit which not only stops the cassette, but completely disengages the mechanism — releasing pushbuttons, pinch roller and idlers — to avoid "flats" and deformation of critical drive components. Two specially-designed heads for outstanding frequency response. Just about the lowest wow and flutter that ever came out of a cassette.

Of course, no sound system is really complete without cassette capability. So if it's time to round out your equipment, it's time to sound out our A-24.

TEAC
TEAC Corporation of America · 2000 Colorado Avenue · Santa Monica, California 90404
CIRCLE NO. 61 ON READER SERVICE CARD
The two that couldn’t wait.
Every so often, an idea just won’t wait until its time has come. So it arrives ahead of schedule. And begins a trend.

Take the new Sony 6065 receiver, for instance. It takes direct-coupled circuitry into a new dimension. Which means there is nothing to come between you and the sound—no coupling capacitors, no interstage transformers.

Those capacitors and transformers could cause phase shift or low-end roll-off, or diminish the damping factor at the low frequencies where you need it most.

So, instead we use Darlington-type coupling, a complimentary-symmetry driver stage, and an output stage that needs no coupling capacitor between itself and the speaker because it’s supplied with both positive and negative voltages (not just positive and ground).

The results speak for themselves. The amplifier section puts out 255 watts* with less than 0.2% distortion, and a cleaner, purer sound than you’ve heard before in the 6065’s price range (or, quite probably, above it).

And the FM section has not only high sensitivity and selectivity (2.2 uV IHF and 80dB respectively) but lower noise and better interference rejection, to help you discover stations that you’ve never heard before—re-discover stations that were barely listenable before.

You’ll discover new flexibility, too, in the control functions. Sony’s famous two-way function selector lets you switch quickly to the most used sources—or dial conventionally to such extras as a front-panel AUX input jack, or a second phono input. There’s a center channel output, too, to fill the hole-in-the-middle in large rooms, or feed mono signals to tape recorders or a remote sound system.

The Sony 6065. $399.50**

Another “impatient” receiver also featuring the new Sony approach to direct coupling, the 6055 delivers 145 watts*. Moderately priced, this receiver is a remarkable value at $299.50**

So, there they are, months ahead of schedule and way ahead of their time. Don’t wait to enjoy them at your dealer. Sony Corporation of America, 47-47 Van Dam Street, Long Island City, N.Y. 11101.

*IHF Constant power supply method at 4 ohms. **Suggested list.
CIRCLE NO. 10 ON READER SERVICE CARD

AUDIOPHILES

With so many cartridges on the market, it's easy to get confused. Unless you choose one with an outstanding track record, like the ADC 10/ E Mark II. Widely acclaimed as the "Critic's Choice," it is crafted by hand using our exclusive induced magnet design.

The 10/ E Mark II recreates sound faithfully. And tracks perfectly at the lowest possible pressures for optimum fidelity and long record life. It is as durable as any cartridge made regardless of price, and can be used with virtually any model changer or tonearm.

So end "cartridge confusion" forever by insisting on the ADC 10/ E Mark II. For $59.50, you won't find a sounder value.

For two solid weeks he packed the house for both shows every night. All who came with an indifferent attitude toward Tom left the Casino convinced of his showmanship and personal magnetism. I found him to be a very warm and friendly person, adding a slight personal touch to his performances with short conversations with those up front. I myself sat up there and surprisingly found myself conversing with him as I would with anyone else.

Though I am only fourteen years old, I have always been partial to Tom Jones, his television show and his recordings. And after seeing him on stage, I am positive he'll be around for a long, long time.

Mona Cristo

Thumper on Quadrasonics

Mr. Klein replies: "Thank you, Mr. Buxbaum. I was aware of Thumper's original (and grammatically incorrect) construction, but I felt it would be ungracious of me to perpetuate it in print. In general, I tend not to be overly critical in such matters, since I deem it a wonder that Mr. Disney could train the animals to talk at all."

Edward Buxbaum
Brooklyn, N. Y.

Disc Quality

James Goodfriend's article on disc quality ("Going On Record," September) is excellent as far as it goes, but it does not go far enough. The assertion that "the pressing is very nearly the thing [the record company] can do the least about" implies that there is no viable solution. There is one: the companies can reject shipments of unsatisfactory records from the pressing plants and take their business elsewhere. The Musical Heritage Society has recently—and at great expense—taken this measure. If MFHS can do it, others can. After all, if Turnabout can offer a fine-sounding Bruckner Fourth (TV 34107) at $2.98, why can't Mercury/Philips do the same at double that figure?

(Continued on page 10)
The driving amplification of today's electronic instruments offers a new challenge to the capacity of speaker systems. Can they take it? The new Achromatic W25 can.

However, absorbing this power and giving it all back as distortion-free, faithfully reproduced sound is another matter! The new W25 employs a hefty 8" woofer with oversized, specially constructed four layer-wound voice coil assembly for maximum heat dissipation, plus a heavy duty magnet assembly with deep axial length for superior transient response. The tweeter coil is aluminum for low mass, and the cone is ultra-curvilinear for exceptional polar distribution. A professional LCR crossover network minimizes commonplace electrical and acoustical distortions, and the "unitized" construction of the sturdy cabinet avoids buzzes and resonances.

The W25, priced at $58.75 list, is quality throughout. It is one of six Wharfedale speaker systems engineered to satisfy every budget, space and performance requirement. For complete catalog, write Wharfedale Division, British Industries Co., Dept. HS-50, Westbury, New York 11590.

Wharfedale
ACHROMATIC SPEAKER SYSTEMS

Pour on the power...
The new W25 pours it all back.
It sounds as if you bought something more expensive.

The Standard SR-A1000S AM/FM stereo receiver.

$209.95

20/20 Watts RMS with both channels driven. Plenty of clean, sharp power for full fidelity at any volume setting.

That's where Standard's SR-A1000S begins to sound more expensive. But we're not resting our claim on power alone.

It has FET plus four IF stages, double-tuned and ceramic filtered for an FM sensitivity of better than 2.5 uV (IHF). There's a tuning meter, a stereo beacon light and a dual speaker system. Bass and treble controls are stepped. Loudness, muting, mode, tape monitor and hi-filter controls are all conveniently placed.

Frequency response is 20-20,000 KHz ± 1 dB with harmonic distortion of 0.8% at 20/20 Watts. And it all comes in a handsomely styled walnut wood cabinet.

Those are some of the reasons for saying the SR-A1000S sounds more expensive than $209.95.

But you be the judge, just drop by your Standard dealer and audition the SR-A1000S for yourself.

STANDARD

STANDARD RADIO CORP., 60-09 39TH AVENUE, WOODSIDE, N.Y. 11377, 13518 SOUTH NORMANDIE AVENUE, GARDENA, CALIF. 90249

CIRCLE NO. 57 ON READER SERVICE CARD
The suggested retail price of a new pair of KLH Sixes is $268.

And we'd like to sell you a pair.

But if you can find a used pair at a savings, we won't try to talk you out of it.

Because except for a few scratches and dents, a used Six is every bit as good as one that's just come off the assembly line.

In fact, if you compared a 1958 Six (or any Six) with a 1970 model, there'd be no audible difference.

Because we've never changed the Six.

Why change something that was 20 years ahead of its time in 1958?

Especially since the Six sells as well today, if not better, than the day we first introduced it.

It has become the yardstick by which every KLH speaker is measured both for absolute performance and value to the listener.

It's our standard, and it should be yours.

Used or new.

For additional information on the Model Six, write to KLH Research and Development Corporation, 30 Cross St., Cambridge, Mass. 02139, Dept. SR-11.
we call our cartridge "groovy"

you should read before you laugh!

Cartridge design is no joke with our talented, imaginative Danish designers. When they say “groovy”, they’re talking about the Bang & Olufsen SP-12 cartridge and its high compliance, excellent frequency response, and amazing channel separation.

They call it “groovy” because an ingenious, exclusive Micro-Cross mount for the stylus allows the solid one-piece diamond to float freely in the record groove, reach the most sensitively cut undulations. The result is crystal clear reproduction of every tone hidden in a record. Your hi-fi dealer knows the story of Bang & Olufsen cartridges and the Micro-Cross design that is carefully created in Denmark, presently earning rave notices from European hi-fi experts, and now available in the United States for the first time. Ask him about us.

Or write for details now.

SPECIFICATIONS

■ Stylus: Naked Diamond (5+17) μ Elliptical (LP). Frequency response: 15-25,000 Hz ± 3 dB 50-10,000 Hz ± 1½ db. Channel separation: 25 dB at 1,000 Hz 20 dB at 500-10,000 Hz. Channel difference: 2.0 dB. Compliance: 25 × 10⁻⁶ cm/dyne. Tracking force: 1.0-1.5 grams. Output: 1.0 mV/cm/sec. 5.0 mV average from music record. Recommended load: 47 K ohms. Vertical tracking angle: 15°. Weight: 8.5 grams. Mounting: 1/2” Standard 5 Terminal connection incl. separate ground pin. Balanced or unbalanced. Replacement Stylus: Original (5+17) μ Elliptical (LP), type: 5430 or 15 μ Spherical (LP), type: 5429. ■ MODEL SP-12... $69.95

Bang & Olufsen of America, Inc.
525 EAST MONTROSE • WOOD DALE, ILLINOIS 60101

Defending Chicago

Perhaps the rock or jazz purist would find Chicago’s second album to be “disappointing jazz/rock” as Donald Heckman so labeled it (September), but we instead found Mr. Heckman’s review disappointing and disconcerting. We found ourselves wondering just what Mr. Heckman was expecting of this album. Just what did he mean by a strong lead singer? One that would dominate the group? This would be unthinkable. Of course, Blood, Sweat and Tears’ David Clayton-Thomas dominates that group vocally, but doesn’t that immediately cast the group into the mold of a basic “sound”? There is no doubt that BS&T is good, but as a group it has no versatility, even though its individual members do. Steve Katz’s vocal on Sometimes in Winter comes as a breath of fresh air.

Through a gracious and rare instant chemistry, Chicago has cut two excellent double-disc sets. They are good from the beginning. How many groups, however good now, can be proud of their early days? Given time, Chicago may come to satisfy Mr. Heckman’s standards. But we would call those standards harsh. Mr. Heckman’s review tends to scare off people who could otherwise have enjoyed listening to this group. The reviewer’s structural criticisms aside, Chicago is both pleasant and exciting listening.

Whether we can reconcile ourselves to the dedication on the Chicago album “to the people of the revolution . . . and the revolution in all of its forms” remains to be seen. Right now, the only complaint we have is that the infernal script writing inside the jacket is hard to read.

MICHAEL P. MCDOWELL
GREGORY S. FALLER
Camden, N. J.

The Smallest Minority

As another member of “the smallest minority of the record-consuming public,” the open-reel tape collector, I was heartened to see Mr. Michael P. Cole’s letter in your “Letters to the Editor” column for August. I believe strongly that your publication and others like it are not doing enough to champion the cause of open-reel collectors. Open-reel sound quality is still superior to that of all other forms of recorded music. Cassettes may be the “in thing” commercially, but as a form of quality musical reproduction, they are a step backwards. The time has come for innovation and direction in the open-reel area before the concept is left to die.

The open-reel collector may only represent a small segment of the market; however, I’m sure a sizable percentage of your readers own this type of equipment and are fast becoming disenchanted with the status quo and your lack of interest and/or action in helping to rectify this inequity.

V. S. GIGLIO
Staten Island, N. Y.
The AR-6.

A new speaker system from Acoustic Research.

The least expensive speaker sold by AR (the AR-4x, at $63) is also the most widely sold of all high-fidelity speakers, because it has provided maximum performance per dollar of cost. The new AR-6 offers significantly better performance for $81. It adds one-third octave of low-distortion bass, and also provides superior dispersion and more uniform energy output at high frequencies. The seven-inch depth of the AR-6 adapts it ideally to shelf placement, or it may be mounted directly on a wall with the fittings supplied with each speaker system.

Complete performance data, including measurements of total energy output and distortion, is available free of charge at the AR Music Rooms in Grand Central Terminal, New York, and Harvard Square, Cambridge, or by request from our factory.

Acoustic Research, Inc.
24 Thorndike Street, Cambridge, Massachusetts 02141

NOVEMBER 1970

CIRCLE NO. 1 ON READER SERVICE CARD
The Jensen TF-3C, four speaker, 3-way speaker system. "Excellent transient response with no sign of ringing. High frequency response is good, as would be expected from a dome-type tweeter. Recommended for persons who want a recreations-size bookshelf system with a little more sculpture and detail to go along with the performance." Audio Magazine

The Jensen TF-25, two speaker, 2-way speaker system. "The response is good at all frequencies. Low frequency distortion is exceedingly low. Has a balanced, well-controlled sound which can be listened to for hours without fatigue. It never seems 'bass shy.'" Audio Magazine

The Jensen X-45, two speaker, 2-way speaker system. "Overall, its transient response is as good as any dynamic speaker tested, including some costing several times the price. It has an effortless, natural sound and can easily stand in speakers of much greater size and price. The listener is never aware that he is listening to a one cubic foot enclosure." Hirsch-Hoick Laboratories

Since 1916 when Jensen started it's been the first name in speakers!

Lightfoot Flub
- While Rex Reed is certainly entitled to his own opinions regarding the releases he reviews, he is not entitled to provide the reader with grossly inaccurate information. The most recent example of the latter is his critique of Gordon Lightfoot's "Sit Down Young Stranger" (August). Here he expounds upon the profundity of Lightfoot's lyrics and cites what he feels to be a prime example. Unfortunately, the songs from which he quotes, "Me and Bobby McGee," was written by Kris Kristofferson, not the immensely talented Canadian.

RICHARD A. WATERS
Madison, N. J.

Rogg on Records
- Richard Freed's "The European Record Companies" in the September issue is the most significant contribution to the knowledge of the serious record collector published in some time. I do not believe Mr. Freed will be offended, therefore, if I point out a small error concerning organist Lionel Rogg's recordings of the complete organ works of Bach for Oryx. The article states that those recordings were "formerly available here on Epic." Actually, the Oryx recordings were made on the Meltzer organ at the Grossmünster in Zurich, while the Epic recordings were made on the Silbermann organ in Arlesheim. Furthermore, Epic never released the complete Bach organ works.

Those lovers of organ music who may have been tracking (no pun intended) Rogg's recording career as I have will be interested to learn that his most recent recording (Bach's Art of the Fugue), made for Odeon, is scheduled for release in this country on the Angel label.

JAMES O. HARMON
Silver Spring, Md.

John Denver
- In passing a newsstand, I spotted the August issue of STEREO REVIEW. On it was a small paper patch which read, "Introducing John Denver." Since I had personally attended one of his concerts at Augustana College here in Sioux Falls, I proceeded to buy it. Beyond question, that issue has to rate as the best one I've read this year. It's really great to see John Denver reaching popularity outside of the Midwest. He definitely deserves it.

NOEL COPPAGE
Sioux Falls, S.D.

Sartorial Snobbery
- Thank you, James Goodfriend: I couldn't have said it better myself ("Going On Record," August). As both a pop-festival and symphony concertgoer, I have been upset by the prevalence of the idea that different types of music have mutually exclusive audiences and that this is the way things should be.

Here in Atlanta, Robert Shaw has made many attempts to de-emphasize (students can purchase tickets for $2), but apparently his subscription audiences don't feel the music sounds quite right unless the orchestra members have on their traditional clothing. I usually wear Levis to the concerts, and even though I refrain from dancing in the aisles, I am often greeted with looks of contempt from others in the audience. My hair is not long nor do I wear a beard, so it must be the clothes. The same goes for people who attend rock concerts. Certain groups of people feel that they own certain types of music and that strict
Amazing new Sony recording tapes keep your ear from being assaulted by "purple noise"—that annoying undercurrent of alien noise produced by ordinary tapes.

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

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

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

Sony UHF cassettes, in 60- and 90-minute lengths, and Sony SLH-180 tape on 7-inch reels are available now at your Sony/Superscope dealer.

You never heard it so good.
THESE OLD BOTTLES date way back to the days when Jack Daniel made them to celebrate special occasions. One was for winning the Gold Medal at the St. Louis World's Fair. And another, in 1896, on the hundredth anniversary of Tennessee statehood. He even made a special bar bottle for his favorite hotel, the Maxwell House, in Nashville. But when it came to whiskey, Mr. Jack wouldn't cater to change. He insisted on charcoal mellowing every drop. He was too good a whiskey man to alter that, no matter what the occasion.

TENNESSEE WHISKEY • 90 PROOF BY CHOICE © 1970, Jack Daniel Distillery, Lem Motlow, Prop., Inc. DISTILLED AND BOTTLED BY JACK DANIEL DISTILLERY • LYNCHBURG (POP. 383), TENN.
King of Turntables

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

New Troubador 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 ⅓ 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 Troubador 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 Troubador 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 stylii. 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) • Wow and flutter 0.1% • Overall Dimensions (with base and dust cover): 17-1/2" W. x 15-1/8" D. x 16" 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.

Troubador 598 playback system. $199.95 less base and dust cover. Satin walnut base and plexiglass cover combination $34.95. The 990 playback arm also available separately, $74.95.


EMPIRE

CIRCLE NO. 97 ON READER SERVICE CARD
Empire Long Playing Stereo

Color Technical specifications

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<th>1000ZE/X Tracks as Low as 0.1 Gram in Laboratory Playback Arms. Each 1000ZE/X and 999VE/X cartridge is individually adjusted to have a flat frequency response within ±1 dB from 20-20,000 Hz. Stereo separation is better than 35 dB at 1 KHz and remains 25 dB or better all the way out to 20,000 Hz. Overall frequency response a phenomenal 4-40,000 Hz. There are no electrical or mechanical peaks and total IM distortion at the standard 3.54 cm/sec groove velocity does not exceed 0.05% at any frequency within the full spectrum. Uses a .2 x .7 hand polished miniature diamond for exceptionally low mass. 999VE/X Recommended Tracking Force 1/4 to 1 1/4 Grams.</th>
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Surpassed in overall quality only by the 999VE/X and the 1000ZE/X, this cartridge combines high compliance with low tip mass for excellent tracking between 1/2 and 1 1/2 grams. Full frequency response is 6-36 kHz. Separation 35 dB, .2 x .7 mil bi-radial hand polished elliptical diamond. Recommended for high performance turntables and changers.

Delivers a fine frequency response of 8-32,000 Hz in top quality manual and automatic turntables and tone arms tracking at 1 1/4 to 2 grams or less, .2 x .7 mil bi-radial hand polished elliptical diamond stylus.

A tracking range of 1/4 to 2 grams, coupled to a .3 x .7 mil bi-radial hand polished elliptical diamond stylus, makes this an outstanding cartridge for high quality playback systems. Frequency response 8-32,000 Hz.

Designed to track from 1/4 to 2 grams in many of today's better changers. Will faithfully reproduce frequencies between 10-30,000 Hz while maintaining 35 dB of channel separation. .3 x .7 mil bi-radial hand polished elliptical diamond stylus.

For changers capable of tracking at less than 3 grams. Frequency response 10-30,000 Hz. The hand polished spherical diamond has a tip radius of .7 mil.

Perfect cartridge for popular automatic record players. Tracks 1 to 4 grams. A fine .4 x .7 mil bi-radial elliptical diamond stylus, frequency response 12-25,000 Hz.

A frequency response of 15-25,000 Hz. Tracked properly by record changers requiring up to 4 grams. .7 mil radius spherical diamond stylus.

With 1 1/4 to 4 gram tracking this economy elliptical produces a frequency response from 15-25,000 Hz. .4 x .7 mil bi-radial elliptical diamond. Great value for changers.

Life Test Data • 999VE/X and 1000ZE/X

New 5,000 play tests prove these are the longest playing cartridges. No one ever dared to challenge stereo cartridges the way we did. But then no one ever created anything like the 1000ZE/X or the 999VE/X before. We designed these cartridges to give superb playback at all frequencies, at any groove velocity, at tracking forces so low that records sound brand new even after 5,000 plays. We cycled the 1000ZE/X and the 999VE/X through 5,000 complete plays on a test pressing, more than 50 times the ordinary life usage of a record. Through the entire low and middle spectrum there was no audible of measurable wear or distortion, while at the high frequencies the loss was less than 3 dB at 20,000 Hz. . . . after a full 5,000 plays.

Similar life tests conducted on both the 1000ZE/X measurement standard and professional model 999VE/X.

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### Cor illidgE idElltifiCAtiOn ChArt

Which Empire cartridge should you choose for these turntables and record changers?

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### The Empire Cartridge — How it Works

Every Empire long playing cartridge is fully shielded. Four poles, four coils, and three magnets produce better magnetic balance and better hum rejection. There are no foreign noises with the Empire Cartridge. Perfectly magnetically balanced, with a signal to noise ratio of 80 dB, it features a moving magnetic element and stylus lever system .001 inch thick. The entire cartridge weighs only 7 grams — the ideal cartridge weight for modern compliance requirements.

The Experts Agree • For example, Stereo Review Magazine who tested 13 different cartridges rated the 999VE tops in light weight tracking ability.

Hi Fi Sound Magazine called the 999VE “A real Hi-Fi masterpiece... A remarkable cartridge unlikely to wear out discs any more rapidly than a feather held lightly against the spinning groove.”

Hi Fidelity Magazine found “that the high frequency peak invariably found in former magnetic pickups has been designed completely out of the audible range of the 999VE (For a frequency response) that remains flat within ±2.2 dB from 20 Hz to 20,000 Hz.”

Records and Recording Magazine stated emphatically that the 999VE stereo cartridge is “A design that encourages a hi fi purist to clap his hands with joy.”

Audio Magazine observing a remarkable 35 dB stereo spread between left and right channels in the 999VE said “Outstanding square waves. Tops in separation.”

Popular Science Magazine picked the 999VE hands-down as the cartridge for “The Stereo System I wish I owned” designed by Electronics Editor Ronald M. Benrey.

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 20,000Hz. 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.

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.

CROWN has added a new solid-state stereo preamplifier and power amplifier (see below) to its line of audio electronics. The IC 150 preamplifier, which incorporates two integrated circuits, has an output of up to 10 volts per channel before overload occurs. The frequency response for high-level inputs is 10 to 20,000 Hz ± 0.1 dB; RIAA phono equalization is accurate to within ±0.5 dB over its range. Intermodulation distortion is below 0.01 per cent (2.5 volts output); total harmonic distortion is essentially unmeasurable. Signal-to-noise ratio is 90 dB for high-level inputs and 80 dB for the phone inputs. The IC 150 has switchable input facilities for two phono cartridges, tuner, two auxiliary inputs, and two tape recorders (including two tape-monitor switches). The concentrically mounted tone controls are separate for each channel, and for flat response they can be switched out with a bypass pushbutton. The tone controls have a maximum response alteration of ±15 dB at 30 and 15,000 Hz. The high- and low-cut filters introduce roll-off slopes of 12 and 6 dB per octave, respectively, above 5,000 Hz and below 50 Hz. In addition to balance and volume controls (with switchable loudness compensation), the preamplifier has a "Panorama" control which, when rotated clockwise, continuously varies the mode from stereo to mono to reverse stereo. The unit measures 17 x 5 1/4 x 8 1/8 inches and costs $239, with an optional walnut cabinet priced at $33 more.

CROWN's new D 150 stereo power amplifier has a minimum continuous power output of 75 watts per channel, with both channels driven into 8-ohm loads. Harmonic distortion is under 0.01 per cent and intermodulation distortion is under 0.1 per cent, both at full rated output or less. Frequency response is 20 to 20,000 Hz ± 0.1 dB. The signal-to-noise ratio is 100 dB for a 75-watt output. The amplifier has a sensitivity of 1.2 volts for full output; the input impedance is nominally 25,000 ohms, but is adjustable. Internal limiting circuits protect the amplifier from damage during short-circuit or overdrive conditions and eliminate strong transients when the unit is switched on. The D 150, which measures 17 x 5 1/4 x 9 inches, can be panel-mounted in a 16 1/4 x 5-inch cutout. Price: $429; a walnut cabinet is $33 more.

Koss has introduced an improved version of the PRO/4A headphones designated the PRO/4 Double A. The new headphones can be operated from outputs with impedances from 4 to 16 ohms. They have a frequency response of 10 to 20,000 Hz and a power-handling capability of 2 1/2 volts continuous. Each earpiece contains a Mylar diaphragm approximately 1 inch in diameter and has a fluid-filled vinyl ear cushion. The headband is foam-padded and adjustable. A single 10-foot coiled cable terminates in a standard phone plug for amplifier connection. (The cable contains four conductors so that the phones can be rewired for amplifiers that will not accept a common ground.) There is also a bolt connector on the left earpiece, permitting a microphone assembly to be mounted on the phones. Finished in beige with black cushions and chrome trim, the headphones weigh under 2 lbs. and cost $60.

Scott's new 387 AM/stereo FM receiver has more power than any other receiver in the Scott line. Its internal construction is based on snap-in modular circuit boards and high-tension wire-wrap connections for reliability and ease of servicing. A row of seven push-on/push-off buttons on the front panel controls speaker switching (for two stereo pairs), FM interstation-noise muting, high-cut filter, mode, tape monitoring, and loudness compensation. The separate bass and treble controls are concentrically mounted, and the position of the input-selector switch is indicated by illuminated callouts near the tuning dial. Besides the usual AM, FM, phono, and auxiliary inputs, there are two microphone inputs on the rear panel. There is a stereo headphone jack, and the rear-panel tape inputs and outputs are duplicated by phone jacks on the back. (Continued on page 24)
If you don’t really need the ultimate precision of the Dual 1219 we recommend the slightly less eminent 1209.
Soon after we introduced the 1219 a year ago, it drew such comments from the test labs as: "a good example of how an already outstanding instrument can be further enhanced by imaginative engineering." (Julian Hirsch in Stereo Review)

One example of that imaginative engineering is the four-point gimbal suspension of the 1219's tonearm. Another is the Mode Selector that shifts the tonearm base — up for multiple play, down for single play.

But innovations like these are costly: $175 to be precise.

Which may explain why many budget-conscious record lovers, including professionals, feel more at home with the 1209 at $129.50. Especially because its engineering precision and performance offer everything they really need.

The 1209's low-mass tubular tonearm tracks flawlessly as low as a half gram. Because all tonearm settings must be precise at such low tracking force, the counterbalance clicks at every hundredth gram. Anti-skating is calibrated separately for conical and elliptical styli.

The hi-torque/synchronous motor brings the four pound cast platter to full speed in less than a half turn. And keeps speed dead-constant no matter how much line voltage may vary.

But since the rest of the musical world is not as accurate as the 1209, we added a control to let you match record pitch to less fortunate instruments such as out-of-tune pianos.

The cue control is silicone-damped, and eases the tonearm onto the record more gently than a surgeon's hand.

As you can see, there's nothing middling about our middle-of-the-line turntable.

However, if by this time you feel you don’t need even this many features, we suggest the new 1215 at $99.50.

But that's another story, and you'll have to write for it.

THE "Stereo 71" Hi-Fi Home Entertainment Show is to be held November 5-7 at the Royal York Hotel in Toronto, Canada. The show, which is to occupy more than sixty exhibition rooms, will feature displays and demonstrations of all types of component high-fidelity equipment and complete music and entertainment systems. Also on hand will be five additional programs: holography (three-dimensional image is formed in the air by the acoustic interaction that takes place between the outputs of the three speakers), the Altec Acousta-Voicette equalizer, and four-channel stereo. Those wishing further information should write either Mr. J. R. Graham, Show Manager, or Miss Barbara Longo, Show Co-ordinator, at "Stereo 71," Maclean-Hunter Limited, 481 University Avenue, Toronto 2, Ontario, Canada.

Sony MR-9700W AM/FM Portable Radio

Sony has introduced an AM/stereo FM portable radio that produces stereo sound from three speakers in a single cabinet. The speakers are connected to the internal amplifiers in a matrix configuration, so that the center speaker (4 inches in diameter) receives a signal which is the sum of the two channels, while the two side speakers (3½ inches each) are fed different signals derived from the matrixing circuits. The stereo image is formed in the air by the acoustical interaction that takes place between the outputs of the three speakers.

The new unit, designated the MR-9700W, can be operated from power-line a.c. or d.c. (four "D" cells) power sources. It has a single tone control, stereo-blend control, and a volume-control/power switch, plus a stereo-broadcast indicator light, switchable AFC, and a pushbutton for illuminating the tuning dial during d.c. operation (the dial is always lit for a.c.). A three-position selector switch concentric with the tuning knob chooses either AM or stereo or mono FM. A pivoted FM antenna telescopes from the top of the cabinet next to the carrying handle; the ferrite-bar AM antenna is built in. There are also terminals for external AM and FM antennas at the rear. The radio is housed in a wood cabinet; overall dimensions are 13½ x 9½ x 3¾ inches. Price: $499.95. An adapter for operation from an automobile's cigarette-lighter socket is available as an accessory.

Stereo Review

Altec Lansing 714A Receiver

Altec Lansing has expanded its line of stereo receivers with the Model 714A, an AM/stereo FM unit with slider-type controls for volume, balance, bass, and treble. Fourteen push-on/push-off keys line the bottom edge of the front panel, five of which perform such functions as mode selection, switching in or out two pairs of speakers, turning the unit on and off, and muting the receiver's output when listening must be briefly interrupted. The rest choose between internal (AM and FM) and external (AUX and two phono inputs) program sources and introduce FM interstation-noise muting, loudness compensation, and a high-cut filter. Signal-strength and channel-center tuning meters are set into the unit's black-out dial. There is a stereo headphone jack. On the rear panel are spring-loaded speaker terminals and two accessory jacks for the Altec Acousta-Voicette equalizer.

The Model 714A has a power output of 44 watts continuous per channel into 8-ohm loads with both channels driven. Harmonic and intermodulation distortion at rated output are both under 0.5 per cent. Frequency response is 15 to 45,000 Hz ± 1 dB; power bandwidth is 15 to 25,000 Hz. Hum and noise are 60 and 75 dB below rated output for the phono and high-level inputs, respectively. The receiver's FM section has electronic rather than mechanical tuning and contains four FET's. IHF sensitivity is 1.9 microvolts, capture ratio is 2 dB, and image rejection is 84 dB. The frequency response is 20 to 15,000 Hz ± 1 dB. Overall dimensions of the Model 714A are approximately 16½ x 5¼ x 13¼ inches. Price: $399; optional walnut cabinet: $25.50.
This is the tape system that turns blank 8-track cartridges into recorded 8-track tape. One after another. After another. Slip in a cartridge. Talk or sing into the mike. Use any other sound source. And you're doing what the cartridge recording companies do. Just on a smaller scale.

And to help you become a pro at this business we've put the two hottest developments in 8-track together for the first time. Automatic shut-off which makes it impossible for you to tape over what you've just recorded. (Shuts off even if you're not around listening to what's being taped.) And Fast Wind that lets you get where you want to on tape without wasting time.

Twin VU meters make sure you get the right recording level. And professional-type sliding bass, treble and volume controls let you adjust the playback to your ears. If you don't feel like working, you can sit back, relax and enjoy pre-recorded cartridges. Or one of the radios built into the system. FM, AM and FM stereo. FET pulls in stations you didn't know were there. And keeps one from interfering with another. AFC on FM holds the signal with an iron grip. There's even a Stereo Eye that tells your eyes when you're listening to stereo. In case your ears can't tell.

The whole package, with its black-out dial and walnut-grained cabinetry, plays through 4 perfectly matched, glorious sounding speakers. With enough power behind them to knock down the walls of Jericho. Or make your neighbors climb theirs.

Stop in at your Panasonic dealer and investigate our Model RS-820S—the 8-track stereo cartridge factory. A whole new world of fun and profit awaits you.

Open your own 8-track cartridge factory.

PANASONIC®
just slightly ahead of our time.

200 Park Avenue, New York 10017. For your nearest Panasonic dealer, call 800 243-6000. In Conn., 800 945-0655. We pay for the call. Ask about Model RS-320S.

CIRCLE NO. 4 ON READER SERVICE CARD
Listen.
It's a whole new world.

Sound has broken free. It can start anywhere, end anywhere. There are five new JBL Aquarius speakers. They range from a very modest cost to very expensive.

They're a new sound. Environmental sound. (Close your eyes and those beautiful new speakers go away.)

Is the sound of Aquarius better than directional sound? No. It's different.

Put Aquarius where it pleases the eye. Anywhere. Like a print or a vase or a painting. (Forget about acoustics, the engineering is inside.) Play it softly; the smallest sound will find you. Now, play it full. Everything you hear is true.

Aquarius 1 is for bookshelf or floor. Aquarius 2 is the sound of contemporary design. Aquarius 2A is angles and curves and color. Aquarius 3 puts it all together in 50"x18"x20". Aquarius 4, if you don't want to give up anything, including space.

Aquarius 2 is only available in oiled walnut. Aquarius 3 comes in a wild red or satin white. All the rest are available in satin white or oiled walnut.

Look for your high fidelity specialist. Then listen to Aquarius. It's a whole new world. Aquarius by JBL. The next generation.


CIRCLE NO. 3 ON READER SERVICE CARD
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.
**FREE INFORMATION SERVICE**

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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.)

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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.
The voltage supply in your city can vary as much as 10%. And even the slightest variation such as that caused by a toaster or an air conditioner will change tape speed significantly. To deal effectively with this situation, the Concord Mark III is equipped with a hysteresis motor drive which does not rely on line voltage but rather on the 60 cycle power line frequency. It maintains constant speed regardless of voltage variation.

And the Concord Mark III offers far more than just hysteresis drive. Quality heads: the record and playback heads are made of a newly developed, pressure-sintered ferrite. Their diamond-hard characteristics make it possible for Concord to offer a 25-year guarantee. These heads maintain their original high standard of performance for many, many years—no significant head wear, no deterioration in frequency response or signal-to-noise ratio.

Other features: the tape transport mechanism assures a fast start-up; two tension arms stamp out burble; a special filter eliminates flutter due to tape scrape or cogging action; a cue control, flip-up head cover for professional editing; tape monitoring; three speeds; sound-on-sound; variable echo control for reverb; calibrated VU meters; stereo headphone jack. Concord Mark III, a lot of value for under $250.

Concord Mark Series decks start at under $200. For free comparison chart write Concord Electronics Corporation, 1935 Armacost Ave, Los Angeles, Calif. 90025, a subsidiary of Ehrenreich Photo-Optical Industries, Incorporated.
Faithful to the end.

You can bet your recording life on it.
Maxell Ultra Dynamic. The ultra−stereo cassette tape with a pedigree.

Doubled frequency characteristic of 20,000 Hz. SN ratio 5dB higher than most tapes. Greatly decreased distortion factor.
Strength plus. And guaranteed, unconditionally. Like all Maxell tapes, UD must perform to your standards or we'll replace it, pronto!

When you put heart, soul and sweat into a taping session, you want Maxell Ultra Dynamic. In 60- and 90-minute cassettes. It can easily become your best friend.

For details on the complete line of Maxell professional tapes, write

maxell.
Maxell Corp. of America
Dept. SR -1, 501 Fifth Avenue,
New York, N. Y. 10017

AUDI0 QUESTIONS & ANSWERS

Noise vs. Equipment Quality
Q. Why do records and tapes seem to have less high-frequency noise (surface noise, tape hiss, clicks, and so forth) when played on top-grade equipment that presumably has a higher frequency response than medium-grade equipment?

A. In respect to their ability to reproduce the noise frequencies, the frequency ranges of both high-grade and medium-grade equipment are more than sufficient. The difference is that the high-grade phonograph cartridges and speakers usually have a smoother frequency response. This means two things: (1) that there are no large response peaks in the noise frequencies, and (2) that neither the cartridge nor the speaker tends to resonate at the noise frequencies. (Response peaks and resonances can emphasize the noise frequencies far out of proportion to the other frequencies.) Incidentally, very low-grade equipment that is not able to reproduce the higher frequencies—and therefore noise and high-frequency distortion—would be preferred by most listeners for noisy and/or distorted program material.

Intermittents
Q. For the past year or so my phonograph volume level has been popping up and down intermittently. I have had both the amplifier and the phonograph cartridge checked but nobody seems to be able to determine where the trouble is. Can you offer any suggestions?

A. The intermittent is probably the biggest headache for any service technician handling electronic equipment. The classic symptom is a sudden and unprovoked complete or partial loss of signal; operation returns to normal when the amplifier is either physically or electrically disturbed. The service technician's problem is that simply connecting his test instruments into the circuits to make diagnostic measurements will frequently restore normal operation. And when the circuit is operating normally there is usually no way of localizing the source of the defect. Three-quarters of the battle is won when you can determine the stage in which the defect is occurring. In your case it has to be either the phonograph cartridge, the record-player wiring, the magnetic-cord preamplifier stage, or a switch that connects the preamplifier stage to the remainder of the circuit. The first thing to do is to substitute another cartridge to see if that clears up the trouble. If another cartridge doesn't help, try vigorously wiggling the phonograph leads from your turntable while your system is playing. If possible, try substituting an entirely new turntable. You do not specify whether the drop in volume occurs in both channels. If only one channel has the fault, then you have a clue as to which section of the preamplifier is causing the trouble, assuming that the above tests have indicated the preamplifier as the source. The way to approach the problem—although you may not be able to do it yourself—is to open up the amplifier and operate it with the preamplifier section exposed. With the phonograph playing, try gently moving each of the components on the printed circuit board of the affected channel using a pair of long-nose pliers. What causes most intermittents is that some component either opens up mechanically and breaks the signal path, or it makes a connection where it shouldn't and thereby short-circuits the signal. Since the problem is mechanical rather than electrical, wiggling the circuit-board components will often turn an intermittent failure into a permanent one, thereby localizing the defect and enabling a repair to be made.

Turntable Static
Q. I have two turntables, one of which produces what seems to be static discharge noises through the speaker when certain records are played. Other discs (those that have a built-in anti-static treatment) are okay. The same static-charged records when played on my other turntable do not produce noise in the speaker. Why should this be?

A. Record-static noise occurs only when the electrostatic charges that normally build up during the record-handling and playing process for some reason are not allowed to slowly leak off. (This electrostatic charge is identical to that created by friction of your feet)
You can’t blame people these days if they want to get the most for their money. Maybe that’s why the Pioneer SX-990 is so popular. When you compare its specifications and features with similar priced AM-FM stereo receivers, and then listen to its performance, you become a believer.

For instance, with sensitivity at 1.7 microvolts, the SX-990 brings in the most timid FM stations and makes them sound as though they were just around the corner. Or, if you live where FM stations are a hairline away from each other on the dial, it delivers clear, interference-free reception. Small wonder, with a capture ratio of 1dB.

Pioneer has invested the SX-990 with 130 watts of IHF music power (26 +29 RMS at 8 ohms). And it’s all clean and smooth with a low 0.5% harmonic distortion at rated output. Its top quality circuitry includes four IC’s and a special low-noise FET.

Versatile, you can connect two sets of speaker systems and plug in a recorder, tape recorder, microphone and headset. The pre and main amps may be used separately for extra flexibility. Additional features include: loudness contour control... dual tuning meters... pushbutton muting... center channel output.

Sounds like priced at $299.95, an oil-walnut cabinet is included. Make your own comparison test at a Pioneer dealer today.

Pioneer Electronics U.S.A. Corp., 178 Commerce Road, Carlicstad, New Jersey 07023.

West Coast: 1335 W. 134th St., Gardena, Calif. 90247 • Canada: E. H. Parker Co., 37 Lesmill Rd., Dor Mills, Ontario
Introducing Altec stereo components.

Built a little better.

ALTEC LANSING

A QUALITY COMPANY OF LTV UNIV ALTEC, INC.
They’re built a little better.

1. Altec’s new 2875A Granada Bi-amp Speaker System incorporates the all-new 600 Hz Electronic Crossover Bi-amp which delivers 60 watts RMS to a new Dynamic Force* 15-inch woofer and 30 watts RMS to the high frequency driver.

2. Altec’s new 2873A Barcelona Bi-amp Speaker System incorporates a 500 Hz Electronic Crossover Bi-amp and new 411-8A Dynamic Force woofer. Mids and highs are reproduced through a 25" sectional horn and new Symbiotik Driver.

3. Altec’s new 724A AM/FM Stereo Tuner Pre-Amplifier, features the new Varitronik tuner with 4 FET’s for the highest sensitivity and stability.

4. Altec’s new 725A AM/FM Stereo Receiver is rated 60/60 watts RMS. It includes the new Varitronik FM Tuner with 4 FET’s, a combination of Butterworth and crystal filters, all plug-in modular circuitry and 10 other performance features.

5. Altec’s new 714A AM/FM Stereo Receiver delivers 44 watts RMS (100 watts IHF music power) and features 3 FET’s, 2 crystal filters, plus a volume range switch, black-out dial and spring loaded terminals for speakers.

6. Altec’s new 911A Stereo AM/FM Music Center has 44/44 watts RMS (180 watts IHF music power). Plus, it incorporates the most sophisticated components including an FM tuner section with 3 FET’s, 2 crystal filters and IC’s, Garrard’s best automatic turntable and a Shure “High Track” cartridge.

7. Altec’s new 912A Stereo AM/FM Cassette Music Center delivers 44/44 watts RMS (180 watts IHF music power) — more power than any other music center on the market. Plus, this model features a front-loading Staar cassette tape recorder for stereo playback and recording from any source.

Exclusive Dynamic Force Concept
Altec has developed a new type of low frequency speaker. It features a long voice coil with edge wound pre-flattened copper ribbon wire and a magnetic structure of extremely high flux field. (Note this unusually strong magnetic field controls the motion of the cone to an extent not normally found in infinite baffle systems.) This uniquely designed unit is capable of producing a Dynamic Force of up to 16 lbs. With this unusually large force capability, as much as twice the compression can be produced than is normal in acoustic suspension speakers. The result is greatly improved low frequency transient performance, better linearity, extended low frequency response and reduced distortion while maintaining medium efficiency.

Altec’s 770A Electronic Crossover Bi-Amplifier
This highly sophisticated electronic component features a very fine bass amplifier rated at 60 watts RMS electronically crossed over at 800 Hz or 500 Hz to an equally fine high frequency amplifier rated at 30 watts RMS. The use of any passive crossover is eliminated and thus the damping effect of each amplifier is utilized to its utmost. The result is a much tighter transient response and an improved overall sound quality. Note also that with the 770A, IM distortion is inherently decreased to its lowest possible point—virtually unmeasurable under the normal IHF method.

Exclusive Varitronik Tuner
This new tuner uses 4 FET’s (field effect transistors). Three of them provide amplification while the fourth operates as an oscillator. By using FET’s, any cross modulation problems experienced with bi-polar transistors is eliminated. The exclusive Varitronik tuner also uses 4 double Varicaps instead of the conventional mechanical tuning capacitor to achieve a better balanced circuit performance. Mechanical to electronic conversion required for Varicap tuning is achieved by a specially designed potentiometer which provides linear tracking and accurate calibration of the FM scale. Low distortion, high stability and high sensitivity are also characteristic of this new tuner.

Altec Direct-Plug-in Modular Circuitry
The use of plug-in modular circuitry is incorporated into the design of each and every new Altec stereo component. In addition to the obvious benefits of simpler production and faster servicing, the maximum use of plug-in modular circuitry allows the highest possible degree of consistency and uniformity in performance from product to product. Maximum reliability is inherent in its design simplicity. And a new high in quality control is achieved.

The Altec Acousta-Voicette Stereo Equalizer
The new Altec Acousta-Voicette accurately "tunes" the frequency responses of your complete component system and even your listening room to a flat acoustical response at your ears. By utilizing 24 full-adjustable, critical bandwidth rejection filters per channel, it puts all frequency responses into perfect balance. For the first time, you can hear the original acoustic environment of the recording hall—and not the acoustics of your listening room. Altec’s new stereo components are especially designed to work with the new 729A Acousta-Voicette, and they’re built with separate accessory jacks as shown to the left.

For a free copy of the new Altec catalog, write to Altec Lansing, 1515 S. Manchester Ave., Anaheim, CA 92803.
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-or-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 Decormatic power base (a $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

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 made Spotmatic a classic—the world's best-selling 35mm SLR. Precise, durable, lightweight, go-able. And so easy to use, it makes you an even better photographer than you thought you were. With Super-Takumar f/1.4 lens, about $300.

Tape-Magnetism Life

Q. I have read that a signal on tape tends to deteriorate as time passes because of a weakening of the magnetic field. Is this true?

PETER STOLLER
Garden City, N.Y.

A. A Library of Congress study on tape life indicates that the magnetism of the signal does not deteriorate, but print-through (transference of the signal to adjacent tape layers) may occur. This can be minimized by using special low print-through tape or by using a standard-thickness tape and recording at a level somewhat lower than normal.

Professionals also advise against fast winding or rewinding after play. Such winding tends to pack the tape layers tightly, which in turn aggravates the print-through problem. When storing tapes for long periods, it is wise to play them occasionally so as to shift the adjacent tape layers in relation to each other. This will prevent a given magnetic signal pattern from impinging for long periods on the same adjacent layer of tape.
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 black out 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

9600 Aldrich Avenue Minneapolis, Minnesota 55420

CIRCLE NO. 63 ON READER SERVICE CARD
The SL-8 was the finest phono arm in the world until we designed The SL-8E.

How do you improve on the best? Just add automatic cueing.

At the touch of a button the arm lowers softly to the record. Another touch of the button raises the arm.

At the end of play, the arm automatically lifts with the same gentle motion.

The FINEST POSSIBLE Sound Reproduction is still the same.

# TONAL INTERACTION

**By HANS H. FANTEL**

Back in the eighteenth century, a German organist by the name of Sorge encountered a surprising phenomenon. When he sounded two bass notes on the organ he could hear a third, still lower, note—a note he wasn't playing at all. The Italian violinist Tartini made the same discovery on the violin.

Combination tones, as they came to be called, were not satisfactorily explained until Helmholtz's investigation of the subject some time later. But it had long been known that two notes of slightly different frequencies—and therefore wavelengths—alternately reinforce and diminish each other's strength at a regular rate. The effect is the result of their constantly shifting in and out of phase relative to each other, producing the steady loudness fluctuation—a sort of tremolo—known as a beat. The number of beats per second is equal to the difference in frequency between the tones producing the beat, so that notes close in frequency—i.e., only a few hertz apart—produce relatively slow but very noticeable beats. Piano tuners use these to judge how close they have come to adjusting the several strings for each note to true consonance, at which point the beats disappear. And certain organs have a stop that deliberately produces beats for special effects.

What Sorge's observation led to was the realization that, as the tones producing a beat move farther apart in frequency, the beating becomes more rapid, until the ear no longer perceives it as a loudness fluctuation. Then, as the tones continue to separate (provided they are sufficiently loud), at least two new tones begin to emerge, one somewhat lower in pitch than either of the original tones, and the other somewhat higher. The lower of these new notes is called the difference tone, the higher the summation tone. As might be inferred, these combination tones have pitches equal, respectively, to the difference and the sum of the two original frequencies. Furthermore, if the original tones are not "pure" tones of a single frequency (and usually they are not), their harmonics will often interact in the same way to produce combination tones of their own.

Even with their limited instruments the early researchers were able to determine that these combination tones, although distinctly audible, do not, as a rule, have any real existence in the air. It was Helmholtz who finally worked out the currently accepted explanation that combination tones exist for the ear because of inherent nonlinearities in its response. But theoretical considerations had not deterred musicians. For example, organists had long known that through tonal interactions they could draw from their instrument notes considerably lower than any actually present in its registration—a phenomenon called "acoustic bass."

Audiophiles will recognize a close parallel between combination tones and intermodulation-distortion products—the sum and difference frequencies generated when separate signals modulate each other in a nonlinear circuit. But where combination tones are part of the ear's natural contribution to the listening experience, distortion products are spurious additions from your reproducing equipment.
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.
11 tips on how to start and stay with a pipe.

By JAMES GOODFRIEND

GOING ON RECORD

MUSIC VERTICAL AND HORIZONTAL

Readers of this column must expect to find here, at least every once in a while, something approximating a record review. One can carry on about the theory of record marketing for only so long, generalize on product quality for only so long. Eventually it becomes necessary to say something about a specific record, or set of records, if only because it is the tangible embodiment of some bit of the theory. There are two such sets of records I would like to comment on here. One I have had in my possession, in the form of advance acetates, for a week or so; the other is represented only by a press release, although I am already familiar with at least a part of its contents. Both, I feel, are important, because both are, in totally different ways, what I would call “functional records”; that is to say, they have the potentiality of doing something besides offering entertainment.

The first of these sets is entitled “The Seraphim Guide to the Classics” (Seraphim SJ 6061, ten discs, $29.80) and it is, as the liner notes modestly state, “a compact survey of ‘classics’ of music of Western Civilization from the Middle Ages to Today.” At first sight it might seem to be another recorded history of music, of which we have had several, some more, some less successful. But to my mind, that is not what it is at all. It is, rather, an overgrown sampler of classical music, something not to be taken chronologically like a high school course, but to be dipped into at any point along the line to find what might be appealing.

The producers of this set have not saddled themselves with the onus of including only complete works, and therefore have avoided the trap of having to give over a full record side to, say, a Haydn symphony to “represent” the Classical period. They have instead included short complete works and complete movements from longer works, thus giving a reasonably true impression of the scope of any piece, while saving enough space to include a lot of them. Among the less expected items to be found are Delius’ On Hearing the First Cuckoo in Spring, Poulenc’s Movements perpetuels, orchestral excerpts from Purcell’s King Arthur, Boulez’s Le Soleil des eaux, Moussorgsky’s Khovantchina Prelude, a movement from C.P.E. Bach keyboard concerto and one from Franck’s Psyche, and two songs by Alfonso the Wise.

That list, I think, is sufficient to show the range of the project. The more expected names are there too: the Beethoven sonata movement, the complete Bach Brandenburg No. 2, Debussy’s Nuages, and so on. In short, what we have here is an abundant diversity of stylistic samples (performed by an equally diverse roster of artists, most of them quite fine), a package tailor-made for two kinds of people: those who know nothing about classical music and want to get into it, but don’t know where or how to start; and those who find themselves listening to only the most familiar classical music and are unsure of what their next step should be.

However, I can think of other functions for it. I’d like to see it in almost every third- or fourth-grade elementary school class in the country—not put away in the library, but in active use throughout the year to at least expose the younger children to the musical side of the history and geography of the world they live in. I’d like to make a gift of it to any and all seventeen-year-old disciples of rock (which I am not knocking) who protest that everything worthwhile in music has been a product of the last fifteen years. (May they find relevance here in the discovery of the true discoverers of what they mistakenly feel only they have discovered.) I’d like to see it sent, together with the hot items, to those disc jockeys who can count only from one to forty, and who haven’t heard a piece of music in years that didn’t immediately produce a mental image of ratings, sales figures, telephone responses, charts, and dollars. (It will give them rest.) Also to all those disc jockeys who pride themselves on playing only “good music” (by which they mean yesterday’s pops) so that their snobbism (Continued on page 42)

Stereo Review
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 discern 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.

"You'll Hear More From Telex"
Schnabel/Beethoven.
On 16 discs.
Now under $48.

Schnabel owns the Beethoven symphonies. Homer in a solo violin is a reminder of the indescribable element of genius. Now we offer those 13 sessions on LP in the magnificent collection of the "20th Century," in meticulously remastered stereo stereo sound. And we have added a 3-disc bonus of variations and short pieces—many never before issued on LP.

They're 3 in 1 want. So you needn't buy all 19 at once. But my these irresistible prices, why not?

Small Sony 1 Turntable $199.99
Small Sony 2 Turntable $299.99
Small Sony 3 Turntable $399.99
Small Sony 4 Turntable $499.99
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Now under $48.
You'll Hear More
From the Telex Complete Stereo Center

The newest Stereo Home Entertainment system in a Spanish credenza! Never before has a home entertainment center offered so much! Features the solid state Qatron, the first and only 8 track tape cartridge changer. Plays 12 cartridges automatically in any programmed or random selection you wish. Lets you listen to 13 hours of unrepeated, continuous music. With AM/FM, FM stereo tuner and 150 watts of peak music power. Four speed record changer has adjustable tone arm. Features four speaker stereo sound system. All in superbly styled cabinetry of distressed oak.

Sound beautiful? Yes! Looks great, too!
Telex has a complete selection of Home Entertainment Centers. And compacts, components, portables and more. Everything you want in sound equipment—styled to complement your home. Write for free brochure.

"You'll Hear More From Telex"
**New Heathkit** Video Gifts

**New Heathkit solid-state color TV...**
world's most advanced design...as low as $489.95*

- Modular plug-in circuit boards
- MOSFET VHF tuner & 3-stage IF
- Built-in Automatic Fine Tuning
- Built-in Power Channel Advance
- Total owner-service capability
- Choice of 227 sq. in. or 295 sq. in.

**Cabinet...assembled us-
3 cabinets for 227 sq. in. GR-270
3 cabinets for 295 sq. in. GR-370**

**New Heathkit solid-state portable color TV...**
Console performance & portable convenience...only $349.95*

Wireless remote control
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Add extra convenience & versatility...turn set on & off, adjust volume, color &
tint, change VHF channels...all from across the room. Assembles, installs &
adjusts in just a few hours.

**3 cabinets for 295 sq. in. GR-370**

<table>
<thead>
<tr>
<th>Cabinet Type</th>
<th>Model</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deluxe Early American Cabinet...factory assembled of hardwoods &amp; veneers and finished in a flawless Mediterranean pecan. Statuary bronze trim handle.</td>
<td>GRA-303-20</td>
<td>73 lb.</td>
<td>$114.95*</td>
<td></td>
</tr>
<tr>
<td>Contemporary Walnut Cabinet...factory assembled of fine veneers &amp; solids with an oil-rubbed walnut finish.</td>
<td>GRA-203-20</td>
<td>65 lb.</td>
<td>$58.15*</td>
<td></td>
</tr>
<tr>
<td>Handy Roll-Around Cart and Cabinet Combination. Features the Gra-203-20 walnut cabinet plus a walnut-trimmed wheeled cart with storage shelf.</td>
<td>GRA-203-20</td>
<td>19 lbs.</td>
<td>$65.95*</td>
<td></td>
</tr>
</tbody>
</table>

**3 cabinets for 227 sq. in. GR-270**

<table>
<thead>
<tr>
<th>Cabinet Type</th>
<th>Model</th>
<th>Dimensions</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contemporary Walnut Cabinet and Base Combination. Handsome walnut finished cabinet sits on a matching walnut base.</td>
<td>GRA-300-20</td>
<td>127 lb.</td>
<td>$569.95*</td>
<td></td>
</tr>
<tr>
<td>Deluxe Early American Cabinet...factory assembled of hardwoods &amp; veneers and finished in classic Salem Maple.</td>
<td>GRA-200-20</td>
<td>46 lb.</td>
<td>$489.95*</td>
<td></td>
</tr>
<tr>
<td>Handy Roll-Around Cart and Cabinet Combination. Features the Gra-203-20 walnut cabinet plus a walnut-trimmed wheeled cart with storage shelf.</td>
<td>GRA-203-20</td>
<td>19 lbs.</td>
<td>$65.95*</td>
<td></td>
</tr>
</tbody>
</table>

**New Heathkit solid-state portable color TV...**
Console performance & portable convenience...only $349.95*

What do you do for an encore after you've designed the finest console solid-state color TVs, the GR-270 & GR-370 above. Simple — make them portable! That's what Heath engineers did in the new GR-169 solid-state portable color TV. They took the highly advanced GR-370 circuitry, changed it very slightly to accommodate the different power requirements of the smaller picture tube, and packaged it in a compact, portable cabinet. Result: a portable with console quality & performance...the new Heathkit "169". It features the same MOSFET VHF tuner, the same high gain 3-stage IF for superlative color performance, the same modular plug-in glass epoxy circuit boards used in the "270" and "370". And, of course, it features the same exclusive Heath self-service capability that lets you do the periodic convergence and focus adjustments required of all color TVs...plus the added advantage of being able to service the entire set, right down to the last part, using the exclusive Heath built-in VHF & UHF antennas & connections for external antennas; instant picture & sound; complete secondary controls hidden behind a hinged door on the front panel; high resolution circuitry for crisp, sharp pictures. If you're looking for console performance that you can carry around, this is it — the new GR-169...from Heath, of course. Kit GR-169, 48 lbs.
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Assuming that they do, the next question is what they want to see and how much of it. One solution is to show what the music may seem to suggest in imaginative terms à la the Disney-Stokowski Fantasia of thirty-odd years ago. Another is to concentrate on those who are making the music. This was the course chosen by BBC in the Beethoven series, and it proved, for me, to be a disaster.

There were cameras all over the place, the monitor switching from one to another, restlessly, tactlessly, and tastelessly closing in on soloists, string sections, wind choirs, percussionists, and so on. The result was artistically abominable, if only because the eye was forever being urged to ignore the proportions established by the composer for aural perception. And then it was much too obvious—or pedagogical. We all know what horns and oboes and clarinets and fiddles look like, and we know how they are played and how people look when playing them. There is nothing delightful, or even especially interesting, in the spectacle of someone playing a familiar musical instrument.

These irritations were compounded over a series of nine symphonies. One began to recognize the cameras: the one that gave us a close-up of the horns, another that dwelt on the massed double basses, still another that fastened on the neck of a second fiddle glimpsed over Klemperer's shoulder. And so one looked away, listened, and guessed at what the screen would be showing, turning from time to time to check the accuracy of one's guesses, then looking away again, or closing one's eyes, exasperated because it was all so predictable, disruptive, and boring.

WHY, one wondered, can't the camera take a seat and stay there? Must one's attention to the music be diverted every few seconds by minute inspection of the valves of a trumpet, the racing fingers of fiddle players, and a conductor's raised eyebrows? One of the troubles with this obsession with magnification and inspection is that the whole solemn exercise tends to become ridiculous. The sanctimoniousness of most concerts, these days, is an invitation to caricature in any case. The close-up technique of the TV cameras achieves it.

There was only one good shot in the Beethoven series: that of Klemperer, head-on and close-up, conducting. In his face and gestures one could experience the symphonies with him and his men, and participate in their realization in a manner impossible from any seat in any auditorium. The BBC, presumably, has this shot on file for the whole of the nine symphonies. Some day, one hopes, they will have the guts to present them again, or at least one of them, without ever taking our eyes off Klemperer. I can guarantee a new experience and a new fascination in the appreciation of a great conductor at work with great music.
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IN commenting on the Beethoven piano concertos, it is usually pointed out that the concerto we know as the First was actually composed a few years after the one that bears the number two. As in so many other instances in the history of music, opus numbers are deceptive, chronological order having been upset by the custom of assigning opus numbers at the time of publication, not of composition.

In reality, the concerto we refer to as Beethoven's first for piano and orchestra was the fourth he produced in the medium. The actual first was a Concerto in E-flat for piano and small orchestra, composed when Beethoven was a lad of fourteen in Bonn. Though one could spend a lifetime attending concerts without ever encountering the work in performance, there are two different recordings of the score currently available to collectors.

Beethoven turned to the piano concerto form for the second time during his late teens. A. W. Thayer, one of the composer's most penetrating and devoted biographers, speculates that it was some time between Beethoven's eighteenth and twenty-third years that he produced a Piano Concerto in D, of which only the first movement has survived.

In 1795, when he was twenty-five, Beethoven produced what amounted to his third piano concerto—the one that posterity has labeled No. 2 in B-flat—and his fourth, erroneously dubbed the First, followed two years after that. Beethoven thus was a composer with considerable experience in the piano-and-orchestra combination when he himself unveiled his "first" concerto to the public.

Over the years this C Major Piano Concerto has taken more than its share of abuse. During the early years of its life, the Concerto was considered "far-out" and daring. In more recent times, on the other hand, it has sometimes been dismissed as formative and "merely interesting through indicating the course of Beethoven's development" (the quotation is from another Beethoven biographer, Paul Bekker). The ultimate insult to the score is its premature assignment to neophyte piano students, as if it were little more than a practice piece that makes scant requirements of its performers. Actually, nothing could be further from the truth. Despite its seeming simplicity, Beethoven's C Major Piano Concerto is a noble, impassioned score that throbs with the vitality of a mighty creator in the act of discovering his own personal voice. Pitts Sandborn, that distinguished music critic and annotator of a generation ago, put the case well:

The C Major Piano Concerto is a masterpiece in miniature. Vivacious, chic, sparkling, and touched with an harmonic pungency . . . the opening and closing Allegros are entirely delightful today. And the intervening Largo is even more. This romanza is touched with a divinity that stems unmistakably from Mozart, breathing forth in its flowering the heavenly aroma of the quartet "Non ti fidar" and the Mask Trio in Don Giovanni.

What with separate recordings of the concerto on a single disc, along with those that form part of complete sets of the Beethoven piano concertos, the total number of available recordings of the C Major Concerto comes to something like a dozen and a half. Some of them, obviously, can be eliminated because of dated sonics or stylistic idiosyncrasies, but it is surprising how many of those remaining offer exceptionally satisfying performances. My favorites among them are the versions by Claudio Arrau and Bernard Haitink (Philips 839749 LY); Daniel Barenboim and Otto Klemperer (included in Angel S 3752); Emil Gilels and George Szell (included in Angel S 3731); Karl Richter and Charles Munch (RCA Victrola VICS 1478); Rudolf Serkin and Eugene Ormandy (Columbia MS 6838); and Solomon and Herbert Menges (Seraphim S 60016). I would also include in this list the Fleisher-Szell account that was once available on Epic and will soon reappear on the Odyssey label.

Each of these performances will give lasting pleasure. Arrau, Richter, and Serkin all invest their readings with high drama and personal distinction; Barenboim, Gilels, and Solomon offer gentler but no less persuasive accounts. All six are well recorded, though the most recent ones (Barenboim-Klemperer and Gilels-Szell) have a sonic fullness and ensemble balance that score points over their rivals. If I were asked to select my own favorite among the recordings of the score, I would probably choose the Serkin-Ormandy rendition, a really electric, totally involved performance. Budget-conscious collectors should note that both the Richter and Solomon recordings are on low-price labels.

Reel-to-reel tape collectors have available to them the exhilarating Serkin-Ormandy account (Columbia MQ 791) in a fine tape version.

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Sony Corporation of America, 47-47 Van Dam Street, Long Island City, New York 11101.
JULIAN HIRSCH HITS THE (CASSETTE) DECKS
T he cassette has "come of age" as a high-fidelity medium. Any doubts we had about it were dispelled by our recent tests and evaluations of a broad sampling of cassette decks. A couple of years ago, our initial exposure to good cassette machines convinced us that the potential was there, although most of the early cassette recorders fell somewhat short of the mark. Continuing advances in magnetic-recording technology have resulted in the present state of cassette performance, which is superior to our most optimistic expectations of only a few years ago.

Briefly, the tape cassette, originally developed by Philips and now standardized throughout the world, is a tiny reel-to-reel system. The tape is attached at both ends to miniature reel hubs permanently installed in a rugged, compact plastic case. The cassette can be operated in forward or reverse directions, at normal or fast speeds. It can be snapped in or out of the recorder in an instant, requires no tape threading, is virtually immune to shock and abrasion, and is far smaller (for a given playing time) than any other sound-recording medium. A cassette collection requires one third of the storage space taken up by the equivalent number of discs.

To be sure, the cassette system has inherent problems, some of them quite severe. The tape plays at 1 ¾ inches per second, and its four 0.025-inch-wide tracks are carried on a tape only 0.15 inch wide. The narrow track cannot store as much magnetic energy as the wider track of standard ⅛-inch open-reel tape, and as a consequence less output voltage is induced in the heads. As a result, the tape-head preamplifier must have very high gain—with consequent noise (hiss) problems. In order to achieve good high-frequency response at the slow 1 ¾-ips playing speed, very small head gaps must be employed, with large amounts of recording and playback high-frequency equalization that further compound the noise problem. A combination recording and playback head is used, which involves further design compromises, since there are conflicting requirements for recording and playback heads. Ultimately, there is a trade-off between recorded level, noise, distortion, and frequency response. This situation exists for open-reel tape machines as well, but is far more severe in cassette systems. The special tape formulations developed for cassettes have improved matters markedly.

Mechanically, there are problems stemming from the small diameter of the capstan, which must be machined to close tolerances to minimize wow and flutter. This is principally an economic factor—more precise construction can always reduce flutter—but, in general, cassette mechanisms have somewhat more flutter than either open-reel tape or disc systems. Another mechanical limitation is in the cassette itself. Cassettes can and do jam, ruining a recording or even tangling tape in the cassette mechanism. Internal friction can cause an intermittent drag, producing a "wow" sometimes unfairly attributed to the cassette-player mechanism.

From the standpoint of the tape hobbyist, the ease of handling of the cassette, surpassing that of either disc or open-reel tape systems by a wide margin, is offset by the difficulty in editing cassette tapes. Monitoring off the tape is not possible at present. On the other hand, cassette machines are a fraction the size and weight of reel-to-reel recorders, operate literally with pushbutton ease, and for the most part cost much less than reel-to-reel machines of reasonably good quality.

With all its potential pitfalls, the cassette system’s ever qualifying as a high fidelity medium has seemed unlikely up to now. To determine just how well the mechanisms perform—the state of their art, so to speak—we have tested and used seventeen different cassette decks from sixteen different manufacturers. ("Decks" are machines meant for use as part of a component stereo system, and therefore, except in one case, lack power amplifiers and speakers.) Many of these machines were brand new—neither advertised nor in dealers’ hands at the time of testing—and bore low serial numbers (or lacked serial numbers altogether), which suggested that they were either early production (or even pilot-run or prototype) units. Normally, we prefer to test regular production models, but the scheduling of new models by many manufacturers at this time caused us to make an exception. For the same reason, some well-known manufacturers were not represented because they were in the middle of a model changeover.

In general, all the decks tested were straight record and playback machines that could record in stereo anything playing through a component system, and subsequently play it back. All the machines had microphone jacks to permit “live” stereo recording. Three of the decks (Advent, Fisher, and Harman-Kardon) had built-in Dolby noise-reduction circuits, and the Norelco was a true cassette changer. The price range of the tested models was from $90 to $260. In general, performance bore the expected relation to price, with a couple of notable exceptions that will be pointed out.

We found that the cassette decks vary widely in tape-loading configurations, control operation, and other factors related to their operating flexibility and convenience. Cassette loading systems can be grouped into four categories. One (type A) requires that the cassette be laid or pressed into a recessed...
area in the deck, so that the two drive shafts engage its hubs. A hinged or sliding cover is often included with this system. The pushbutton-eject mechanism often causes the cassette to fly into the air, in a manner reminiscent of the action of a pop-up toaster.

Another system (type B) has a spring-loaded platform that tilts up as the cover is lifted. The cassette is placed on the platform, which lowers it into place when the plastic cover is closed (the platform can be pressed down by hand and the cover closed separately if desired). When the cassette is ejected in a type-B system it is retained on the platform, from which it can be lifted easily. In the type C loading system, the hinged cover carries with it a loading "slot" into which the cassette is pushed until it latches in place. Then the cover with cassette is pushed down to put the cassette in the play position. Like the type C system, this retains the cassette upon ejection for easy removal. A fourth system (type D) was found on only one of the machines tested (the Ampex Micro 54), although it will be familiar to users of automobile tape cartridges. The cassette is pushed into a slot until it latches in place, and this automatically starts the deck operating. At the end of play, or when the eject button is pressed, the cassette pops out partially from the slot and the deck shuts off. In the individual reports sections we will describe the cassette loading systems as type A, B, C, or D.

In a cassette, the tape is firmly fastened to both hubs. When the end is reached, the drive system is mechanically stalled. In some cassette mechanisms, the motor remains in a powered but stalled condition until the unit is shut off manually. Many of the decks we tested had more refined methods of handling the "end-of-tape" problem.

We will refer to the simple stalled-motor system as type 1. A number of machines had electronic systems to remove power from the motor a few seconds after the tape stops, often signaling this condition with a light. Although this prevents overheating of the motor, the capstan is still pressed against the tape, and failure to disengage the machine properly may produce a flat spot on the pressure wheel and a "wow" in future use. The electronic shut-off system will be referred to as type 2.

A more desirable system (type 3) is used in several of the recorders. This completely disengages the mechanical drive system as well as shutting off the motor. A variation of this (type 4) also ejects the cassette. A couple of the machines have an "auto" or "sleep" switch arrangement in which the power to the recorder (but not an external amplifier) is also shut off when the tape runs out.

The operating controls of many decks are interlocked so that the STOP button must be pressed before going from one mode to another. This can be an inconvenience when searching for a selection by shuttling between fast forward and rewind, for example. Some mechanisms do not interlock, and can be switched instantly and directly from any mode to any other. The low inertia of the cassette drive system makes possible abrupt changes of speed and direction without damage to the tape. In a few machines, certain sequences of operations are interlocked while others are not.

The PLAY button is always of the latching (lock-in) type, remaining down when pressed either until it is pressed a second time or another button is pressed. The other controls may or may not latch—a consideration that can be of some importance to the user (as when he has to hold a REWIND button down for 1½ minutes!).

The meters of most cassette decks read playback levels as well as record levels. This is more a matter of convenience to the designer than a real value to the user in most cases (the meter is connected to the output of the single amplifier used for recording and playback functions, so the playback readout comes "free"). A notable exception is in the case of the Dolby-equipped machines, where accurate standardization of playback levels is required.

The usefulness of the meters in establishing correct recording levels varies widely, and not always in relation to the price of the machine. The top-price Advent 200 is the only cassette deck with a truly accurate meter large enough to be read from a reasonable distance. Many others have smaller, sometimes uncalibrated meters that do a perfectly satisfactory job. The very small meters used on some machines are often next to impossible to read, although once the recording levels have been set there is probably little reason to refer to them. Two machines of the group had totally undamped meters, which swung so wildly that we did not find them helpful in setting levels. These were the expensive (and very good) Wollensak 4750 and the considerably less expensive Vivitar RC-710.

A final note: one hazard of evaluating a single early sample—or even a late sample—of any product is that one has no basis for classifying an apparent defect. Is it just an idiosyncrasy of the particular unit, or a basic design fault? Conversely, a hand-tailored model may work perfectly, but what assurance do we have that regular production units will be as good? It's a wise policy to avoid taking any test report from any source as gospel. An intelligent shopper makes an effort to locate a reputable dealer and then whenever possible listens to and operates any audio component before buying it.
The Advent Model 200 holds a special position among cassette decks. It is the most expensive ($260), the most "professional" in its operating features, and—although it is very difficult to rank the tested machines in any order of quality—our test data and listening evaluation clearly indicated that the Advent Model 200 is "the best" of the currently available cassette decks. Its margin of superiority in quality—our test data and listening evaluation clearly indicated that the Advent Model 200 is "the best" of the currently available cassette decks. Its margin of superiority in any one characteristic is slim, and on occasion it was outperformed in a particular area by one or another of the lower-price decks. Nevertheless, in its totality, the Advent Model 200 is a most impressive device.

The frequency response of the Model 200 proved to be outstanding—comparable in flatness to that of the finest reel-to-reel recorders, though not as wide. It had an exceptional freedom from noise and coloration of the recorded material, even with its Dolby circuits switched off. With the further noise reduction afforded by the Dolby system, the Advent Model 200 can record and play back stereo FM broadcasts with absolutely no audible increase in distortion or degradation of frequency response or signal-to-noise ratio. When we taped the STEREO REVIEW Demonstration Record on the Advent machine, the only difference we could hear in the playback was a slight increase in hiss level. With its Dolby circuits on, the hiss in the output of the Advent Model 200 was comparable to that of pre-Dolby stereo discs and definitely lower than we have ever been able to receive in our considerable experience with stereo FM broadcasts.

Advent supplies a standard-level (200 nanowebers/m²) Dolby test cassette with the Model 200. With this, and its internal Dolby test oscillator and the adjustments in the rear, the user can speedily verify (and adjust, if necessary) the recording and playback levels that are so critical for proper Dolby operation. The single VU meter is the largest, most accurately calibrated, and most legible meter available on a cassette deck. The frequency response of the meter is boosted at high frequencies to reduce the possibility of saturating the tape or overdriving the recording amplifier with loud high-frequency passages. The meter can be switched to read the level of either channel, which is then set with its individual level control. Then, for normal operation, the meter is switched so that it indicates the higher level coming through either of the two channels. A master gain control adjusts the recording level for both channels simultaneously. A single playback-level control in the rear affects both line and headphone outputs.

The tape-loading system is type B, and the end-of-tape system is type 2—there is also a flashing light to indicate that the motor has shut off. The transport controls are fully interlocked, and all are of the latching type. A second row of piano-key switches controls power, stereo/mono recording, Dolby operation, and tape bias equalization. The last of these, a two-position switch (REGULAR/SPECIAL), is responsible for much of the Model 200's performance. In its REGULAR position, recording bias and recording and playback equalizations are set for standard cassette tapes such as 3M Type 271. In the SPECIAL position, the recording bias is increased and equalization changed for optimum results with chromium-dioxide tapes such as Dupont's Crolyn. (Advent is now marketing Crolyn cassettes under the Advocate brand name, and other companies will surely follow suit.) By recording with the SPECIAL setting and playing back with the REGULAR setting, improved performance can also be obtained from TDK SD tape.

In our tests, we obtained excellent and very similar results with low-noise BASF (solid curve) and TDK SD cassettes with the Dolby circuits switched in. We also checked the record/playback response with an Advocate Crolyn cassette (dashed curve, Dolby out). Advent has planned sufficiently ahead in the design of the Model 200 so that it should be able to realize optimum performance from almost any tape type likely to be available in the years to come. Incidentally, Advent also supplies with the recorder a demonstration Crolyn cassette duplicated at normal playing speed with the Dolby circuit, both as a demonstration of the performance potential of the system (which should convince the most skeptical listener) and to provide guidance as to the best operating levels to use for various types of program material.
AMPEX MICRO 54

The Ampex Micro 54 is unique—the only deck of the group to employ type D (front-slot) loading. A lever below the slot ejects the cassette partially when pressed, and when pushed to left or right—an act that required considerable force—puts the tape into rewind or fast-forward motion. Since the tape starts moving as soon as the cassette is pushed into the slot (if the RECORD button is simultaneously held down, the deck starts recording), the latching PAUSE button is a vital operating control. The entire machine is turned on with cassette insertion, regardless of the position of the power switch. At the end of play the cassette is ejected and the mechanism stops (type 4).

The two recording-level controls are horizontal sliders, and the two illuminated level meters function both on recording and playback (playback level is fixed). Plugging a microphone (a single microphone is supplied with the Micro 54) into its jack disconnects the line input. In mono mode a microphone output and a line source can be mixed.

The Ampex Micro 54 has a switchable playback-noise filter that cuts off the highs starting at about 4,500 Hz, with the response down about 7 dB at 10,000 Hz. All transport controls except RECORD are latching types. There is a window on the top of the unit for checking the status of the tape in the cassette, but it is small and poorly lit and, therefore, difficult to use.

The best frequency response was obtained with the standard 3M Type 271 tape (solid curve). The sound was slightly bright, with hiss about average in audibility, in spite of an exceptionally low unweighted noise-output measurement. The sound with TDK SD tape (dashed curve) was brighter still. The playback level was several decibels greater than the recording level, and heavy orchestral recordings became fuzzy if recorded up to 0 dB or above. We preferred to keep the maximum recording level in the -3 to -5-dB region, which gave a 0-dB playback level.

We found that recording levels should be kept below 0 dB, since distortion increased very rapidly above that point. The sound quality was good, although slightly bright with TDK SD tape (dashed curve). Balance was better with 3M Type 271 tape (solid curve). Hiss was average for the group. Price: $149.95.

FISHER RC-80

The Fisher RC-80 was the lowest-price deck with built-in Dolby noise-reduction circuitry available at the time of the tests. It is especially interesting because of its unusual compactness and ease of operation—to say nothing of its frequency-response characteristics, which are the widest we have measured in a cassette deck.

The tape loading is a type B system, and at the end of the tape there is a type 2 motor shutoff, together with the extinguishing of the index counter light. The entire cassette can be seen fairly well through the tinted plastic cover. The piano-key transport controls are cupped slightly to fit the finger tips, and each is plainly marked in English with its function. All controls are interlocked, and all except RECORD are latching types. On the top of the deck there are pushbutton switches for power and Dolby circuits, two slider-type recording-level controls (playback level is fixed), two calibrated, illuminated meters, and the microphone jacks, which disconnect the line inputs when microphones are used. Unlike the other Dolby decks, the Fisher has no accessible adjustments for levels, nor does it have a bias adjustment for chromium-dioxide tape.

The record-playback frequency response of the Fisher RC-80 was slightly peaked at the extreme high end, which resulted in a usable output up to 14,000 or 15,000 Hz with the recommended BASF tape. Like the other Dolby decks we have tested, it showed a slightly elevated response above 2,000 Hz when the action of the Dolby circuit at a -20-dB level was tested. This did not occur at higher recording levels and did not affect the sound significantly. The curves show the record-playback response for a sample of BASF tape supplied by Fisher with the Dolby

BOGEN CRP

The Bogen CRP is one of the smallest decks in the group we tested. Our test unit was a prototype, available to us only for a limited time, and we were therefore unable to check its wow and flutter with the Philips test cassette. The cassette-loading system is type B. The type 2 motor-shutoff system operates electronically at the end of play. All controls are interlocked, and all except RECORD are latching types. Pushbutton switches control power and stereo/mono recording.

The recording levels for each channel are individually controlled and displayed on two non-illuminated non-calibrated meters. The playback level is fixed. Plugging a microphone into one of the front-panel jacks disconnects the line inputs. The slightly tinted plastic cover permits the entire cassette to be seen while playing.

The piano-key transport controls are cupped slightly to fit the finger tips, and each is plainly marked in English with its function. All controls are interlocked, and all except RECORD are latching types. On the top of the deck there are pushbutton switches for power and Dolby circuits, two slider-type recording-level controls (playback level is fixed), two calibrated, illuminated meters, and the microphone jacks, which disconnect the line inputs when microphones are used. Unlike the other Dolby decks, the Fisher has no accessible adjustments for levels, nor does it have a bias adjustment for chromium-dioxide tape.

The record-playback frequency response of the Fisher RC-80 was slightly peaked at the extreme high end, which resulted in a usable output up to 14,000 or 15,000 Hz with the recommended BASF tape. Like the other Dolby decks we have tested, it showed a slightly elevated response above 2,000 Hz when the action of the Dolby circuit at a -20-dB level was tested. This did not occur at higher recording levels and did not affect the sound significantly. The curves show the record-playback response for a sample of BASF tape supplied by Fisher with the Dolby
circuits in (the solid curve) and out (the dashed curve). The Fisher RC-80, like the other Dolby machines, required that recording levels be kept below 0 dB for low distortion. Fisher, in fact, recommends using a maximum level of -3 dB. We found the RC-80's sound to be excellent, with just a trace of brightness and a low (but still audible) hiss level when operated at the recommended levels. Bias is adjusted for BASF tape.

In our judgment, the Fisher RC-80 offers an exceptional combination of performance, imaginative packaging design, and ease of operation. Although it lacks the ultra refinement of Advent's Model 200, it nevertheless comes very near to equaling its performance at a substantially lower price—$199.95.

HARMAN-KARDON CAD-4

The Harman-Kardon CAD-4 was one of the first available high-quality cassette decks, and has been on the market for a couple of years. Its performance, nevertheless, qualified it for a place with the best 1970 to 1971 designs, and it was therefore included in our survey.

The tape loading of the CAD-4 is type A, and it has a type 2 end-of-tape motor shutoff, which also extinguishes the word MOTOR which is normally lit when the tape is running. The entire cassette can be seen through the tinted cassette cover. The transport controls are not interlocked, and all are of the latching type. The Harman-Kardon

How the Cassette Decks Were Tested

The frequency response of each machine in playback only was measured from 31.5 to 10,000 Hz using both a BASF and a Teac standard "alignment" test cassette. The resulting frequency-response curve shows how well the machine will reproduce commercially recorded cassettes. (This test is the equivalent of the NAB response test made on open-reel machines.) The overall record-playback frequency response of each machine was tested with the tape recommended or supplied by the manufacturer and with at least one other tape formulation. As is common practice, the test-tone frequency-response recordings were made at a signal level 20 dB below the indicated zero level of the unit's own meters.

Signal-to-noise ratio is an 'unweighted' measurement, referred to a 1,000-Hz signal recorded at 0 dB. Unfortunately, the subjective annoyance of "hiss" does not always correlate well with such psychoacoustically uncorrected measurements. The Dolby-equipped decks were, of course, the top performers with respect to low-noise operation, although none of the built-in Dolby circuits reduced hiss quite so effectively as the add-on Advent Model 100 Noise Reduction Unit (see Tech Talk, October 1970). We suspect this may be because all the Dolby decks, to differing degrees, showed a slightly elevated high-frequency response during record-playback response tests with low-level (-20 dB) test signals. In contrast, the Advent Model 100 had a truly flat response from 31.5 to 10,000 Hz.

Wow and flutter were measured with the Philips TC-FL-3 test cassette, and the figures quoted are unweighted (NAB). Some recorder manufacturers base their specifications on weighted figures, which can be as low as half our measured values. With rare exceptions, noted in the equipment reports, we did not hear significant wow or flutter when using the cassette machines. We measured the time required to wind a C-60 cassette (about 300 feet) fully in each direction, in fast forward and rewind. To indicate the resolution of the index counter (all the machines had three-digit counters) we measured the number of digits per minute of playing time at normal speed. The larger the number, the more accurately a previously indexed section of the tape can be re-located.

We made recordings of stereo FM broadcasts on all the machines. However, for critical evaluation, portions of STEREO REVIEW's Stereo Demonstration Record were taped on each machine and played back synchronized with the original program for a true A-B comparison. Our comments on the fidelity of the record-playback performance for each of the units appear in the individual report sections. In order to present a maximum of physical description as well as electrical data on the machines, we have used tabular and graphical means whenever possible.
CAD-4 is biased for TDK SD tape (solid curve), with which it had a slightly elevated high-end response in the 10,000-Hz region and useful output to about 13,000 or 14,000 Hz. With BASF and 3M Type 271 (dashed curve) tapes the response was flatter, but it rolled off above 10,000 Hz. Recorded levels had to be kept below 0 dB to avoid distortion. In addition to good-size calibrated meters, the CAD-4 has an OVERLOAD warning that lights up (and is visible from across the room) when the level exceeds about +2.5 dB on both channels or +10 dB on a single channel.

The listening quality of the CAD-4 with TDK SD tape was slightly bright, but it obviously had extended high-frequency response. Hiss was audible, and was about average for this group. We found that any recording level that lit the OVERLOAD warning was likely to sound distorted. This was particularly noticeable with heavy orchestral passages, which became fuzzy at high levels. The time-tested Harman-Kardon CAD-4 was well able to hold its own among comparably priced contemporary designs, which we think is quite a tribute to its basically sound design and construction. Price: $159.50.

**HARMAN-KARDON CAD-5**

The Harman-Kardon CAD-5 resembles its older relative, the CAD-4, but is actually a totally different machine.

It contains Dolby circuits, with complete recording- and playback-level adjustments accessible in the rear. A push-button activates a Dolby test oscillator that records a standard-level signal for calibration purposes.

The CAD-5 has separate high- and low-level line inputs and a bias-equalization switch for standard or chromium-dioxide tapes. The recording-level controls are sliders instead of the rotary knobs used on the CAD-4. The transport of the CAD-5 is completely new, with type B loading and fully interlocked key controls. All keys except RECORD are latching types. The cassette can be viewed through the tinted plastic cover. The CAD-5 has a motor light that goes out at the end of the tape when the type 2 motor-shutoff circuits operate. It also has an OVERLOAD light similar to that of the CAD-4.

With the recommended TDK SD tape, the high-frequency response was noticeably accentuated. With 3M Type 271 it was much flatter, and in both cases it extended to 14,000 or 15,000 Hz. Chromium-dioxide tape produced a slight upward tilt to the high-frequency response, but with no peaking and with a rapid drop in output above 13,000 Hz. The Dolby circuits, possibly because of factory misadjustment, produced a noticeably elevated high-end response at -20 dB to about 13,000 Hz. A slight cut applied with the amplifier’s treble control should both flatten the response and cut back hiss level even further. The performance of the CAD-5 is shown in the graph with TDK SD tape and Dolby on (solid curve) and chromium-dioxide (Crolyn) tape with Dolby off (dashed curve).

The overall record-playback sound quality of the CAD-5 was excellent. When used with no treble cut it had a slight tenency toward brightness, with excellent highs and a substantially lower hiss level than any non-Dolby machine. Price: $229.95.

**JVC 1660**

The JVC 1660 proved to be one of those pleasant surprises that add spice to this type of equipment survey. Although it is one of the lower-price decks of the group ($119.95), its sound quality ranked with the top two or three. Recordings made at high levels (sometimes pinning the level meters) were never distorted or muddy, and the hiss level was as low as that of any of the non-Dolby machines. The record-playback response with either 3M Type 271 (solid curve) or TDK SD tape (dashed curve) was smooth, with a slight peak at 12,000 Hz and output maintained to 14,000 or 15,000 Hz. The playback response was the flattest of any of the machines tested, within +1 dB from 31.5 to 10,000 Hz.

The transport of the JVC 1660 has type C loading with a type 4 shutoff system that completely disengages the mechanism mechanically, shuts off the motor, and ejects the tape cassette. Most of the cassette can be seen through the plastic cover. The controls are partially interlocking (one can go from PLAY to FAST FORWARD or REWIND, but not vice versa). All controls are latching types. The two slider-type level controls affect both recording and playback levels. The calibrated meters are faintly illuminated in green and could benefit from stronger lighting.

The sound quality of the JVC 1660 with 3M Type 271 tape (solid curve), which gave the flattest response, was well-nigh perfect. The 1660 had none of the brightness that characterized most of the better cassette decks and, in fact, was essentially indistinguishable in sound from the Advent Model 200. Its hiss, of course, was slightly higher than that of a Dolbyized recorder, but was at least as low as any of the non-Dolby units.

Although, as we stated earlier, we have no intention of ranking these machines in any order of excellence (and there were a number of excellent machines costing both...
less and more than the JVC 1660, its combination of outstanding performance and moderate price ($119.95) deserves special mention.

**KENWOOD KX-7010**

Kenwood's KX-7010 cassette deck is somewhat different from the others we tested. Its type C cassette-loading system is conventional enough, but its large plastic "piano-key" transport controls (red for RECORD and blue for STOP), which do not interlock, have the lightest, most positive action we encountered. A cassette in a Kenwood deck can be shuttled back and forth, played, recorded, or what have you with the lightest touch of the fingers. (Most machines require a rather firm pressure to operate their controls.) The center of the cassette and part of its label can be seen through a window in the cover.

The Kenwood's record-playback frequency response with TDK SD tape (solid curve) extended to about 12,000 or 13,000 Hz, with a slight, broad emphasis centered at about 6,000 Hz. High-frequency response rolled off somewhat earlier with 3M Type 271 tape (dashed curve). A switched high-cut filter took effect above 3,000 Hz, lowering the response at 10,000 Hz by 8 dB. The two slider-type level controls affected both recording and playback.

The Kenwood KX-7010, unlike most comparably priced decks, has a type 1 end-of-tape system, with the motor remaining stalled but energized until shut off manually. A blue light signifies that power is going to the motor, and it remains on when the motor is stalled by the tape ending.

The Kenwood KX-7010 was characterized by unusually low noise and distortion levels. The distortion did not increase appreciably even at a +3-dB recording level. This was also apparent in listening tests. Recording levels at the top of the meter scale could be used without audible distortion. The low hiss—about on a par with that of the JVC 1660—made it possible to produce very listenable, high-quality recordings with this unit. At times it seemed to be as quiet as a Dolby unit, but direct comparison showed this to be an illusion.

The overall sound quality of the Kenwood deck was nearly perfect—just a minute trace of brilliance on some program material distinguished the playback from the incoming program. From a listening standpoint, the Kenwood KX-7010 ranked with the top decks of this group, and in our opinion its transport controls are in a class by themselves. Price $149.95.

**LAFAYETTE RK-760**

The Lafayette RK-760, selling for $99.95, is one of the lowest-price decks in the group we tested. It has a type C loading system, with the center and part of the label of the cassette visible through a window in the cover. There is no automatic shutoff system, merely a type 1 stalled-motor arrangement. The control levers are not interlocked, and all of them are of the latching type. However, the operating instructions include a warning against changing tape direction without going through STOP.

The RK-760 has separate recording-level controls for line and microphone inputs, with the two channels concentrically operated through slip clutches. This permits microphone and line signals to be mixed—an operating feature rarely found in cassette machines. The playback levels are fixed, although they can be adjusted with a screwdriver through openings beneath the deck. The brightly illuminated meters are on the front of the recorder and unfortunately cannot be seen from a normal operating position above the deck.

At times we found mechanical problems in our test unit. These rarely occurred and probably cannot be considered as typical of the unit. They included severe wow, stalling in one of the fast speeds, and stalling in normal playing mode. Some of the problems may have been aggravated by faulty cassettes. Most of the time the deck worked very well and performed most creditably for a unit of its price. Lafayette was the only manufacturer in the group to advise specifically against the use of C-120 cassettes. Apparently thin tape could cause problems in the RK-760 mechanism.

The record-playback response extended to about 11,000 Hz, with a broad rise centered around 8,000 Hz. There was little difference between the results with the recommended TDK SD tape (solid curve) and the 3M Type 271 tape (dashed curve), although the latter seemed to provide more highs, contrary to the usual situation. The bass response rolled off below 150 Hz, but in such a gradual manner that the loss was not audible. Distortion was low and did not increase rapidly when the recording levels exceeded 0 dB. This was confirmed by listening tests, which produced clean, slightly bright-sounding recordings with a moderate hiss level.

**NORELCO 2401A**

The Norrelco 2401A is in a class by itself—the only automatic cassette changer in this group. In many ways its operation resembles that of an automatic record changer. For single play, a cassette is placed in an opening on top of the deck (essentially type A loading). Pressing the START/REJECT button brings the rotating drive shafts up from below to engage the cassette hubs, and presses the heads against the tape. Fast forward or rewind can be engaged at any time by pressing the appropriate buttons, which are heavily spring-loaded and nonlatching. When either one is released, the tape immediately resumes normal forward motion. The only way to stop it is to press the latching PAUSE button.
<table>
<thead>
<tr>
<th>Make and Model</th>
<th>Percentage Wow and Flutter (a)</th>
<th>Rec/play Distortion in per cent (b)</th>
<th>S/N Ratio (c)</th>
<th>Input Required (in Millivolts) For 0-dB Rec. Level Line</th>
<th>Output Volts (c)</th>
<th>Cross Talk @ 1 kHz in dB</th>
<th>Time for C-Ek</th>
<th>Counter Digits per Minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADVENT 200 (Dolby)</td>
<td>0.01 0.19</td>
<td>2.4 5 7.5</td>
<td>46 BASEF 48 TDK-SD 51 w/Dolby</td>
<td>20/100/33 0.2</td>
<td>1.25</td>
<td>1'47&quot;</td>
<td>1'47&quot;</td>
<td>15</td>
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<tr>
<td>AMPEX MICRO 54</td>
<td>0.05 0.24</td>
<td>2.3 3 6</td>
<td>51</td>
<td>51</td>
<td>0.15</td>
<td>-38</td>
<td>1'49&quot;</td>
<td>NA</td>
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<tr>
<td>BOGEN CRP</td>
<td>0.04 (d) 0.2 (d)</td>
<td>2.5 6 (e)</td>
<td>45.5</td>
<td>89</td>
<td>0.17</td>
<td>0.84</td>
<td>-38</td>
<td>1'30&quot;</td>
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<tr>
<td>FISHER RC-80 (Dolby)</td>
<td>0.02 0.22</td>
<td>1.9 2.7 5.7</td>
<td>46 50 w/Dolby</td>
<td>100 0.2</td>
<td>0.93</td>
<td>-45</td>
<td>1'29&quot;</td>
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<tr>
<td>HARMAN-KARDON CAD-4</td>
<td>0.01 0.18</td>
<td>2.5 3.1 6.2</td>
<td>37</td>
<td>210 0.18</td>
<td>0.3</td>
<td>-34</td>
<td>1'3&quot;</td>
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<tr>
<td>HARMAN-KARDON CAD-5 (Dolby)</td>
<td>0.01 0.2</td>
<td>2.4 4.5 8.1</td>
<td>47 52 w/Dolby</td>
<td>800/250 0.22</td>
<td>1</td>
<td>-37.5</td>
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<td>JVC 1660</td>
<td>0.05 0.18</td>
<td>1.7 1.7 2.3</td>
<td>30</td>
<td>70 0.64</td>
<td>0.575</td>
<td>-30</td>
<td>1'32&quot;</td>
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<td>KENWOOD KX-7010</td>
<td>0.03 0.22</td>
<td>1.9 1.8 2.1</td>
<td>46</td>
<td>55 0.18</td>
<td>0.71</td>
<td>-38</td>
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<td>LAFAYETTE RK-760</td>
<td>0.02 0.2</td>
<td>2.1 2 2.1</td>
<td>41</td>
<td>41 1.2</td>
<td>0.9</td>
<td>-30</td>
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<td>NORELCO 2401A</td>
<td>0.05 0.17</td>
<td>1.6 2 2.6</td>
<td>42</td>
<td>130 0.17</td>
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<td>-30</td>
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<td>RCA MZD563</td>
<td>0.03 0.16</td>
<td>1.9 2.1 3.2</td>
<td>51.5</td>
<td>44 0.2</td>
<td>0.37</td>
<td>-34.5</td>
<td>1'34&quot;</td>
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<tr>
<td>REALISTIC SCT-3</td>
<td>0.03 0.17</td>
<td>1.6 2 2.6</td>
<td>49</td>
<td>82 0.4</td>
<td>0.6</td>
<td>-36.5</td>
<td>1'30&quot;</td>
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<tr>
<td>ROBERTS 95</td>
<td>0.08 0.17</td>
<td>2.6 2.8 3</td>
<td>44</td>
<td>57 0.07</td>
<td>0.94</td>
<td>-31</td>
<td>1'17&quot;</td>
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<tr>
<td>STANDARD SR-T1780K</td>
<td>0.03 0.23</td>
<td>2.2 2.9 3.2</td>
<td>41.5</td>
<td>55 0.1</td>
<td>0.46/0.17/0.05</td>
<td>-40.5</td>
<td>1'20&quot;</td>
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<tr>
<td>TEAC A-24</td>
<td>0.04 0.19</td>
<td>2.3 4.3 8.5</td>
<td>48.5</td>
<td>75 0.25</td>
<td>1</td>
<td>-38.5</td>
<td>1'07&quot;</td>
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<tr>
<td>VIVITAR RC-710</td>
<td>0.02 0.18</td>
<td>2.1 2.3 2.8</td>
<td>42</td>
<td>93 0.48</td>
<td>0.6</td>
<td>-36</td>
<td>1'43.5&quot;</td>
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<tr>
<td>WOLLENSACK 4750</td>
<td>0.01 0.16</td>
<td>2.1 2.2 3</td>
<td>43</td>
<td>45 0.045</td>
<td>0.7 &amp; up to 5 volts (a)</td>
<td>-43</td>
<td>45&quot;</td>
<td></td>
</tr>
</tbody>
</table>

(a) Taken with Philips test cassette (unweighted). (b) At 1 kHz referred to unit’s O-dB record level. (c) Reflected to unit’s O-dB record level (unweighted). (d) Combined Rec/Play (see text). (e) See text. NA—not available. (A) Cassette snaps in. (B) Spring-loaded platform.
<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Headphone Jack Output</th>
<th>Loading and Tape-End Systems</th>
<th>Stereo/Mono Switch</th>
<th>Noise Filter</th>
<th>Record Indicator</th>
<th>Cassette Visibility</th>
<th>Mike, Price</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 ⅛ x 14% x 10 ⅝</td>
<td>Low</td>
<td>(B) (2)</td>
<td>R</td>
<td>Dolby</td>
<td>Yes</td>
<td>Good</td>
<td>NA</td>
<td>$260</td>
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<tr>
<td>4 ⅝ x 16% x 11</td>
<td>—</td>
<td>(D) (4)</td>
<td>P</td>
<td>(e)</td>
<td>No</td>
<td>Poor—center only</td>
<td>One incl.</td>
<td>$159.95</td>
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<tr>
<td>3 ⅛ x 10% x 8 ⅞</td>
<td>—</td>
<td>(B) (2)</td>
<td>R</td>
<td>—</td>
<td>Yes</td>
<td>Good</td>
<td>$19.95 pr.</td>
<td>$149.95</td>
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<tr>
<td>3 ⅛ x 7 ⅛ x 11 ¼</td>
<td>—</td>
<td>(B) (2)</td>
<td>—</td>
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<td>Yes</td>
<td>Good</td>
<td>Two incl.</td>
<td>$199.95</td>
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<tr>
<td>3 ¼ x 12% x 9</td>
<td>—</td>
<td>(A) (2)</td>
<td>R</td>
<td>—</td>
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<td>Good</td>
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<td>Dolby</td>
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<td>3 x 11 ¼ x 9</td>
<td>Medium</td>
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<td>Good</td>
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<tr>
<td>3 ⅝ x 10% x 8%</td>
<td>Medium High</td>
<td>(C) (1)</td>
<td>—</td>
<td>(e)</td>
<td>No</td>
<td>Center only—good</td>
<td>NA</td>
<td>$149.95</td>
</tr>
<tr>
<td>5 x 9 x 12%</td>
<td>—</td>
<td>(C) (1)</td>
<td>R,P</td>
<td>—</td>
<td>Yes</td>
<td>Center only—good</td>
<td>NA</td>
<td>$5.95 each</td>
</tr>
<tr>
<td>4 ⅝ (6 ⅛ with stack) x 15% x 9%</td>
<td>—</td>
<td>(e) (4)</td>
<td>—</td>
<td>—</td>
<td>No</td>
<td>Excellent in single play; none in auto mode</td>
<td>Two incl.</td>
<td>$219.95</td>
</tr>
<tr>
<td>4 ⅝ x 7 ⅛ x 11 ¼</td>
<td>—</td>
<td>(A) (1)</td>
<td>—</td>
<td>—</td>
<td>No</td>
<td>Excellent (fair with cover down)</td>
<td>Two incl.</td>
<td>$99.95</td>
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<tr>
<td>4 x 7% x 10%</td>
<td>—</td>
<td>(A) (1)</td>
<td>—</td>
<td>—</td>
<td>No</td>
<td>Center only—Excellent</td>
<td>NA</td>
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<tr>
<td>3 ¼ x 8 x 10</td>
<td>—</td>
<td>(A) (1)</td>
<td>R,P</td>
<td>—</td>
<td>No</td>
<td>Center only—Excellent</td>
<td>NA</td>
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<td>Medium</td>
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<td>—</td>
<td>Yes</td>
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<tr>
<td>4 ⅝ x 13% x 9 ¼</td>
<td>Medium High</td>
<td>(C) (3)</td>
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<td>—</td>
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<td>Fair</td>
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<tr>
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<td>Medium</td>
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<td>—</td>
<td>—</td>
<td>No</td>
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<td>NA</td>
<td>$119.95</td>
</tr>
<tr>
<td>5 x 13% x 9%</td>
<td>—</td>
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<td>—</td>
<td>No</td>
<td>Excellent w/o cover, Good w/cover</td>
<td>NA</td>
<td>$199.95</td>
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Cover separate. (C) Loading slot in cover. (D) Front-loading slot (Starr System). (1) Motor stalls; mechanism remains engaged. (2) Motor shuts off electronically; light goes on. (3) Mechanism shuts off and disengages mechanically. (4) Same as D, but cassette also ejects.
power to the motor and electronic section. There is no PLAY, FAST FORWARD, or REWIND button. Don’t push START, unless you want the cassette to be ejected! For recording, the RECORD button must be held down while START is operated. As soon as the cassette tape is in motion, you can press PAUSE and go about setting up levels. A single recording-level control operates on both channels, and the single well-illuminated meter appears to read the higher of the two channel levels. The Norelco 2401A meter does not read playback levels, which are fixed.

When the tape stalls at the end of play, or when the START/REJECT button is pressed, the drive shafts and heads retract, and the cassette is carried off to the right where it enters a storage compartment. A plastic box in the compartment elevates the cassette so that it lifts a hinged cover and shuts off the mechanism. This could be considered to be a modified type 4 shutoff mechanism.

For automatic-changer operation, the plastic box is removed from the storage compartment and placed over the cassette opening on the deck. Up to six cassettes can be stacked in the box. When more than one cassette is loaded, the one being played cannot be seen. The deck is started in the same way as for single play. When one “side” of the cassette has been played, it drops into the storage compartment, and the next cassette drops into playing position. When there are no more cassettes in the loading stack, the mechanism shuts off.

The changing mechanism worked perfectly, and we found it most convenient for enjoying almost uninterrupted music (the change cycle requires about 9 seconds). The Norelco 2401A also has playback power amplifiers with their own volume, balance, and tone controls, and a stereo microphone, but we did not evaluate these for this report. All inputs and outputs are through DIN connectors, with adapter cables supplied.

The sound of the Norelco 2401A was pleasant, but lacking in highs. It had an exceptionally smooth frequency response, but cut off at about 8,000 Hz with both the Norelco tape supplied (solid curve) and with TDK SD (dashed curve). Playback response was quite good, within ±2 dB from 31.5 to 10,000 Hz. The loss of brilliance when the deck played back its own recordings was quite noticeable. On the other hand, the hiss level and distortion were also quite low, making the 2401A a highly listenable machine, if not exactly up to the latest standards for record/playback response. Price is $219.95, and a continuous cassette circulator that converts the 2401A to a nonstop player is available as an accessory for $19.95.

RCA MZD563

The RCA MZD563 cassette deck has a number of distinctive characteristics. It has no power switch; pushing the PLAY, FAST FORWARD, or REWIND button turns on the power to the motor and electronic section. There is no PAUSE button, so the only way to set up recording levels on the two small uncalibrated meters with the two controls is to start recording and then rewind the tape to the beginning when you have finished the adjustment. There is no motor shutoff at the end of play. None of the controls are latching types. Cassette loading is type A, end-of-tape system is type 1. A hinged, smoky-plastic cover protects the entire recorder, not merely the cassette. Two small dynamic microphones are supplied with the recorder.

A permanently attached six-foot cable that has only two phone plugs is used for both input and output. The plugs can be inserted into the TAPE OUT jacks of most receivers or amplifiers to provide the signal to be recorded. For playback, the receiver input must be switched to an unused setting, and the outputs of the MZD563 will pass through the TAPE OUT jacks and usually, but not always, find their way to the playback amplifiers.

This unconventional arrangement prevented us from making any A-B listening tests with the RCA MZD563. However, judged by itself, it sounded quite good, even though our measurements revealed a lack of extreme lows and highs in its output. There was very little difference between the results with 3M Type 271 (solid curve) and TDK SD (dashed curve) tapes. The noise was quite low, as was the distortion, even when the signal level pushed the meters to their limits.

The RCA MZD563 would appear to be somewhat out of place in a high-fidelity component system, and was probably designed more for a mass-produced audio-equipment package. Nevertheless, it acquitted itself rather well. We found nothing objectionable in its sound when it played back either its own or commercially recorded tapes. As bestowing “best-buy” accolades, it might well earn one.

The lowest-price deck in the group tested was the Realistic SCT-3 ($89.95). Despite its modest price, it proved to be an excellent performer, and if we were in the habit of bestowing “best-buy” accolades, it might well earn one. The SCT-3 had a type A cassette loading system, with only the center of the cassette visible through a window in the
cover. Its controls are not interlocked, and all except FAST FORWARD are of the latching type. There is no PAUSE control, but pressing the RECORD button alone permits levels to be set up with the tape stationary. There are two level controls and a calibrated dual-needle meter. Playback level is fixed. There is no end-of-tape shutoff or end warning light (type 1).

We used the recommended tape (Realistic Low Noise, solid curve). The record-playback response was very smooth, dropping off gently above 5,000 Hz and abruptly above 10,000 Hz. The results with TDK SD (dashed curve) and BASF tapes were similar; with 3M Type 271 above 10,000 Hz. The results with TDK SD (dashed smooth, dropping off gently above 5,000 Hz and abruptly above 9,000 Hz with 3M Type 271 there was a very slight loss of highs.

The sound of the Realistic SCT-3 was excellent. On much of the material recorded the loss of highs could not be heard, and even when it was detectable, it showed up only as a slight dulling of the shimmer of such instruments as triangles and strings. The overall balance was not affected by the loss of extreme highs, and we found this in many ways more pleasing than the sound of some machines with more highs but an excessively bright sound. Noise was relatively low, and distortion was not a problem with recording levels of 0 dB or somewhat above that.

If one's hearing does not extend much above 10,000 Hz, it is likely that the Realistic SCT-3 could produce sound as satisfying as that of any of the decks we tested. That is no small achievement for a deck costing under $90.

**STANDARD SR-T178DK**

The Standard SR-T178DK is a somewhat unusual deck, reflecting much original thinking on the part of its designers. It has a solenoid-operated mechanical shutoff system (type 3) that operates when the tape stops, or if the power is disconnected. An audible click signals the release of the shutoff mechanism. After the tape has been put into motion, the power switch can be flipped off, and the deck will play the cassette to completion and shut off automatically.

The transport controls are noninterlocked and are all of the latching type. Cassette loading is type C, with a clear window for viewing the center of the cassette and part of its label. A unique and very convenient feature of the SR-T178DK is a light below the cassette window, so that the distribution of the tape between the two hubs can be seen at a glance.

The Standard SR-T178DK was the only one of the tested decks to have an ALC (automatic level control) circuit. Normally, two sliding controls set recording and playback levels, which are displayed on two good-size, exceptionally well lit, and readable meters. By pressing a latching button below the two controls, the recording level is controlled automatically, preventing overload with a wide range of signal levels.

The ALC did not have any effect on signals below 0 dB. However, a 10-dB increase beyond 0 dB produced only a 0.5-dB increase in recorded level. A gross overload of 30 dB raised the recorded level only 2.5 dB, which did not cause significant distortion. The playback output level is fixed at its maximum when the ALC button is engaged. If desired, recordings can be made with the ALC switched in, then played back with it switched out so that output levels can be controlled. In addition, a three-position switch at the rear of the deck provides a choice of three fixed output levels.

The frequency response of the SR-T178DK with 3M Type 271 tape (solid curve) was flatter than average and fell off above 12,000 or 13,000 Hz. The only departure from flatness was a rise of about 1 dB at 11,000 Hz. TDK SD tape (dashed curve) produced a slightly higher peak, without extending the upper limit. The low-frequency response was better than that of any of the other decks (most of them fell off appreciably below 30 or 40 Hz) and was down only about 3 dB at 20 Hz relative to the 1,000-Hz level.

The sound of the Standard SR-T178DK was unusually good—one of the best of this group of decks. There was no tendency to distort, even with occasional peaks reaching 5-7 dB, and noise was exceptionally low. Not only was the musical content of the STEREO REVIEW Stereo Dem-
ondation Record reproduced faithfully (we couldn't hear any difference in the A-B comparisons), but the quiet background came surprisingly close to matching that of the Dolby machines. The ALC was highly effective, virtually preventing overload distortion with no audible restriction on dynamic range, as long as incoming signals did not average too much higher than 0 dB. Price: $169.95.

TEAC A-24

Teac's A-24 cassette deck has a MODE (or input-selector) switch that connects the recording inputs to microphone, line, or tuner sources, all of which can be permanently connected to the machine. It also has a PLAY position that must be switched to when playing a cassette. We found this confusing at times, since no other cassette deck required two control settings to play a tape—in this case the transport PLAY button and the MODE switch. The MODE switch is interlocked with the RECORD function so that, even when the transport controls are set for recording, the red recording signal light above the RECORD lever will not go on and the machine will not record unless the MODE switch is set to one of the input positions.

The tape loading of the TEAC A-24 is type C, with a window over the center portion of the cassette. The transport controls are partially interlocked, but it is possible to go directly between FAST FORWARD and PLAY, or between FAST FORWARD and REWIND. The FAST FORWARD button is nonlatching; all the others latch. A desirable feature that we found on no other machine is the double-press requirement for the STOP/EJECT button. (Most machines require for the unit covers the entire top panel.

The frequency response of the TEAC A-24 rose gently above 2,000 Hz, reaching a maximum of about +3 to +9 dB at 9,000 Hz, depending on whether the tape supplied by TEAC (solid curve) or TDK SD tape (dashed curve) was used. The upper response limit was 12,000 to 13,000 Hz. Distortion rose rapidly above the equivalent of 0 dB on the uncalibrated meters. We found it advisable to operate with levels well below that point.

The sound of the TEAC A-24 was somewhat bright—sometimes to the point of imparting a hard or brittle quality to the music. Noise level was fairly low, despite the reduced recording levels used. Overall, the listening quality was quite good and clean even on high-level passages, and the brightness was not obvious except on direct comparison with the original program. Price: $199.50.

VIVITAR RC-710

Vivitar is a new name in audio, although it should be familiar to photography buffs. Their RC-710 cassette deck is a low-price unit with such conveniences as an automatic shutoff (type 3) at the end of play and a magnetically latched hinged door in front to conceal the recording-level controls and microphone jacks. Playback levels are fixed. The cassette-loading system is type C, with a narrow viewing window exposing only the hubs of the cassette. The controls are not interlocked, and all except PAUSE are latching types.

In using the Vivitar RC-710 we judged its level meters to be of limited value because of inadequate damping. The needles swung erratically, often with no apparent relationship to the incoming signal. We tried, to the best of our ability, to maintain peak readings of 0 dB or slightly higher, and were apparently successful, since the recordings we made were not noticeably distorted.

A cassette of Vivitar tape was supplied with the recorder, and we measured the machine's response with it (solid curve). The response was quite smooth, but rolled off above about 8,000 Hz or so. TDK SD tape (dashed curve) extended the upper limit to 10,000 or 11,000 Hz, but with an exaggerated response that produced an overly bright sound. With the Vivitar tape and other standard tapes, the upper mid-range response was still slightly bright, yet the highest frequencies were noticeably dulled. Noise level was about average for this group of recorders. Price: $119.95.

WOLLSENSAK 4750

The Wollensak 4750 enjoys the distinction of being the only American-made deck in this group, and it is highly regarded for the ruggedness and quality of its transport mechanism. The cassette-loading system is type A, with the cassette fully visible while in use. A tinted plastic dust cover for the unit covers the entire top panel.

The transport controls of the Wollensak 4750 are unlike those of any other recorder. Two large pushbuttons of the latching type control PLAY and STOP functions. A nonlatching RECORD button must be pressed with the PLAY button to place the machine in recording condition. A PAUSE lever can be held down for momentary halting of the tape or latched into place for longer periods. The
the cassette with vigor. EJECT button is separate from the other controls, and ejects the cassette with vigor.

FAST FORWARD and REWIND functions are handled by a single lever with a spring return to center. The tape brakes rapidly when the lever is released. Although the control is nonlatching, this is of little practical importance, for the wind and rewind speeds of the Wollensak machine are about twice as fast as those of most other cassette decks. High-speed operation can be initiated at any time, from any mode. The recording-level controls can also be used to set playback levels, or a pair of separate fixed playback outputs can be used. The end-of-tape sensor is type 3, with a full mechanical shutoff of the machine.

The listening quality of the 4750 was excellent, but hiss was more prominent than the measurements would suggest. The overall signal-to-noise ratio was no better than the average for the group, which somewhat disappointed us in view of the machine's smooth frequency response and mechanical excellence.

The Wollensak 4750 had a very smooth frequency response that rolled off gradually above 6,000 Hz and rapidly above 10,000 Hz with the recommended 3M Type 271 tape (solid curve). TDK SD tape (dashed curve) gave a flatter response, exceptionally uniform to 11,000 Hz and usable to 12,000 or 13,000 Hz. Wow and flutter were the lowest of any of the decks tested—a widely recognized strong feature of the Wollensak mechanical design. Price: $199.95.

**SUMMARY**

It should be apparent from an examination of our test data, equipment descriptions, and listening evaluations that the general level of performance of modern cassette decks is quite high, and in many cases approaches the most exacting high-fidelity standards. To make certain that this is not misunderstood, let us stipulate that a cassette deck will be used to record from discs or from FM radio, or to play commercially recorded tapes. Quality live recording through microphones is not a reasonable assignment for a cassette machine, and few would be adequate for the task.

The upper frequency limit of FM stereo broadcasts is, at best, 15,000 Hz, and frequently does not extend beyond 12,000 Hz. Even on good discs, there is appreciable musical content over 12,000 Hz only for a minute percentage of the playing time. A recorder with uniform frequency response from 50 to 12,000 Hz will, in almost every case, capture the full audible content of FM broadcasts and of stereo discs. Many of the cassette decks tested met this requirement. Most of them had unweighted flutter levels of 0.2 percent or less, which is on a par with moderate- or low-price record-player performance, and rarely objectionable to the listener. Noise (hiss) is the chief remaining weakness of the cassette system. A few of the non-Dolby decks—not necessarily the most expensive ones—had hiss levels that should not bother anyone who has listened to stereo FM and found it acceptable. The Dolbyized cassette machines had appreciably less hiss than is heard during stereo FM reception, and therefore can do a literally perfect job of recording and reproducing stereo FM. Skeptical readers (and I would have shared the skepticism, except for my recent experiences) have only to audition one of the top-quality Dolby machines to convince themselves of the accuracy of this statement.

Unfortunately we found no one machine to be perfect, or even really close to being ideal, when all aspects of operation were considered. It would be wonderful to have a cassette deck with the sound of the Advent, the size of the Fisher, the control smoothness of the Kenwood, and some of the features of the other units—and selling for perhaps half the price of the Realistic! We may have to wait a while for that utopian deck, but there is certainly a fine field to choose from today.

A closing comment is in order. Good as these decks were, ultimately they can be no better than the cassettes used with them. We have experienced jammed cassettes and snarled tape with several makes of cassette, and it is apparent that even buying a premium-quality recognized brand is no guarantee that it will work well initially or subsequently. In general, the premium-grade cassettes seem to have less tendency to misbehave than some others selling at lower prices. But apparently you still have no absolute guarantee that the cassette will work—only a promise that the manufacturer will replace it when it doesn't. Under no circumstances should you use an unbranded or "bargain-price" cassette. We have yet to see one usable even for voice recording, and most bring only grief.
"I was wondering what an all-American girl-next-door is doing in a place like this."

Rex Reed talks to the Jefferson Airplane's Grace Slick
A few blocks from San Francisco’s poorest low-rent district, in a run-down neighborhood that once knew elegance, stands a seedy white three-story mausoleum supported by four decaying Ionic columns. Ancient white lace curtains blow lazily in the breeze behind its open cut-glass windows. Its paint is dappled with age, like an enormous pastry crust that has been too lightly dusted with confectioner’s sugar. A tiny patch of dead zinnias nuzzles the walk that leads to a sagging front porch where a broken toilet seat leans, cracked and peeling, against the doorjamb. Enrico Caruso once stayed there, but now its former glory has fallen into a state of disrepair, like a noble countess violated by an army of callous invaders. This is the home of the Jefferson Airplane.

I pressed the bell next to a red heart that said “Stop the War.” An upstairs window slammed open, and a girl with a scrubbed Ivory-soap face and long curly hair leaned out. “Yeah? What do you want?”

“Is Grace Slick in?”

“I’m Grace. I’ll be right down.”

I had only seconds to recover. She doesn’t look anything like her photographs. There she is, on the album covers and in the rock magazines and underground newspapers, looking like a dark purple menace—long straight hair falling seductively about her face and shoulders like ravens’ wings, deep pools of darkness signaling world-weary indifference from eyes like ripe olives. And here was this girl in neatly tailored slacks and a Mexican poncho (I later learned she was pregnant), cautiously opening the bead-cur-
there. I followed up the turn-of-the-century staircase, dodging model airplanes hanging from Tiffany lamps. David Crosby (of Crosby, Stills, and Nash) came bounding down the stairs, almost knocking over a treetop-tall antique replica of Nipper, the old RCA "His Master's Voice" trademark, with an arrow through its head and a sign reading "Keep the Indians on Alcatraz." "See ya later," waved Crosby. "Later," said Grace. "Dave's been sleeping in my bed the past week and the place is a mess." 

The second floor contains the Airplane's office and Grace's bedroom, and the third floor is devoted to all the pads of the other members of the group, their friends and girls. In the office, Jack Casady was talking on one of a myriad of phones while an admiring circle of teen-age Groupies sat on a sofa (covered with an American flag) sipping organic apple juice. There were rows of filing cabinets and junk-shop furniture; I counted forty psychedelic posters on the walls. "You gotta see this," laughed Grace, pointing to a gallery of high-fashion photographs and magazine covers of beautiful girls in elaborate Adolfo hats and Dior gowns, beautiful girls smoking mentholated cigarettes, all looking as though they had just stepped out of Harper's Bazaar. "Who are they?" I asked, doubtful that they could be friends of the Airplane. She roared. "They're all me! That was my modeling period. Boy, was I freaked out then. That's before I found out where my head was at.

The rest of the house is a blur to me now. I remember only a sensual assault of strobe lights, burning incense, psychedelic revolving sculptures, half-naked men with long hair roaming in and out of bedrooms, a room in which the entire floor consisted of a water bed pumped full of water that shook and revolved when I sat on it until I was seasick ("We all lie on it stoned and listen to music," said Grace), ceilings hung with parachute silk, cash registers, a floor-to-ceiling poster of Trotsky with a dart in his forehead, old Christmas trees, modern canvases filled with nails, airplane propellers, and tree trunks.

Grace's pad is like Norma Shearer's bedroom in Marie Antoinette. Tad's Steak House wallpaper, Victorian satin drapes, flowered carpets and flowered ceilings, cupids and roses and cornucopias, gilt-edged chairs with the bottoms falling out, purses made of pheasant feathers hanging on wall sconces with melted candles, musical instruments, and suitcases everywhere with clothes hanging out. We sat on box springs covered with red velvet, and when I looked up at the ceiling over her bed, I found myself staring into the horror-filled eyes of a battalion of naked women being plunged to some unspeakable destination in a chariot drawn by rabid wolves with fangs dripping blood. It's the last thing Grace Slick sees when she goes to bed at night.

A mortician's pall cloaked the room. She was waiting for the interview to begin; I was waiting for Banquo's ghost to appear. The surroundings didn't faze her. She was as cheerful as a bluejay. "Why are you looking at me so strangely?" she asked, puffing on a True.

"I guess it's just that you surprise me. I was wondering what an all-American girl-next-door is doing in a place like this."

She made a funny face, half-smile, half-yecch. "Black people say 'we,' meaning their black brothers and sisters. I say 'we,' meaning hippies, because I'm thirty years old and I've been in this freaky-clothes and long-hair scene for twelve years. I may not look like a hippie, but I do identify with these people because the musicians, writers, and painters of today are all called hippies by a stupid society that doesn't understand them. I'm one of the nonconformists, so I'm a hippie too, I guess. I never get hassled, but those guys out there in their crew cuts and their button-down shirts never leave the guys in the group alone. They can't stand to see these guys with long hair and all these beautiful chicks on their arms making more money in ten minutes than they can do in ten years. So they call them faggots and they won't cash their checks and we have a terrible time finding hotels to stay in. People come up to us in airports and sniff at us and say 'What a smell!' and it is so incredibly stupid because we bathe every day. But it's a life style, not the length of the hair or the clothes, and we have fun and I'm much happier now than I ever was working in a department store. So I don't mind being called a hippie because it gives me an identity with a group of people I dig, and then after we get the hippie label, we get more attention and more people listen to our beliefs. Right now rock musicians think the same way about the Vietnam situation as a lot of other people, but we're the ones the kids listen to. The whole point of the rock revolution is to take care of business in the time we live in. Rock musicians get into the blood stream of more young people than anyone else in this time, man, so they have more influence and power over them than even the politicians or the clergy."

I put down my list of prepared questions. Grace Slick is not into forms and formality; formal interviews are out. One does not interview her; one raps. So we rapped. "Then you think rock has turned into something more meaningful than casual entertainment with a beat for dancing? A more serious social comment on our times?"

"Well, you can't hear the lyrics anyway, so I suppose it's dance music to some people. But it's never
impersonal. I mean, that's what killed opera. Opera should've been more current if it was to survive. It should've gotten to the people faster. As it is, those guys just told stories. Every century's got that stuff happening. People got tired of trying to relate to something that wasn't saying anything. Crosby, Stills and Nash are now doing a song about Kent State. It's now. I think of rock musicians as journalists, as musical reporters. The better the journalist the more fan-dangos he can pull off. The cake's always there, it's how you put the junk on it. In order for people to warm to something, it has to hit them now, and that's what rock does. Scientific American says the female fruitfly needs to hear the male fruitfly at 150 decibels to make it with him. If he sings any lower, she won't listen. That's approximately the volume we play in. That's out-front sex. You can just enjoy it for that and that's okay, too. It's all groovy. Sometimes we get audiences that are uptight and don't respond. We just play for ourselves. It's like guys who come up against a chick—or another guy, or a dog, I don't care—and they get no sexual response and they keep working at it. Leave it alone is the Airplane's motto. I remember a town we played once called Grinnell, Iowa. All these kids came, man. The girls had on 1950's dresses and corsages and the guys had crew cuts to prove their masculinity, and it brought them down to see their way threatened. They couldn't believe what they were seeing! They just sat there and didn't move or applaud or anything. So two years later we went back and they were naked in the mud, totally freaked out on LSD. The whole country is changing, becoming more involved, and rock is the music that is changing them.

"Have you deliberately tried to inject social comment into the songs you write?"

"Not really. Your music has to come from your own experience. Mine was not a ghetto experience. I guess the closest I came was on the recording of White Rabbit. I read Alice in Wonderland as a child, and it wasn't until later, after I had tried drugs, that I began to get into it. I like Lewis Carroll because it was obvious he was into opium."

"Lewis Carroll was into opium? Hmmm. . . ."

"Oh, sure. Alice has never been for kids, it's for adults. But I know adults read it to their kids, so the point of the song was to warn parents that Carroll was into the drug scene, so don't put your kids down because they're into it. It was snide, I suppose, but I've always had a sarcastic mouth."

"But what I don't understand is why the kids need drugs to dig rock. It seems to me that if you need to get stoned to appreciate something, it must be flawed in the first place."

"Well, it's like if you had the dough and the custard but no chocolate, you'd be missing part of the eclair. Drugs help the way aspirin helps get rid of a headache. Since we're still killing people, we haven't figured out a way to love each other, so drugs help. Pot is a very peaceful drug. The Airplane condones the judicious use of drugs, but that doesn't mean we want people to harm themselves physically or blow the tops of their heads off with LSD. It's up to the individual to decide whether he should or shouldn't. I used to take acid myself because it was a wonderful, groovy experience, but I haven't been on a trip in a long time. I can't take drugs while working. One joint puts me to sleep, then I've gotta take speed to wake up and then that's like rotting your brain out too early. I can't handle fifty things at once. The only time I get stoned now is when I'm writing music. It depends on the individual needs. I know people who don't take anything and they're more stoned than I am. Van Gogh, Salvador Dali, people like that. They're crazy already, so they don't need it. I tried peyote and I was amazed at the amount of concentration I could put into or get out of a leaf. I sat in a room for four hours and I got more interested in textures and fibers than ever before. But I've never seen telephone poles turn into snakes, or anything like that. My main advice to kids about acid is don't drive, because you won't notice when the
lights change. The steering wheel starts waving, and you stare at it and everybody starts honking behind you. The only time acid is really harmful is when it is preceded by fear. If you are afraid you are going to have a bad trip, you probably will."

"I guess I'm not convinced."

"That's cool. You're not into that scene. I don't put that down. The best thing about the rock-drug scene is that nobody tries to force anything on anybody. That's why Peter Townshend of the Who hit Abbie Hoffman over the head with his guitar on-stage at Woodstock. It wasn't the time to try to force anybody into politics. I don't think I'm narrow-minded about music just because I sing rock. Listen, the only two records I owned for eight years were Grieg's Peer Gynt Suite and Irving Berlin's Say It with Music. On my recording of Rejove I even patterned one horn section after Gil Evans. I used to play all the arrangements he did for Miles Davis over and over. I nearly drove the Airplane crazy when Sketches of Spain came out. I played it about eighty times a day. Now I don't listen to much of anything. I don't own a TV set, a telephone, or a record player. The group usually buys a good record as a business expense, so I know I'll get to hear it somehow. Crosby, Stills and Nash are around the house singing everything anyway, so who needs to buy records? I like every kind of music, except country-and-western. I wasn't always into rock, you know."

True. She comes from a very straight, middle-class background that would probably consider her music noise. Her real name is Grace Wing. She was born in Evanston, Illinois, in 1939, her mother was "a pop singer—very square—sang Tea for Two a lot," and her father was an investment banker. She attended high school in Palo Alto, then spent a year at New York's fashionable and exclusive Finch College studying costume design and merchandising, and a year at the University of Miami majoring in art. The revolt against formality and the Establishment was beginning about that time. "I hated all those rich debutantes at Finch," she says. "What a weird scene. Tricia Nixon is a good example of what they turn out. I was invited to her birthday party at the White House. They sent out these little engraved invitations to the alumni and accepted unbiasedly the first ones who responded. So I called Abbie Hoffman, and he slicked down his hair and put on a blue suit. He looked like a karate-chopping pimp. It was a gas. So we showed up at the White House and got thrown out as 'security risks.' Boy, were they right, because I had 600 micro-milligrams of LSD in my purse that we were going to put into the tea. Can you hear them now? 'Wow, the President's daughter is freaked out drawing dirty pictures on the White House walls!' The security guards were criticized in the press. People wrote, 'How ridiculous—not letting someone in because she's a rock singer.' Well, it's not ridiculous because I really would have done it. I figured the worst thing a little acid could do to Tricia Nixon is turn her into a merely delightful person instead of a grinning robot. But we were aiming for the Old Dad, hoping he might come down to the party and have a cup of tea. Far out. I figure if they can shoot us down, we can get them high, right?"

AFTER two years of college, Grace dropped out and returned to San Francisco "to find out where my head was at." She had already studied classical guitar and found it a bore, so she started hanging around the hippie folk singers in Haight-Ashbury and learned how to accompany herself on the guitar and sing ballads like Barbara Allen. She hadn't yet broken entirely with the Establishment. She married a photographer named Jerry Slick and helped put him through school at San Francisco State College by modeling designer clothes at I. Magnin. "I was nowhere. My old man was very square, I hated my job. I made extra money by growing pot in our backyard. We had a next-door neighbor who used to hang over the fence and say 'Hey, Gracie, how's your plants?' She watered them for us when we were away. She never knew what she was watering. Haight-Ashbury was a friendly place when I lived there. That was before it got overcrowded and violence broke out and the hippies started killing each other. It's dead now, a terrible scene. You cram a lot of rats in one place and they panic and start fighting each other."

Eventually she quit her modeling job, tried LSD, bought a steel-string guitar and some cheap sound equipment at Sears Roebuck, and started singing with a group called the Great Society. "I looked
around and saw how bad the competition was, so I decided what the hell." She heard the Jefferson Airplane in some of the places she sang and they heard her, and in October 1966, when their lead singer left to get married, Grace joined the group. The Airplane had made a small dent in the rock world already, but it was the addition of the little broad with the go-to-hell grind in her voice that put them on the map. In less than six months after she climbed aboard, they were making $10,000 a night and more, depending on the gig. Their albums and singles sold in the millions, and Grace became a celebrity. She insists that although rock has become big business, she is not in it for the money. "Everybody-thinks we're rich and I suppose 'some of the rock groups are, but although they tell me the Airplane has made millions of dollars, we're all broke. We have never been businessmen, so none of our earnings have ever been invested, and all of our money has been tied up in legal hassles for years. We have no idea how much money has been stolen from us by bad managers, insensitive managers, crooks. Each member of the band gets $250 a week to live on, and everything else we make goes back into the group for expenses, sound equipment, lawyers. Nobody has any money in the bank. This house is all we own. The money from royalties and publishing and all that is tied up in an old contract, and we never get a dime from any of it. We are always in trouble with the government over taxes. We’re fighting it out in court to get some of our money, but we’ve lost four times already. The only extravagance I’ve noticed is cars. Paul has a Porsche and some of the other guys have Cadillacs.”

Grace owns an Aston-Martin DB-4, which she bought with the royalty money paid to her from an old contract with the Great Society before she joined the Airplane. "I was walking down Van Ness Avenue, where the foreign car agencies are, and I walked into the showroom with my hippie clothes on, and suddenly all the salesmen started running away. I thought ‘Gee, I don’t look that awful,’ so I followed them all into the back room and said, ‘What’s happening, baby?’ and this salesman stared at my hippie clothes and my bare feet and sniffed, ‘It’s the new DB-4 just arrived,’ and I said, ‘How much is it?’ and he just smiled like he was really into putting me down, man, and I said, ‘Like, how much is it, man?’ again, and he said it was $18,592 plus tax, and I said, ‘Far out, I’ll take it.’ Then I took two ten-thousand-dollar bills out of my pocket and paid him. I think he’s still lying on the floor. It’s a groovy car, but it’s been in the shop four weeks now. It takes like two years to get a part. I don’t miss it. Material things are unimportant.”

She has been married to Jerry Slick for ten years, but they seldom see each other. "I don’t think my marriage is odd. What I think is weird is when people stay together all the time. I’m in love with Paul Kantner, who plays rhythm guitar with the Airplane. I love him, I live with him, and I sleep with him. My husband digs it. It’s cool with him. We’re still married because we don’t have the energy to go through all the paper work. I can’t see telling some fifty-year-old judge I want a divorce because—why? Because I don’t like my old man any more? I like him fine. He’s one of my best friends. He’s one of the few people I know who can be totally objective. He’s very amusing. He’ll nail up a newspaper headline ‘4,000 Frogs in Thailand Go Mad!’ or something wacky, and when all his friends read it, he takes it down. I just outgrew him and got into something else. We’ll get around to getting a divorce some day if our tax situation gets messed up any more than it already is. But I could let it slide on forever. I’m not into legal papers and documents and contracts. That’s not where my head is at. I let people like my family worry about the stupid things in life.”

She has said some harsh things about her family in interviews, so I asked her if she was still on friendly terms with them. "They think I’m nuts. They’ve lived for sixty years now assuming that a certain method of conduct will net you certain rewards—the rewards being a house, a freezer, a mortgage, an
electric kitchen, the Episcopal church. Those don’t happen to be my rewards or the needs of my generation, but you can’t wake these people up to that. What my parents don’t understand is that all that junk I was taught has nothing to do with my life. I used to fight with them but I don’t anymore. My little brother’s in jail for smoking dope. He used to be their only hope—‘Well, the chick is nuts, but maybe the kid’ll be O.K.’—well, now they know they can’t hassle his life either.’

So what are you into now, Grace Slick, with this new freedom? Ecology? ‘I would’ve been into it fifty years ago, but it’s too late now. Nobody’s going to give up their cars. Space is the only thing left, and there’s not much of it. That’s why Haight-Ashbury’s dead. One cantaloupe rind doesn’t smell as bad as forty rotten cantaloupe rinds. All the hippies are moving into the mountains now.’

Women’s Lib? ‘It’s pretty dumb. I mean, in the face of other things that are more important, it’s flippant. It’s like a lotta chicks suddenly decided ‘Hey, I don’t like to cook!’ and they’re making a lotta noise about it. Well, there’s a lotta things chicks can do that won’t force them into a home. I been around a lotta guys, not one of them ever asked me to cook! I say, ‘Hey, I don’t cook, man, I do this!’ and they say ‘Cool.’ I’ve never had some guy come up to me and say, ‘Hey, how come you can’t tell me how to tear apart a car?’ I don’t care if they can’t sew, either.’

Religion? ‘I believe there’s a lotta stuff going on out there, whether it’s molecules or mud or whatever. But I don’t believe in all that God junk. I’ve never talked to spirits, either. Never had any flashes. Man is the only animal that knows he’s going to die, so we invent a Heaven to keep from going crazy. Most people are hypnotized by organized religion from childhood; only a few really have the stuff. I don’t think it’s Billy Graham who has the stuff, though.’

I asked her if rock had taken the place of religion in the society of the young. With drugs to keep it going, wasn’t it creating a new style of worship through the same hypnotic effect on the minds of the young that she had just accused organized religion of doing? ‘I don’t want to get philosophical about rock. It’s just entertainment. Thirty years ago they went to the Copacabana with their drug, which was cocktails, and they turned on for a few hours. We’re doing the same thing. The one thing rock does is promote peace. The Airplane is doing the same thing Jane Fonda is doing, only she is one person and we’re an organization of thirty people. We have six in the group, plus our staff, the guys who transport and run our light show, and by the time you add all the Groupies and girl friends and all, it takes a lotta money to move that much tonnage across the country. So we put all our money back into the group. If I

THE SOUND OF SLICK

I HOPE Grace Slick never has to sing through her ears (though I’m not at all sure she couldn’t make a go of it) because I’m much too fond of what comes out of her throat and mouth. As I’ve come to know her through her recordings with the Jefferson Airplane, and earlier with the Great Society, I’ve come to feel that she is one of the outstanding pop voices of our era. She is, like all great singers, unduplicatable. One can hear where her style came from, and one can correspondingly hear, in the voices of others, the effect of her influence, but no one else sounds just like Grace Slick, not even when singing one of her tunes. She isn’t a pretty-sounding singer. It’s a fine voice, clear and even, always on pitch, and beautifully focused, but it has the kind of steely edge to it that forbids prettiness. There are some singers who seem to sing through a perpetual smile; it doesn’t matter whether or not you can see it, you can hear it. Gracie sounds like she’s singing through clenched teeth. And maybe she is. There’s a strong, sometimes ironic, sometimes taunting content to much of what she sings. Above all, there is a terrific intensity—not an emotional intensity or a sexual intensity, but just an intensity.

Obviously, there’s a great deal of blues and jazz behind what Gracie does. I can certainly hear plenty of Bessie Smith, both in that instrumental-like toying with the line and in the avoidance of anything cute or anything sentimental. But this is a totally different development of Bessie’s ‘shouting’ than anyone has done before. Grace Slick isn’t a blues singer; her rhythmic base is totally different, actually oriental. If you want to hear behind that part of Gracie you’ll find it instrumentally in North Indian classical music and vocally, perhaps, in some Arab music. I am not trying to make Gracie into an ethnomusicologist. I don’t claim she’s studied all these different musics; I don’t even know if she’s ever heard any of them. But she has obviously picked up something of what is in the air from those sources, put it all together, and made it very much her own. It’s just a little advance warning, so that when you hear that strong, beautiful, razor-edge voice cutting through the air on Sally Go Round the Rose, or White Rabbit, or Somebody to Love, you won’t be completely shattered.

HAVING said all this, it is my pleasure to announce that, through special arrangement with RCA, STEREO REVIEW is offering to its readers a special 7-inch sampler of The Art of Grace Slick and the Jefferson Airplane. To get your copy, simply send 25 cents to R. Walker, c/o Stereo Review, 1 Park Avenue, New York, N. Y. 10016 (we’ll cover tax and postage).

—James Goodfriend. Music Editor
go out and demonstrate with Abbie Hoffman or Jane Fonda, twenty-nine people sit around on their cans. So we stick together and promote peace through publicity, our interviews, and our music."

"Do you think rock will survive?" I asked.

"Well, the hardest thing about surviving is the outside influences, the dumb censorship from executives, and all the right-wing jerks who get uptight about nudity and dirty language and all that junk. The cops and even the record companies figure we take drugs and fornicate all the time, so they watch us pretty closely. RCA Victor has hassled us a lot.

One time we got this idea for an album cover where everyone could draw something at the recording session and we'd put all the drawings together for the cover. Paul was eating a cupcake, so he took the holder and traced around it with a pencil, and RCA wouldn't let it go through because they said it looked like a woman's sex organs. Idiots! We're always going to the head of the RCA record division and saying, 'Show us proof that somebody is going to make trouble. Send us the letters and we'll answer them.' Adults all think it's a bunch of noise and the kids don't care anyway, so who do they think they're kidding? We had the four-letter word for defecation on Eikimo Blue Day and RCA had a fit. We left it in. Nobody ever complained, man. We're talking about leaving RCA to join up with Crosby, Stills and Nash and the Grateful Dead to form our own record company, the way the Beatles did when they left Capitol and formed Apple. The good thing about the Airplane, and the main reason we've outlasted most of the other rock groups, is that nobody plays God or tries to fool with than dope. Either way, I know where I'm at."

Grace has had many offers to be a star at ten times the money she's making now. She's not interested. "I don't know one entertainer I would ever watch for more than two songs. That whole Judy Garland package is a bore. Even Streisand-one or two tunes and I say, 'Okay, I've heard you, baby!' Three hours of Sammy Davis, Jr. would be like They Shoot Horses, Don't They? So I wouldn't want to look at Grace Slick for three hours, either."

The only thing left dangling was the future. "You can last longer in rock than you can in something like opera because so few technical demands are made on your voice. Also, the fans don't judge you as harshly. If an opera singer hits the wrong half-note, she gets murdered. If they took out my vocal cords altogether, they'd probably say, 'Oh, wow, far out—she's singing through her ears now!' But I've had three operations on my vocal cords already. Janis Joplin has been yelling her head off for years, and she's had no trouble. My vocal structure is weaker. I can't sing as long as I used to and my voice gives out fast. Five years ago, I could go over a song fifty times in a recording session. I can't do that anymore. I used to sound like Joan Baez, now I sound like Louis Armstrong. My voice gets lower all the time—it gets used, abused, knocked around. My days are limited. But if I blow it completely, I'll just do something else. Rock is not my life's work. I've been drawing lately and writing a lot, too. If I stop singing it won't mean a thing to me. I'll get into another scene."

Like what? "I'd really like to do a film. The Airplane was in a Godard movie, but I'd like to do a project of my own. I was sent a script for a movie called Big Fauss and Little Halsey, but it stank, so I said no. Now I learn Robert Redford and Michael J. Pollard are in it. Damn! I blew it. But I still don't want to do anything that means backing up. Mary looks at John, John kisses Mary—that's bull. Too many other things to say and do. That's why nobody slow dances or writes love songs anymore. People are getting killed, so who cares if John gets Mary in the end?"

I DON'T know who will get Grace Slick in the end, but as we rode an electric elevator-chair down a back staircase, it occurred to me he might have his hands full but he'll never be bored. "I'm crazy," she was saying at the door, "but I'm at peace with myself. The way we live in this crazy house, we're all nuts, man. But it's fun. We're too lazy to hassle anybody, even each other. That's why I don't shoot heroin. I'm too lazy to get into it. Like paying taxes. I just don't bother to keep receipts. I guess I'm also a bit old-fashioned. I still drink liquor, which is probably a throwback to the Establishment. It's legal and easier to fool with than dope. Either way, I know where my head is. This is where I'm at."

There was a noise at the front door and two hippies came in looking like the gravediggers in Hamlet. The one with the red beard did all the talking. "Hey, Grace, we got a parade permit from the mayor's office to celebrate the Age of Aquarius. We got a ton of acid and we're gonna drop it on everybody in the street. We want you to be in the parade!"

She shot me a look: "Do you believe this, man?" Then she turned back to the hippies. "Far out, but we'll be on the road then. Try the Quicksilver Messenger Service or Pacific Gas and Electric."

Crestfallen, they shuffled past the broken toilet seat on the front porch and headed off down the street. They didn't want the Quicksilver Messenger Service or Pacific Gas and Electric. They wanted Grace Slick. Frankly, I don't blame them. But give her time. If I know Grace, she can start her own parades.
DE MORTIBUS MUSICORUM

Some cases drawn from a pathologist's notebook

By William B. Ober

THOSE whose interest in music extends to the details of composers' lives may have noticed a curious reticence on the part of many biographers to speak clearly and explicitly about the deaths of their subjects. No doubt some felt that they had something to hide; more than one musician has died of a disease that laymen have traditionally looked down upon from high moral peaks, and naming the disease does nothing to enhance the character of the poor composer in the reader's eyes. But even beyond this, we encounter an attitude—perhaps carried over from Victoria's time—that illness and death are themselves taboo subjects, that the recounting of a man's dying under any but the noblest circumstances is the ultimate dirty joke. And yet, many fine musicians died under circumstances that were anything but noble, and the exact manner of their dying is a matter of legitimate concern. For it seems a far less profound thing to me that Schubert had a momentary crush on some young noblewoman or other (the sort of incident that is retailed ad nauseam in biographies) than that he was cut down before his thirty-second birthday, in all probability by a disease that has since been all but eliminated in the more developed areas of the Western world.

Musicians, like any other vocational group, are subject to death by misadventure. Each epoch seems to provide its own mode for tragic, untimely death, and scattered through the pages of musical history we find many accounts of musicians who came to sudden death. The tradition dates back as far as Orpheus, who was torn to pieces by bacchantes in Thrace because his music did not stir them as they felt it should (and also because he no longer wanted to have anything to do with women). This may have been music criticism carried to an extreme, but ever since there has been no important musical culture in Thrace. Was this the curse of Orpheus? According to

Chopin's "romantic" death fueled the fires of bathos in literature and art, as in this interpretation by Félix Joseph Barrias.
Diodorus, Hercules, while taking lessons on the lyre from Linus, was so inept a pupil that he provoked Linus to strike him, whereupon Hercules snatched the lyre and beat his teacher’s brains out, an impulse doubtless felt by many students since.

Intercontinental air travel adds a risk to the careers of musicians of our own generation. Grace Moore (1901-1947), the opera singer, died in a plane crash near Copenhagen as she was leaving to fulfill an engagement in Stockholm. A few days later Claude Crussard (1893-1947) and the eight other members of the Ars Rediviva Ensemble were killed in a similar accident. The brilliant career of violinist Ginette Neveu (1919-1949) was cut short when her plane crashed near the Azores en route to the United States where she was about to repeat her successful tour of 1947. The next French violinist to die like Icarus was Jacques Thibaud (1880-1953), who was flying to French Indo-China when the plane crashed into a peak of the French Alps. That same year the pianist William Kapell (1922-1953) was killed just outside San Francisco when the DC-6 he was flying in from Australia crashed into a mountainside. Though his first trip to Australia in 1945 had been a triumph and later tours no less successful, this had not been a particularly happy one. Kapell left Australia complaining of unfair treatment by local music critics, and his prophetic parting remark was, “I shall never return. I mean what I say.” Three years later, the conductor Guido Cantelli (1920-1956) died with thirty-three others when their plane crashed on taking off from Orly airport at Paris for New York.

But the preceding tragedies all involved performers; so far no composer of note has died in an air crash. Nonetheless, some have died under unusual circumstances, some more interesting than others. It may not be entirely inappropriate for a pathologist to select a few cases for re-examination. Most students of musical biography know that Bach and Handel died of apoplectic strokes, that Haydn died of arteriosclerotic heart disease with congestive failure, that Schubert died of typhus fever (possibly typhoid, for terminology has become confused over the past century), that Wagner died of a coronary occlusion. Yet, however great their music was, their deaths were not particularly unusual. We also know that, despite a voluminous literature, we shall never really find out what mysterious illness killed Mozart at the age of thirty-five, nor will the circumstances of Purcell’s death be clarified. We do know from the autopsy report that Beethoven had cirrhosis of the liver and ascites (accumulation of fluid in the abdomen), but an unresolved debate has raged endlessly about other details of his medical history. Two recent biographies have documented in great detail Donizetti’s death in 1848 at the age of fifty-one of tertiary syphilis involving the central nervous system and Rossini’s death in 1868 at the age of seventy-six from a chronic urinary tract infection and uremia, the end stage of a urethral stricture caused by gonorrhea contracted in his promiscuous youth. Chopin—ah, there was a death in the Romantic style—died in 1849 at the age of thirty-nine from slowly progressive fibrocous pulmonary tuberculosis. How vividly one recalls that abysmal film of the 1940’s, A Song to Remember, with José Iturbi at the soundtrack piano and some half-forgotten screen idol (was it Cornell Wilde?) acting the part! Can anyone who saw the film forget the phony scene of Chopin’s first hemoptysis appearing as a spoutch of blood (probably catchup) on the keyboard? Another typically “Romantic” death was Schumann’s; he died in a madhouse in 1856 at the age of forty-six. Less than three years previously he had tried to commit suicide by jumping into the Rhine at Düsseldorf, but failed.

Schumann may have been a failed suicide, but Jeremiah Clarke (1673/4-1707) succeeded. He shot himself in the head and blew his brains out on December 1, 1707, while mentally deranged. Clarke began his musical career as a chorister in the Chapel Royal under John Blow; he was later appointed organist at St. Paul’s Cathedral while it was being built anew by Sir Christopher Wren, and in 1703 he succeeded Blow as almoner and master of the choristers. A broadsheet published at the time of his suicide hints at an unhappy love affair, but there is no proof for this save that Clarke was unmarried. Clarke was ill-starred indeed; he is best known as the real composer of Purcell’s Trumpet Voluntary. How ironic that his best and most popular work should be ascribed to someone else for two and a half centuries!

Another suicide was Philip Heseltine (1894-1930), who composed under the name of Peter Warlock. He managed his exitus by turning on the gas oven and dying of carbon monoxide poisoning. The clue to his psychological disturbance is evident from the pseudonym he chose, but he was a complex man who led a divided life. He was one of the first composers of our century to perceive and recapture the beauty of Elizabethan music (he wrote a book on the subject and edited much of the music for publication), and one might compare him to the nineteenth-century poet Thomas Lovell Beddoes (1803-1849), another misplaced Elizabethan who also committed suicide. But Heseltine’s emotional problems were profound and require extensive analysis; it is too easy to oversimplify his case.

Craniocerebral injuries have claimed their fair share of composers’ lives. One scarcely associates the
gentle music of Ernest Chausson (1855-1899) with death by violence. Born to a family with ample means, Chausson began as a law student, turning to music only at the age of twenty-five, when he entered the Paris Conservatoire to study with Massenet. He later became a private pupil of Cesar Franck, but spent most of his time composing at his country estate at Limay. One bright sunny morning in June 1899 he went out for a ride on his bicycle and, either in a moment of abstraction or else by miscalculation, crashed head on into a stone wall. His skull was fractured, and he died at the scene of the accident.

An even more bizarre accident put an end to the long life of Wallingford Riegger (1885-1961) in his seventy-sixth year. He was living with his daughter near Columbia University in New York City. On the morning of April 1, 1961, he went out for a stroll and, almost in front of the Cathedral of St. John the Divine, he managed to trip over the leash or leashes of two dogs who were fighting. He fell to the pavement, sustaining a small laceration on his forehead, and was taken by ambulance to a nearby hospital. It was soon recognized that his injury was not so superficial as it first appeared, and he was transferred to Columbia-Presbyterian Medical Center where, despite skillful brain surgery, he died of multiple post-traumatic intracerebral hemorrhages.

The possibility of cranio-cerebral injury was raised in the sad case of Maurice Ravel (1875-1937), who developed neurologic symptoms after an automobile accident in October 1932. He suffered strange lapses of memory, then selectively lost certain powers involving motor co-ordination (he could walk but could not write). This was followed by aphasia, an inability to express his ideas by speech, and he was incapable of any sustained work by 1933. The real tragedy was that his sensitive mind remained perfectly clear, but he could not communicate, being unable to speak or write. He grew progressively worse, and the diagnosis of a post-traumatic subdural hematoma (a kind of blood-filled tumor or swelling under the membranous lining of the brain) was entertained. An operation was performed in December 1937, far too late in any case, but he died a few days later. Careful neuropathologic studies of his brain showed that he had suffered from Pick's disease, a rare form of progressive atrophy of the frontal and parietal lobes of the brain. This is an appalling condition that is not difficult to diagnose under the microscope after the patient's illness and death, but its cause remains mysterious, though in some cases (like Ravel's) the onset of symptoms does seem to follow some form of trauma.

In January of 1964, Marc Blitzstein (1905-1964) was robbed and beaten to death by three sailors outside the town of Fort-de-France on the West Indian island of Martinique. The circumstances were suspicious, and the full details may never be known. Blitzstein, whose first triumph was The Cradle Will Rock (1937), followed by No for an Answer (1941), had successfully continued his aptitude for proletarian opera by adapting Kurt Weill and Bertolt Brecht's Die Dreigroschenoper into the musical hit The Threepenny Opera. The Metropolitan Opera Company, scarce ly noted for proletarian sympathies, had commissioned Blitzstein to write an opera for them. He had left his home in Philadelphia on November 1, 1963, to bask in the semitropical sun, relax, and compose. On January 22, 1964, the newspapers carried an account of his having been killed in an automobile accident on Martinique—tragic but plausible. A different version appeared the next day when three sailors (two Portuguese, one native) were arrested and charged with robbing him, then beating him so severely that he died a few hours later at the local hospital where the police had taken him. The police are
reported to have stated that he was "badly mauled." Lacking an autopsy report, one can only conjecture the specific cause of death.

Composers, like the rest of us, are subject not only to the ordinary hazards of life, but the extraordinary ones as well. Alessandro Poglietti (b.? -1683) was killed in Vienna while it was under siege by the Turks led by Mohammed IV. Just when Poglietti had settled in Vienna is not known, but he was held in high favor at Leopold I's court and is best known for his keyboard suite titled *Rossignolo*, a remarkable work with many movements, concluding with the nightingale's *aria bizzarra* and twenty-three variations. Precisely how he met his death is not recorded, but it seems likely that he was struck by either a projectile or falling masonry.

Another victim of war was Enrique Granados (1867-1916), who was drowned with his wife and many others when German U-boats torpedoed and sank the British vessel *Sussex* between Folkestone and Dieppe on March 24, 1916. Granados, whose *Goyescas* had brought the Spanish national idiom back into the limelight, was returning from a successful tour of the United States. A last-minute invitation from President Wilson to play at a White House reception impelled Granados to cancel the passage he had originally booked and to travel on the ill-fated *Sussex*.

The most senseless death of a composer as the result of war was that of Anton Webern (1883-1945). He was shot to death by an American soldier on the night of September 15, 1945, at Mittersill in Austria, then part of the American zone of occupation after the cessation of hostilities of World War II. There are two accounts of the event. According to one version, Webern had stepped outside the house to smoke a cigarette though the town was under curfew. He may or may not have been ordered back into his house by an American soldier, may or may not have misunderstood the order, may or may not have fumbled in his pocket and created suspicion, but following a series of shots he staggered back into the house, collapsed, and died shortly thereafter. The alternative version is that the house was being searched and that Webern had been told to wait outside in the street where he was "shot by mistake." Needless to say, efforts were made to hush up the incident. Like every other military establishment, the American Army protects itself; civilians in occupied territory may have civil rights de jure but not necessarily de facto. Most incidents like Webern's murder go unnoticed because the victim is of no particular importance. In this case the victim was a composer of international fame, and even censorship could not prevent some version of the story from leaking out.

Since death comes, even for composers, in so many forms, some of them may be expected to be stranger than others. Jean-Baptiste Lully (1632-1687) died from an unexpected occupational hazard. In Lully's day, the leader of the orchestra did not conduct with a slender baton but used a large, rather heavy staff which was held vertically. On January 8, 1687, while conducting a *Te Deum* to celebrate Louis XIV's recovery from a severe illness, Lully accidentally struck his foot with the metal-tipped baton. The wound became infected, and the infection spread up his leg. Medical treatment was of no avail; sepsis became generalized, and after suffering for over ten weeks, Lully succumbed on March 22. He was only fifty-five years old, and it is unlikely that he had severe arteriosclerosis of the leg arteries, but one can speculate that he may have been a latent diabetic, a condition which could explain so grave an outcome from so trivial an injury. It is also possible that the wound was not properly cleaned and dressed and that secondary infection by more virulent organisms was the decisive factor.

EVEN more bizarre was the death of Charles Valentin Alkan (1813-1888), whose complex, Lisztian piano music is currently being revived. Born in Paris to a Jewish family of some means and with a strong tradition of interest in scholarship and the arts, Alkan (whose real name was Morhange) was a precocious piano virtuoso. He was admitted to the Conservatoire at the age of six, won prize after prize, and was a celebrated public performer by the time he was seventeen. He studied piano with Zimmermann, who was also Cesar Franck's teacher. In his twenties and thirties Alkan was a member of the circle of intellectuals centering around Victor Hugo and George Sand; he was particularly friendly with Chopin. For reasons that remain unexplained, he gradually withdrew from society and became a recluse, making only rare public appearances. He passed the last four decades of his life composing his difficult music and studying religious texts. One day, at the age of seventy-five, he attempted to reach for a volume of the Talmud on the top shelf of a bookcase; the entire bookcase toppled, crushing Alkan to death beneath it. There is often some risk in consulting religious texts, but this one is not generally taken into account.

Cesar Franck (1822-1890) died only two years later, but the precise sequence of medical events is not clear. Ostensibly in robust health for a man of sixty-eight, he was on route one day in May 1890 to give a pupil a lesson at her home when he was struck by a horse-drawn omnibus. He was knocked against a street pole and sustained an injury to his side, pre-
César Franck (1822-1890), Peter Iljitsch Tschaikowsky (1840-1893), and Gustav Mahler (1860-1911) were all victims of infection—two bacterial, the third possibly so—in a pre-antibiotic era. The techniques and treatments of modern medicine might well have saved them all.

The death of Anton Webern (left), the result of a soldier’s mistake or misunderstanding, was a particularly senseless one. The pianist William Kapell and the conductor Guido Cantelli died in airplane crashes. Negative results of scientific progress, and perhaps a trade-off for the development of new drugs to fight disease.

Sumably at chest level. Though somewhat shaken, he was able to continue his journey. He arrived at the pupil’s home, fainted, but recovered sufficiently to give the lesson, then walked home. The chest injury was probably more severe than he first realized, and he may have cracked a rib and had a pleural reaction. He was in discomfort during June and July, sufficiently so that he was unable to attend some of the official exercises at the Conservatoire. Musical historians have generally attributed his death in November to complications arising from this injury. But he was well enough to spend his summer vacation in July, August, and early September at Nemours visiting with his wife’s cousins, and he returned to Paris at the beginning of October feeling quite fit and ready to resume duties at the Conservatoire.

He was even well enough to hold a small reception at his home for some of his pupils, including the ill-fated Guillaume Lekeu (1870-1894), who was to die of typhoid fever the day after his twenty-fourth birthday from eating contaminated sherbet. Franck did give a few of the opening classes at the Conservatoire, but on October 17 he developed a respiratory infection which turned into pneumonia. As was not uncommon in the pre-antibiotic era, the lung infection spread; Franck developed pleurisy and pericarditis and died on November 8. Though he may have been in good health until the time of his accident in May, his terminal illness in October-November 1890 could not be considered an unusual pattern for pneumonia in a man in his seventh decade. Franck’s case raises the question of proximate cause, and it is somewhat difficult to indict the bus injury when its effects seem to have disappeared in a reasonable time.

Musical and literary histories often contain misdiagnoses which have been handed down from one “authority” to the next. An obvious example is the case of Johannes Brahms (1833-1897). We usually read that he died of cancer of the liver. To be sure, his last illness was characterized by jaundice and a large liver, but primary liver cancer is rare except in patients with underlying cirrhosis. There is no evi-
dence for cirrhosis in Brahms' case: his nutrition was good, he was abstemious in his use of alcohol, and there is no history of antecedent hepatitis. A much more likely diagnosis is the more common form of cancer, primary in the head of the pancreas, which obstructs the common bile duct, producing jaundice and hepatomegaly (enlargement of the liver) as well as many other symptoms.

However, standards of diagnosis and documentation do improve, and only a few years later, when Gustav Mahler (1860-1911) died, the diagnosis of subacute bacterial endocarditis (infection and inflammation of the lining of the heart) was made without reservation. The diagnosis was based on the history of a heart murmur for many years, the onset of an illness characterized by chills and fever, prolongation of the illness with attendant weight loss, progressive weakness, and anemia, and was finally proved by the recovery of the infecting bacteria, Streptococcus viridans, from his blood.

The last case from this pathologist's notebook is that of Peter Ilyitch Tchaikovsky (1840-1893), more notable for its psychological aspects than its medical details. Tchaikovsky's biography is all too familiar in outline. The unhappy, neurotic Slav has been the subject not only of scholarly biographies but many "popular" ones, and his sexual aberrations have been discussed at length. Put briefly, he was a homosexual who never adjusted to that condition and was so tormented by feelings of guilt that it interfered with almost all his interpersonal relationships. His marriage in 1877 was an emotional disaster. From 1877 to 1890 he carried on his voluminous correspondence with Nadezhda von Meck, and the letters relate his innumerable emotional crises. This relationship, which had helped sustain him financially as well as emotionally, was broken off by Mme. von Meck at the end of 1890. Despite the brilliant success of his American tour in 1891, Tchaikovsky's mood of depression continued to deepen, plainly evidenced by his Sixth Symphony, the Pathétique, which he began to compose in the summer of 1892. Pictures taken of him at this time show the stigmata of continuing emotional stress. He had lost his youthful good looks, his lined face looked drawn and nervous, his hair was greying, and he looked more like a man in his mid-sixties than early fifties.

The first performance of the Sixth Symphony at St. Petersburg on October 28, 1893, was a disappointment; the audience reacted coldly. He stayed in the city long enough to make arrangements for publication, dedicating the symphony to his favorite nephew, Vladimir Davidov, who shared his homosexual leanings. Tchaikovsky then returned to Klin, the country town where he was living, only to find it in the midst of a cholera epidemic. Cholera outbreaks were not uncommon, and, as was customary, residents of the stricken area were urged to boil all water before drinking it. At luncheon on November 1, in the company of his brother Modest and his nephew, Tchaikovsky declined solid food, pleading a sleepless night and indigestion. Much to his kinsmen's dismay he drank several glasses of unboiled water. He dismissed their warnings cavalierly, claiming he had no fear of cholera. By evening he was seriously ill; diarrhea had developed. Physicians were summoned, but to no avail. The diarrhea became increasingly severe, he became prostrated, then dehydrated and delirious, finally going into shock and dying on November 6.

Clearly, drinking the unboiled water was an act of defiance, a gesture of je m'en fiche du monde. There is a fine line between deliberate suicide and performing an act that carries a grave risk of self-destruction. Tchaikovsky chose to play Russian roulette with the cholera bacillus. He lost.

It would be rash to draw any conclusions or to generalize from the randomly selected series of cases described above. Each case ought to be considered as an incident entire of itself. However, unless we are to consider mere morbid curiosity seekers, the review of the causes of death of certain gifted men must impel us to ask why we pay attention to biography at all. It is not entirely frivolous to take the position that a work of art must stand or fall on its own merits, that it ought not to matter whether Chopin wrote a given ballade after a bout of fever, whether Lohengrin was composed while Wagner was suffering hemorrhoids, or whether a gifted composer died of an ordinary or an uncommon disease. Yet the lives of geniuses have a particular attraction: we examine them to see how they differ from the ordinary run of mankind; possibly with unconscious egotism we look into their characters for parallels with ourselves as individuals, occasionally we do achieve some insight into the relationship between vie et œuvre. The recital of their manner of death furnishes us with one insight, not a rare one to be sure, but a point that must be made. Composers, even great composers, are men of flesh and blood, prey to the same accidents and diseases that afflicting us all. That Beethoven in one respect is immortal is well known, but pathologists, like historians, have a penchant, if not an obligation, to remind us that he was mortal as well. Real lilies need not be prettified by paint.

William B. Ober, connoisseur of music and pathologist at Beth Israel Hospital in New York City, was last represented in Stereo Review by Beethoven's Feet of Clay in the January 1970 issue.
A NEW EUGENE ONEGIN FROM MELODIYA/ANGEL

Rostropovich conducts a lovingly detailed performance of the Tchaikovsky masterpiece

THOUGH perfection is a desirable thing, the presence of a few intrinsic flaws will not necessarily keep an opera from being beautiful and lovable. Verdi’s Don Carlo and Puccini’s Turandot support this premise, and so does Tchaikovsky’s Eugene Onegin. The flaws in the last are in part traceable to the source: Pushkin’s masterwork, an epic poem that was not intended for the stage, and least of all for the operatic stage. Though fully aware of this, Tchaikovsky made no effort to modify the Pushkin text when he wrote his opera, treating it rather with a respect bordering on adoration. He was apparently unable (or unwilling) to alter the work’s episodic nature, with the result that there are gaps both in motivation and in characterization. And there are certain other weaknesses in the opera that cannot be blamed on Pushkin: the artificiality of the vocal ensembles, plus the fact that, of all the principals, it is the central character who emerges least illuminated. And yet, countless inspired pages of lyrical, passionate, and colorful music in Eugene Onegin outweigh these reservations and more than explain the opera’s enduring popularity.

There have been two “modern” recordings of Eugene Onegin, both dating from the mid-Fifties. Richmond 63509, in early stereo, enlisted the moderately gifted forces of the Belgrade Opera for an only moderately satisfying effort. More idiomatic, and certainly far more successful, was the Bolshoi production (once available on Westminster and now on the imported MK label) with a fine cast headed by the outstanding Galina Vishnevskaya as Tatiana. This remains an impressive presentation, but it is beginning to show its age sonically. Now, however, we have a new Onegin from Melodiya/Angel. It is a production that offers entirely up-to-date sound and, though it is far from being an unqualified success, it can be recommended as the recorded version most likely to reveal the opera’s riches.

Galina Vishnevskaya sings the role of Tatiana once again, but the intervening years have not been kind to her voice. There is an impassioned drama in her singing, but it is imprisoned in tones that are often forced, unfocused, and generally unattractive above the staff. The performance is saved by her two male partners, and particularly by Yuri Mazurok, whose praises I have previously sung in these pages. His voice is of a distinctly Slavic timbre, but without the oft-found Slavic tonal untidiness: the sound is vigorous, with a heady brightness and a refreshing freedom in the top register. Vladimir Atlantov, as Lensky, is also a great improvement over the usual variety of Russian tenor. His sound is dark and manly, strong and steady in tone, and passionate in phrasing. For example, he starts his first-act aria (“I love you, Olga”) with deceptive tenderness, and builds to a terrific climax. My only reservation about Atlantov’s impressive performance...
concerns the frequently scoopy manner of his attacks.

The supporting singers are, in the main, satisfactory. Alexander Ognivtsev delivers Prince Gremin’s important aria with solid competence, and the young mezzo Tamara Sinyavskaya brings a pleasing tone and great dramatic presence to her portrayal of Olga, though she lacks a well-supported lower range. The interpreters of the roles of Larina and Filipevna sing with idiomatic flavor, but the blend of their voices with those of Mmes. Vishnevskaya and Sinyavskaya in the first-act quartet is not quite as heavenly as it should be. Mikhail Shkaptsov, on the other hand, delivers Zaretsky’s few lines in the duel scene with resounding sonority. Conductor Mstislav Rostropovich expresses the feelings of most music-minded Russians when he states in the notes accompanying this album that “to conduct Yevgeni Onegin is to me supreme happiness.” It shows in his lovingly detailed yet not overfussy leadership, in his lingering over the score’s lyric highlights.

It should be mentioned that this recording was made in Paris with a minimum of preparation (the producer’s account of the way it was done makes for thought-provoking, even amazing, reading), suggesting that my relatively minor reservations should not be interpreted out of proportion. The work is given complete, and is based on the G. Schirmer vocal score. It is a very enjoyable performance, and those wishing to supplement Mme. Vishnevskaya’s somewhat imperfect contribution in this set can do so by obtaining the highlight disc (Monitor S 2072) of her previously recorded Tatiana.

George Jellinek

TCHAIKOVSKY: Eugene Onegin. Galina Vishnevskaya (soprano), Tatiana; Tamara Sinyavskaya (mezzo-soprano), Olga; Vladimir Atlantov (tenor), Lensky; Yuri Mazurok (baritone), Onegin; Tatiana Tugarinova (mezzo-soprano), Larina; Larissa Avdeyeva (mezzo-soprano), Filipevna; Alexander Ognivtsev (bass), Gremin; Vitali Vlassov (tenor), Triquet; Mikhail Shkaptsov (bass), Zaretsky; others. Bolshoi Theater Orchestra and Chorus, Mstislav Rostropovich cond. MELODIYA/ANGEL SRCL 4115 three discs $17.94.

GLOWING PERFORMANCES
OF EIGHT SCRIBAN ETUDES

Ruth Laredo’s piano style is characterized by a warm Romanticism, but without the melodrama

In a new Connoisseur Society release, the immensely gifted young American pianist Ruth Laredo presents the first complete recorded performance of Scriabin’s Eight Etudes, Opus 42. It is a glowing performance indeed, all surge and ebb, with seemingly millions of notes sparkling forth like stardust, direct from Scriabin’s ultra-Romantic imagination. The pianist has extraordinarily even control of her fingers, so that all passagework flows smoothly from start to finish of a phrase, and the constant little crescendos and decrescendos in which this music lives are set forth not in sudden bursts, but gently, with a kind of caressing of the dynamics. At the same time, and particularly in the sonatas, where Scriabin sometimes calls for more brutal attacks, Miss Laredo has at her call more determined muscular force than one would expect. At the beginning of the Fifth Sonata, for example, she leaps at the music with such power that the speakers fairly tremble with bass energy, and the pianissimo immediately following is
made all the more effective by virtue of the stark contrast.

Like most young American performers, Miss Laredo plays Romantic music with plenty of warmth, but with a touch of "no nonsense" as well. Sensitive though her playing may be, and emotion-laden as well, there is no melodramatic sighing over the keyboard. I, for one, admire this kind of playing. It may be that a more self-consciously febrile approach would bring the performance perhaps an iota closer to Scriabin's idiosyncratic mysticism, but, for 1970, I prefer a slightly lower temperature. The recording itself goes along with the pianist's interpretive conception: its sound is splendidly full, round, and resonant, but also very natural.

Lester Trimble


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ENTERTAINMENT

SYLVIA SYMS (YES!) SINGS ROD McKUEN

A great song stylist returns to the recording studio to demonstrate how it should be done

STAYING young, as Eugene O'Neill once remarked, is hard, especially when everything around us seems to be growing old. Sylvia Syms must have the secret. She has always been one of the great song stylists—a supreme artist who attracts legions of admirers among the stay-up-late set, but never 'sells'—and I am happy to report that she sounds just as fresh and inventive as ever in her new album for the Stanyan label. If anything, she has grown wiser and richer after swallowing the tonic of life. Her voice is still the perfectly modulated, on-pitch, and beautifully controlled instrument it always was, but it seems a little rough around the edges now, braced with a set of deep, reflective, and slightly sad nuances and throbs that are thrilling to hear. And in the way she sings this collection of Rod McKuen love songs there is a surprisingly youthful innocence which, coupled with a slightly ragged Lee Wiley divorce quality, takes her into new fields. There is nothing dated about Sylvia Syms, even though she has been around a long time.

The material on this album is perfectly matched to her blithe and cerebral style. I have never heard

Rex Reed

Sylvia Syms: Love Lady. Sylvia Syms (vocals); Ellis Larkins (piano); orchestra, Rod McKuen and Sid Dale arr. I'll Never Be Alone, Second Best, I'll Catch the Sun, Blessings in Shades of Green, The World I Used to Know, Where Are We

NOVEMBER 1970
Note?; and eight others. STANYAN 10001 (available from Stanyan Records, 8721 Sunset Blvd., Hollywood, California 90069) $5.95.

SESAME STREET: THE POOR MAN'S DISNEYLAND

The popular children's TV show successfully meets the challenge of transfer to disc

SESAME STREET looks like any slum block in a big town, with tenements and lampposts and a candy store and garbage cans, but there the resemblance ends. When you take a walk down Sesame Street, which you can do by tuning in to your local educational TV station at the right time of day, you're in a kind of poor man's Disneyland, frequented by some of the cleverest animals, children, and grownups imaginable. There are puppets called the Muppets whose heads seem to be stuffed with intelligence rather than mere cuteness, and any child—or adult, for that matter—who hangs around the block long enough is bound not only to learn things, but to feel better about being alive before the visit is over.

As the theme song of the program will tell you, "It's a magic carpet ride/Every door will open wide to happy people like you..." I had heard rumors when Sesame Street first put up its street sign that only middle-class children responded to its appeal, but recent reports disclose that kids in the slums are equally at home there. And why shouldn't they be, with friends like Bob and Susan and Gordon and "Mr. Hooper and the kids" to make the alphabet and even arithmetic a pleasure, and creatures like Big Bird and Kermit the Frog and Oscar, the orange character who lives in a trashcan, to teach and entertain? With Brian Cranner's visuals, Joe Raposo's tunes, and lyrics and dialogue dreamed up by a staff of writers headed by Jeff Moss, who balances his Sesame Street scripting by "writing very serious plays for very serious adults," Sesame Street is far and away the best children's program on the air.

The show depends so strongly on motion and visual appeal that it was hard to believe much could be expected from a mere recording of its events, but it didn't turn out that way: Columbia's Thomas Z. Shepard has produced a book and disc sure to delight any child of any age, even if he has never watched the program. The book is a twenty-four page, hard-cover, full-color job with big bold drawings to make everything visible, and it includes all the words of the songs on the disc—about the alphabet, the number five, the joys of washing, the identities of neighborhood firemen and postmen, the color green, the geography of faces. Oscar comes out of his trashcan to sing ("Anything dirty or dingy or dusty/Anything ragged or rotten or rusty..."), There are riddles and games, all projecting important concepts in a painless way, and even a huge, full-color poster of "The Parts of the Body," suitable for hanging in the room of the lucky child presented with this delightful set. Moreover, the record is not just a collection of songs. It's a whole program by itself, complete with dialogue, encounters of all kinds between puppets and people, and its own running gags. A single of just one track, I am told, is already a best-seller. The package as a whole is one of the best albums for children ever put on the market.

Paul Kresh

THE SESAME STREET BOOK AND RECORD (Raposo-Moss). Matt Robinson, Loretta Long, Bob McGrath, Will Lee, The Muppets, Jim Henson, Frank Oz, Carroll Spinney, Lois Winter, Ana Isa Otis, Clyde Otis, Jr., Althea Jackson, Todd Graff, Tom Spiro, Andrea Giglio, and Christine Winter. (performers). Sesame Street; ABC-DEF-GH-I; I've Got Two; Goin' for a Ride, What Are Kids Called; Everybody Wash; One of These Things; Up and Down; Grow; and ten others. COLUMBIA CS 1069 $4.98, © 1810 1069 $6.98, © 1610 1069 $6.98.
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BACH: Cantata No. 5. "Jauchzet Gott in allen Landen." SCARLATTI, A. Cantata, "Su le sponde del Tebro." Carole Bogard (soprano); Armando Ghittali (trumpet); James Weaver (harpischord); Lars Holm Johansen (cello); Chamber Orchestra of Copenhagen, John Moriarty cond. CAMBRIDGE CRS 2710 $5.98.

Performance: Best in Bach
Recording: Excellent

Both of these cantatas involve some highly skitic coloratura work for the solo soprano and quite spectacular trumpet obbligatos in the faster sections. Both soloists are fully up to the demands of the two pieces, but for various reasons I feel that the Bach is the more successful performance. The outer sections of the latter are taken very quickly indeed (Schwarzkopf’s influence?), and they convey considerable excitement. The inner movements are sensitively done and are surprisingly inward in feeling; Miss Bogard sings them very lightly and intimately. On occasion, in the higher reaches, her intonation is marginally off center, but the performance as a whole, with its excellent phrasing and articulation in the accompaniments, is a highly enjoyable one. The Alessandro Scarlatti cantata disappointed me, I think, because of too much coolness on Miss Bogard’s part. Surely an Italian cantata should be performed with more passion, more on Miss Bogard’s part. Surely an Italian cantata could be performed with more passion, more excitement. Theinner movements are sensitively done, but not all the necessary cadences are well done, and all the necessary cadential trills are done in all the parts (including the solo trumpet). Embellishment of the vocal line is only barely noticeable (Miss Bogard does it primarily in the finale), and the orchestral accompaniment in the faster movements is badly lacking in bounce. On the other hand, such an aria as “Infelice mi si luma,” a wonderful section, is very sensitive in its execution.

The harpsichord continuo by James Weaver is very well accomplished, but the orchestra is a thin-sounding and not always accurate in intonation. This particular Scarlatti cantata, incidentally, is performed here for the first time with all stanzas complete. It is perfectly gorgeous work, but it still awaits an ideal performance. The sonics of the present disc are very clear, stereo spread is first-rate, and balances are excellent. Texts are provided. 1K


Performance: Makeshift
Recording: Below standard

It is not, I suspect, Felicia Blumenthal’s fault that the total effect produced by this encyclopedic effort is one of amateurishness. There are many hints in her performances of the five concertos that are in the regular canon that she is an artist with more than an ordinary endowment of musicianship and technique. But the hints are hard to verify in the face of weak orchestral support and ineffective recording. Robert Wagner seems to be an honest and sensitive conductor. He has not, however, succeeded in making his obviously mediocre orchestra play either together or in tune, and the results will certainly not stand repeated hearings. In the circumstances it would be inappropriate to criticize Miss Blumenthal’s interpretations in detail, since she is clearly playing under severe external handicaps. The recording, though it has a dry sort of clarity, is quite without any sense of liveliness or space, and the timpani have so little impact as to be often practically inaudible.

The question remains how far the most comprehensive collection yet put together of what might be called ‘supplementary’ Beethoven concertos can tip the scale in Orion’s favor. The music itself is of high interest but uneven value. The E-flat Major Concerto, composed when Beethoven was twelve or thirteen, unearthed in Vienna in 1890, and orchestrated by Willy Hess, is an insipid piece on the whole, redeemed by some exciting modulations in the first-movement development, and with a tuneful though far too repetitive final rondo. The D Major Allegro, assigned by scholars to the period 1788-1793, is not much more impressive, and hardly credible for a twenties Beethoven—it may, in fact, be the work of the Bohemian composer Johann Joseph Roesler (1771-1813). The E Minor Romanze, completed by Hess from an undated manuscript in the British Museum in London, palely echoes Mozart’s G-Minor “Barbarina” vein, and the B-flat Major Rondo is probably a discarded attempt at a last movement for the Piano Concerto No. 2.

The D Major Concerto is a very different master: this is Beethoven’s own transcription of the Violin Concerto. A comparison with the original casts all sorts of light on Beethoven’s differentiation between violin and piano idiom (and incidentally the cadenza with obbligato timpani which he composed for the piano version provides a salutary reminder that he was capable of massive aberrations of judgment even in 1807—it is a quite astonishingly inept insertion). The pattern of performance in all these works mirrors that in the concertos I have already discussed. Miss Blumenthal’s efforts are constantly sabotaged by inadequate support. In Opus 61a Waldhans’s skittish conception of the first movement, utterly out of keeping with the pianist’s broader view, produces a disunity of tempo and rhythm that precludes any overall artistic cohesion. In the 1784 Concerto and the D Major Allegro, Miss Blumenthal’s more pointy phrasing is outweighed by the stronger orchestral work and the much better recording of the Turnabout version.

RECORDING OF SPECIAL MERIT

BEETHOVEN: Piano Sonatas: No. 1, in F Minor, Op. 2, No. 1; No. 4, in E-flat Major, Op. 7. (Continued on page 96.)
The Many Sides of Ralph Vaughan Williams

Three new discs show the English master’s versatility

By DAVID HALL

Leaving out of account several hundred folk-song and hymn settings and arrangements, the musical output of England’s great symphonist Ralph Vaughan Williams during a creative life that lasted more than sixty years includes some two hundred and fifty works for virtually every performing medium (including radio and film scores). A third of this can justly be called music of major substance, comprising as it does nine symphonies, five operas, a dozen big choral works, a half-dozen concerted pieces, eight chamber works, and half a dozen other orchestral pieces including the “Tallis Fantasia” and the “masque for dancing,” Job. Except for such major omissions as the operas, much of Vaughan Williams’ output has been available on long-playing discs at one time or another. Still, on the recordings I have for reference here, three works—Sancta Civitas, Benedicite, and An Oxford Elegy—are firsts (if we omit a pre-stereo organ-accompanied version of Sancta Civitas on the Music Library label). Sancta Civitas and Flos Campi, the earliest two of the seven works offered on these three discs, could hardly provide a sharper contrast to one another. Sancta Civitas is a mystic-modal narrative evocation of the Revelation of St. John, with tenor and baritone soloists, choirs placed at varying distances from the listener, and orchestra. Flos Campi adds a highly personal neo-Impressionist exoticism to the prevailing modal flavor in evoking the heady perfumes of the Songs of Songs (Flos Campi—“Flower of the Field”—is “the Rose of Sharon . . . the lily of the valley”). For all the explicit imagery, musical and programmatic, no words are sung in Flos Campi; the solo viola carries the languorous “narrative” here, in colloquy with a modest orchestra and a small chorus singing wordlessly.

Coupled with Sancta Civitas (the pressing reviewed here is an imported Odeon disc, but Angel will release the recording in the U.S. shortly) is Benedicite, an extroverted and rumbustious work—a song of praise to God, with words drawn in part from the Anglican Prayer Book and in part from John Austin’s poem “Hark, My Soul.” In the latter, the soprano soloist—the excellent Heather Harper here—provides, with choral interjections, a necessary contrast to the rather unrelenting vigor of the opening and closing sections. The Five Variants of “Dives and Lazarus” is a pleasant folk-tune study composed for the 1939 World’s Fair in New York and given its premiere at Carnegie Hall in June of that year—a minor chip from the English master’s workbench.

The Serenade to Music (1938) is one of Vaughan Williams’ loveliest occasional works. Composed for the jubilee of Sir Henry Wood, the conductor whose Prom concerts provided two generations of Londoners with a major education in the symphonic repertoire, the Serenade is an idyllic setting of the apostrophe to music from Act Five, Scene 1, of Shakespeare’s Merchant of Venice. With the Fifth Symphony, we are drenched in the quintessential mystical-modal polyphony of Vaughan Williams in its purest and most intense form. Like Verdi and Cesar Franck, Vaughan Williams wrote his finest works after the age of sixty (except for the noble Tallis Fantasia). Moved as I am by the ‘Pastoral’ Symphony, and shaken as I am by the fierce F Minor and E Minor symphonies, it is the Fifth that I find the most nearly perfect in form and most profound in substance.

In An Oxford Elegy, we find Vaughan Williams tackling that seemingly most intractable of performing media, the accompanied narration. Berlioz in Lélia, Richard Strauss in Einhellig Arden, Schoenberg in A Survivor from Warsaw, and Stravinsky in L’Histoire du Soldat and Persephone have all essayed this medium with varied success. In such works, much—very much—depends on the narrator and his manner of delivery. The spoken text of An Oxford Elegy is derived from parts of two highly personal yet restrained elegiac poems of Matthew Arnold, The Scholar Gypsy and Thyrsis. The poetic idiom is in the most highly cultivated romantic, post-Victorian pastoral manner, and may not appeal to the tastes of Dylan Thomas or E.E. Cummings. But for those who can assimilate the idiom and penetrate to the poetic substance, for those who can share the Englishman’s profound sense of place, An Oxford Elegy, after a number of hearings, will assume an almost unbearable poignancy.

As for the recorded performances here, I find them, one and all, just about perfect. It is especially gratifying to have the original version of Serenade to Music, with sixteen solo voices, in a recording done under controlled-studio conditions—Leonard Bernstein’s (Columbia MS 7177) is taken from the public performance at the opening of Philharmonic Hall in New York. A word is in order concerning Sir Adrian Boult’s reading of the Fifth Symphony: it is far more restrained than the late Sir John Barbirolli’s 1963 performance on Angel. The range of dynamics is more restricted, the rhythm more stenotyped, but the resulting ensemble balances are more just and the finer points of the Scherzo and slow movement emerge in the most exquisite detail. Like most great musical works, Vaughan Williams’ Fifth Symphony can support more than one recorded interpretation, and I would not be without this one. Stereophiles, by the way, will relish the ‘masque for dancing’ here, in colloquy with a modest orchestra and a small chorus singing wordlessly.

VAUGHAN WILLIAMS: Sancta Civitas (1923-25); Benedicite (1929). Ian Partridge (tenor); John Shirley-Quirk (baritone); Heather Harper (soprano); Boys of King’s College, Cambridge; Bach Choir; London Symphony Orchestra, David Willcocks cond. ODEON ASD 2422 $5.98.

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Performance: Poised, often eloquent. Recording: Excellent

Claudio Arrau does very impressive playing in this compendium release of seven Beethoven sonatas taken from all three periods of the composer's creative life. This issue is Volume Two of a projected set of the whole thirty-two, an earlier volume having been released in the spring of last year and reviewed in the June issue of this magazine.

I must say that, though I do not think Arrau is the only pianist around who can make the Beethoven sonatas into exciting experiences, he is always a musician to reckon with. His playing in this group of sonatas is very much like his work in the first volume, and with (I hope) the consent of my colleague David Hall, who reviewed that set, I'll say that these performances, too, are ones of "poised weightiness"—beautiful, imposing, but a trifle chilly and forbidding.

Arrau has a way, sometimes, as in the Op. 31, No. 2, Sonata, of holding the tempo just below the point where it would flow naturally, and using this extra "elbow room" for detailed, expressive purposes. It's a method that works, and yet I find it lends a certain remoteness. At the same time, I suspect that this is one of those moments when the difference between a recital-hall performance and a recorded one is apparent. In the recital hall, one is aware of the presence of the audience. In the recording studio, of the absence. Arrau is always a musician to reckon with. His playing in this group of sonatas is very much like his work in the first volume, and with (I hope) the consent of my colleague David Hall, who reviewed that set, I'll say that these performances, too, are ones of "poised weightiness"—beautiful, imposing, but a trifle chilly and forbidding.

But that's all right with me.

L.T.


Performances: Both excellent. Recordings: Both excellent.

These two recordings of the Beethoven C Minor String Quartet are excellent additions to a surprisingly short list of separately available records of the piece. The Budapest's marvelous recording of the work can be ordered only with the complete five-disc Columbia album of the late Beethoven quartets, and other separate choices are limited to just two: the Juilliard and the Viola Quartets.

Both the Yale Quartet and the Quartetto Italiano have made extremely distinguished contributions to the Beethoven bicentennial year. Each ensemble has looked at the music with a fresh and cultivated eye, and their playing is anything but routine or tradition-bound. Indeed, there are one or two unusual aspects to each of their interpretations, and it is an odd coincidence that the first of these I noticed—the very slow tempo of the opening section—is shared by both.

Both groups have taken the opening Adagio ma non troppo at such daringly slow tempos that one's first reaction is to cry out "No, no—it's Adagio non troppo!" Because of this slow tempo, on the first few listenings the Yale Quartet's opening seems a little over-controlled, even bloodless, and the Quartetto Italiano's even slower tempo is made credible only by the ensemble's somewhat ruddier sense of tone-color. But these first impressions quickly fade. After a few more playings, the Yale Quartet's strong and utterly regular pulse begins to provide its own kind of subterranean pleasure, and their ultra-clean delineation of Beethoven's fugal counterpoint, though pushing to the boundaries of abstraction, offers an interestingly uncompromising dimension of expression.

Again in the Andante, ma non troppo which begins the fourth section of the work, both quartets take the tempo to the outer limits of slowness. And again, after an initial surprise, the tempo becomes convincing. I must admit, though, that the Andante is perilously close to an Adagio in both cases. I suppose this simply proves what everybody already knows: that tempo in pre-twentieth-century music is, within limits, a very subjective thing.

The much freshness and immediacy in each recording. Except for the slow tempos I've mentioned, there are no radical departures from the expected, but each ensemble has

(Continued on page 96)
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breathed life into Op. 131 and made its own ensemble's personality markedly evident in the process. My own preference is for the Yale Quartet's version by a slight margin. The ensemble's penchant for a kind of clean lyricism and preciseness matches my own. Objectively speaking, however, the two recordings are of like quality, and that fine.

L. T.

BIZET: Carmen. Grace Bumbry (mezzo-soprano), Carmen; Mirella Freni (soprano), Micaela; Jon Vickers (tenor), Don José; Costas Paskalis (baritone), Escamillo; Eliane Lublin (soprano), Frasquita; Viorica Cortes (soprano), Mercedes; Bernard Gomcharenko (bass), Zuniga; Claude Meloni (baritone), Morales; Michel Trempont (baritone), Dancairo; Albert Voli (tenor), Remendado. Chorus and Orchestra of the Théâtre Nationale de l'Opéra, Rafael Frühbeck de Burgos cond. ANGEL. SCL 3767 three discs $17.94

Performance: Unsatisfactory
Recording: Good

Why, one might ask, should the company that already owns the two best versions of Carmen in the catalog find it necessary to record yet another one? There is, it so happens, one answer: Angel's new album presents Bizet's original Opéra Comique conception, with spoken passages instead of the familiar recitatives by Ernest Guiraud heard in most productions. So far so good—but, unfortunately, no further. Having made a gesture toward authenticity, the producers then saw fit to entrust the spoken passages to a group of French actors, while allowing the opera to be sung by a group of distinctly non-Gallic principals. The voices don't match, dramatic illusion is shattered, and the effort completely misfires.

I find this Carmen an almost unmitigated fiasco. Alongside that of the uniquely individual Beecham, the occasionally eccentric but frequently spellbinding Karajan, and the less individualistic but consistently alive and shipshape Pretre, the musical direction of Frühbeck de Burgos appears slack and disinterested. I must reluctantly conclude that he doesn't care much for this opera, for he imparts to it no feeling for illuminating detail, no rhythmic spark, no precision, no well-balanced vocal ensemble or rich-textured orchestral tone. He provides superficial timebeating and avoids major disasters, and that is about all.

Grace Bumbry is not a subtly seductive Carmen, but she is a thoroughly competent one, and it is clear that a more inspiring conductor would have elicited a richer and tonally better controlled performance from her. Mirella Freni is a fine Micaela; her tone is fresh and sweet, her style appealingly straightforward. And that is about all. Jon Vickers is an unidiomatic, uningratiating Don José, with a tone production that moves discouragingly in and out of different timbres, and is consequently unable to sustain a legato line. Costas Paskalis sings Escamillo with a brusque swagger that is not out of character. Yet I prefer the intrinsic rightness of phrasing and diction of such French singers as Massard or Blunc (in the earlier Angel sets) or, failing that, the tonal suavity of a Robert Merrill (RCA). The remainder of the cast is totally undistinguished, and I prefer to forget what they do when they join in such ensembles as the Gypsy Song or the Quintet. Even the engineers seem to have caught the virus of indifference that permeates this production.

G.J.

(Continued on page 98)
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**Performance: Very good**
**Recording: Excellent**

*(Continued on page 103)*
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The Milhaud Concerto is made of some of that composer's charming bon vivant music. It says what it has to say with wit and spirit and then stops. The Jolivet is a noisy, rambling, crashing bore. Milhaud's own arrangement of his score for the ballet La Création du Monde is a real curiosity. This jazz-inspired music would seem to be unimaginable without its very distinctive orchestration, but Milhaud, at his publisher's request (French publishers have always liked obscure arrangements of their pieces), has somehow managed to turn it into very attractive chamber music. It is eminently successful in the hands of Entremont and the excellent French string trio. Entremont is equally effective in the concertos; the Conservatoire Orchestra is good if not great. Excellent and persuasive recordings.

F.S.

RECORDING OF SPECIAL MERIT

MOZART: Rondo in A Minor (K. 511); Sonata in A Minor (K. 310); Sonata in D Major

London

Vladimir Ashkenazy

Emotional involvement in Mozart works

Performance: Mixed excellences
Recording: Very fine

It is fairly obvious from Vladimir Ashkenazy's involvement with Mozart, mainly through a series of recordings of concertos and instrumental music, that this is a composer particularly close to his heart. I yield to no one in my admiration for Ashkenazy's art, but I would submit that in the past his Mozart recordings, for all their refinement and elegance, have been somewhat uncommitted emotionally. The touch has been exquisite, the technique impeccable, and the phrasing superbly delineated, but still there was, at least for me, a feeling of reserve—coolness, if you will—and an apparent unwillingness to probe Mozart's inner tensions too deeply.

In his latest Mozart recording, two sonatas and the A Minor Rondo, Ashkenazy adds the missing ingredient, at least in part, and the results are examples of the finest Mozart playing to be heard today. On the first side, the pianist gives us the last sonata, K. 376 in D Major, a work particularly rich in contrapuntal techniques. Ashkenazy interprets it gorgeously, with a wide dynamic range, plenty of sentiment, and sparkle. He knows exactly which features to play up, which to minimize, and where all the important accents lie, and he seems to have an infallible instinct for the right tempo. Both in this sonata and the great A Minor Rondo, which completes the side, the pianist avoids blowing the music up romantically. This is especially obvious in the Rondo, which bespeaks a mood of resignation rather than emotional anguish. It is a perfectly valid interpretation, but overall I find this low-key approach a little too unemotional. The music emerges as a perfect polished jewel, but without the sense of personal involvement.

The playing on the second side, containing the A Minor Rondo, K. 310, came as a shock to me, for all of a sudden the music is enlarged to tragic proportions. This is a big work, and Ashkenazy drops his classical reserve, giving the music a full-blooded quality totally unlike that of his other Mozart interpretations. If anything, the pianist even hits a little too hard in the forte, but the overall effect is stunning. For me, it is the finest performance of this sonata since Lipatti's late-Forties recording, reissued on Odyssey 32 16 0320. To be a bit picky, I would have liked to see that throughout the recital, Ashkenazy is not always as spontaneous as he might be; one has the feeling that he is being deliberately at times, that he is trying to interpret, but, on the other hand, his performances here are a far cry from the too common mcing approach to Mozart which has neither emotion nor gelant feeling.

In sum, this is Mozart of extraordinarily high quality, in part refined and elegant but in part charged with an emotional involvement that one hopes will continue to be a feature of Ashkenazy's future recordings of the composer. The sonic reproduction is superior.

J.K.

RECORDING OF SPECIAL MERIT

MOZART: Serenade No. 11, in E-flat Major (K. 375); Serenade No. 12, in C Minor (K. 388). Netherlands Wind Ensemble, Edo de Waart cond. PHILIPS 802907 L.Y. $5.98.

Performance: Superb
Recording: Superb

The Netherlands Wind Ensemble, which has recorded two of Mozart's most enchanting Serenades, K. 375 (octet version) and K. 388, is an extremely elegant ensemble of young musicians. Under the direction of Edo de Waart, they have achieved here unusually graceful and feeling interpretations of both works. Especially in the E-flat Serenade, their intonation and control of dynamic nuance is utterly perfect; tone quality, whether from oboes, clarinets, horns, or bassoons, is consistently lovely, without the slightest hint of a raw edge or forcing at any point. The C-Minor Serenade, intrinsically more severe and Haydnesque, is difficult to bring up to the elegance-quotient of the E-flat. The Haydn, for instance, in straightforward and unadorned canons, will have its say in its own fashion, and there is very little performers can do to polish its somewhat rugged surfaces. But good tone, good phrasing, and warm musicianship do all that's necessary. These qualities the Netherlands Wind Ensemble has, and they give the work a communicative and handsome reading, sensitively wrought and clean.

L.T.

SCARLATTI, A.: Cantata, "Su le Sponde del Tevere" (see BACH, J. S.: Cantata)

(Continued on page 105)
We quote: "Tone burst response, using the Stereo Review SR-12 test record, was perfect up to the highest frequencies..." That's Hirsch-Houck Labs talking about the Shure V-15 Type II Improved phono cartridge. Hirsch-Houck also said the V-15 was "always unstrained, effortless, and a delight to listen to." We were enormously pleased, of course, but not surprised. After all, the cartridge that does sound better to the ear should also sound better to an electronic listening device. But now we feel we're ready for the ultimate test—on your turntable, playing your records. The incomparable V-15 Type II Improved, $67.50. Shure Brothers Incorporated, 222 Hartrey Avenue, Evanston, Illinois 60204.
SCHUMAN: Symphony No. 3; Symphony No. 5, for Strings. New York Philharmonic, Leonard Bernstein cond. COLUMBIA MS 7442 $5.98.

Performance: Good to brilliant
Recording: Adequate to superb

It is my earnest hope that William Schuman's ultimate recognition will be for the best of his compositions rather than for his involvement in the power structure governing the U.S. cultural institutions. His Third, Fifth, and Sixth symphonies and in the best of his writing for chorus, Schuman has produced music of towering eloquence and granitic power. The Fifth Symphony is perhaps the most brilliantly successful work of the rounding-off period that precedes his move into a more chromatically textured musical language (Violin Concerto and Sixth Symphony). The whole first movement grows out of a twelve-measure speech-and-sixth piece are as good an example as any. In this wistfully poetic movement Rubinstein's faster tempo and more straightforward phrasing serve to the music's much greater conviction than Horowitz's thoroughly self-conscious hesitations.

Recording: Adequate to superb
Performance: Good to brilliant

For in addition to the absence of any striking insights, Horowitz's interpretation is marred by little mannerisms that amount, I suppose, to a hangover after the old, unregenerate, masterful ways. The rhythmic distortions in the sixth piece are as good an example as any. In this wistfully poetic movement Rubinstein's faster tempo and more straightforward phrasing serve the music with much greater conviction than Horowitz's thoroughly self-conscious hesitations.

Recording: Adequate
Performance: Dull

When Liszt realized that being the most daz-

zing virtuoso of them all was a rather foolish distinction, he abruptly gave up his concert career to concentrate instead on more soul-satisfying activities like composition. The history of Vladimir Horowitz suggests a similar disenchantment with the cult of flying fingers. But, not possessing any apparent talent for the creation of music, Horowitz had to be content with turning himself into a different kind of pianist— an altogether more serious, restrained artist than the keyboard gymnast of the Twenties and Thirties. As with Liszt, one has to admire the honesty and the deepening sense of values that led to such a transformation. But the sad thing demonstrated by those Horowitz performances I have heard in the new phase of his career that began a few years ago is that, along with the meretriciousness, much of the magic has been purged from his playing too. Shorn of the fireworks, he emerges as a depressingly commonplace musician who goes through the motions of dutiful interpretation but lacks the re-creative perceptiveness to make the music take wing.

There are occasional felicities in his new recording of Schumann's Kreisleriana—a beautifully understated crescendo here, a telling accent or a finely drawn-out cadence there. Yet a comparison with the unaffected simplicity of Artur Rubinstein's approach in the recent recording I reviewed earlier reveals the difference between true contact with the composer's thought and, in Horowitz's case, an unavailing attempt to 'make the music go'.

For in addition to the absence of any striking insights, Horowitz's interpretation is marred by little mannerisms that amount, I suppose, to a hangover after the old, unregenerate, masterful ways. The rhythmic distortions in the sixth piece are as good an example as any. In this wistfully poetic movement Rubinstein's faster tempo and more straightforward phrasing serve the music with much greater conviction than Horowitz's thoroughly self-conscious hesitations.

Recording: Adequate to superb
Performance: Good to brilliant

Horowitz's interpretation is marred by little mannerisms that amount, I suppose, to a hangover after the old, unregenerate, masterful ways. The rhythmic distortions in the sixth piece are as good an example as any. In this wistfully poetic movement Rubinstein's faster tempo and more straightforward phrasing serve the music with much greater conviction than Horowitz's thoroughly self-conscious hesitations.

In this age of planned obsolescence, unreliable performance and shoddy workmanship are almost taken for granted. But there are still a few exceptional products that are built to last and one of them is the Revox tape recorder. Revox dependability is a combination of many factors, but perhaps the most important of them is advanced engineering. Borrowing from space-age technology, Revox gold-plates all of the electrical contacts on its plug-in circuit boards, relays and rotary switches. The result: every one of these movable contacts, the ones that usually cause most of the problems, can be depended upon to perform well for the life of the machine. Obviously, gold plating is considerably more expensive than conventional tinning, but Revox thinks it's worth it.

Because Revox engineers demand margins of performance and reliability that far exceed ordinary production standards, you can own a tape recorder that will work perfectly the first time you use it and for years to come. And that's why Revox is the only one to back its machines with a lifetime guarantee.
O ne of the many miraculous things about Verdi's Requiem Mass is that, despite the formidable challenges it poses in performance, it seems always to come off with sure-fire effectiveness. If this sounds improbable, let us look at the record, or, in this instance, the records. There have been fifteen major recorded versions of the work since 1930, when Carlo Sabajno completed the first Requiem in Milan (Victor M-96). I have heard them all, and the positive impressions have outweighed the negative ones in every case.

Obviously, some great vocal performances stand out in the memory, particularly the sterling foursome of Maria Caniglia, Ebe Stignani, Beniamino Gigli, and Ezio Pinza under the direction of Tullio Serafin—the interpreters of the Requiem in the days before the microgroove avalanche. But equally important has been the imprint of the conductors. The Requiem has attracted the best of them, and inspired each to equal or surpass his best efforts elsewhere. Today we no longer waste time and newsprint speculating as to whether or not the work is ecclesiastically proper, nor do we find it necessary to apologize for its theatrical elements. Verdi's place of worship was the opera house. In the Requiem, he gave us his personal view of mankind's greatest drama, Death, through alternating evocations of terror and heartening glimpses of heavenly serenity. Give the Requiem a dedicated performance and it cannot fail: its appeal is honest, direct, and powerful, and it rests on formidable musical and dramatic craftsmanship.

With Sir John Barbirolli and Leonard Bernstein lately joining the ranks of its conductors, the Requiem is now available in eight versions. Both new performances represent valid views, both employ first-rate soloists, and, in the main, both serve the beauty and majesty of Verdi's music with distinction. But neither set offers the felicitous harmony of all elements that in my estimation makes Angel S-3649, under Carlo Maria Giulini, the most totally satisfying Requiem currently available.

Of the two new versions, Barbirolli's is the more consistent view: a lovingly detailed, surefooted performance, wholly in keeping with the measured, autumnal views of Mahler and Brahms offered in the last recordings of the late British conductor. This is the slowest of all currently available versions, and yet the pace never becomes disturbingly dragging: the musical points are made with eloquence, and the tempos are logically interrelated.

Three of Barbirolli's vocalists are superb, and Montserrat Caballé may well be the most satisfying interpreter ever to have recorded the taxing but glorious soprano part. Her voice is a shade lighter than the ideal, but it is used with great resourcefulness and surprising strength in the lower mid-range, and she has no difficulty in soaring over the ensembles when she must. What makes her contribution truly superior, however, is her unceasing flow of warm, even, velvety sound and her always expressive phrasing. As examples, I would cite the crystalline rendering of "Lux aeterna" (measures 320-321), the sustained high A-flat that concludes the Offertorium, and the capping off of a beautiful "Libera me" with the magical dolceissimo phrase as the key changes to B-flat on "et lux perpetua luceat ei."

Fiorenza Cossotto matches Caballé's phrases with equal artistry in their duets; she sings with a strong and lustrous tone throughout, and contributes a beautiful solo in "Libera me". Ruggero Raimondi's dark basso has the ominous dignity required, and he makes much of the dramatic opportunity offered in the "Mars stipeth meal" episode. In this instance, the young Italian bass competes against himself, for he is the bass soloist in the Columbia set as well, and there—thanks to a more advantageous sonic placement by Columbia's engineers—his performance is even more impressive.

The uniform excellence of Angel's other artists is not matched by tenor Jon Vickers, who is a sensitive and intelligent singer, but whose tone production is irregular and, even at its best, hardly sensuous. In choosing to sing "Fourias" in a semi-crooned falsetto he may have followed Gigli's example (without Gigli's tone and technique), but his adopting the same approach for "Quid sum miser" in the conclusion of the Tuba mirum is quite mystifying. And his "Luceat" does not exhibit the required smoothness and flowing legato.

In sum, we have a distinguished performance here, strengthened by a fine choral contribution, but one that is somewhat vitiated by the tenor and—possibly for some, though not for me—by Barbirolli's rather deliberate tempos.

B ernstein's treatment of the score is decidedly more controversial. This, too, is an expansive, relatively slow-paced Requiem—except for the Sanctus, which is brisk and, I think, brilliant. While listening to Bernstein's lithe and mercurial disposition of this brief movement's intricacies, it suddenly became clear to me that Verdi was not trying to prove here (as I had always supposed) that he could compete with the Germans on their contrapuntal ground. On the contrary, the Sanctus looks ahead to the mock-religious chorales and fugues in Fidelio. I may be wrong, but I find Bernstein's approach here refreshing and revelatory. By contrast, Barbirolli in this section sounds proper—and also plodding.

Elsewhere, however, I find more to cavil about. Whether it was Bernstein or the producer who so ordered things, I find the spotlighting of the timpani in the "Kyrie Eleison" quite vulgar, some dynamic transitions ("Te dum hymnum,"

"for one") too violent, and the
surpasses himself, another distinct plus. Fortunately, the "Libera me" section is rather unsatisfying.

Columbia's vocalists are praiseworthy. Aside from Ruggero Raimondi, who actually surpasses himself, another distinct plus is Placido Domingo, whose voice possesses the sensuous Italianate quality I miss in Vickers' singing. Domingo, on the other hand, sings quite operatically throughout, permitting himself (with Bernstein's evident blessing) heavier dynamics than those demanded by the score. Martina Arroyo's voice is eminently right in timbre; her singing is intensely dramatic and nearly always impressive, but without the exquisite polish and phrasing exhibited by Caballé in the rival set. The same relationship prevails between Veasey's very satisfying contribution and the more voluptuous one of Fiorenza Cossotto.

Technically, both sets are excellent. Columbia's aural perspective reveals more textural detail and is generally more flattering to the voices, but the overall sound is a more homogenous sound, and this may be more faithful to concert-hall realism.

How do these new Requiems compare with the six others that are currently found in the catalog? For me, Angel's Giulini strikes the ideal balance between the score's theatrical and devotional elements. The tempos are always just, the Dies Irae is exciting without excessive fury, and the chorus is superb. Christa Ludwig, Nicolai Gedda, and Nicolai Ghiaurov are tops, and Elisabeth Schwarzkopf and Anna Moffo are also fine. Unfortunately, the Angel set is Placido Domingo, whose voice is eminently right in timbre; her singing is intensely dramatic and nearly always impressive, but without the exquisite polish and phrasing exhibited by Caballé in the rival set. The same relationship prevails between Veasey's very satisfying contribution and the more voluptuous one of Fiorenza Cossotto.

Verdi: Requiem. Montserrat Caballé (soprano), Fiorenza Cossotto (mezzo-soprano), Jon Vickers (tenor), Ruggero Raimondi (bass); New Philharmonia Chorus and Orchestra, Sir John Barbirolli cond. ANGEL S 31757 two discs $11.96.

Verdi: Requiem. Martina Arroyo (soprano), Josephine Veasey (mezzo-soprano), Plácido Domingo (tenor), Ruggero Raimondi (bass); London Symphony Orchestra and Chorus, Leonard Bernstein cond. COLUMBIA M 2 30660 two discs $11.96.

Tuba mirum quite hysterical. There is an irresistible drive and fury about the Dies Irae, but this music can sound quite exciting enough without so much excessive temperament added. There are many instances of beauty and illumination in Bernstein's treatment of the score (I was particularly struck by the rich brass chords leading to "fides ergo sum sedebit" in measures 183-184), but also a number of questionable uses of dynamics, and, unfortunately, the "Libera me" section is rather unsatisfying.

That leaves the Toscanini set ( RCA 6018, mono), an important document of an exciting interpretation which, I am sure, all "modern" conductors have studied in great detail. Its cramped 1951 sound is further handicapped by imperfect balances and audience noises, but the singing (Nelli, Barbari, Di Stefano, Stepi) is good, and there is that "on the scene" aura of intensity and authority about the performance that commands very special attention. And a word should also be added about the Moscow performance under Igor Markevitch (Parliament 5-154), conducted with febrile excitement and sung with surprising effectiveness by four Russian artists, however unaccustomed they may be to Requiem-singing.

Verdi's Requiem: A Table of Timings (in minutes and seconds)

<table>
<thead>
<tr>
<th>Requiem &amp; Kyrie</th>
<th>Toscanini</th>
<th>Ormandy</th>
<th>Solti</th>
<th>Giulini</th>
<th>Bernstein Barbirolli</th>
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<td>Requiem &amp; Kyrie</td>
<td>7:35</td>
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<td>Agnus Dei</td>
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I question here the wisdom and desirability of choosing the most recorded of all the Sibelius symphonies. Among the ten currently available performances, at least half—those by Szell, Maaazel, Dorati, Ormandy, and Bernstein—are competitive on an interpretive and sonic level, or both.

The only other relatively recent recording of the Sibelius Second Symphony by a Finnish conductor—the deleted Crossroads disc by the late Tauno Hannikainen—is miles away in spirit from Mr. Kamu’s reading. Sinew and architectural balance were the hallmarks of the Hannikainen interpretation, while Kamu has searched out all the lyrical poetic elements to be found in the score, to the detriment, I feel, of its equally essential victory-through-struggle rhetoric. Save for the dramatic outbursts in the slow movement, the big moments, especially the exultant ending, just don’t come through to some extent, I sense this reading as the sort that might have been given by Furtwangler during his lifetime, but I suspect even he would have made more of the finale.

Despite this not altogether successful start, I hope that we shall be hearing more from Mr. Kamu, and in something other than thrice-familiar Sibelius—perhaps even in music by some of his immensely gifted contemporaries in Finland, Joonas Kokkonen, for example.

D.H.

**RECORDING OF SPECIAL MERIT**

STANLEY: Concertos for Strings and Continuo, Op. 2: No. 1 in D Major; No. 2 in B Minor; No. 3 in G Major; No. 5 in A Minor; No. 6 in B-Flat Major. Charles Spinks (harpsichord continuo); Hurwitz Chamber Orchestra, Emanuel Hurwitz cond. L’OISEAU-LYRE SOL 319 $5.95.

Performance: Scintillating

Recording: Excellent

John Stanley (1713-86), the blind English organist and composer, held several important posts during his life, including that of organist of All Hallows and St. Andrew’s, director of concert and oratorio series, and, toward the end of his life, Master of the King’s Band. Among his orchestral works are the Six Concertos in Seven Parts, Op. 2, which were published in 1742; as one might imagine from a composer only one generation removed from Handel, there are plenty of Handelian influences in these scores. Those familiar with the music of Boyce will know what to expect: a wealth of fresh-sounding melodies, not too complicated fugal sections, and a welcome brevity. These are not great works, in the sense that Handel’s concerti grossi are, but they are thoroughly engaging pieces all the same, and the five out of the six that are included in this recording receive crisp, alert-sounding performances. The ensemble, backed by some excellent harpsichord continuo work, has the best characteristics of the several British chamber orchestras now practicing. This disc, aided by detailed recording, is a delight.

I.K.

STOCKHAUSEN: **Opus 1970.** Aloys Kontarsky (piano); Johannes G. Fritsch (electric viola); Herald Boje (electronium); Rolf Gehlhaar (tamtam); realization by the composer. DEUTSCHE GRAMMOPHON 139461 $5.98.

Performance: Essentially electronic

Recording: Composer’s option

This one is for the cultists. In some of his earlier electronic pieces, most notably Gesang der Jünglinge, Stockhausen showed occasional striking traces of the imaginative that was so sorely lacking in the arid wastes of his instrumental compositions. But gradually the temptation to turn all aspects of composing into a private game overtook this side of his activity too, and pointless pseudo-intellectual noodling reached its apogee in the stupefyingly pretentious vapidty of *Hymnen*, released by Deutsche Grammophon a few months ago.

**Opus 1970,** which is a sort of homage to Beethoven, offers a little more in the way of simple musical experience, but only because the snippets of Beethoven with which it plays around are distorted less thoroughly than were the bits of national anthems that provided the stuff of *Hymnen.* Insofar as there are pleasures to be gleaned from the piece, they lie in the occasional chances of greeting an old favorite (Continued on page 110)
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Each of the four instrumentalists is equipped with a tape recorder (or “magnetophone,” as the liner note grandly has it) carrying a selection of Beethoven fragments, which he switches on and off at will. The resultant hodgepodge has been intermixed by Stockhausen with the direct instrumental contributions. And apart from a brief section soon after the start of the second side that sounds like a mild distortion of Beethoven fragments, which he has managed with wit, and the product is something with a logic and, yes, a beauty of its own. But bouts of mental masturbation like Opus 1970 neither have nor, in my judgment, ever will have anything to do with art.

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Performance: Spectacular
Recording: Splendid (surfaces noisy)

The following is a review of an opera performance:

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This Seraphim reissue returns to currency, at half the price, the discontinued Angel "Great Recording of the Century" disc, COLC 101, containing a generous portion of Claudia Muzio's Milan recordings made in the early 1930's. The dramatic powers of the legendary diva are captured here in their fullest glory, often renderingaria text and music in a way that sets them apart from an earlier generation of divas. Muzio's interpretation and poetic rendering of texts, these flawed yet cherishable mementoes of a great diva will bring you pleasure. Technically, the disc is satisfactory; the originals, as I recall them, were never considered landmarks in recorded sound.


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Performance: Brilliant Recording: Very good

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GINGER BAKER'S AIR FORCE. Ginger Baker and Remi Kabaka (drums); Steve Winwood (vocals, organ); Jeanette Jacobs (vocals); Denny Laine (vocals, guitar); Chris Wood (flute, tenor sax); Rick Grech (bass, violin); Graham Bond (also sax); Harold McNair (tenor sax, flute); Phil Seamen (percussion). Da Da Man; Early in the Morning; Don't Care; Toad; Aiko Bayre; Man of Constant Sorrow; Do What You Like; Don't Be Like That. Atco SD 2-703 two discs $9.96, @ J 703 (7½) $9.95, @ J 8703 $9.95, & J 7003 $9.95.

Performance: Not together
Recording: A bit muddy

From Cream to Blind Faith to this is not the best direction, artistically, for a drummer to travel. But here's Ginger Baker, and he has dragged some good musicians with him, two of them, Steve Winwood and Rick Grech, from Blind Faith (but not for long; Winwood and Chris Wood, also heard here, had returned to Traffic by the time this recording was released). Baker is a potentially brilliant drummer, and was brilliant at times with Cream, but he does some pretty unimaginative thumping and these boys are, they've brought a few paving bricks of their own to Abbey Road. First, they cleverly lump most of the songs into brilliant medleys lasting, mostly, fifteen minutes or more. Only Something stands all by itself—more than four minutes of climactic bliss. As the highest Memphis meter of the first medley closes with Come Together, there is a brief silence, and then the bass strings begin it. Immediately joining in is a piano which giddily segue into heavy organ, and above it all, Steve Cropper's guitar. Under it all is the beat, togetherness, and a rapport such as few other groups have achieved—all the while having a good time. Effervescence boils out of Booker T. & the M.G.'s like an automatic washer with too much soap. It's a gentle humor that never interferes with the basic musical truths so beautifully presented here.

"McLemore Avenue" is a delicious homemade icebox cake of layer upon layer of honest down-to-earth ingredients: Memphis sound, black and white soul, solos and ensemble playing, brilliant music, alliced over with good humor. It's delectable and it's unbearable. R. K.

TIM BUCKLEY: Lorca. Tim Buckley (vocals, twelve-string guitar); instrumental accompaniment. Lorca: Anonymous Proposition; I Had a Talk With My Woman; Driftin'; Nobody Walkin'. Elektra EKS 74074 $4.98.

Performance: Eclectic
Recording: Fair to good

All right, all you complainers about being condemned to the present—here's your chance. Tim Buckley, a young, long-haired, supposedly hip (meaning conscious of the youth-worshipping life style being marketed all about him) singer-songwriter here presents music for the Long Haul: a classical (?) art song (Lorca) and a jazz (?) something-or-other (Anonymous Proposition) and three other pieces intended to be almost as timeless. Buckley has never toppled any walls commercially, and this shows why; he doesn't compromise.

He has an incredible voice—it takes one to sing Lorca and Anonymous Proposition, with their long lines doubling back upon themselves. I'm considerably impressed with Lorca, and find it reminiscent in a weird sort of way of Gershwin's Porgy and Bess. "Anonymous Proposition" doesn't have its substance or sophistication, and the electric guitar sounds disembodied on it, as if dubbed in much later. Lorca runs for almost ten minutes and is a strange, experimental composition, its complex melody containing little repetition but balanced by a provocatively simple bass line. Driftin' is actually longer than Anonymous Proposition (8:10 to 7:43) but it is more like a conventional song (without being one, of course).
I Had a Talk With my Woman is more like some of Buckley's past work, a rambling vehicle for philosophical bits and pieces, neither jazz nor blues nor folk, exactly. Nobody Walkin' represents, with Driftin', Buckley's approach to the blues.

You probably know how it is to suspect that the entire world disagrees with you about something. That's the way I feel as I say I like this recording very much. So go your own way, entire world.


Performance: Real Recording: Good

One thing that David Allan Coe has going for him is believability. He looks like someone on a "wanted" poster, and he sounds like he might have lived through what he is singing about. Funeral Parlor Blues is a good sample of his work. A song about an addict who is going to see his girl for the last time in her coffin, it shows off Coe's strong voice, his talent for cruel mimicry, and his ability to wring his lyrics dry with an air of experienced desperation. In a morbid way, Death Row is a funny song about a condemned man and his surrealist order for his last meal. The song is funny enough as written, but Coe is able to imply underneath the panic of the doomed man who will try anything to delay the inevitable. Oh, Warden portrays the sly mush-mouthing of the old time con to the warden.

The only real fault here is that since the album is a collection of songs on the same subject and not an integrated whole, each number seems to diminish the effect of the one that precedes it. Coe is an accomplished writer and an effective performer, and I am anxious to hear him in less depressing material. P.R.

THE DOORS: Absolutely Live. The Doors (vocals and instrumentals). Who Do You Love? Alabama Song, Broken Man, Love Hurts, Five to One, Build Me a Woman, When the Music's Over, and five others. ELEKTRA EKS 9002 two discs $11.98.

Performance: Doors on tour Recording: Very Good

We're going to see more and more of these "live" concert recordings. Good economics, obviously, since performers can re-record old stuff, and the music is juiced by the stimulation that comes only from real-life audiences. I can't help but wonder, however, if the Doors aren't falling back on "live" recordings because they're having trouble coming up with new material. The formula that was so useful for the last few years—single chord tunes, mindless lyrics, and trippy improvisations—just isn't working very well anymore.

And then there's lead singer Jim Morrison. By the time you read this, his well-publicized trial for public obscenity in Miami will probably have been concluded, one way or the other. Given the fact that the trial has been a distraction, Morrison still seems to have been making it lately more on style than content. Okay, there's nothing wrong with visual acts and, true enough, Morrison can be an enormously effective performer when he is surrounded by the shooting-star panoply of a rock concert. But all that bright ambiance doesn't translate very well into record grooves, and what we are left with here is Morrison's singing. And that, let me assure you, is no prize at all.

The material is familiar: Who Do You Love, Alabama Song, When the Music's Over, Sould Kitchin, etc., with some of Morrison's "poetry" (The Celebration of the Lizard) thrown in for filler. But perhaps that's just the point. Folk music has always been at the core of Dylan's music, and a true self-portrait could hardly avoid that fact. Besides, there are many other aspects of himself that Dylan has included: a few others. Edin's own classic Like a Rolling Stone, and even a near-schmaltzy run through of (would you believe?) Blue Moon!

Obviously, a many-sided Dylan. Like Miles Davis, he does not choose to make life easy for those of his fans who expect him to take the predictable direction. Dylan is not the same man he was in 1964 nor, needless to say, is the world around him the same. There is much that I like about this recording, much that I don't like. Dylan is certainly a more attractive performer, from a sheer musical point of view, than he was a few years ago. Yet his increasing apoliticism makes this music, for me, strangely empty. So enigmatic will have to be the word. But, if anything is certain, it's that Dylan can't be ignored. Whether you regard him as a rock star or phobe, you shouldn't overlook this fascinating new collection. D.H.

RECORDER OF SPECIAL MERIT

BOB DYLAN: Self Portrait. Bob Dylan (vocals), with various accompaniments. All the Tired Horses, Alberta # 1; I Forgot More than You'll Ever Know, Days of '49; Early Mornin' Rain; in Search of Little Sadie: Let It Be Me. Little Sadie. Wranglin' Booger, and fifteen others. COLUMBIA C2X 30050 $9.98, @ C2R 30050 (33 1/3) $11.98, @ C2A 30050 $10.98, @ C2T 30050 two cassettes $6.98 each.

Performance: Dylan from all sides Recording: Good to very good

Dylan is as enigmatic as ever. On his last recording he surprised everyone with a collection of sweet, country-style love songs. This time he has produced a double-disc set of twenty-four tracks to which he has assigned explicit importance with the title "Self Portrait." Given the title, it is perhaps worth noting that at least four or five of the songs (in addition to a couple of alternate "takes") are his versions of familiar folk and blues material. Among the examples: Alberta (two takes—#1 and #4), In Search of Little Sadie (again in two "takes"), Belle Isle, and It Hurts Me Too. Since the original version of these tunes are pretty much in the public repertoire, Dylan is as entitled as anyone, I suppose, to assume their authorship—at least in the form in which he uses them—but it seems curious that so determinedly individualistic an artist should choose to do so on a recording so titled.

But perhaps that's just the point. Folk music has always been at the core of Dylan's music, and a true self-portrait could hardly avoid that fact. Besides, there are many other aspects of himself that Dylan has included: a few others. Edin's own classic Like a Rolling Stone, and even a near-schmaltzy run through of (would you believe?) Blue Moon!

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RECORDING OF SPECIAL MERIT

EAST OF EDEN: Snafu. East of Eden (vocals and instrumentals). Have it Whack It Up. (Continued on page 120)

STEREO REVIEW
this is what the experts say about the Astrocom/Marlux 407:

- "Every once in a while we come across a product which so clearly stands out in its class that we must evaluate it relative to much more expensive equipment, otherwise only superlatives would be found on this page. The fact is that Astrocom/Marlux has produced a terrific tape deck..." (AUDIO, DECEMBER 1969)

- "Especially notable are its low wow and flutter, low distortion, excellent signal-to-noise ratio, absolute meter accuracy, and smooth extended response for both playback (of pre-recorded tapes) and for record/playback (of tape made on it)..." (HIGH FIDELITY, MAY 1970)

- "The distortion was under 1.6% with record levels as great as +10 dB (far off-scale on the meters). In an A-B comparison of input and output signals, the Astrocom-Marlux did a truly excellent job at 7.5 ips. Even with FM interstation hiss as a "program" (one of the most severe tests of a tape recorder) virtually no difference could be heard between input and output signals..." (STEREO REVIEW, AUGUST 1970)

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However, much of what is claimed as growth in rock is simply mindless, to be sure, but it was for rock's success was its simplicity: it was much of what is claimed as growth in rock is actualy just ornamentation. The basic reason for rock's success was its simplicity: it was often simple-mindedness, to be sure, but it was still a direct, primary means of communication that called for little formal knowledge to be appreciated or played. Jazz too was once that kind of music, and when it grew more formal it stopped being jazz.

It is sad but true that East of Eden is a five-man group of expert and talented musicians who have brought all their expertise to bear on a jazz-rock fusion and have produced a triumph of style that is neither real rock nor real jazz. Hybrids can be beautiful, though, and this album is often stunning. From the opening band, I Have to Whack it Up., with Dave Arbus on violin imitating the sound of the sitar., one knows that there is an enormous amount of creative professionalism involved. Everything they do has the clean, ordered, and unfortunately cerebral profile of musical thinkers at work. It's great to listen to, but a little difficult to participate in.

The treadmill of "doing your own thing" demands that music provide the rolling cyclo-rama against which you run. Rock, even in its crudest and most amateurish form, does this. East of Eden demands that you listen more and participate less. So listen to the album for the sheer pleasure of beautiful music-making in two forms, one already a part of history, and the other very shortly to be.

P.R.

GEORGIE FAME: Shorty. Georgie Fame (vocals, organ); Collin Green (guitar); Alan Skidmore (tenor sax); Brian Ogders (bass); Harvey Burns (drums). Oliver's Gene: Blueology. Saskatchewen Swinging: Heaven Sent. It's Really the Same?, Seventh Son: Somebody Stole My Thun-der: Inside Story: Fully Booked. EPIC BN 26563 $4.98.

Performance: Monotonous Recording: Very good

Here's more jazz rock, or rocky jazz, from England (where Georgie Fame is famous), reordered "live" somewhere, the best thing about it being Brian Ogders' super-cool bass notes, and the worst thing about it being Blossom Dearie's breathy liner notes. Georgie Fame's singing is second worst. He is a competent singer, but he's an early-Sixties jazz singer apparently trying to "elevate" rock. He only makes it dull and lifeless. To get an idea of what he could sound like, listen to the American Frank Kinsel (their voices are remarkably similar), who gets involved with his songs.

I assume Georgie plays organ here—can't tell from Miss Dearie's liner notes. It is well played, in any case, especially on Parshman Farm. Generally the arrangements are fairly clean but aloof, however, occasionally (as on Is It Really the Same?), the band sounds like an inhibited version of the Mothers of Invention. The question Is It Really the Same? can be answered "yes." Each note is just like the last one and it goes on and on, an incredibly boring song. Willie Dixon's Seventh Son isn't much better, but it's been around so long its sleep-in-ducing properties should be well known, even to producers of records like this. The quality of the songs is nothing to stay awake for, except to producers of records like this. The quality of the songs is nothing to stay awake for, except to producers of records like this. The quality of the songs is nothing to stay awake for, except to producers of records like this. 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N.C.

RECORDING OF SPECIAL MERIT

ROBERTA FLACK: Chapter Two. Roberta Flack (vocals and piano), instrumental accompaniment, Donny Hathaway and Eumir De- dato arr. Reverend Lee. Do What You Gotta Do. Just Like a Woman; Let It Be Me; and four others. ATLANTIC SD 1569 $5.98.

Performance: Majestic mother lode Recording: Excellent

I've never seen her. But it doesn't matter, because I have a fantasy image of her: an angelic, shining, pure, gentle, black madonna of the keyboard. She sits at her piano and her head is bent, Afro graciously nodding to the wizardry of her fingers. How does she do it? She makes the keys spill out all those graceful notes while her easy-flowing voice rises over, under, and above, begging the melody, just a little, to follow her, instead of the other way around. Ev- ery now and then she seems to let go of her voice entirely and her fingers tickle the song along. Who could possibly live up to this day-dream image of mine? Roberta Flack could and should. But don't be fooled by this mental portrait. Roberta is no slip of a violet-shy lady offering (Continued on page 122)
At Sherwood, we know beauty is a lot more than skin deep. And while we're partial to our own pretty face, we think what goes on inside is more important. Take a beautiful example. Our model S-8900 stereo FM receiver. (Which comes as the S-7900, if you want AM/FM.) The S-8900 goes for the not inconsiderable sum of $399.95. But what a way to go. There's 225 watts (+ 1dB) at 4 ohms. (48 watts per channel RMS.) FM distortion is 0.15%, the lowest in the industry. And a 3 year parts warranty, plus 1 year labor.

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SHERWOOD SOUNDS EXPENSIVE
BOBBY HEBB: Bobby Hebb: Love Games. Bobby Hebb (vocals); orchestra, James Flemming, Dave Roberts, and Richard Rome. The Love Bird Has Flower, I've Learned to Care; Good Morning World; Grin and Bear It; S.S. Sun—Part I, S.S. Sun—Part II; I'll Be Anything for You; Flow; She Broke My Heart; A Better Love. The Charms of the Arms of Love. Epic BN 26523 $4.98. 

Performance: Comfortable Recording Good

This well-paced, nicely-produced album opens with the gentle country-and-western sounds of Bobby Hebb's first song, The Love Bird Has Flower, which ends in a funky, gritty rock beat. Interesting love songs follow, all by Hebb, and Richard Rome, go wild about other people's horses.

With I've Learned to Care, Hebb achieves his best effort. This potential big hit is soft, romantic, and appealing in its innocent yearnings. It could put Bobby Hebb back on the charts, where he hasn't been since 1966 with his hit Sunny. This song will most likely be the one picked by the big boys of the industry for Streisand, Sinatra, Bennett, et al. With its overall popular appeal, "Love Games" doesn't make any waves, but is like taking a sneaky evening dip in your own familiar swimming pool: comfortable and safe.

R.R.

HOOVER. Hoover (vocals); orchestra. I'll Say My Words; All That Keep Ta Going, One Man's Family; Games; Kommt du doch mit mir; and five others. Epic BN 26337 $4.98. 

Performance: Vacuous Recording: Slick

Treading softly in the footsteps of Nilsson and Newman comes Hoover. He's like really serious. The cover photo has him sitting on a tombstone with his name on it. All the songs are his compositions, and they are passable commercial vehicles, including the theme that he wrote for the new film "tick, tick, tick" called So Help Me Free. Astonishingly, in the middle of all this is Kommt du doch mit mir, which sounds as though it were written at least twenty-five years ago for a Marlene Dietrich film. It is about that same old chocolate-bar Frankish who picks up the hero and takes him to her room where they make love. He keeps on repeating the title over a Kurt Weill-Friedrich Hollander-like tune while Schutz purrs and murmers away unnaturally in the background. Meanwhile, standing 'neath the lamp post, by the barrack gate...

P.R.

IT'S A BEAUTIFUL DAY: Marrying Maiden. It's a Beautiful Day (vocals and instruments). Don and Dewey, The Dolphins; Essential Note; New song; Holmdale; Gallien; and six others. Columbia CS 1058 $4.98. 

Performance: Versatile Recording: Excellent

This is mainly a country-affected San Francisco group which essays a few excursions into a sophisticated bluegrass sound, as in Let a Woman Flow. It's a Beautiful Day also includes one extraordinary track in which they seem to be trying to reintroduce the "swing" violin. The song is Don and Dewey, and while the violin playing of Dave Laflamme is expert and often witty, it still comes off as prettily close to those lock-tossing performances of good old Florian Zaltach who fulfilled his way to your funny bone with The Hot Canary. The group also does Fred Neil's The Dolphins in a rather broad, pseudo-country way, which doesn't make it any less an impenetrable song than I have found it to be in the past. (Dolphins, by the way, and the very real possibility of communication with them in the near future, have become fashionable. The ever-practical French have even commandeered one to assist a strip-teaser in her disrobing in a water-filled tank at the Crazy Horse Saloon in Paris.) Whether or not he's tried to telephone her after the show.) Everything is super-smoothly produced here, perhaps a little too smoothly. What I find missing from the group's work, however musically and versatile it is, is any real originality.

P.R.

(Continued on page 124)
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- Automatic reverse for uninterrupted playback of 2-channel tapes
- Readily modified to future 4-channel recording capability, or TCA-42
- Solid-state playback and record preamplifiers
- Off-the-tape monitoring selector

TCA-42
- ¼-track, 2-channel stereo playback, plus 4-channel stereo playback (in-line)
- ¼-track 2-channel stereo record and 4-channel stereo record (in-line)
- Automatic reverse for uninterrupted playback of 2-channel tapes
- Total of 8 separate solid-state playback and record preamplifiers
- Off-the-tape monitor selectors

CIRCLE NO.62 ON READER SERVICE CARD


LITTLE RICHARD. A rocking good 1955-style time and a remake of parts of two recordings he made in 1951 and 1952, before there was such a thing as rock-and-roll. He was then a rhythm-and-blues singer with a much clearer, smooth-er voice than he found later. I think if he went back to that early vocal style now (if he could) and wrote a few more songs like Freedom Blues (and no more like Dew Drop Inn), his comeback might have wider appeal. The r-b&b band behind him on 'Every Hour' has elements of early rock and roll, a big, brassy, and bold. The guitar work is often featured, and my copy has bits of plastic hanging off the record. It is a pity that one ends and the other begins, comes a seven-minute cut, Up and Down, and may I say it's great. The song has a fascinating drum pattern sparked with the ingenious intros of instruments. The jacket information lists only guitars, keyboards, bass, percussion, and saxophones, but what these young men do with so few instruments is a wonder to hear.

The notes hint that the album should be listened to sequentially, but I could find no correlation either musically or lyrically between the selections. Frankly, after playing the record over and over, I found I went back to Up and Down for more. This is music produced by young men living in a big city. It's slick, timely, influenced by many cultures, and—like big ones—professionally cold and sentimental.

R. R.
Without The Noise, Your Recorder Can Be Twice The Recorder You Think It Is.

The Advocate Model 101 Noise Reduction Unit: $125

BACKGROUND NOISE, of the kind most people have learned to live with and ignore, keeps most tape recorders from being the recorders they could be. The better the recorder, the more it has to lose—and does.

No one talks very much about tape noise. One good reason is that practically nobody has ever heard a tape recording without it. Not having blessed background silence as a reference is like never having seen a television picture without “snow.” If you don't know the interference isn't supposed to be there, you don't think much about it. You just look or listen past it and accept it as part of the medium.

But take away the dusting of noise that accompanies every conventional tape recording, and life is different. There is a striking improvement in clarity and the definition of individual musical instruments, and quiet passages previously “lost in the soup” emerge for the first time.

From that point on, noise becomes something to talk about, and do something about.

The need to do something gets even more urgent at low tape speeds, where noise becomes loud enough to compete actively with music for your attention. Get rid of the noise that plagues wide-range recording at low speeds, and the full performance of many present recorders can be realized for the first time. The 3 3/4-ips tape speed can become the highest needed for critical musical recording, enormously extending both the convenience and economy of tape recording. And the 1 7/8-ips speed, both in open-reel and cassette recording, can become as satisfactory for music as the 33 1/3-rpm record speed.

The only way to get rid of the noise without also sacrificing some music is to employ the famous Dolby* System of noise reduction, now used for master taping and other critical studio applications by virtually every major recording company. Using the circuitry developed by Dolby Laboratories specifically for home tape recording and pre-recorded tapes, we have designed the Advocate Model 101 Noise Reduction Unit: a simple and moderately-priced component that brings the full performance of the Dolby System to any good home tape recorder.

The Advocate Model 101 can be added to any tape deck or any self-contained recorder with audio inputs and outputs. Besides providing the Dolby System, it becomes a nicely functional recording center that takes over the setting of recording balances and levels. Its form is the simplest that will maintain the full benefits of the Dolby System, and the 10 db of noise reduction that the system provides is enough to eliminate noise as a practical consideration. A simple calibration procedure matches the Model 101 to any recorder and to the universal playback characteristic specified by Dolby Laboratories.

The Advocate Model 101 is the answer to the vague but persistent dissatisfaction that many people feel with good tape recorders. It does what the best, lowest-noise tape electronics can’t do, and by peeling away the residual tape noise you’ve taken for granted, reveals a level of performance in your recorder that you haven’t had reason to suspect. It also more than doubles both the convenience and economy of tape recording by opening up the world of low-speed recording.

We hope you will explore the difference the Advocate Model 101 can make in your recorder’s performance and your overall enjoyment of tape recording. If you would like further information, including an explanation of the Dolby System, please write us at the address below.

Advocate Products
Advent Corporation, 377 Putnam Avenue, Cambridge, Massachusetts 02 139

*“Dolby” is a trademark of Dolby Laboratories.
around a blue eye—for anyone that the gump
tion to try the thing on a turntable.

P.K.

CHARLES MUSSELWHITE: Memphis, Tennessee. Charles Musselwhite (vocals and
harmonica); orchestra. She Used to Be Beautiful: I Got to Go. One Mint Julip: The Wolf, Trouble No
More, and six others. PARAMOUNT PAS 5012
$4.98.

Performance: On the harmonica, great
Recording: Good

I don’t think I’ve ever heard a lovelier performance of William Wray for Me than the one
on this disc by Charles Musselwhite on harmonica. It is a superbly controlled, highly mu-
cisical, and beautifully colored piece of playing. His manipulation of mood is masterly, and
he rings changes on a basic theme of loneliness
that are as haunting as the sight of an empty
train passing through the night. It is strange, then, that an artist who displays
that kind of talent on an instrument should fall
apart so completely when he sings. And unfor-
unately, Musselwhite has chosen to sing
throughout most of this album. His voice sounds
like a mixture of pulverized Presley and black blues. He is a "Bay City" singer—this
is, whenever the lyric includes the word "baby" he seems to save up for it, making it a
bone-crushing, frantic three-syllable thing so
fraught with undefined emotion that one is
never quite sure what "baby" is in for, good or
bad. This mood of frenzy is brought to practi-
cally everything he sings: the first four bands
here all sound distressingly alike. As a harmon-
ica player Musselwhite is uniquely gifted; as a
singer he is just another one.

Kenny Price is funny, and a pretty good coun-
try singer, too, with a deep, mellow voice
and an amiable quality shining through it. Several
folks get kidded here, but the funniest song of
all is Six String Guitar, a variant on the old
"subtract-one" theme in folk music (49 Bottles
all is Six String Guitar, a variant on the old
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all is Six String Guitar, a variant on the old
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of all is Six String Guitar, a variant on the old
"subtract-one" theme in folk music (49 Bottles
...
Extravagance in the pursuit of excellence is no vice.

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

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

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

So, you see, the rewards of the 770H for the music lover, more than compensate for the enthusiasm of our engineers. See it at selected audio specialists or write for full color brochure. Benjamin Electronic Sound Corporation, Farmingdale, New York 11735/a division of Instrument Systems Corp.

Miracord 770H
I concede that some of the lyrics are downright insipid, nevertheless my enthusiasm for the songs is considerable. Ray Singer and Simon Napier-Bell, the producer-arrangers, have trafficked in the almost off-beat in the past, but this disc is fairly straightforward, albeit embellished at times with the "neo-big-band" sound (more like that of Lighthouse than the other groups now into that sort of thing). Sarstedt is a good singer. My early impression is that he sounds a bit too much like several other singers, notably John Phillips, but there's no denying his ability to handle a considerable range and a wide variety of styles and tempos. The arrangements, despite their occasional melodrama, are bold and emotional and work often enough to make this an exciting recording.

But the songs! There's only one throw-away (Mississippi Girl) in the lot. Looking for Jones should attract some attention; Sarstedt (who wrote all the songs) has my admiration for writing a rock spiritual that is a rock spiritual and not a multi-filtered thing. One of what a real backwoods spiritual must have sounded like: I'll Always Be Winter should attract even more attention, although its lyrics are innocuous and its arrangement schmaltzy, because the melody is so pretty. My favorite is Good to Me, the hardest rocker, whereas Sarstedt and a chorus and some special effects seem ultimately at ease.

This one has that rare quality in this era of superpackaging and slick mixing—excitement. The disc is one of the thinnest I've ever seen, but the quality of the grooves is exemplary.

N. C.

GRACE SLICK: see page 77, and listen also to the special 7-inch sampler available for 25 cents from L. Walker, c/o Stereo Review, 1 Park Avenue, New York, N. Y. 10016.

RECORDING OF SPECIAL MERIT


Performance: Vintage gospel

Recording: Varies—poor to fair

This is the first release in a fascinating series from Imperial. Scheduled to follow in the immediate future are collections of rhythm & blues, urban blues, and rural blues, apparently in a still-undeclared number of volumes.

The pieces included were recorded in Chicago during 1947-1948 by an edition of the Soul Stirrers that subsequently featured the young Sam Cooke as a lead singer. Although the personnel obviously has changed, the Soul Stirrers are still active today. As with most gospel groups, the essential stylistic focus remains pretty much the same, regardless of the individual singers involved.

What makes this recording particularly worthwhile at this point in time is the perspective it provides of at least one of the seminal influence sources for today's pop-rock-blues music. Most of the tracks were recorded at a time when it was fashionable for gospel ensembles to sing a cappella, unaccompanied even by the piano (and sometimes drums and bass) used by most groups today. This gives us a super opportunity to hear right into the heart of the music—to hear the extraordinary rhythmic drive (often boosted along by a bass voice singing a part that is almost identical to what might

(Continued on page 130)

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

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

For a start, you'll probably never use its 7½ ips speed—except to play back your old tapes. After all, at 3⅞ ips you can record everything from 50 to 16,000 Hz with perfect fidelity.

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

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

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

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

Tandberg of America
P.O. Box 171, 8 Third Avenue
Pelham, New York 10803

*"It is difficult to imagine how the Tandberg 6000X could be improved."—Stereo Review, June 1970.
be played by a string bass) that energizes even the slow, devotional pieces. The hoarse screams typical of contemporary gospel music were not common in the middle Forties, but the inclination is there, and every now and then the superb lead voice of R. H. Harris comes bursting through. A family of five brothers and sisters who have often appeared on national television, they bring a certain joyousness to their work, and a tinge of deep country authenticity as well. Unlike many c-w stars, they just might be for real (things like the real-life Minnie Pearl's private jet always give me the turn). In any event, this is an interesting and, for one band at least, exciting album. That band is Colusias, an instrumental, composed by Donna Stoneman. I'm not quite sure why it grabbed me, but it did. Its use of guitars to create a balalaika effect is a lot closer to the Russian Tea Room than to Chicken Lickin', but it is an odd and involving piece of music with the unusual merit, for country music, of being surprising. The rest of the album is a highly professional jaunt; an excellent Who'll Stop the Rain, a very nice Drizzling in the Rain, and an overall atmosphere of competence that the group seems to bring to everything.

P. R.

SYLVIA SYMS: Love Lady (see Best of the Month, page 87)

MIKIS THEODORAKIS: Theme Used in the Motion Picture "Z" (and other music composed, conducted, and sung by Mikis Theodorakis). MGM SE 4670 $4.98.

Performance: Powerful and moving
Recording: Good

Quote from Neuwirth: "Greek exiles are fond of the story about the Athens policeman who walked his beat humming a song of composer Mikis Theodorakis, whose work is banned in Greece. A passerby overheard the policeman: 'Officer, I am surprised. You are humming Theodorakis.' Whereupon he was arrested and charged with listening to 'subversive' music.

It's hard to believe that the powerful and stirring music of this great man—a symbol of the freedom that was once a hallmark of a great country—is banned, for political reasons, in Greece, but then it's hard to believe anything else that is going on under the current military regime there. Mikis Theodorakis writes music that expresses the throbbing rhythms in the bloodstream of oppressed Greeks everywhere. Much of his music has been written on toilet paper and smuggled out of the prisons where he has been kept, until recently, been incarcerated for several years. All of it is poetry and all of it is magnificent, and much of the success of the movie Z stems from the music's rebellious and emotional beauty.

This Troy features the theme from Z, along with various themes from the 1962 Circle Theater of Athens production of Brendan Behan's The Hostage, and some songs sung at anti-government demonstrations and eventually responsible for the composer's imprisonment by the military junta. Sections of the album are brought together as a suite for voice and chamber orchestra, with Theodorakis' own voice, strong and proud, singing his own lyrics in English translations. All of it is explosive and provocative—a fitting musical tribute to a freedom-loving man.

Like Mikis Theodorakis' music, many of the Greek tragedies, mini-skirts, and the plays of Tennessee Williams are all banned in Greece (Continued on page 132).
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-exursion woofer is crossed over to the "fast," low-inertia 5-inch midrange driver at 350 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. But this is something that each prospective buyer must decide for himself.

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., Mark- ham, Ont. Overseas: Royal Sound Co., 409 N. Main St., Freeport, N. Y. 11520.)
today. Say what we will about America, we are still free to see, hear, and judge for ourselves. What the freedom-loving, fun-loving founders of democracy are now forbidden to have, we can have for $4.98. Not much to pay for a symbol of peace and freedom to remind us how lucky we are. It's something to think about.

Mae West: Presenting the Fabulous Mae West. Mae West (vocals), orchestra, Sy Oliver cond. Frankie and Johnny: My Daddy Ricks Me. All of Me, They Call Me Sister Honky Tonk, Here, My Love for a Night, A Guy What Takes His Time, and six others. Decca DL 79016 $5.98.

Performance: For camp followers. Recording: Fair to poor.

Mae West is anywhere from seventy-eight to eighty-four years old, depending upon what source you read, all of which adds up to a lot of mileage and no end in sight. She is currently enjoying a big revival of the Late Late Show and through her rather pasted-together appearance in Myra Breckinridge, so somebody at Decca must have thought it a good financial investment to dig out some of her old songs from films and night clubs and collect them for an album of high camp. Frankly, I find the whole thing rather loathsome; if my grandmother went around with padded bras and false Christianie wigs singing They Call Me Sister Honky Tonk, I'd have her committed.

Still, there is no denying that Mae West spells Box Office, and this album should bring in some capital gains. It isn't very good, and the 'simulated stereo' gimmick on the label shouldn't fool you: The whole thing sounds like old 78's. But there are occasional items of more than routine interest here, such as the seldom-heard Oscar Hammerstein lyrics on Gonzalo Curiel's Havana for a Night and the unique Auntie-Mae treatment of Frankie and Johnny. Not a great collection, but it should help seal the legend in wax.

COLLECTIONS


Performance Variable. Recording: Variable.

This is a grab-bag from the Epic Nashville vaults. All the tunes were previously released as singles, and, as gathered together here on this two-record set for a little extra mileage, they might make a mediocre afternoon of programming on a c&-w radio station. The two best things are Tammy Wynette's Gentle on My Mind and a vigorous Ring of Fire by Tommy Cash. It's a little creepy to hear Ballad of the Green Beret sung with such fervor by anyone (Audy Inman), but c&-w often comes up with such chilling little insights into 'American' feelings. Currently popular on the juke boxes and c&-w stations (not included here) is an item titled An Okie From Muskogee, a doggrel exercise in smugness and bigotry aimed at the hippies which, if taken seriously, could be an incitement to the violence that so many in America seem to be longing for. I like c&-w music that deals with cheatin' hearts, runaway mobile homes, and family crises. When it gets political I turn off.

District Sound Inc.
2312 Rhode Island Ave, N.E.
Washington, D.C. 20018
202-832-1900

CIRCLE NO. 21 ON READER SERVICE CARD

THEATER•FILMS

SESAME STREET BOOK AND RECORD
(see Best of the Month, page 88)

TELL ME THAT YOU LOVE ME, JUNIE MOON (Philip Springer). Original soundtrack recording. Pete Seeger and Pacific Gas and Electric (vocals and instruments); orchestra, Philip Springer cond. COLUMBIA OS 3540 $5.98.

Performance: Dreary. Recording: Good.

Tell Me That You Love Me, Junie Moon was an interesting novella by Marjorie Kellogg—a horror story about three physically handicapped, emotionally disturbed young people that was Gothic in conception and modern in execution. Also, anything that deals with cheatin' hearts, runaway mobile homes, and family crises. When it gets political I turn off.

(Continued on page 135)
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
WHY SPEND $100 MORE?

Here is the new Dynaco A-50 Aperiodic loudspeaker which costs $100 more than the popular A-25 loudspeaker.

As thousands of listeners have found, the A-25 gives excellent performance throughout the musical range and satisfies at least 95% of all listening requirements. Many people will not want to spend $100 more for the last 5% that the A-50 provides...its lower frequency response, high power handling capabilities, and slightly more linear impedance curve. The A-50's midrange is also slightly smoother because the new dome tweeter's lower resonance permits a 1000 Hz crossover.

For most listeners, these are not substantive differences, but for those striving for perfection, they are worthwhile.

Here is how they are attained in the A-50: The A-50's cabinet consists of two closed chambers, each the size of the A-25, connected through an acoustical resistance consisting of a narrow slot filled with the critical density of fiber glass. The two 10" woofers and high dispersion dome tweeter are mounted in the top half. The top enclosure provides a high degree of acoustical loading in the critical 50—150 Hz spectrum. This damping is responsible for the outstanding transient performance and flat impedance characteristic of the speaker, and explains why power transfer between an amplifier and the speaker is so efficient with an aperiodic design.

Below 50 Hz the bottom air volume is added to the top, giving a large air mass which combined with the two 10" woofers extends low frequency performance.

The A-50 and A-25 are acoustically compatible and both can be used in the same four dimensional stereo playback system. Your dealer now has both speakers available for your comparison. We know you will be satisfied with the A-25. We also know that for those of you who are seeking that last 5% of performance, the A-50 is worth $100 more...$179.95.
JAZZ

GARY BARTZ NTU TROOP: HOME!
Gary Bartz (alto sax); Woody Shaw (trumpet); Albert Dailey (piano); Bob Cunningham (bass); Rashied Ali (drums). B.A.M.: Love: Rise; Anal: It Don't Afean a Thing. MILESTONE MSP 9027 $4.98.

Performance: Fine young jazz altoist
Recording: Very good

At a time when jazz seems to be producing few talented newcomers, the playing of alto saxophonist Gary Bartz is a virtual light in the wilderness. He is a gifted improviser, a fine composer, and the kind of strong-willed leader who stimulates better-than-average performances from his musical associates.

The Bartz quintet was recorded "live" in March of 1969 at a concert in Baltimore, Maryland. A year and a half can be a long time to keep a recording in the can, and I don't imagine Bartz is particularly ecstatic about the delay. I wonder, in fact, if, given the delay, it might not have been better to let Bartz go into the studio and produce a more up-to-date example of his music. Because as good as this group is, the performances are too long and the solos too stretched out to do justice either to Bartz or to the other soloists.

The best track, in fact, is the shortest one—a driving, gutsy rendition of Ellington's It Don't Mean a Thing. It's a tune that has always helped Johnny Hodges get it on pretty well, and it has a similarly salutary effect upon Bartz. The balance of the material consists of originals, none of which compares to the Bartz pieces on his more recent recording for Milestone, "Another Earth."

D.H.

LOU DONALDSON: Everything I Play is Funky. Lou Donaldson (alto sax); with various jazz personnel. Everything I Do Gonh Be Funky: Hamp's Hump: Over the Rainbow: and three others. BLUE NOTE BST 84337 $5.98.

Performance: True to his word
Recording: Excellent

Lou Donaldson's opening gravel-voiced lyrics promise "everything he's gonh play will be funky" and as sure as Shirley Temple had dodo curls, he delivers. Donaldson and his excellent personnel take their individual directions, only to merge in a joyous flow of jazz-rock mainstream music strong enough to carry any listener for hours. Lou and ensemble create funky music, but it's funk with legato, and delightful to hear. Donaldson on alto sax plays moody solos while Melvin Spark on guitar capriciously takes his own merry side trips. Bassist Jimmy Lewis and drummer Idris Muhammad play steady, deep, and hypnotic rhythms. Opening with the lowdown funk of the title song, the group then swings nicely into Hamp's Hump and gently come together in a thoughtful and still version of Over the Rainbow that is funky enough to make Harold Arlen tap his foot. The flip side has three of Donaldson's original songs, once again funky and amusing and masterfully pulled together. The

NOVEMBER 1970

Performance: Virtuoso. Recording: Good.

The producers of this album have been very clever in the way they have presented the seven guitarists featured here. The title is "Great Guitars of Jazz," not "The Great," and not "Guitarists." All arguments have been closed: if you have a favorite guitarist who is missing, you really can't complain, merely hope he'll be included next time someone is clever enough to "produce" a similar album. All of the selections here have been recorded previously and are culled from half a dozen originals. The songs are standards, and are nicely sequenced for well-balanced audio level and tempo change. Every listener will have his own favorites. Mine just happen to be Barney Kessel's miracle of agility in Crazy Rhyme, and the sweet simplicity of Wes Montgomery in Born to Be Blue. However, when Tal Farlow starts strumming up Stella By Starlight, I get heady with memories of days gone by. It's a pleasure to be sad when accompanied by such virtuosity. This record is a wonderful "find" to take away when you rent that beach or mountain retreat and want something along for memories' sake without having to lug your whole record collection with you.

R. R.

Black Music of South America—In Praise of Oxaid and Other Gods. Recorded in Colombia, Ecuador, and Brazil by David Lewiston. Avrilino San Antonio, Los cholitos: Organe Juanita; Capetica: Samba da roda: Canhobbi; and five others. NONESUCH H 72036 $2.98.


I'm sorry to say that I found this disappointing recording. The black music of South America is as richly diverse as that of Africa—perhaps more so. The catalytic encounter between African religious and Spanish Catholicism, and the blending of African rhythms with the flowing cadences of the Spanish and Portuguese languages, has resulted in a truly extraordinary variety of everyday music that has only recently begun to be heard. Nonesuch and collector David Lewiston presumably have attempted to provide a cross-section of that music, especially as it is heard in Colombia, Ecuador, and Brazil. Too often, however, the selections segue anonymously from one to another. I don't know if this is because of the monochromatic quality of the recordings, or simply because too limited a number of musical choices was available. Either way, the recording is not likely to sustain the interest of the casual listener for very long.

D. H.

Alexander Zelkin & Denise Berard: La Belle Province Quebec. Alexander Zelkin and Denise Berard (vocals); instrumental accompaniment, Alain Clavier arr. MONITOR MFS 714 $4.98.

Performance: Fresh and exhilarating. Recording: Good.

French-Canadian folk songs, as sung in Quebec ever since the first French settlers got there in 1534, are as pleasant a variety of folk music as one is likely to hear in this wicked world. Some are "paddling" songs designed to help the lumberjacks of the region keep to the stroke as they bring the logs downriver from the woods. Some are spinning-wheel songs the girls of old Quebec sang while weaving. Some, like A la Claire Fontaine, are all-purpose ballads described as suitable "for dancing, work, paddling, or love-making." All of them are charming, and M. Zelkin and Mlle. Berard offer them in tricky arrangements that make use of stereo in the vocal as well as the technical sense—echoing each other in intricate musical patterns with spirited choral support and spicy instrumental arrangements. I was particularly smitten with Les Trois Hommes Nus, a ballad about a bride who is kidnapped by emissaries of Satan at her wedding. The texts, disappointingly, are supplied in French alone, and some of them in bewildering Quebec dialect, at that. Even so, it isn't hard to get the hang of the simple plotlines in these winning ballads. P. K.
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
Jeanette MacDonald and the *Dear, Dead Days of Film Operetta*

By Peter Reilly

Clockwise, starting near right:
Vagabond King, San Francisco.
Nev, Moon.

With the advent of sound in motion pictures there came, perhaps not unexpectedly, a decade-long revival of operetta as a truly popular mass entertainment form. And between 1929 and 1939 the prima donna assoluta of film operetta, as far as most of the world was concerned, was Miss Jeanette MacDonald. I think the average listener would be hard put to understand why, however, if the only evidence he heard was RCA Victrola’s new “Jeanette MacDonald Sings San Francisco and Other Silver Screen Favorites.”

First off, the packaging is something of a fraud. It suggests, with its minimal liner notes but a plethora of stills, that the songs are drawn from the original soundtracks of her films. Only one (the 1934 Merry Widow Waltz) is. *Italian Street Song* dates from 1945, and all the rest were recorded in 1950, by which time her film career had been over for several years. It is rather a dismaying album to listen to, with its spanning 1950-new arrangements backing MacDonald’s by then shredded voice (it was never strong or even particularly musical to begin with), which has been goosed electronically and obviously. The album is being merchandised, I would gather, as camp. But it falls sadly short of even that, with only two exceptions: apparently even 1950’s cool could not restrain the vivacious lady from throwing herself into a brave but ludicrous effort to “swing” the second chorus of *San Francisco*, an effort that has for years made this track (once available on an old ten-inch disc) a favorite of the boys in the band. Then there is the maniacal orchestration Robert Russell Bennett has affixed to *Beyond the Blue Horizon*, which Mickey Mouses (a film-scoring term that indicates exaggerated musical emphasis on every movement of a screen character) what sounds like a runaway steam engine roaring along the Riviera with MacDonald on the cowcatcher.

Listening to this album, one couldn’t be convinced that MacDonald was ever anything more than a joke. Yet, oddly enough, during her time she commanded a huge and loyal audience—millions paid to see her over and over again in a long series of vehicles, and through the years her records continued to sell. And although a long line of the most famous and beautiful singers of opera and the lyric stage paraded before the cameras to challenge her, none of them ever became a film singing star, a very special category of which she was the undisputed and authentic mistress.

The times, naturally, had something to do with it. When times get tough, entertainment gets soft. Hard rock, to take the most recent example, was tough, and therefore good for our recent soft times. Now, as we move into a harsher economic period, it is interesting to see the growing popularity of many soft or romantic entertainers—Simon and Garfunkel, Tom Jones, and Engelbert Humperdinck, to say nothing of the resurgence of folk and folk-influenced performers. MacDonald was certainly one of the most romantic (as
Binaural recording re-creates the directions, distances, and even the elevations of sounds better than any other recording method. The super-realism of binaural recording is accomplished by recording the acoustical input for each ear separately, and then playing it back through stereo headphones. Thus the sound intended for the left ear cannot mix together with the sound for the right ear, and vice versa. This technique eliminates all acoustical problems in playback, such as the effects of “dead” rooms, over-reverberant rooms, variations in stereo perspective caused by changes in sitting position, and variations in frequency response due to changes in speaker positioning.

Binaural recording offers the listener the identical acoustical perspective and instrument spread of the original. The sound reaching each ear is exactly the same as would have been heard at the live scene. The Stereo Review Binaural Demonstration Record is the only record of its kind; there is nothing else like it. It provides a unique listening experience that you will want to share with your friends.

"MAX"—GENIE OF BINAURAL RECORIdING. More than a year of intense effort was devoted to the preparation of this recording. “Max,” a specially constructed dummy head, was modeled by a professional sculptor, then cast in silicone rubber. Super-precision capacitor microphones were installed in Max’s ears so that each microphone would pick up exactly what each human ear would hear. The two separate sound channels were then fed into an ultra-low-noise electronics system and then recorded on an advanced-design tape recorder operating at 30 inches per second.

In making location recordings for the demonstration side of the record, a recording technician taped miniature capacitor microphones into his ears, so his head would serve its normal acoustical role as an absorber and reflector of sound. The result is a demonstration of phenomenal recorded sound.

STARTLING REALITY. The Binaural Demonstration Record offers 45 minutes of sound and music of startling reality. Side 1 introduces you to binaural recording via a narrated demonstration in nine sequences, taking you through a variety of situations that show off the remarkable depth and natural perspective of binaural recording.
benefts an operetta heroine) entertainers ever, and she reached the heights of her popularity during one of the toughest times this nation has ever experienced—the Depression.

She had started out on the Broadway stage, and came to Hollywood after the success of the early German operetta films had convinced producers there that the public would line up and hold still for made-in-America examples of the same thing. The world-wide success of the charming Kongress Tanzst (still, along with the Lubitsch-Chevalier-MacDonald Love Me Tonight, probably as close as the screen has ever come to making a perfect operetta) had served to introduce Lillian Harvey to the world. Harvey, a young English girl living in Germany, made a series of very successful German operetta films with Willi Forth. Though she remained practically unknown in the English-speaking world, she would later be considered the only real rival anywhere to Jeanette MacDonald.

In her early films MacDonald appeared often with Maurice Chevalier, and under the velvety direction of Ernst Lubitsch she became a soignée comedienne in the European tradition, a slightly astringent foil to her bubbling boulevardier. Representative of this period on the Victrola album are the Merry Widow Waltz (though muddy and crackling, as early soundtracks should be, it still gives more of an idea of what MacDonald was about than all the rest of the album put together) and Beyond the Blue Horizon from Monte Carlo, which she sang with her head out the window of a train compartment, a yard-long scarf trailing behind her. This is a Hollywood steal of a scene in Kongress Tanzst in which Harvey rides out through the company's rugs and carries her singing Das gibt's nur einmal. It was stolen again in Love Me Tonight, when MacDonald sang Richard Rogers' Lover from a horse-drawn cart while being pursued by Chevalier.

Eventually, the first cycle of operetta films at Paramount drew to a close, and MacDonald found herself at liberty. Then, in 1934, Irving Thalberg invited her to Metro to replace a too-chubby Miss Moore's only hit. Gladys Swarthout also made a film or two. Jilly Jones made I Dream Too Much (which unimpressed critics immediately dubbed I Scream Too Much). But none of them seemed to have the stuff to make it over the long haul.

But it is this lush, highly-successfulMetro period that produced the Jeanette MacDonald that is most recognizable today. Maytime, Rose Marie, and Naughty Marietta were a few of the great successes. (Most of her hit songs from this era are represented in the Victrola album, but it would be enough to make L. B. cry real tears to hear how they sound.) By 1940, her popularity began to wane, and L. B. had new interests. He had gone on a spectacular talent hunt in Europe to cast The Great Waltz, his new special project. He returned from that trip with several handfuls of goodie's, including Ilona Bajmassey (Massey), who was later to star in an operetta called At the Balalaika, and Hedy Kiesler (Lamarr), who was, in time, to become a well known lady of letters.

MacDonald's fate was to end as a high-priced afterthought on the Metro star roster. She attempted something called Cairo, a suspense comedy in which, in order to avoid pursuing Nazi spies, she pretended to be part of a night-club floor show and sang a low-down version of St. Louis Blues (Grace Moore had once attempted Minnie the Moocher). The inglorious finale came when she was cast as Butch Jenkins' mother in a Lassie picture.

Jeanette MacDonald: Jeanette MacDonald Sings San Francisco and Other Silver Screen Favorites. Jeanette MacDonald (soprano); various orchestras. San Francisco, One Alone, Will You Remember; Ah! Sweet Mystery of Life, When You're Away, Indian Love Call, Git a Room, One Night of Love, Merry Widow Waltz, Italian Street Song. RCA VICTROLA # VIC 1515 $3.50.
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Sony runs 10½ inch circles around the competition.
By CRAIG STARK

TAPE HORIZONS

HOlIDAYS are coming, and with them come visitors. In the Stark household that means putting the stereo system in order and catching up on some finishing touches which combine functionality with an aesthetically satisfying appearance. Some of these little details may interest you, and can be worked on between plays while you watch the football game on TV.

Like football players, tape boxes are prone to developing trick knees. Given ordinary care all is well with them for a while, but sooner or later something is bound to give way. With the tape box it's the paper hinge, for very few manufacturers use a one-piece construction. The boxes made by others normally start out as separate halves, and, knowing the high rate of ultimate divorce, some companies make no attempt to weld the two at all.

My solution is a 7-inch length of 1 1/2-inch-wide Mystic tape. Centered vertically and horizontally along the back of the box, it has just enough wrap-around to create a strong and flexible hinge. This treatment also confers a uniform and attractive appearance (like that of a set of bound volumes) on a row of tapes lined up on the shelf. While I use a single color for all boxes, you may wish to use different colored backings to identify either the tape lengths, speeds, or the types of selections contained. Very light shades are not a good idea, however, for they show dirt more readily.

I find the cloth Mystic tape more suitable than its plastic counterpart in this application. For one thing, it won't stretch, and, for another, it will take white lettering ink, which is excellent for titling the boxes. For the ultimate in distinguished titling, however, use a Dymo Labelmaker or its equivalent with transparent labeling tape. This produces raised white letters surrounded by the original color of the backing.

A length of leader tape spliced onto each end of the reel also combines a finished appearance with a protective function. It eliminates the danger that the first part of a valued recording will be damaged by stretching, breaking, or crumbling during threading or start-up. If you want to be absolutely official, the RIAA specifies a yellow leader at the beginning of a reel and a red leader (or "tail") for the end. I stick with white at both ends. Mylar is the usual material from which leader tapes are made, and it can be purchased with or without timing markings. While leader tape is not expensive to begin with, if you have a large collection you'll find that you can cut its cost in half by buying it in a 1,200- or 1,000-foot length (under $3).

Leaders can also be helpful in identifying tapes when you have several reels out at once, for you can write on them with a fiber-tip pen. For my purposes, however, self-adhesive labels, available at any stationery store, are most convenient. The 1/2 by 1 1/4-inch size is about right, and I type a code number on them for each reel, correlated with my card file, before applying them to the reel. M96-72S would indicate "master tape 96, 7 1/2 ips, two-track stereo," for example. Your collection size will dictate whether or not you want to use such a code. At any rate, a dressed-up collection will yield far greater satisfaction than the effort it requires.

Printed in the U.S.A. STEREO REVIEW
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**AUD.D Magazine** had this to say about the ARIES sound:

"In listening to this speaker system, we were impressed with its full-bodied sound and smooth top end. It seemed not to add any coloration of its own to the source material being played—which is just as it should be. The bass response was particularly impressive."

(October, 1969)

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**HIGH FIDELITY**

And from the CBS Labs analysis for **HIGH FIDELITY** Magazine:

"With its ARIES series of speaker systems, E-V is making an obvious effort to appeal to those concerned with decor as well as with sound. The former appeal is evident in the three styles in which the new system comes (traditional, contemporary, and Spanish). The latter consideration becomes evident as you listen to the ARIES: it's a full-bodied, clean, wide-range reproducer."

(February, 1970)

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**Stereo Review**

Finally, Hirsch-Houk Laboratories sums it all up in the pages of **STEREO REVIEW**:

"From the test data, one would expect the ARIES to be a smooth, clean-sounding system, and it did not disappoint us. The sound was well dispersed, with no hint that it emanated from three drivers—the result of careful choice of crossover frequencies and well-matched driver characteristics. The ARIES had a light, effortless quality with a palpable lower bass when the program material called for it. Altogether it is a fine system, as appealing to the eye as it is to the ear."

(February, 1970)

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**All agree:**

ARIES sounds as good as it looks.

And vice versa.